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ASSESSING THE EFFECTIVENESS OF EMPLOYABLE LEARNING PATHWAYS IN VOCATIONAL EDUCATION AND TRAINING IN VETA LINDI AND MTWARA CENTERS

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ABSTRACT

This study assessed the effectiveness of employable learning pathways in Vocational Education and Training (VET) in two Vocational Education and Training Authority (VETA) centres; Lindi and Mtwara in Tanzania. VET plays a crucial role in youth employment, but there are challenges in ensuring that graduates' skills align with market demands. The study employed a survey research design and gathered data from 123 respondents, including 116 trainees and seven instructors, through closed questionnaires. The study was guided by human capital theory. Data were analysed using SPSS version 26. Descriptive statistics and chi-square tests were employed to assess the effectiveness of the curriculum in teaching methods and learning resources at those centres, as well as to evaluate resource availability. Findings revealed that work-based learning particularly industrial attachments positively impacts skills development, but language barriers, outdated equipment and inadequate resources hinder effectiveness. The study concluded that there is a need for improved language support programs, and modern facilities to enhance VET outcomes. The study recommends that improving infrastructure in vocational institutes and resource compatibility with industry standards can better equip students for the job market, thus reducing youth unemployment in Tanzania.

KEYWORDS: Employability, learning pathways, Skills, Vocational Education and Training.

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1. INTRODUCTION

Vocational education is training that prepares individuals for a skilled career as an artisan or as a technician. It can also be understood as the kind of training that equips a person with the necessary skills to be employed for profit or on their own (Gunawan, 2022). Vocational Education and Training (VET) plays a crucial role in facilitating youth employment, but it is essential to understand the different phases of acquiring vocational skills. Recent information has indicated that graduate unemployment has increased worldwide, becoming a significant concern. (Gewer, 2021; ILO, 2019). Employers are now paying more attention to the best talent needed to provide their companies with a competitive edge due to changes brought about by globalisation (Offor and Nanighe, 2014).

There is usually more than one way to learn in VET programs. These include work-based learning and classroom-based learning. Work-based learning combines classroom instruction with hands-on practice at a job site where students develop professional practical skills, such as internships. Classroom-based learning is a traditional VET method in which students get instruction in a learning environment like a classroom or educational facility, including theoretical training, lectures, discussions, and assessments before they go on to practical training. (Özer, 2022). Upon completing VET training, students are equipped with the skills necessary to operate independently and collaborate with others (Luhala and Zhang, 2021).

Vocational education and training systems vary between developed and developing countries. China has the world's largest system, enrolling over 22 million students in secondary and post-secondary vocational education. (Yuan and Wang, 2021). Germany's dual-learning approach combines classroom instruction with hands-on experience and apprenticeships. (Bibb, 2016). While the US offers two-year programs for specific careers. Tanzania among developing countries, in Sub-Saharan Africa has limited practical approaches to formal Vocational Education and Training (VET) programs (Alemu, 2023). This limitation is influenced by insufficient resources, resulting in low-quality and inadequate practical training (NACTE, 2020). This inadequate practical training appears as a significant shortcoming in some VET programs, as it hinders the development of real-world skills (Gewer, 2021).

The East African Community has high unemployment rates, but vocational training can help young people find productive and long-lasting employment by connecting their skills to the market demand rate. (Guàrdia et al., 2021). After independence, Tanzania introduced vocational education to address issues and inherit trade schools like Ifunda and Moshi Technical Schools. These three-year training programs were established to fill the country's need for skilled workers and workshop practices. (Mihyo, 2020). Skills for employment Tanzania supports VETA in enhancing its capabilities and the quality, timeliness, and relevance of the information it generates. (Mokoro, 2023) Was advised that involving youth in vocational training is crucial to lowering unemployment and transitioning from knowledge-based to competency-based educational systems.

Tanzania has more than 79 vocational training centres, including Lindi and Mtwara, which offer long-term and tailored short-term occupational courses. The courses include mechanical, civil, electrical, hospitality, design, and sewing (URT, 2020b). The goal is to assist students in acquiring the knowledge and skills required for a particular profession. This strategy can enhance learning outcomes, fulfil labour market demands, and reduce youth unemployment, thereby benefiting the

community and the country (OECD and ILO, 2014; URT, 2019; VETA, 2019). This study, aimed to assess the effectiveness of employable learning pathways in vocational education and training. It examined how these pathways, including work-based and classroom-based learning, contribute to equipping students with relevant skills and improving their employment prospects. By evaluating these pathways, this research provides insights into how VET can be enhanced to meet labour market needs better and reduce youth unemployment in Tanzania.

1.1 Rationale of the Study

Tanzania is among the countries suffering from graduate unemployment (Mtebe et al., 2020). Tanzania's government implemented Vocational Education and Training (VET) to lower youth unemployment, which offers training focused on certain occupations. Despite these efforts, the highest number of unemployed comes from VET trainees due to a lack of employable skills required in the present labour market (Salum & Munishi. E, 2016). According to Mgaya (2022), VET students face many challenges developing employability skills due to inadequate training facilities. Employers reveal dissatisfaction with the skills of young VETA graduates (Mihyo et al., 2020). This study intends to establish an employable learning pathway in the context of Mechanic trade in VETA Lindi and Mtwara centres to contribute to improving employability skills among the graduates.

1.2 Theoretical Framework

The human capital theory guided this study. According to human capital theory by Coleman (2017), education levels significantly influence job choices in a competitive labour market. Employers want to maximise earnings and increase output by hiring workers with the necessary skills. Vocational education is essential for human capital and provides learners with industry and job-specific skills that increase their employability. People can work for businesses or use their newly acquired skills for self-employment, which suggests that investments in education and training enhance individuals' skills and knowledge, thus increasing their productivity and employability (Kailo, 2020). By applying this theory, the study evaluates how well the learning pathways in VET centres prepare students for the labour market, finally assessing their impact on students' employability and economic outcomes. encourages individual economic growth and contributes to better national economic conditions.

2. METHODOLOGY

This study was conducted at two Regional Vocational Training and Service Centres (RVTSC) in Lindi and Mtwara. Due to the nature of the area, (emergence of gas, existence of dry port, Dangote cement industry) mechanic trade is critical for employment opportunities for youth in the area. It is therefore important to ensure that the curriculum guides the training designed with adaptation, flexibility and awareness of future labour market needs (NACTE, 2020). The study employed a survey research approach, which provides a quantitative or numerical description of trends, attitudes, or opinions of the respondents by studying a sample of that population. This method effectively enables generalizing findings from a sample to a larger population, making it appropriate for large-

scale studies (Creswell and Creswell, 2023). The study employed purposive sampling to select trainees and instructors in the mechanic trade. Purposive sampling is the participant's purposeful choice based on their characteristics (Almalki, 2016), resulting in 123 respondents from the centres, of which 116 were trainees and seven were instructors. Data were collected through closed-ended questionnaires administered to continuing trainees and instructors. Data were collected, coded and entered into SPSS 26 for analysis. The observed results were compared to the expected results a chi-square test was performed using a significance level of $p < 0.05$ with frequency, mean and standard deviation calculated for descriptive statistics to evaluate whether VET learning pathways overall operated as envisioned in practices.

3.0 RESULTS AND DISCUSSION

3.1 Socio-Demographic Characteristics

The results are in Table 1

Table 1. Demographic information of respondents (n=123)

Main Category	Sub-Category	Frequency	Proportions (%)
Respondents	Lindi	63	51
	Mtwara	60	49
Sex	Male	111	90
	Female	12	10
Age	18 – 24	112	91
	25 – 30	05	04
	31 – 40	05	04
	41 – 50	01	01
Education Qualification	Level I	22	18
	Level II	71	56
	Level III	23	19
	CTE	02	2
	DTE	01	1

	Bachelor Degree	03	2
	Master Degree	01	1
Students' fields / Courses	MVM	72	62
	WF	44	38
Time courses undertaken	Long course	104	90
	Short course	12	10

Source: Research data 2024

Number of Respondents per Institute/region

The data from Table 1 show the presence of a slight change in the number of respondents and participants from Lindi 63(51.2%) and Mtwara 60(48.8%) VET colleges. The study also revealed that the number of students is higher in Lindi due to its adequate accommodation compared to Mtwara. The study suggests that Lindi Institute, established in 2012, has undergone more rehabilitation and renovation than Mtwara Institute, which appears to rely on outdated buildings and equipment**.**

Sex of respondents

The data (Table 1) reveals that the institutes had a higher number of male students (111, 90.2%) compared to their female counterparts (12, 9.8%). The current disparity between males and females, which stands at 99 (80.5%), can be attributed to masculine perceptions of VETA programs, such as their potential suitability for careers in mechanical trades. The findings were contrary to the 2014 educational policy, which promotes equal access to education regardless of gender, ethnicity/religion and physical disabilities (URT, 2020a).

Age of respondents

Table 1 reveals that the majority of participants in the study, 112 (91%), were under the age of 18-24 years, which coincides with the exact age required to join VETA. The next age groups were 25–30 years (5%), 31–40 years (5%), and 41–50 years (1%). The study involves a large number of respondents/students aged 18-24 years who were mostly affected/going to be affected by employable learning pathways/courses offered by VETA institutes as a roadmap to employment. The finding was similar to Georgios and Zoe (2017) who viewed learning pathways as a roadmap for lifelong learning and personal development to prepare an individual for new employment.

The education level of respondents

The respondents involved in this study possessed different levels of education including education levels for trainees (Level I, II & III) and trainers (CTE, DTE, bachelor's and master's degree). The

results in Table 1 indicate that the respondents were educated at Level 1 with 22 respondents (17.8%), Level II with 71 respondents (57.7%), and Level III with 23 respondents (18.6%). The data collection process was more involved in Level II compared to Level I and Level III, as Level II included those who reported from field attachments during data collection. CTE was represented by 2 (1%), DTE by 1 (1%), BSc by 3 (2%), and master's degree by 1 (1%).

Learning courses

The respondents' trainees were asked about their preferences in learning courses. Whether they took a long or short course in their studies in which trade. Table 1 shows that a significant majority of respondents (62.1%) undertook the motor vehicle mechanics (MVM) course while (37.9%) of respondents took the welding and fabrication (WF) course. Many joined long courses (between 1 to 3 years) to acquire adequate skills and knowledge in their respective courses to suit the marketing demand.

3.2 Effectiveness of employable learning pathways

Respondents were provided with various statements on both teaching techniques and learning resource factors related to the effectiveness of employable learning pathways in vocation and training at VETA from the study area. Their choices made on a five (5) Likert scale were of utmost importance, with 1=Strongly Disagree to make a completely ineffective factor, 2=Disagree, 3= neither agree nor disagree, 4=Agree and 5=Strongly Agree to create a factor to be more effective in influencing employable learning pathways in VETA. The respondents had to choose from the list of questions in the table. During the data presentation and analysis, strongly agree and agree were termed Agree presented by the letter 'A,' neither nor was termed as neutral 'N,' Strongly Disagree and Disagree were termed 'D.' The table shows the P-value (X2) under the suggestion that the low value or equal to (0.000 - 0.05) will be accepted. Moreover, a lower value (-0.000) or higher than 0.05 will be rejected.

Table 2: Effectiveness of employable learning pathways in vocational education and training

Indicators for employable learning pathways	A		N		D		P-Value
	f	%	*f*	%	*f*	%	(X^2)
Effectiveness of VET work-based instructional method.							
The work-based method is most effective in helping VET students develop skills for employability	77	62.6	10	8.1	36	29.3	0.24
The language of instruction used is a challenge	83	67.3	16	13	24	19.5	0.001*

in teaching and learning							
Students are well-informed on what is needed in the job market	21	27.1	20	16.3	82	66.7	0.087
Internships concentrate on helping VET students develop skills for employability	86	69.9	15	12.2	22	17.9	0.056
Students attend industrial attachment and are well-assessed	82	58.3	20	8.9	21	22.8	0.027*
Career guidance and counselling are provided after choosing a course of study	98	79.7	09	7.3	16	13	0.065
Written and spoken communication will help in job findings	22	17.9	15	12.2	86	69.9	0.46
Effectiveness in learning resources							
Training facilities are not compatible with those used in the industry	91	74	13	10.6	19	15.4	0.026*
The workshop used has modern and well-functional equipment	06	4.9	14	11.4	103	83.7	0.015*
The resources for teaching and learning are insufficient	79	64.2	06	4.9	38	30.9	0.019*
Students do not gain all required industrial skills while learning	84	68.3	18	14.6	21	17.1	0.086

Significant at 0.05

Source: Research Data, 2024

Table 2 shows that the effectiveness of employable learning pathways in vocational education and training is divided into teaching techniques and learning resources.

3.2.1 Effectiveness of VET Work-based instructional method for Employable learning pathways

The work-based method instructional method is the most used in Tanzania VET centres, some indicators show whether the work-based method is implemented effectively to promote employability. The results showed these indicators relied on the level of agreement and disagreement of students and instructors in those indicators to judge the effectiveness of the method in promoting employability.

On the statement ‘’The language of instruction used is a challenge in teaching and learning’’ most respondents opined that it was a challenge since students' comprehension of the language is vital for effectively communicating the subject matter. The observed frequencies in the responses varied significantly from the expected distribution (P≤0.001). A considerable 67.3% of respondents agreed that the language of instruction, English, presents a challenge during teaching. This highlights the significant role of language barriers in hindering learning, especially in a Swahili-speaking context. Knowledge acquisition and dissemination methods significantly influence academic success and understanding of theory and practice. The emphasis on language is particularly relevant in VET institutions, which aim to prepare individuals for global market competitiveness, where English is the common language.

The language makes them less engaged because it sometimes leads to ineffective listening/understanding of the instructions implemented in fieldwork, as also seen by Mgaya, (2022). It took much work for VET learners who spoke Swahili to adjust to the English language. Consequently, dissatisfied trainees signed a challenging labour market for VETA graduates due to limited job opportunities over an extended period. These findings align with a study by Mtebe *et al*., (2020) thoroughly examined graduate employment in Tanzania and suggested that the country contends with graduate unemployment.

Another indicator of an effective work-based method to enhance the employable pathway was to require students to attend industrial attachment practices and assess their performance. The observed distribution of responses revealed a statistically significant difference from the expected distribution (P≤0.027). Over half (58.3%) of the respondents agreed to be engaged in industrial attachments and being assessed effectively. Industrial attachments aim to make students use the learned theories in a working environment before entering another academic year. OECD and ILO, (2014) believed a smoother transition from education to the workforce can be facilitated for young people by providing them with high-quality internships. High unemployment results from a mismatch between the skills provided by the vocational education institution and the demands of the industry, which could be attributed to low participation in internships Kusumastuti et al., (2023). It is contrary to vocational education's original goal of reducing the unemployment rate. Cooperation between industry and vocational education is one way to address the issue. Hence, trainees and trainers had better attend industrial attachment.

3.2.2 Learning resources for employable learning pathways

Learning resources are any tools, or materials, used by both teachers and students that can help facilitate and support learning. The collected data reveals that 74% of the respondents agreed that the teaching and learning resources are not compatible with the equipment used in industries and thus were inadequate for practical training. The p-value of 0.026 being statistically significant indicates a strong agreement with the statement. The institutes experienced insufficient teaching and learning facilities compatible with modern industrial tools. (Offor and Nanighe (2014) found unsatisfactory material resources in Nigerian secondary schools for effective teaching of technical and vocational education, while (Bano et al. (2022) criticized the trend of a lack of skilled teachers and materials in

skill-based subjects. Vocational education aims to develop skilled workers for self-reliance and economic development. Therefore, workshops must have appropriate tools, machines, and competent teachers.

Another indicator was outdated equipment to train students who need to compete in the modern market. The observed responses revealed a statistically significant variation ($p \leq 0.015$) and a high level of agreement of about 83.7% to the statement. The study found that outdated equipment in workshops hindered effective curriculum coverage. According to (Bano et al. (2022) and Richard (2018), many VET colleges require improved infrastructure and learning quality. The significance of VET to industry is reduced when mismatched with industry. Both instructors and students lack the technological and methodological skills of today. Therefore, colleges need to be equipped with modern and well-functional tools that could fit the industrial needs/current global market for effective employable learning pathways.

The resources for teaching and learning were insufficient as agreed by a substantial proportion of respondents (64.2%). The p-value of 0.019 for the statement indicates statistical significance showing that the high agreement is not due to random chance. This showed that VET centres suffer from insufficient learning resources which might slow down the imparting of necessary skills to students for employability. These results support research done by Offor and Nanighe (2014) and Mgaya (2022) felt that; to achieve the desired results, combine theory and practice effectively. If there was insufficient equipment in workshops the subjects taught in technical and vocational education are skill-based and call for real-world experience. The situation might lead to inadequate skills among VET students to match the industrial needs. Consequently, the number of competent graduates produced falls short of the expectations of the job market. As such, attention must be directed towards the quality of TVET expansion rather than quantity.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This study concludes that on the effectiveness of employable learning pathways in vocational education and training (VET), Lindi and Mtwara centres provide practical skills that meet the demands of market needs for graduates. In line with human capital theory, which emphasizes obtaining skills and knowledge that are adaptable to the current competitive global market. Based on the data collected, the study concludes that; language of instructions, industrial attachment, training facilities, workshops and teaching resources were important factors influencing the effectiveness of VET learning pathways. The study highlighted the importance of aligning VET training with industry needs and ensuring that students receive comprehensive, practical training to enhance their employability.

Based on these findings, The VETA Directorate of Training should implement additional language support programs to help students overcome the challenges of the English language. The Ministry of Education Science and Technology in collaboration with VETA should increase resource allocation to VET centres to ensure the availability of necessary teaching and learning materials and modernize

training equipment in workshops to ensure students receive comprehensive, practical training to enhance their employability.

Policymakers and curriculum developers enhance VET programs to align with market demand. Also, VETA should apply the dual Apprenticeship training system which aims to bridge the gap between training centres and workplaces by ensuring apprentices' skills align with industry requirements. This system encourages skill formation, solves youth unemployment, and improves soft skills and productivity. It also supports potential employees through company culture and work ethics.

4.0 LIMITATIONS OF THE STUDY

The study examined two courses at two vocational education and training Mtwara and Lindi (VET) institutions: Motor Vehicle Mechanics and Welding and Metal Fabrication. In total, 116 trainees and 7 trainers completed a closed-ended questionnaire. While the findings apply to various contexts, it is important to note that generalizing the results could be dangerous due to the small sample size. Future studies should focus on longitudinal research to assess the employment outcomes of VET graduates over time with other trades.

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