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EVALUATING THE DISCREPANCY BETWEEN INTENDED AND ATTAINED VOCATIONAL SKILLS IN TANZANIA: AN ANALYSIS OF EFFECTIVENESS AND ALIGNMENT IN MARA REGION

ОЦІНЮВАННЯ РОЗБІЖНОСТІ МІЖ БАЖАНИМИ ТА ЗДОБУТИМИ ПРОФЕСІЙНИМИ НАВИЧКАМИ В ТАНЗАНІЇ: АНАЛІЗ ЕФЕКТИВНОСТІ ТА УЗГОДЖЕНОСТІ В РЕГІОНІ МАРА

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ABSTRACT

Purpose. This study assesses the gap between intended and attained vocational skills in Folk Development Colleges in Tanzania's Mara region.

Methodology. Adopting a pragmatist philosophy and employing a mixed-methods, analytical cross-sectional design, data were gathered from 465 participants, including students, graduates, tutors, and industry officials. This dual approach enabled a thorough evaluation of the vocational skills curriculum's effectiveness.

Results. The results indicate a modest discrepancy of (38.28%) between intended and attained skills, while (61.72%) viewing effective implementation of vocational skills suggesting that FDCs are generally successful in equipping students with

Мета. Це дослідження оцінює розрив між бажаними та отриманими професійними навичками в Коледжах народного розвитку в регіоні Мара в Танзанії.

Методологія. Застосовуючи прагматичну філософію та змішані методи, аналітичний перехресний дизайн, було зібрано дані від 465 учасників, включаючи студентів, випускників, викладачів та представників освітньої галузі. Такий подвійний підхід дозволив ретельно оцінити ефективність навчальної програми з професійних навичок.

Результати. Результати вказують на розбіжність (38,28%) між бажаними та отриманими навичками, тоді як (61,72%) спостерігають ефективне впровадження професійних навичок, що свідчить про те, що Коледжі народного розвитку загалом успішно

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relevant vocational competencies. This success is linked to competency-based learning strategies that focus on practical training. The data also reveal variability in individual experiences, influenced by factors such as the quality of instruction, availability of resources, and relevance of the curriculum to students' career aspirations. Using a Likert scale, responses were categorized into two groups: those reflecting a discrepancy (ratings of 1-3) and those indicating alignment (ratings of 4-5). This framework provided a detailed understanding of the relationship between taught and acquired skills, emphasizing the complexities involved in curriculum implementation.

Conclusions. Despite improvements in vocational training, discrepancies persist, revealing a disconnect between educational outcomes and labor market needs. The results advocate for policymakers to incorporate international best practices into national vocational education policies. This study offers valuable insights into the effectiveness of vocational education and underscores the need for responsive curriculum development.

Keywords: attained vocational skills, discrepancy, intended vocational skills, Tanzania.

навчають студентів, які опановують відповідні професійні компетенції. Цей успіх пов'язаний зі стратегіями навчання на основі компетенцій, які зосереджені на практичній підготовці. Дані також демонструють мінливість індивідуального досвіду, на який впливають такі фактори, як якість навчання, наявність ресурсів та відповідність навчальної програми кар'єрним прагненням студентів. За шкалою Лайкерта відповіді були розділені на дві групи: ті, що відображають розбіжність (оцінки 1-3), та ті, що вказують на відповідність (оцінки 4-5). Це забезпечило детальне розуміння взаємозв'язку між отриманими та набутими навичками, підкреслюючи складність впровадження навчальної програми.

Висновки. Незважаючи на покращення у професійній підготовці, розбіжності зберігаються, що свідчить про невідповідність між результатами освіти та потребами ринку праці. Результати спонукають враховувати передовий міжнародний досвід у національному напрямі професійної освіти. Це дослідження пропонує цінну інформацію про ефективність професійної освіти та підкреслює необхідність адаптивної розробки навчальної програми.

Ключові слова: отримані професійні навички, розбіжність, цільові професійні навички, Танзанія.

INTRODUCTION

The Vocational Skills Curriculum (VSC) serves as a crucial framework for equipping individuals with the necessary knowledge and skills to improve living standards globally. Research by Nyenzi (2014) emphasizes that vocational skills (VS) enable individuals to secure employment or start businesses, thereby increasing self-employment rates and fostering socio-economic development. Vocational Skills Education (VSE) is regarded as a strategic means of promoting economic growth at both personal and national levels by preparing citizens with relevant competencies. Institutions like Folk Development Colleges (FDCs) play a vital role in preparing youth for active participation in self-improvement initiatives and contributing to national socio-economic progress (Paudel, 2024).

FDCs are grassroots institutions that aim to enhance basic education and vocational skills among adults, especially in disadvantaged communities. They provide an accessible and practical alternative to traditional education systems, focusing on the specific needs of young adults who may have missed conventional schooling (Owiny, 2017). These colleges not only offer essential technical skills but also impart socio-economic knowledge fundamental for individual empowerment and self-sufficiency. By emphasizing hands-on training, FDCs bridge the skills gap in communities, enhancing local economic development and improving graduate employability (Sumra & Katabaro, 2016). Their community-oriented initiatives foster a culture of lifelong learning, encouraging individuals to actively engage in their development and the broader economic landscape.

Despite the recognised importance of FDCs, literature reveals a significant gap regarding their effectiveness in aligning the intended and attained vocational skills curriculum. While FDCs are praised for their community-based approach to education, there is limited empirical evidence assessing their success in meeting the practical needs of the labor market. Studies in various countries highlight the need for a structured evaluation of FDCs' performance in equipping graduates with relevant skills (Ng'unda, 2015). Furthermore, the disparity between the curriculum goals and actual outcomes remains under-explored, leading to questions about the adequacy of training provided and its alignment with community needs.

In Tanzania, the establishment of FDCs was intended to address the skills gap and enhance the employability of graduates. However, various challenges, such as resource limitations, inadequate training equipment, and traditional teaching methods, have hindered their potential (Anindo, 2016). The lack of trained staff and insufficient analytical frameworks for evaluating performance further complicate the situation. As a result, the effectiveness of FDCs in producing skilled workers who can contribute to national development remains questionable. This research aims to critically evaluate the discrepancy between the intended and attained vocational skills in Tanzanian Vocational Development Colleges, particularly in the Mara region, highlighting the pressing need for a comprehensive analysis of the effectiveness and alignment of the VSC.

METHODOLOGY

2.1. Research approach and design

This study utilized a pragmatist philosophy and employed a mixed-methods, Convergent parallel research design to thoroughly evaluate the discrepancy between intended and attained vocational skills in FDCs in the Mara region of Tanzania. The use of mixed methods, according to Creswell and Clark (2017) increases accuracy of the data collected from the field. A mixed approach was employed because it allows the study to use the desired methods to address the research problem (Almeida, 2018). The use of the qualitative approach focuses on a natural setting, and it employs naturalistic inquiry in collecting data for answering the research questions (Bisthoven et al., 2020).

2.2. Sampling and sample size

The study included a variety of respondents: FDC students (384), FDC graduates (58), FDC tutors (21), the college principal (3), and a chief industrial official (2), totaling 468 participants selected from three FDCs in the Mara region based on their roles in vocational skills provision for socio-economic development. This diversity among respondents is essential for providing a comprehensive perspective on the implementation of the vocational skills curriculum. Insights from each group reveal unique challenges and opportunities related to environmental and logistical factors, ensuring a well-rounded analysis that reflects the realities of both educational and industrial contexts in Tanzania. This multifaceted input enhances the study's relevance and applicability in improving vocational education.

2.3. Data Collection Methods

Data were collected through questionnaire and interview method from the respondents, whereas the analyses were made both descriptively for quantitative data while thematically for the qualitative one. Questionnaires were used for the purpose of obtaining general information from the respondents regarding the discrepancy between intended and attained vocational skills in the Folk Developments Colleges. They offer practical way of collecting data, ensuring consistency and generating meaningful insights

from diverse group of respondents. On the other hand, Interview was used for the purpose of obtaining detailed information of personal experience regarding the research problem at hand. Semi structured nature of interview was used that will be guided by an interview guide at hand. The interview session took place in the office of the participants, and only lasted for about 10 to 15 minutes for each interview session.

2.4. Data Analysis

Data was analysed using descriptive statistics by presenting the frequency and percentage to describe the numerous socio-demographic characteristics of the study participants. Then, mean value and standard deviation was calculated to understand the level of discrepancy between the intended and attained vocational skills in the folk development colleges, Since the study involved human subjects, the researcher observed all important ethical guidelines, including maintaining the privacy and confidentiality of all participants, ensuring that their identities remained anonymous throughout the study process.

RESULTS

In this study, the researcher set out to investigate the magnitude of the discrepancy between the vocational skills intended to be developed in learners and the actual skills they attained. This inquiry was fundamental to understanding the effectiveness of vocational training programs, particularly in FDCs where the alignment between educational objectives and outcomes is critical for preparing students for the workforce.

The emphasis was placed on discerning not just the existence of this discrepancy but also its extent about specific vocational skills. To achieve this objective, a four-point Likert scale was employed, allowing respondents to express the degree of their agreement or disagreement with statements regarding the attainment of particular skills. This quantitative approach provided a structured way to capture perceptions of skill acquisition, enabling a more nuanced analysis of the data.

Table 4.

Item Analysis on the intended and attained vocational skills curriculum (n=384)

Items	Level of agreements					Descriptive statistics	
	Strongly agree	Agree	No opinion	Disagree	Strongly disagree	Average	SD
Handling Workshop Safety as per OHS Rules and Regulations.	280 (72.92%)	3 (0.78%)	19 (4.95%)	30 (7.81%)	52 (13.54%)	1.88	1.52
Ability to make installation of different system	241 (62.76%)	36 (9.38%)	4 (1.04%)	23 (5.99%)	80 (20.83%)	2.13	1.66
Maintenance and repair of system and equipment.	245 (63.8%)	17 (4.43%)	34 (8.85%)	14 (3.65%)	74 (19.27%)	2.10	1.61
Leadership and Subordinate supervision as per Management Classification Authority.	190 (49.48%)	111 (28.91%)	2 (0.52%)	40 (10.42%)	41 (10.68%)	2.04	1.37

To determine the magnitude of the discrepancy between the intended and attained vocational skills, the results from the Likert scale responses were categorized into two parts. The first category included those respondents who rated the attainment of a particular skill as 1 (strongly agree), 2 (agree), or 3 (no opinion).

Their responses were interpreted as indicating the existence of a discrepancy between the intended and attained skills. The second category included those who rated the skill attainment as 4 (disagree) or 5 (strongly disagree), which was interpreted as indicating no discrepancy between the intended and realized vocational skills.

By analyzing the proportion of respondents in each of these two categories, the researcher was able to quantify the magnitude of the discrepancy. A higher percentage of respondents in the 1-3 range suggested a greater discrepancy between the intended and attained vocational skills, while those rating 4 and 5 indicated no discrepancy between the intended and attained curriculum. This approach allowed the study to gain a nuanced understanding of the extent to which the realized vocational outcomes aligned with the intended curriculum.

The item analysis of the intended and attained vocational skills curriculum further revealed a strong overall agreement among respondents regarding several key competencies.

A significant majority (72.92%) strongly agreed that handling workshop safety by Occupational Health and Safety (OHS) rules is a crucial aspect of their training, reflecting a high prioritization of safety in the curriculum. Conversely, a substantial number (62.76%) also agree on their ability to install different systems.

On the contrary, a notable number of respondents (20.83%) disagreed, indicating a potential gap in this area of skill attainment. For maintenance and repair of systems and equipment, (63.8%) of respondents agreed, yet (19.27%) express disagreement, suggesting that while training may be sufficient for many, there remain challenges for a significant portion of students.

Leadership and subordinate supervision received mixed responses, with only (49.48%) of respondents strongly agreed, indicating that this area may not be as effectively integrated into the curriculum as safety and technical skills.

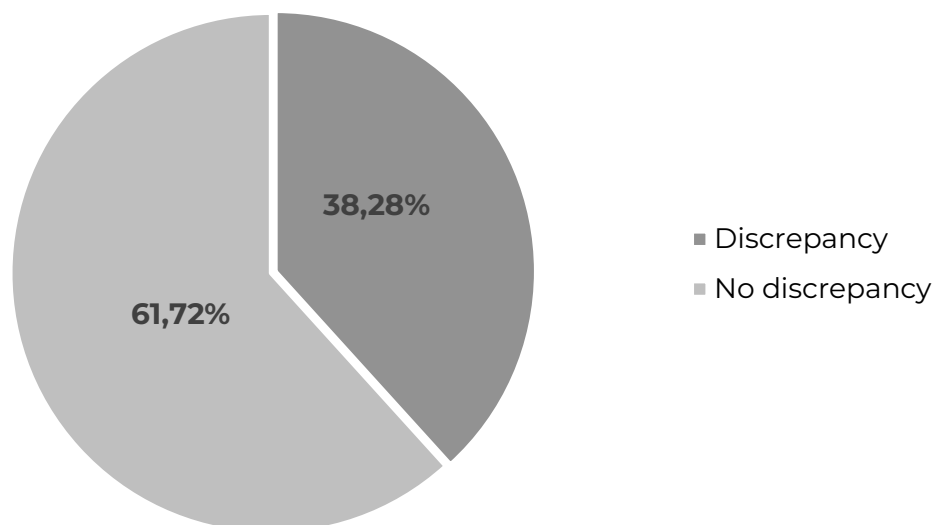
The average scores and standard deviations suggest variability in perceptions across different competencies, with safety being the most positively viewed aspect of the curriculum. In general, these results highlight the need for a more balanced approach to vocational training that not only emphasizes safety but also addresses the apparent gaps in technical and leadership skills among respondents.

Basically, the categorization of the Likert scale responses into these two distinct groups provided a clear and systematic way to measure the degree of alignment between the vocational skills that were intended to be taught and those acquired by the learners. This analytical framework enabled the researcher to move beyond a simplistic binary assessment and instead uncover the complex and multifaceted nature of the discrepancy between the planned and realized vocational education outcomes.

Figure 1 represents results on the discrepancy between the intended and attained vocational skill curriculum.

Figure 1

Magnitude of the discrepancy between the intended and the attained vocational skills curriculum



The results indicate that the level of discrepancy between the intended and attained vocational skill curriculum is relatively low (38.28%). This could be due to competency-based learning that is provided by FDCs, which exposes students to more practical sessions with hands-on knowledge and expertise applicable to real-world situations. The data implies that the FDCs are focused on equipping learners with a reasonable and relevant set of vocational skills, as stipulated in the vocational skills curriculum.

This was also supported by a detailed interview with respondent two, who provided their experience regarding the existing discrepancy between the intended and attained curriculum:

In my experience, I think the discrepancy between the intended vocational skills curriculum and the actual skills attained by students is low because we observe well-skilled students after completing their studies in different fields such as driving, carpentry, motor vehicle, etc. This means the government provides support to the development of FDCs in the provision and implementation of the intended vocational skill curriculum (FDC Principal 1).

FDC Principal 2, said:

You know, curriculum discrepancy in vocational training colleges is a result of different abilities of students in adapting to contents delivered arising from several factors. Curriculum developers may not fully align the coursework with evolving industry needs. Differences in student aptitude and lack of sufficient real-world practice opportunities can prevent mastery of the intended competencies, rapid technological changes in many fields further complicate keeping vocational programs up-to-date, resulting in a gap between the skills we teach and those demanded by employers (FDC Principal 2)

Likewise, FDC Principal 3, said:

"Thank you, in my thought on the discrepancy between intended and attained VS in FDC. As a college we are committed to equipping our students for successful careers, we recognize the importance of bridging this gap. We are actively implementing the VSC to our students to ensure they align with

industry standards and emerging trends. As a college we are enhancing partnerships with local industries to provide more hands-on training on VS for our students (FDC Principal 3).

The results, as depicted, revealed a significant individual diversity among respondents concerning the discrepancies between intended and attained vocational skills. This diversity suggests that while the study aimed to highlight an overarching trend regarding skill attainment, there were notable variations in experiences and perceptions among individual learners. Some respondents might have felt they were adequately equipped with the skills necessary for their vocational paths, while others might have perceived a substantial gap. This variability indicates that the curriculum implementation and skill development processes within FDCs are multifaceted, influenced by a myriad of factors that can lead to different outcomes for learners. Recognizing this diversity was essential for understanding the broader implications of vocational training effectiveness and the challenges inherent in achieving uniform skill attainment across a diverse student body.

DISCUSSION

The complexity of the results points to several influencing factors that could affect individual learners' experiences. For instance, the quality of instruction plays a crucial role in shaping how well students acquire intended skills; effective teaching methods can enhance understanding and practical application. Access to resources, such as training materials and equipment, can significantly impact learners' ability to practice and master skills. Personal motivation also serves as a determinant, as students who are more committed to their learning are likely to invest greater effort in skill acquisition. The relevance of the curriculum to learners' individual needs and career aspirations can affect their engagement level and the perceived value of the training. Each of these factors contributes to the unique educational journey of each learner, highlighting the necessity for a comprehensive understanding of the vocational training landscape in Tanzania (Kwambaza, 2024; Omollo et al., 2024; Rubeba, 2024).

Acknowledging the individual variability in skills attainment provides a rich avenue for insights that can inform targeted and responsive interventions designed to bridge the gap between intended and realized vocational outcomes. Rather than relying solely on aggregate-level data, which may obscure the nuanced experiences of learners, the study emphasizes the importance of incorporating individual perspectives into the evaluation of vocational training programs. By understanding the specific challenges and successes faced by different learners, educational institutions can tailor their approaches to meet diverse needs more effectively. This personalized approach could lead to improved curriculum design, enhanced teaching strategies, and ultimately, a more effective alignment between the skills that are taught and those that are truly attained, benefitting both learners and the industries they aspire to enter.

These results are partly supported by Ahmadi and Lukman (2015) in Nigeria, who viewed that an effective curriculum implementation process is fundamental for the acquisition of intended skills by learners, which can help them in their future career development. On the other hand, the results contradict what Pembe (2021) in Mpwapwa and Dodoma City, who viewed as ineffective implementation of vocational skill education in the selected districts. Pembe reported that the Vocational Skills Subject (VSS) was not taught as scheduled in the vocational skills syllabus. This is because the tutors taught

two to three periods out of four per week, which marked an effective implementation of vocational skill education.

Given these results, it can be inferred that the learners receive a substantial amount of important and useful vocational skills from the various FDCs, which are likely to be beneficial for their professional, social, and economic development. This indicates a positive trend in the delivery of vocational education, where the intended outcomes are closely realized in practice, with a relatively small discrepancy between the planned and attained vocational competencies of the learners. These results are promising and suggest that the vocational skills training programs in the FDCs effectively meet their intended objectives.

The opposite was true for research conducted by Bitegera and Bisanda (2021) in Tanzania and two Asian Tiger Nations, Singapore and the Republic of Korea, which looked at how technical institutions were able to adapt to the labour market. Approximately, two-thirds of candidates lack the abilities needed in the labour market, even if colleges attempt to reduce the gap between required and attainable vocation curriculum.

Generally, the relatively low discrepancy between the intended and attained vocational skills curriculum, as shown in Figure 1, is a positive indicator of the FDC efforts to bridge the gap between their educational goals and the actual skills acquired by the learners. This implies that the FDCs have made significant strides in aligning their vocational training programs with the needs of the labour market and the aspirations of the learners.

By focusing on the delivery of relevant and practical skills, the FDCs potentially equip their students with the necessary competencies to thrive in their chosen career paths, contributing to their personal and professional development, as well as the broader socio-economic progress of the communities they serve. The results suggest that the FDCs are on the right track in fulfilling their mandate of providing high-quality vocational education that meets the evolving needs of the job market and empowers learners to achieve their full potential.

The results regarding the discrepancy between intended and attained vocational skills in FDCs revealed a nuanced landscape that resonates with similar studies conducted in various global contexts. The research indicates a relatively low discrepancy between the skills intended to be taught and those acquired by learners, suggesting that FDCs are effectively aligning their vocational training programs with labor market needs and student aspirations.

This is supported by qualitative insights from respondents who noted that well-skilled students emerged from these programs, indicating a positive trend in vocational education delivery. However, the results also highlighted individual variability in skill attainment, influenced by factors such as instructional quality, resource availability, personal motivation, and curriculum relevance. This complexity underscores the necessity for tailored interventions to address the diverse experiences of learners, ensuring that vocational training is responsive to the dynamic requirements of the workforce.

In contrast, studies from other regions present a more critical view of vocational education effectiveness. For instance, research by Pembe (2021) in Tanzania pointed to ineffective implementation of vocational skills education, whereby the curriculum was not delivered as scheduled, leading to significant gaps in skill acquisition. Similarly, Bitegera and Bisanda (2021) found that a substantial portion of graduates from technical institutions in Tanzania and two Asian Tiger Nations – Singapore and South Korea –

lacked the competencies required by the labor market, despite efforts to bridge the curriculum gap.

These contrasting results highlight the challenges faced by vocational education systems in different contexts, emphasizing that while some institutions may successfully align their training with industry needs, others struggle with implementation and relevance. This disparity suggests that the effectiveness of vocational training is not solely dependent on curriculum design but is also significantly influenced by local educational practices, resource allocation, and the responsiveness of institutions to evolving labor market demands.

The results from the study reveal critical policy gaps that hinder the effective alignment of vocational training outcomes with the intended educational objectives in FDCs. One significant gap lies in the inconsistency between curriculum design and the dynamic needs of the labour market. While this shows a relatively low discrepancy between intended and attained vocational skills, the qualitative insights suggest that curriculum developers often fail to keep pace with rapidly changing industry requirements. This disconnection may stem from outdated curriculum frameworks that do not adequately incorporate emerging technologies and evolving job competencies, resulting in graduates who may lack crucial skills demanded by employers. Therefore, policymakers must prioritize the continuous updating of vocational curriculum to ensure they remain relevant and responsive to market demands, thereby enhancing the employability of graduates and their ability to contribute effectively to the workforce.

Another critical policy gap identified in the results of this study is the need for improved quality of instruction and resource availability within FDCs. The study highlighted how individual experiences and perceptions of skill attainment varied significantly among learners, indicating that the effectiveness of training is not uniform. It was found that factors such as the availability of training materials, access to practical learning environments, and the quality of teaching methods directly influence the outcomes of vocational education.

Following such results, policymakers should focus on enhancing teacher training programs, to ensure equal allocation of resources in FDCs and foster partnerships with industries to facilitate hands-on learning experiences. By addressing these gaps, vocational training programs can provide a more comprehensive educational experience that equips students with both the theoretical knowledge and practical skills necessary for successful careers. This holistic approach benefits individual learners as well as strengthens the overall vocational education system, making it a vital contributor to economic development and workforce readiness.

CONCLUSIONS

The current study analysis of the magnitude of discrepancy between intended and actual vocational skills further underscores the complexity of vocational training effectiveness. While the majority of respondents recognized the importance of specific skills, such as adhering to safety regulations and system installation, notable gaps in areas like leadership skills indicate insufficient integration of critical competencies into the curriculum. The overall discrepancy level, although it was relatively low, points to the effectiveness of competency-based learning. However, the disparities reported by students suggest a need for a comprehensive approach that aligns curricula with the evolving demands of the workforce. This alignment is crucial to ensure that all students achieve the competencies necessary for successful employment in their chosen fields.

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CONFLICT OF INTEREST

The author declares that there are no conflicts of interest regarding the publication of this paper.

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ARTIFICIAL INTELLIGENCE STATEMENT

No artificial intelligence tools were used in the preparation of this manuscript.

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