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Integrating Vocational Skills Into Secondary Curricula: The Views of Teachers, Students and Parents From Rural Iringa, Tanzania

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Abstract

This study explored the views of teachers, students, and parents from Rural Iringa on the integration of vocational skills into the secondary education curriculum. The study employed a case study design and was guided by the Open System theory. The study sample comprised teachers, students and parents, who were selected by using purposive and convenience sampling techniques. Data were collected through semi-structured interviews and focus group discussions and then analysed thematically. The findings revealed that teachers, students, and parents held positive views regarding the integration of vocational skills into secondary education in rural areas. They viewed vocational skills as paramount in bridging the unemployment gap, encouraging innovation and enhancing technological advancement in rural areas. However, several challenges hindering the implementation of vocational education were found, including a shortage of practical sessions, theft and the inadequacy of teaching and learning materials. The study concludes that integrating vocational skills into secondary education is necessary for rural youth by equipping them with the skills needed to thrive in the global labour market. This would put them in a position to contribute to sustainable development.

Keywords: *vocational skills, challenges, views, secondary education*

Introduction

Vocational education is globally recognised as critical for preparing students to serve in the workforce (Organisation for Economic Co-operation and Development (OECD), 2023; Eichhorst et al., 2013). In many countries with emerging economies, the rate of unemployment among youth who have completed their secondary school studies is very high (Lindemann & Gangl, 2025). Consequently, United Nations Educational Scientific and Cultural Organization (UNESCO, 2024) emphasises the importance of vocational education in offering pathways to employment by equipping youth with relevant skills to enhance their employability and smoothen transition to the labour market. Additionally, Sustainable Development Goal (SDG) 4 places emphasis on increasing the number of youth with technical and vocational skills relevant for employment and entrepreneurship (United Nations Department of Economic and Social Affairs, 2018). By reaching youths in rural communities with vocational education, we can foster social mobility and reduce structural inequality.

In Australia and Slovakia, vocational education has been integrated into secondary school curricula to bridge longstanding gaps in educational achievement and workforce preparedness. Baláž

and Dokupilová (2025) report that in Slovakia, vocational education offers a more direct route to employment compared to general secondary pathways. However, their evaluation of the *Linking Secondary Education and Practice* scheme revealed notable disparities in vocational education outcomes, influenced by factors such as program type, the field of study, and the socioeconomic profile of each region. In Australia, vocational education and training (VET) is reported to help address regional skill shortages by providing practical, accessible training, especially for those without traditional academic skills. Remote training is most common in Queensland and Western Australia, highlighting the need for local delivery (Jobs and Skills Australia, 2023).

In Africa, countries are increasingly adopting vocational training as a strategy for tackling unemployment and addressing the skills gap in the labour market (Afeti, 2018). Nations like South Africa, Kenya and Ghana have implemented vocational training programmes to align student skills with the labour market demands and promote self-employment. In Kenya, this approach has historical roots: VET has been integral in the African indigenous education system since the pre-colonial era (Akala & Changilwa, 2018). According to Kehinde and Adewuyi (2015), vocational skills are crucial not only for economic development but also for fostering multicultural transformation and reducing dependence on foreign aid. Thus, contemporary vocational training programmes build on this rich tradition, aiming to meet the needs of the current labour market by enhancing self-reliance and economic resilience.

In Tanzania, the 1967 Education for Self-Reliance (ESR) policy accorded vocational education and training a significant role by emphasising integration of education with productive work, aiming to equip individuals with the skills necessary to contribute effectively to their communities (Ahmad, 2014). Consequently, practical subjects with practical concepts, such as crafts and agriculture, were introduced at different levels of education, including secondary school education. However, despite ESR's ambitions, its implementation faced significant challenges, particularly in teacher preparedness and resource alignment. For instance, a study on revitalizing ESR in Tanzania found that many teachers, including in-service ones, lack training to integrate outdoor learning experiences into classrooms (Msimbe & Ndemo, 2024). Recognizing the importance of vocational skills in addressing these gaps, the Tanzanian government reintroduced vocational subjects into the secondary school curriculum to better align skills with job market demands, reduce unemployment, and promote local production (United Republic of Tanzania, 2024)

Integration of vocational skills into the secondary education curriculum is a strategic move to ensure youths acquire employability skills that align with national and international plans (Mayega, 2018). Such plans include the United Nations Development Goal 4, which emphasises inclusive and equitable quality education and lifelong learning (United Nations, 2018). Additionally, the 2050 Tanzania Development Vision envisions a nation with an education system that equips students with vocational training skills aligned with the industrial demands to overcome development challenges both at the regional and international levels (United Republic of Tanzania, 2024). To attain the vision, schools need to develop skilled individuals to meet the demands. The Education and Training Policy of 2014 (2023 edition) advocates creation of a knowledgeable, skilled and proficient community of Tanzanians who can contribute meaningfully to national development and withstand competition in the labour market (United Republic of Tanzania, 2023a)

Although technical secondary schools have been in place for quite a long time, historically they served very few people because of their relatively small number. For example, until 2021, vocational education was offered in only nine out of 5,216 secondary schools. Hence, most students ended up acquiring theoretical knowledge without the vocational skills required in today's world of work (United Republic of Tanzania, 2020). In 2024, the government implemented further reforms in education by equipping 96 secondary schools to provide vocational education, ensuring that the education offered meets the set criteria, including the presence of working tools. This has become a concern as the young individuals who could have been useful in the development of the nation are left unutilised due to a lack of necessary skills, including vocational skills. While

this reflects a significant policy commitment to promote investment in vocational education, it is equally important to understand how this integration is perceived 'on the ground'. Therefore, this study sought to solicit stakeholders' views regarding the integration of vocational skills into the secondary education curriculum in Tanzania, focusing on opportunities and challenges that may be encountered in the process. Taking a case study of two of the existing old vocational centres in one region in Tanzania offers instructive insights for rural education globally, particularly in the contexts grappling with agrarian economies, youth unemployment, and the tension between formal education

The research questions of this study are;

1. What are the views of rural secondary school teachers, students, and parents in Iringa District regarding the integration of vocational skills into the secondary school curriculum?
2. What challenges do teachers, students, and parents in rural Iringa face in implementing the integration of vocational skills into the secondary school curriculum?

Literature Review

A Brief History of Vocational Education and Development

Historically, vocational education evolved from medieval apprenticeship models to modern school-based systems aimed at bridging education with employment (Pavlova & Huang, 2013). Currently, countries around the globe have been pursuing integration of vocational schools in education to promote social inclusion and economic mobility, particularly for underserved populations. For example, in Germany, the dual system combines classroom instruction with hands-on training (Ayeni, 2015), while Finland allows students from the age of 16 to freely choose between vocational and academic tracks, where over 42% of students opting for vocational pathways (Merilainen & Olson, 2019).

The foundation of vocational training in Tanzania dates back to the 1940 Apprenticeship Ordinance, which was later reinforced by the 1974 Vocational Training Act and institutionalised through the 1994 legislation that established the Vocational Education and Training Authority (VETA) (Redecker et al., 2000). Building on this historical trajectory, the 2025 secondary education curriculum reform which is presently under implementation introduced vocational subjects—such as civil, mechanical, and electrical trades, agriculture, and ICT—aligned with the National Vocational Awards (NVA Levels 1–3). While this represents significant structural progress, Msangi and Mwila (2024) argue that vocational education should begin even earlier, at the primary level, to cultivate foundational skills and foster a stronger mindset geared toward self-reliance. Despite these reforms, major implementation challenges persist—particularly in rural areas where awareness of and access to vocational pathways are often limited. As Rugakingira and Onyango (2022) note, the lack of practical integration, inadequate school resources, and poor alignment between vocational curricula and industry needs contribute to a continual gap between policy and practice. This underscores the pressing need for a more coherent and inclusive approach to vocational education in Tanzania's secondary school system, particularly in rural areas. Rural areas in Tanzania are administratively defined by Wineman et al. (2020) as those governed by District Councils. They are characterised by low population density, agriculture-based economies, limited infrastructure, and minimal access to education services. Iringa Rural District fits this classification and has long been recognised as a center for technical training, being home to Ifunda Technical Secondary School, established in 1942 under colonial legislation. The rural economy here is largely driven by agriculture, masonry, carpentry, and animal husbandry, all of which require practical skills—making it an ideal setting for integration of vocational skills into the school curriculum.

Importance of Integrating Vocational Skills in Secondary Education

It has become apparent that vocational education is seen as a solution to youth unemployment and a path to self-employment. It equips youth with practical skills for self-reliance in a skills-based economy (Akanbi, 2017) and fosters independence and cultural growth. Globally, vocational education supports sustainable livelihoods in the self-employment settings. OECD (2023) outlines four priorities for future-ready systems: labour-market relevance, lifelong learning, inclusion, and digital innovation. Embedding vocational education in rural secondary schools is vital for equipping learners with practical skills and bridging socio-economic and technological gaps.

Across Africa, vocational education is increasingly recognised as vital for Africa's Sustainable development. According to McGrath et.al (2020), transformative VET can address historical inequalities by equipping individuals and communities with skills for equitable livelihood, social mobility and participation in economic transformation, aligning with UNESCO's vision for a comprehensive skills system that supports long-term development. Additionally, Atangana and Tabi (2022) revealed that vocational education links sub-Saharan Africa with Industrial growth. In Tanzania, where formal jobs are limited, vocational education helps youth start small businesses without needing higher education (Mayega, 2018). Therefore, providing vocational education to citizens remains a long-standing goal—from Nyerere's 1967 vision to modern VETA programs—though implementation and teacher capacity remain challenges.

Although numerous studies have addressed the impact of vocational education on youth employment and entrepreneurship, very few have investigated the integration of vocational skills into Tanzania's secondary school curriculum—especially from the perspectives of teachers, parents, and students. This study fills that gap by exploring stakeholders' views on how vocational skills can be meaningfully embedded in the secondary school curriculum, the mechanisms for integration, and implementation challenges.

Theoretical Framework

This study is guided by the Open System Theory, originally developed by Von Bertalanffy in the 1930s, and later expanded by Emery and Emery (2004). The theory views organisations, including schools, as dynamic systems composed of interdependent parts that interact with and adapt to their external environments. According to Lunenburg (2010), this systems approach is rooted in the Aristotelian idea that understanding the whole is essential to individual components. Applied to education, the Open System Theory involves four key components: inputs, transformation processes, outputs, and environmental feedback as shown in Figure 1 below. These components provide a useful framework for analysing how schools function as living systems—particularly in the implementation of new programs like vocational education. In the context of this study—*Integrating Vocational Skills into Secondary Curricula: Teachers', Students', and Parents' Views from Rural Iringa, Tanzania*—the Open System Theory helps conceptualise how stakeholder views (teachers, students, parents) relate to the success or limitations of integrating Vocational skills in rural secondary schools.

To begin with, vocational education is viewed as a crucial component of the secondary school system. This includes: Vocational subjects aligned with community needs (e.g., agriculture, carpentry), qualified teachers and trainers, adequate workshops, learning materials and supportive policies and professional development. In rural areas like Iringa District, inputs are often constrained by limited resources, making it essential to assess how stakeholders perceive the adequacy and relevance of these components.

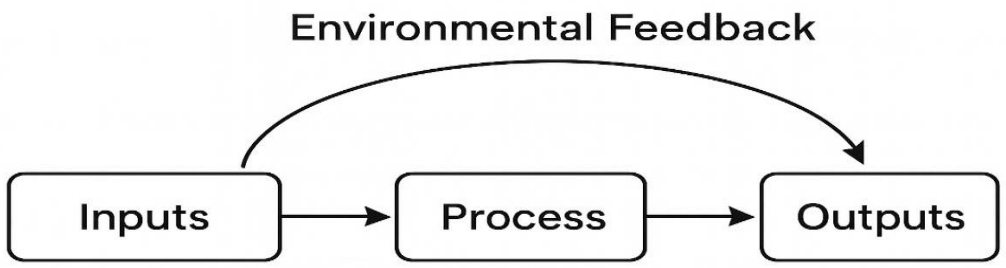
The process includes curriculum design and delivery by competent teachers; use of real-world, contextualised learning experiences and engagement in shaping program relevance. Teachers' professional competencies, students' motivation, and parents' support all influence the

effectiveness of these vocational programs. The research investigates how these groups perceive this transformation process in rural school settings.

The expected outputs include students equipped with improved transition from school to work and empowerment for self-employment. Stakeholders' views help assess whether these outcomes are being realised, or if gaps remain due to deficiencies in inputs or processes.

Finally, environmental feedback reflects the adaptability of the school system to its external conditions—cultural, economic, and geographical. In rural Iringa, where production activities are primarily agricultural or informal, feedback helps determine whether vocational programs are relevant to local livelihoods and how they might be refined.

Figure 1. ***Theoretical Framework of Vocational Education Integration***



Source: The Open System Model by Emery (2004)

In rural areas like Iringa, where livelihoods depend on agriculture, carpentry, masonry, and informal trade, vocational education must reflect these local realities. Guided by the Open System Theory, effective vocational education requires inputs such as relevant programs and skilled teachers, which are transformed through curriculum delivery into practical outcomes—students equipped with skills suited to their environment. To be meaningful, vocational education must prepare students to address real-life challenges in their communities, ensuring the education system remains responsive and sustainable.

Methodology

This research employed a qualitative study approach to explore how vocational skills are integrated into secondary education in rural Tanzania. This method is well-suited for rural education research as it captures local context, challenges, and community dynamics (Roberts & Guenther, 2021). Recognizing the influence of cultural, economic, and policy factors (Kline et al., 2013), the study provided in-depth, descriptive insights into the lived experiences of teachers, parents, and students—offering depth that quantitative methods may miss.

The researchers employed a multiple-case study design to examine participants' views on integrating vocational skills into the secondary education curriculum in the sampled rural schools (Creswell & Creswell, 2017). The sampled schools provided a unique institutional and community-based context, shaped by historical engagement with vocational education.

Selection of Study Area

This study was conducted in Iringa Rural District within Iringa Region in Tanzania administratively defined as a rural area by Wineman, et al. (2020). In this context, 'rural' refers to areas outside municipal and town councils, characterised by lower population density, limited infrastructure, and reduced access to services such as electricity and vocational resources. Rural is also defined by Trading Economics (n.d.) as geographical areas where primary production occurs and where populations are located in a variety of concentrations.

Iringa Region was purposefully selected due to its historical significance in vocational education. It hosts the oldest Technical secondary school, founded in 1942 and is among the nine government-recognised technical secondary schools in Tanzania. This made the region particularly

relevant for a study focusing on the implementation and outcomes of vocational education within secondary curricula in rural contexts. While the Iringa Region encompasses both urban and rural districts, the two schools selected for this study are situated within Iringa Rural District, aligning with Wineman et al. (2020) and the National Bureau of Statistics (2023) in their definition of rurality.

Iringa Rural District was further selected because it hosts some of the oldest secondary schools among the 96 schools designated by the government for the implementation of vocational skills integration. The selected schools predate the introduction of vocational streams and possess extensive experience in delivering both vocational and general secondary education. Their historical and educational context provided a unique opportunity and explore the practical challenges associated with the implementation of vocational education reforms in a rural setting where agriculture is the main economic activity.

Selection of Study Participants

A total of 30 participants were selected for this case study using a combination of stratified convenience sampling, purposive sampling, and convenience sampling approaches, depending on the category of participants.

Twelve students were selected from Form Three classes, using stratified convenience sampling based on their vocational specialisation: civil, mechanical, and electrical trades. Form three students were selected because they had already specialised in vocational streams. Each subgroup included at least two representatives per school to ensure all streams were covered. Table 1 outlines students' selection by skills and gender.

Table 1. ***Illustration of the Sample Size of Form 3 Students From School X and School Y***

School *X*		Sex		
		Girls	**Boys**	**Total**
S/No	**Types of Skills**			
1	Civil based skills	1	1	2
2	Electrical based skills	1	1	2
3	Mechanical based skills	1	1	2
	Sub Total	3	**3**	**6**
School *Y*		**Girls**	**Boys**	**Total**
1	Stream 1	0	2	2
2	Stream 2	0	2	2
3	Stream 3	0	2	2
	Sub Total	**0**	**6**	**6**
Total		**3**	**9**	**12**

Source: Field data

As Table 1 shows, there were no girls in form three classes at School Y, which is why they were not included in the study sample. However, the sex criterion did not affect the research results and conclusion. Pseudonyms were assigned to the sampled schools to keep their identity hidden.

Four parents were selected based on their availability and ease of access, with assistance from school heads (convenience). Those who had previously attended parent–teacher meetings and had children enrolled at the time were more readily reachable, making them convenient

participants for the study. While this approach facilitated data collection, it may have excluded less-accessible households an acknowledged limitation.

Nine teachers were purposively sampled based on their subject expertise and a minimum of three years of experience teaching vocational subjects. Two heads of schools within the selected case study context were included for their administration insights. Additionally, one secondary education officer and two ward education officers were purposively selected by virtue of their administrative and policymaking roles in in the implementation of vocational education at district and ward levels.

Data Collection Procedures

The researchers used semi-structured interviews to collect information from parents, teachers, school heads, and education officers. The semi-structured interviews were used because of their flexibility in receiving detailed information from respondents. Each interview session took an average of thirty to forty minutes per participant. An interview guide, an audio recorder and a notebook for note-taking were used as tools during the semi-structured interview sessions. A total of 18 participants were interviewed, including school heads, secondary education officers, ward education officers and parents. This number was the point of saturation. For triangulation and in-depth discussion purposes, each participant was interviewed using a one-on-one mode. After realizing that the participants were no longer producing new responses during the interviews, we stopped recruiting more participants. In other words, the saturation point determined the sample size used in the interview session (Braun & Clarke, 2013).

This study also used focus group discussions to obtain information from students who were purposively and classified into strata based on the criteria described above. The researchers conducted two focus group discussions on issues related to the topic under scrutiny (Krueger, 2014). Each of the focus group discussions involved six students. The groups formed at School X had three girls and three boys each, while those at School Y had only six boys, as shown in 2 above. Each focus group discussion took 40 to 45 minutes. The participants in the focus group discussions were asked questions that prompted them to share their opinions.

Data Analysis

The data obtained through interviews and focus group discussions were voice-recorded, transcribed and coded. The data were subjected to thematic analysis by following the six steps proposed by Braun and Clarke (2013). First, the researchers familiarised themselves with the data by reading and re-reading the transcriptions word-for-word to understand them. In the second step, the data were coded by grouping ideas with similar meanings. In the third step, the codes were combined to generate themes. The data were organised and categorised into themes such as employment opportunities, industrialisation, and innovations among others. In the fourth step, the researcher reviewed the themes to check if the themes were consistent with the data and made sense (Saldaña, 2021). In the next step, the researcher defined and named the themes under the research questions. Lastly, the findings were compiled into a report, where some transcriptions of participants' voices were used as supporting evidence.

Trustworthiness

To ensure trustworthiness of the study, the researchers adopted Lincoln and Guba's (1985) established framework, which proposes four key criteria to be met: credibility, dependability, transferability, and confirmability. Credibility was addressed through systematic data analysis and iterative revisions of the results and interpretations. Reflexivity was maintained throughout, with regular team discussions to critically examine emerging interpretations, thereby enhancing confirmability.

Dependability was achieved through sustained engagement with the data, ensuring consistency in interpretation across multiple readings. An audit trail was maintained, documenting all changes to coding structures, thematic patterns, and analytical decisions, particularly those arising during mapping and member-checking processes.

To ensure transferability, the study provides detailed methodological descriptions to enable comparison across similar rural and regional educational contexts. Verbatim quotations from participants are provided in the report to ensure authentic representation of voices from the field, while visual figures are used to clarify the reasoning underpinning thematic interpretations.

Ethical Issues

The researchers requested an introductory letter from the University of Dar es salaam. This letter enabled them to obtain a permit from the Iringa Regional Administrative Secretary and from the District Executive Director of Iringa rural district to conduct the study in the areas of their jurisdictions. In the field, the researchers verbally requested the participants to be involved in the study. Before the focus group discussions and the interviews started, the participants were given an informed consent form to read and to sign as proof of their willingness and readiness to participate in the study. The researchers used pseudonyms instead of the real names of participants to represent their voices. This is in line with Scholars such as Shamim and Quresh (2013), who argue that it is vital to ask participants to willingly partake in the study by signing an informed consent form and protect their identities by maintaining anonymity in data analysis and reporting. Again, the researchers avoided plagiarism by paraphrasing, citing and quoting relevant information from different sources such as articles, books and dissertations, among others.

Findings and Discussion

Theme 1: Stakeholders' Views on Vocational Integration

The findings indicated that the stakeholders had different views on the integration of vocational skills into the secondary education curriculum as presented below.

Self-employment. The study participants had a view that vocational integration would help address the pressing issue of unemployment currently facing Tanzania. Both teachers and students had a view that vocational integration is a solution to unemployment in Tanzania. According to them, integration of vocational skills into secondary education will help mould students into individuals who can employ themselves. One of the interviewees said "*A participant emphasised the practical importance of vocational education for employment and industry readiness*". Another participant agreed by commenting that the educational policy must dictate that vocational education begins at lower grades. The respondent said:

> *The Tanzania Education Policy 2014 stipulates about self-reliance education, which requires every student to be self-reliant,… It started with the primary school students, but now it seems to be vital to all students pursuing basic education from primary school to Form Four since their education ends up on papers without any application in life (Interview with Teacher 7 of School Y).*

The issue of unemployment was addressed by another respondent who went in the same line as the above by cementing their view on skills that prepare individuals for self-employment. The stakeholder said:

> *We know exactly that our nation is suffering an unemployment threat, and we know that one day we will be at home where we can employ ourselves to survive. We can do electric installation, vehicle maintenance, welding, and metal fabrication, to name but a few (FGD: Student 1, of School X).*

A key point to note from the participants' views is that they were aware of and concerned with limited job opportunities and hence they insisted on preparing individuals who are proactive toward self-employment as a means of survival. These views underscore the transformative role of vocational education in addressing structural unemployment in rural Tanzania. As supported by Mtebe & Raphael (2020), vocational training empowers students to employ themselves and adapt to local economic needs. From the lens of Open System Theory, this theme reflects how stakeholder inputs (curriculum content, delivery) are shaped by and respond to environmental feedback, particularly youth unemployment. Similar findings have been reported in Kenya and Ghana, where vocational education has been found instrumental in equipping youth for informal sector employment (Akala & Changilwa, 2018; Afeti, 2018). The findings also align with Tanzania Development Vision 2050, which envisions a population equipped with practical and job-ready skills with which individuals can create their employment opportunities and contribute meaningfully to the economy (United Republic of Tanzania, 2024). This underscores the need to emphasise vocational education to create job creators rather than job seekers.

Technological Learning. The study findings show that vocational skills are part and parcel of technology. The study participants had a view that embedding vocational subjects in the secondary curriculum may boost the growth of technology. One interviewee said, *"Vocational education is inseparable from technology—it brings students closer to understanding and applying it in real life"* (Interview with WEO).

The quotation delineates that vocational skills enable students to interact with modern technology, which encourages problem-solving skills in everyday life. This was supported by another participant who argued that vocational education would help teachers and students to interact with technological devices like computers and projectors, which have currently become very useful in teaching and learning. The interviewee said: "*As a Science teacher, I now use software or internet-generated figures to simplify my teaching process, reducing the difficulty of drawing figures on the chalkboard*" (Interview with Teacher 9 of School Y).

The findings imply that vocational education significantly aids individuals in navigating technological advancements, saving time, and making lessons enjoyable. Today's world requires skilled personnel for equipment maintenance, which calls for students to be exposed to technological information. For instance, the world is moving from chalkboard presentation to digitalised presentation, where the use of projectors and computers is becoming part and parcel of the teaching process (Atangana & Tabi, 2022). Additionally, the OECD report (2025) shows that the integration of vocational skills enhanced acquisition and created new pathways for technological advancements in Ukraine. In Tanzania, people need to learn vocational skills because knowing how to use modern devices is not enough, since we also need to know how to repair them when maintenance is required. This aligns with the demand for 21st-century skills as technological literacy is fundamental for self-employment and entrepreneurship. Integrating vocational skills into the secondary school curriculum responds to technological trends and equips students with the skills that they need to be meaningfully functional in the current world. These skills are important for rural communities; the offer rural people a pathway to job opportunities in the technology-led world.

Stimulator of Competition in Innovation and Entrepreneurship. Findings indicate that vocational skills positively promote innovative minds among youths in rural areas. Innovation converts opportunities into marketable ideas. However, the stakeholders had varied perceptions. For example, one teacher said:

> *Through Vocational skills in secondary education, innovation in terms of product-making strategies and marketing is inevitable. The form four graduates who will not receive a chance to go for further studies will use the skills they have to invent various products (Interview with Teacher 6 of School X).*

This argument was further supported by other stakeholders who emphasised the importance of vocational skills in this era by saying; "*Although innovation cuts across academic and vocational subjects, innovation in Vocational skills seems to take dominance, unlike in academic subjects, because vocational subjects place emphasis on practical activities.*" (Interview with Parent 5).

The findings imply that integration of vocational skills into secondary education is positively viewed as a stimulator of competition in innovation and entrepreneurship. This concurs with Nyerere's philosophy of Education for Self-reliance, which called for schools to produce innovative individuals who can employ themselves and contribute to national development (Nyerere, 1967). It also aligns with the Tanzania Development Vision 2050, which seeks to ensure that the focus of education is to prepare innovative and skilled citizens (United Republic of Tanzania, 2024). Additionally, in the context of rural education, the integration of vocational education will equip students with hands-on skills that are directly applicable to their local context. Thus, integrating vocational skills into the secondary education curriculum is a critical step towards creating a community with individuals who are self-reliant and innovative, as envisioned by Nyerere. It is a key to realizing the Tanzania Development Vision 2050 and the 2030 Sustainable Development Goals (United Republic of Tanzania, 2024; United Republic of Tanzania, 2023b).

Theme 2: Challenges of Integrating Vocational Skills in Rural Secondary Education

Theme 2 examines the challenges that constrain the integration of vocational skills into secondary education. Various challenges encountered in the process of implementing the integration of vocational skills in the secondary education curriculum were pinpointed by stakeholders.

Few Practical Sessions. The findings show that teachers rarely run practical sessions in secondary schools, which prevents the full integration of vocational skills. Teachers reported facing problems in both vocational and science subjects, with theoretical content allocated more time than practical sessions. They argued that having more practical sessions would enable students to master vocational skills throughout their four years of secondary education. This was affirmed by one teacher who said, "*Street workers excel in practical Vocational skills, so practical sessions may be extended to allow students to practice more (Interview with Teacher 4 of School X)*". This quote emphasises that practical activities should be allocated more time in secondary schools. Through practical activities, students can practice the intended skills and gain a better understanding, hence developing self-confidence and competence. Teacher 4's argument was supported by another teacher who commented on the shortage of practical sessions which makes students lose interest and motivation, resulting in a reduction in ambitions to participate in practical tasks and avoid their practical examinations. The teacher insisted on the importance of valuing fieldwork, enabling students in learning by doing. The teacher said, "*It is true that students enrol to take vocational subjects, but they often lack serious engagement in practical sessions, which is essential for hands-on skills like Surveying or Carpentry*" (Interview with HoD1 of school X). Stakeholders acknowledged both the potential and the challenges of integrating vocational skills in rural schools.

The findings shed light on a key structural and pedagogical challenge in the delivery of vocational education, where students do not participate meaningfully in practical sessions. As per the Open system theory perspective, the low level of students' engagement in practicals disrupts the internal processes of the education system. Without the active participation of students in the learning of vocational subjects like survey and carpentry, producing the desired outputs (skilled and job-ready individuals) may not be possible. Practical subjects like carpentry and surveying are essential throughout activities. This systemic weakness has also been illuminated by Winberg and Hollis-Turner (2021), who emphasise the need for sequenced practical tasks that blend conceptual, technical and contextual knowledge to build competencies of the expected vocational graduates. Accordingly, Cathelina and Mala (2019) revealed that students in India had insufficient practical knowledge due to a lack of practical sessions, highlighting the need for educational

practitioners and policymakers to optimise theory-practical sessions. Additionally, Msangi and Mwila (2024) found that without rich practical engagement, vocational education risks producing graduates who are theoretically knowledgeable but practically underprepared. The findings mean that the integration of vocational education in secondary education would be meaningful if theory and practice are integrated.

The Challenge of Theft. Stakeholders raised a concern over theft, citing the tendency of some people to steal public property from government institutions because of their selfishness and other factors. One stakeholder said, "*parents raised concerns about theft and mismanagement of vocational resources*". The doubt shown by this stakeholder was completely similar to that of one parent who shared her experience in relation to government industries, which ceased to operate due to theft as one of the causes. The parent said, "*I if the workshops with their equipment will stay longer, I am worried that the same thing will happen in schools if the government establishes them...*"(Interview with Parent 10). This concern underscores the urgent need for strict accountability and transparent management of vocational school resources to prevent theft and ensure the sustainability of practical training.

The findings indicate that stakeholders believe there are unfaithful government servants who misuse public property to satisfy their personal interests. This discourages investment and threatens the sustainability of workshops, which disrupt practical training and demoralise both students and teachers. Without improving the systematic adaptability and transparency, the education system will remain vulnerable and there will be long-lasting impediments to the efforts to achieve the integration of vocational skill in education in Tanzania. This possible challenge should be taken as an observation that may help the government to put some measures in how to protect public properties. Cases of public property being stolen from educational institutions have been reported in many other places, especially in Africa (Ncala, 2022; Edward, 2024). For instance, Edward (2024) in Kenya reports that weak financial control systems in Vocational Institutions in Nyeri increased the risk of mismanagement and loss of institutional resources. In this regard, if we want to embed vocational skills in our secondary education successfully, there must be strong legislation with which administrators can be held responsible for their corrupt practices in the implementation of vocational education programmes.

Inadequate Teaching and Learning Materials. Teachers and students from school X complained about the scarcity of teaching and learning materials such as books, practical equipment, and workshop tools. The stakeholders from school X expressed disappointment in the long existence of this challenge. "*A participant emphasised the practical importance of vocational training for employment and industry readiness*".

This challenge was also emphasised by a student with similar views to the quote above. Some of the materials used do not suit the current curriculum. The student said:

> *In a big technical secondary school like this, you wonder we don't have even enough books, our teachers have decided to use old books to teach us regardless the presence of the current syllabus, not only that but also the practical tools we are using are not moving with time. (Focus Group Discussion: Student 1 of School X).*

The integration of vocational skills in secondary education faces challenges due to inadequacy of teaching and learning materials. To manage this, the government should invest heavily in vocational education and ensure teachers have adequate resources. Practical materials and books may not accommodate a big number of students, and some teachers may not be professional. For instance, Atsumbe et al. (2012) report that teachers' incompetence is a challenge to the implementation of vocational programmes in Nigeria, as they found that most of the technical teachers teaching Technical and Vocational Education subjects in secondary schools in Kogi State were grossly incompetent. Also, Wu (2004) reports that the implementation of vocational education in Taiwan succumbs to a shortage of professional vocational teachers, resulting in a weak

connection between schools and industries and inadequate student preparation for work. Thus, apart from investing more in teaching and learning materials, there is also a need to train teachers to make them competent and able to prepare the youth for the world of work by sufficiently imparting to them relevant vocational skills.

Conclusions and Implications

This research explored the following research question: What are the views and challenges of teachers, students, and parents on the integration of vocational skills into the secondary school curriculum?

It is evident that the integration of vocational skills into the curriculum of secondary education is essential, as it would enable the graduates to enter the world of work, which is currently very competitive. The findings show that vocational education in rural Tanzania will make the rural youth creative by equipping them with the skills needed to thrive in the global labour market, thus making them viable to contribute to sustainable development. In the lens of Open System Theory, this means that education should be an adaptive entity that interacts within its external environment, including the labour market, industrial needs, and community demands. It underlines the importance of aligning the secondary school curriculum with the real-world inputs and outcomes. Embedding vocational training in the secondary education curriculum would make secondary education more relevant, i.e., an education that prepares students to fit into the current workforce. Lessons from the findings underscore the need for context-responsive education in rural areas, advocating for localised curricula and cross-sector collaborations to equip learners with self-employment skills, including entrepreneurship and small business development

The integration of vocational education into the secondary school curriculum faces three main challenges related to inadequate teaching resources, shortage of practicals and theft. Insufficiency of resources hinders the construction of necessary infrastructure, procurement of training materials, and recruitment of skilled instructors, which affects students ' access to quality practical skills. The shortage of practical sessions undermines skills acquisition while the recurring cases of theft discourage investments and threaten the sustainability of workshops. These challenges imply that without targeted investments and stronger governance mechanisms, the integration of vocational education into secondary education will continue to fall short of its intended goals. Addressing resource gaps, expanding opportunities for practical training, and enforcing stricter accountability measures against theft are critical for enhancing the system's responsiveness to environmental demands as emphasised by the Open System Theory. Failure to do so risks perpetuating skill deficits, reducing the employability of graduates, and weakening the overall contribution of vocational education to national development.

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