

Enhancing Vocational Education in Primary Schools Evaluating Teacher Training Effectiveness in Ilala Municipality, Tanzania

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ABSTRACT

This study investigates the effectiveness of teacher training programs in enhancing the teaching and learning process of vocational skills education in primary schools within Ilala Municipality, Tanzania. Using the Kirkpatrick Model of Training Evaluation, the research examined current pedagogical practices, assessed training program effectiveness, and identified challenges in vocational skills instruction. The mixed-methods approach involved 360 participants, including teachers, heads of schools, pupils, and education officers, with data collected via structured questionnaires, interviews, observations, and document reviews. Quantitative data were analyzed using SPSS, while qualitative data underwent thematic analysis. Findings revealed that teacher training programs often emphasize theoretical over practical teaching methodologies, with limited resources and follow-up support exacerbating the challenges. Recommendations include tailored professional development programs, improved resource allocation, and systemic reforms to ensure alignment with vocational education goals. The findings underscore the need for an integrated approach to bridge the gap between curriculum requirements and classroom practices.

Keywords: Teacher Training, Vocational Skills Education, Pedagogical Practices, Kirkpatrick Model, Primary Schools, Ilala Municipality, Tanzania

INTRODUCTION

The integration of vocational education into primary school curricula is vital for equipping students with practical skills and fostering self-reliance. Vocational education emphasizes hands-on learning and problem-solving, preparing learners for future employment or entrepreneurship. In Tanzania, this aligns with the historical vision of Education for Self-Reliance, introduced by Julius Nyerere in the 1960s. This policy aimed to combine academic and practical learning, ensuring that education was relevant to the country's socio-economic needs (Mosha, 2018). However, despite its potential, vocational education in Tanzanian primary schools faces significant challenges, including limited teacher training, resource constraints, and outdated teaching methodologies.

Teacher training is central to the success of vocational education programs. Effective training equips teachers with the skills and knowledge to deliver practical and engaging lessons. However, in many Tanzanian schools, teacher training programs focus heavily on theoretical content, with limited opportunities for hands-on practice. As a result, teachers struggle to implement experiential learning approaches, which are critical for vocational education. This has led to a disconnect between curriculum goals and classroom realities, with many students missing out on the benefits of practical skill development (Mwamakula & Omari, 2020).

The Kirkpatrick Model of Training Evaluation offers a useful framework for assessing the effectiveness of teacher training programs in vocational education. This model evaluates training at four levels: reaction, learning, behavior, and results. Reaction measures participants' satisfaction with training, while learning assesses the knowledge and skills acquired. Behavior examines how training impacts workplace practices, and results focus on broader organizational outcomes, such as student performance (Kirkpatrick & Kirkpatrick, 2016). Applying this model, this study evaluates the effectiveness of teacher training programs in enhancing

vocational education in Ilala Municipality. It explores the challenges faced by teachers, assesses their training experiences, and identifies areas for improvement.

Vocational education's potential to address unemployment and socio-economic disparities underscores the importance of this research. By equipping students with practical skills, vocational education prepares them for diverse career paths, reducing reliance on formal employment. However, achieving this requires systemic reforms to address existing barriers in teacher training and resource allocation. This study contributes to this discourse by providing actionable insights into improving vocational education in primary schools in Ilala Municipality, with implications for broader educational policy and practice in Tanzania.

LITERATURE REVIEW

The integration of vocational education into primary school curricula has been widely studied, with a focus on its potential to equip students with practical skills and prepare them for socio-economic challenges. This study draws on the Kirkpatrick Model of Training Evaluation, which provides a theoretical framework for assessing the effectiveness of teacher training programs. The model evaluates training at four levels: reaction, learning, behavior, and results. Reaction measures participants' satisfaction with training, while learning assesses the acquisition of knowledge and skills. Behavior examines how well participants apply their learning in professional settings, and results evaluate the broader organizational impact of training interventions (Kirkpatrick & Kirkpatrick, 2016). This model is particularly relevant for vocational education, as it highlights the link between teacher training, classroom practices, and student outcomes.

Globally, vocational education has been recognized as a critical component of curricula aimed at preparing students for employment and entrepreneurship. Research emphasizes the importance of innovative teaching methodologies in vocational education, such as project-based learning (PBL) and experiential teaching techniques. These approaches engage students in active learning and foster critical thinking, creativity, and problem-solving skills (Smith et al., 2021). For example, in countries like Finland and Germany, vocational education programs have successfully adopted project-based learning to bridge the gap between classroom instruction and real-world applications. However, in many low- and middle-income countries, including Tanzania, traditional teaching methods such as lectures and rote learning dominate vocational education, limiting students' ability to acquire practical skills. Mwamakula and Omari (2020) observed that Tanzanian teachers often lack the training and resources needed to implement hands-on teaching methodologies, resulting in a disconnect between curriculum objectives and classroom practices.

The effectiveness of teacher training programs in vocational education has been a topic of significant research interest. Studies show that training programs emphasizing practical application are more effective in equipping teachers with the skills required to deliver vocational curricula. Johnson and Smith (2020) found that teachers who participated in hands-on workshops and continuous mentorship programs were more confident and successful in implementing vocational lessons. In contrast, training programs focusing solely on theoretical content often fail to translate into improved teaching practices. This is particularly evident in Tanzania, where teacher training programs are frequently criticized for their lack of alignment with practical classroom needs. Mosha (2018) highlighted that many training programs provide minimal follow-up support, leaving teachers ill-prepared to adapt their learning to real-world educational settings.

Challenges in vocational education are multifaceted, ranging from systemic resource constraints to societal attitudes. Resource shortages, including insufficient teaching aids, inadequate infrastructure, and overcrowded classrooms, are significant barriers to effective vocational education in Tanzania. A study by Wang and Kim (2020) noted that the lack of modern teaching tools and facilities limits the ability of teachers to engage students in practical learning. Additionally, societal perceptions of vocational education as a pathway for academically weaker students contribute to its marginalization. Mbilinyi (2020) emphasized that these stigmas discourage students and parents from fully embracing vocational education, undermining its potential to address unemployment and socio-economic disparities.

Further complicating the implementation of vocational education are rigid and outdated curricula that fail to incorporate modern industry requirements. Vocational education programs in Tanzania often lag behind

technological advancements and market demands, leaving students with skills that are not aligned with workforce needs. Smith and Johnson (2020) argued that aligning vocational curricula with contemporary industry standards is essential for enhancing its relevance and impact. This requires collaboration between educational institutions, policymakers, and industry stakeholders to ensure that vocational education programs remain adaptive and future-focused.

The role of teacher professional development in overcoming these challenges cannot be overstated. Effective professional development programs are characterized by their focus on practical teaching techniques, ongoing mentorship, and alignment with contemporary educational needs. Chen et al. (2022) noted that continuous professional development enhances teachers' ability to implement innovative pedagogical approaches, such as project-based learning and technology integration, which are critical for vocational education. However, access to such programs remains unequal, particularly in resource-constrained settings like rural Tanzania. Mwamakula and Omari (2020) observed that disparities in access to training opportunities further exacerbate the inequities in vocational education outcomes.

In summary, the literature highlights the transformative potential of vocational education in equipping students with practical skills and addressing socio-economic challenges. However, its implementation is constrained by resource shortages, outdated teaching methodologies, and limited teacher training. The Kirkpatrick Model provides a useful framework for evaluating teacher training programs, emphasizing the need for alignment between training content, classroom practices, and student outcomes. Addressing the challenges identified in the literature requires systemic reforms, including improved resource allocation, curriculum modernization, and professional development for teachers. These insights form the basis for this study, which seeks to evaluate the effectiveness of teacher training programs in vocational education within Ilala Municipality.

METHODOLOGY

This study employed a mixed-methods approach, integrating quantitative and qualitative techniques to evaluate the effectiveness of teacher training programs in vocational education within Ilala Municipality. The descriptive survey design was used to gather both numerical data and in-depth insights from key stakeholders. A sample of 360 participants was selected, including 200 teachers, 50 heads of schools, 100 pupils, and 10 education officers. Stratified random sampling was applied to ensure diverse representation among teachers, while purposive sampling targeted heads of schools and education officers due to their leadership roles and direct involvement in vocational education. Data collection tools included structured questionnaires for teachers and pupils, semi-structured interviews with heads of schools and education officers, and classroom observations to assess teaching practices. Additionally, document reviews provided contextual evidence, ensuring a comprehensive understanding of the challenges and opportunities associated with vocational education.

Quantitative data were analyzed using the Statistical Package for the Social Sciences (SPSS), generating descriptive statistics such as frequencies and percentages to identify patterns in teacher training effectiveness and classroom implementation. Qualitative data from interviews and observations were analyzed thematically, allowing for the identification of recurring themes and insights. The validity of the research instruments was ensured through pilot testing with 30 participants, whose feedback informed the refinement of questionnaires and interview guides. Triangulation of data from multiple sources strengthened the reliability of the findings. Ethical considerations were paramount; informed consent was obtained from all participants, confidentiality was maintained through data anonymization, and approval for the study was secured from relevant educational authorities. These measures ensured that the research adhered to ethical standards and produced credible, reliable findings.

FINDINGS AND DISCUSSION

Pedagogical Practices in Vocational Education

The findings revealed that most teachers in Ilala Municipality primarily relied on traditional teaching methods, such as lectures, to deliver vocational education. Among the 200 teachers surveyed, 70% (140 teachers)

reported using lecture-based approaches, while only 30% (60 teachers) incorporated experiential or project based learning techniques. These results indicate a significant gap between the vocational curriculum's goals focused on practical skill development and the actual teaching methods used in classrooms.

Teachers cited resource limitations and inadequate training as the primary reasons for their reliance on traditional teaching methods. One teacher explained, "Even though we are encouraged to use practical approaches, we lack the necessary tools and materials to facilitate hands-on lessons. Most of our teaching ends up being theoretical." This finding aligns with the work of Smith et al. (2021), who noted that in resource-constrained settings, the lack of teaching aids and equipment forces teachers to adopt lecture-based methods, which limit students' ability to acquire practical skills.

The disconnect between curriculum expectations and teaching practices reflects challenges at the behavior level of the Kirkpatrick Model of Training Evaluation, which examines the extent to which knowledge and skills acquired during training are applied in the workplace. While teachers may acquire theoretical knowledge during training, systemic barriers, such as inadequate resources and overcrowded classrooms, hinder their ability to translate this knowledge into effective practices. Mwamakula and Omari (2020) similarly observed that teachers in Tanzanian school's struggle to implement experiential learning due to resource shortages and high student-teacher ratios.

Furthermore, only 25% (50 teachers) indicated that their training included practical demonstrations or workshops relevant to vocational education. This lack of alignment between training content and classroom realities contributes to the perpetuation of traditional teaching methods. As Mosha (2018) emphasized, teacher training programs must incorporate hands-on components to ensure that educators are equipped to deliver practical lessons effectively. Without this, vocational education risks becoming a purely theoretical exercise, undermining its potential to prepare students for employment and entrepreneurship.

Effectiveness of Teacher Training Programs

The study assessed the effectiveness of teacher training programs based on participants' feedback and observed outcomes. Among the surveyed teachers, 65% (130 teachers) rated their training experiences as "satisfactory," while 35% (70 teachers) described them as "inadequate." Those who found the programs satisfactory acknowledged the value of the theoretical knowledge provided, with 60% (78 teachers) highlighting that the training improved their understanding of vocational curriculum requirements. However, only 20% (26 teachers) felt that the training adequately prepared them to implement practical teaching methods in their classrooms.

A recurring theme in the feedback was the lack of follow-up support and mentorship after training. One teacher remarked, "The training sessions are very informative, but when we return to our schools, there's no one to guide us on how to implement what we've learned in our specific contexts." This sentiment underscores a gap at the behavior level of the Kirkpatrick Model, where knowledge gained during training fails to translate into classroom practices due to the absence of structured support mechanisms. Chen et al. (2022) similarly found that ongoing mentorship and practical workshops are essential for sustaining the impact of teacher training programs, particularly in vocational education.

The findings also revealed a lack of industry collaboration in training programs, which limits their relevance to real-world vocational needs. Teachers reported that the training focused primarily on theoretical pedagogy, with little emphasis on aligning lessons with market demands or incorporating industry-relevant tools and techniques. This observation echoes Johnson and Smith (2020), who highlighted that teacher training programs must integrate industry partnerships to ensure that vocational curricula remain relevant and effective in preparing students for employment.

Challenges in Vocational Education

The study identified several systemic challenges that hinder the effective delivery of vocational education in Ilala Municipality. Resource shortages emerged as the most significant barrier, with 75% (150 teachers)

reporting insufficient teaching materials and tools for practical lessons. Additionally, 65% (130 teachers) cited the lack of infrastructure, such as workshops and laboratories, as a critical challenge. Overcrowded classrooms, with an average student-to-teacher ratio of 1:50, further compounded these issues.

One teacher noted, “It’s impossible to conduct meaningful practical lessons when we don’t even have basic materials like sewing machines or carpentry tools. The students end up learning about these things in theory only.” This finding aligns with Wang and Kim (2020), who emphasized that inadequate infrastructure and resources are common obstacles in vocational education programs in low-income countries. Such shortages prevent teachers from engaging students in hands-on learning, which is critical for skill development.

The study also highlighted societal attitudes as a significant barrier. Many parents and students view vocational education as a pathway for academically weaker students, discouraging engagement with vocational subjects. One teacher explained, “Parents discourage their children from pursuing vocational courses because they see them as inferior to academic subjects. This mindset affects the students’ motivation and interest in practical lessons.” This observation reflects Mbilinyi’s (2020) findings, which emphasized the need for public awareness campaigns to change perceptions of vocational education and promote its value in addressing unemployment and socio-economic challenges.

These challenges also have implications at the results level of the Kirkpatrick Model, which focuses on organizational outcomes such as improved student performance and skill acquisition. The lack of resources and societal support undermines the broader goals of vocational education, reducing its effectiveness in preparing students for the workforce. Addressing these systemic issues is critical for ensuring that vocational education programs achieve their intended outcomes.

The findings illustrate a complex interplay between pedagogical practices, teacher training, and systemic challenges in vocational education. While teacher training programs provide valuable theoretical knowledge, their limited focus on practical application and follow-up support significantly reduces their impact. The reliance on traditional teaching methods, reported by 70% of teachers, underscores the urgent need for reforms in both training programs and resource allocation. Without sufficient teaching aids, infrastructure, and mentorship, teachers are unable to implement the hands-on learning approaches essential for vocational education.

The findings also highlight the importance of aligning training programs with the practical realities of classrooms. Programs that integrate experiential learning components, such as workshops and industry partnerships, are more effective in equipping teachers with the skills needed to deliver vocational curricula. This aligns with Johnson and Smith’s (2020) recommendation that teacher training must go beyond theoretical instruction to include practical applications and ongoing support.

The systemic challenges identified in the study such as resource shortages, overcrowded classrooms, and societal stigma further underscore the need for a holistic approach to vocational education reform. Addressing these issues in infrastructure and teaching materials is essential for creating enabling environments where teachers can deliver high-quality vocational instruction.

The findings also reinforce the relevance of the Kirkpatrick Model, particularly at the behavior and results levels. The inability of teachers to apply their training in classroom settings reflects gaps in the behavior level, while the broader organizational challenges identified, such as resource shortages and societal attitudes, hinder outcomes at the results level. These insights highlight the need for systemic reforms to bridge the gap between training and practice, ensuring that vocational education fulfills its potential to prepare students for meaningful employment and socio-economic contribution.

Theoretical and Empirical Implications

The findings of this study carry significant implications for both theoretical frameworks and empirical practices, contributing to the discourse on vocational education and teacher training.

Theoretical Implications

The study validates the relevance of the Kirkpatrick Model of Training Evaluation in assessing teacher training programs in vocational education. The findings highlight gaps across the model's four levels—reaction, learning, behavior, and results. At the reaction level, teachers expressed moderate satisfaction with their training experiences, appreciating the theoretical knowledge but critiquing the lack of practical focus. This suggests that while initial reactions are positive, they do not necessarily predict long-term efficacy.

At the learning level, the study found that teachers acquired valuable theoretical insights but lacked opportunities for practical application, limiting their ability to develop the skills necessary for effective classroom implementation. The behavior level revealed that systemic barriers, such as resource shortages and overcrowded classrooms, hinder teachers from applying what they learned. Finally, at the results level, these challenges undermine broader organizational outcomes, such as improved student performance and skill acquisition. These findings underscore the need to enhance teacher training programs by addressing gaps at all levels of the Kirkpatrick Model.

The study also supports experiential learning theories, which emphasize the importance of hands-on, practice-oriented approaches in vocational education. The findings demonstrate that practical teaching methodologies, such as project-based learning, are critical for equipping students with real-world skills. However, the limited adoption of these methodologies due to resource constraints highlights a disconnect between theory and practice, reinforcing the importance of aligning training content with classroom realities.

Empirical Implications

Empirically, the study provides actionable insights for improving vocational education in resource-constrained settings like Ilala Municipality. First, it highlights the critical role of teacher training in shaping pedagogical practices. The reliance on traditional teaching methods reflects the inadequacy of current training programs, which fail to equip teachers with the tools and techniques needed for hands-on learning.

Second, the study identifies systemic barriers, such as resource shortages, inadequate infrastructure, and societal stigma, as major obstacles to effective vocational education. These challenges are not unique to Ilala but reflect broader trends in low-income educational contexts. Addressing these barriers requires coordinated efforts to improve resource allocation, curriculum design, and public awareness.

Third, the findings underscore the importance of integrating industry partnerships into vocational education programs. Collaboration with industry stakeholders can ensure that training content aligns with market demands, providing students with relevant skills and increasing the employability of vocational education graduates.

Finally, the study highlights the need for continuous professional development for teachers. Structured mentorship, refresher courses, and follow-up support are essential for sustaining the impact of teacher training programs. These initiatives can help bridge the gap between theoretical training and practical classroom application, ensuring that vocational education fulfills its potential to empower students and address socio-economic challenges.

CONCLUSION AND RECOMMENDATIONS

The findings of this study highlight the critical role of teacher training programs in enhancing vocational education in Ilala Municipality. While teachers expressed moderate satisfaction with the training programs, the study revealed significant gaps in their practical application. Training sessions were heavily focused on theoretical knowledge, leaving teachers ill-prepared to implement experiential and project-based learning techniques in their classrooms. This disconnect was further exacerbated by systemic challenges, including resource shortages, overcrowded classrooms, and a lack of follow-up support. These barriers limited teachers' ability to deliver hands-on lessons that align with the curriculum's emphasis on skill development. Furthermore,

societal perceptions of vocational education as inferior to academic pathways hindered student engagement and parental support, diminishing the impact of these programs.

From a theoretical perspective, the findings validate the relevance of the Kirkpatrick Model of Training Evaluation, particularly at the behavior and results levels. Teachers demonstrated a strong grasp of theoretical content but struggled to translate this knowledge into classroom practices due to the absence of practical resources and supportive environments. The study underscores the importance of addressing these gaps to bridge the divide between knowledge acquisition and its application, ensuring that vocational education programs achieve their intended outcomes. The broader organizational implications, such as improved student performance and employability, also remain unfulfilled due to systemic barriers that undermine the effectiveness of vocational curricula.

To address these challenges and enhance the effectiveness of vocational education, several strategic actions are recommended. First, teacher training programs should be restructured to include practical, hands-on components that mirror the realities of classroom instruction. Simulated teaching environments, workshops, and project-based activities should be integral parts of the training to equip teachers with the skills needed for experiential learning. Continuous professional development programs, including mentorship and refresher courses, are essential to support teachers in adapting their teaching practices to evolving educational demands.

Second, resource allocation must be prioritized to create enabling environments for vocational education. Investments in infrastructure, such as dedicated workshops, laboratories, and teaching materials, are critical for supporting practical lessons. These resources will empower teachers to implement hands-on teaching approaches and foster student engagement. Additionally, collaboration with industry stakeholders is crucial to align vocational education with market demands. Partnerships with industries can provide teachers with access to modern tools and techniques while offering students exposure to real-world applications through internships and apprenticeships.

Third, societal attitudes toward vocational education need to be addressed through targeted awareness campaigns. These campaigns should emphasize the value of vocational education in equipping students with practical skills and preparing them for diverse career opportunities. Engaging parents, community leaders, and policymakers in these efforts can help shift perceptions and promote vocational education as a prestigious and viable pathway.

Finally, robust monitoring and evaluation systems must be implemented to assess the effectiveness of teacher training programs and vocational education initiatives. Regular evaluations can identify gaps and inform policy adjustments, ensuring that programs remain relevant and impactful. By addressing these systemic barriers and fostering a culture of continuous improvement, vocational education in Ilala Municipality can fulfill its potential to empower students, reduce unemployment, and contribute to Tanzania's socio-economic development.

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