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Institutional and Pedagogical Challenges Affecting the Quality of Instructional Delivery in Construction Trade Education in Malawi

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Abstract

This review examines the institutional and pedagogical challenges influencing the quality of instructional delivery in construction-related technical and vocational education and training (TVET) in Malawi. It argues that instructional quality is shaped by the interaction of institutional capacity, instructor competence, vocational pedagogy, assessment practices, workshop resources and industry engagement. Existing evidence from Malawi identifies several persistent challenges, including inadequate training facilities and instructional materials, insufficiently prepared instructors, weaknesses in quality assurance implementation, inconsistent understandings of competency-based education and training (CBET), and misalignment between training provision and employer expectations. These challenges are particularly significant in construction trade education, where the development of occupational competence requires sustained practical engagement, structured supervision and authentic workplace-related learning experiences. Nevertheless, much of the available Malawi-specific evidence addresses TVET broadly or school-level technical education rather than construction trade programmes specifically. Consequently, comparative studies from other countries are incorporated to explain the pedagogical demands of construction education without assuming that their findings are directly transferable to the Malawian context. The review further highlights the need to distinguish reported institutional constraints from demonstrated effects on instructional quality and learner outcomes. It concludes that improving construction trade education requires an integrated approach involving instructor professional development, functional workshop facilities, competency-based assessment, effective quality assurance and sustainable industry partnerships. Further empirical research is recommended to establish how these interconnected factors influence instructional delivery within Malawi's construction trade programmes.

Keywords: Construction trade education, TVET, Instructional Quality, Vocational Pedagogy, Malawi

Introduction

Construction trade education plays an important role in developing the technical knowledge, occupational skills and professional competencies required by the construction industry. Unlike conventional classroom-based education, construction-related technical and vocational education and training (TVET) requires learners to integrate theoretical understanding with practical skills, including the safe operation of tools, material selection, technical judgement and the execution of construction tasks under conditions that resemble actual workplace environments (Lensjø & Billett, 2026). Consequently, the quality of instructional delivery cannot be determined solely by curriculum content, instructor qualifications or certification outcomes. Rather, it depends on the extent to which learners receive structured opportunities to practise, demonstrate and progressively develop their occupational competencies through supervised learning experiences (Adelabu, 2020).

Vocational pedagogy in construction education involves more than the transmission of technical information. It requires instructors to draw upon their occupational experiences to facilitate learners' understanding of tools, materials, construction processes and workplace expectations. Such instruction involves demonstration, guided practice, observation, feedback and the development of professional attitudes through authentic learning activities (Lensjø & Billett, 2026). In addition to technical competencies, construction employers increasingly expect graduates to demonstrate transferable capabilities, including communication, teamwork, problem-solving, leadership, information management and technological skills. These expectations were highlighted in a mixed-method study involving 439 construction-industry practitioners conducted by Auta and Onwusuru (2022).

Despite the importance of these competencies, the capacity of TVET institutions to deliver effective construction trade education remains influenced by several institutional and pedagogical constraints. In Malawi, historical evidence indicates substantial challenges in instructor availability and institutional capacity. Chimpololo (2013), for example, reported an instructor–student ratio of 1:67 in technical colleges and discussed a proposed reduction to 1:20 by 2017/2018. However, the latter figure represented a policy target rather than a verified achievement. Such evidence highlights the historical pressure on instructional capacity and raises concerns about the extent to which instructors can provide individual supervision and sufficient practical learning opportunities in workshop environments.

Further concerns have been identified in the implementation of competency-based education and training (CBET). Kufaine and Chitera (2013), in a study involving 40 instructors, eight principals, three TEVET centre managers and central-level officials, identified differences in stakeholders' understanding of CBET and a perceived gap between graduates' competencies and employer expectations. These findings suggest that the adoption of competency-based approaches does not automatically guarantee the development of occupational competencies. Effective implementation requires shared understandings of competency standards, appropriate instructional strategies, adequate learning resources and assessment practices that reflect actual occupational requirements.

The challenges affecting instructional delivery in construction trade education therefore need to be examined from an interconnected institutional and pedagogical perspective. Institutional conditions determine the availability of facilities, equipment, qualified personnel

and quality assurance mechanisms, while pedagogical practices influence how these resources are translated into meaningful learning experiences. Furthermore, curriculum relevance and industry engagement determine whether the competencies developed through institutional training correspond to current occupational expectations.

To establish an appropriate analytical foundation, this review considers three categories of evidence. The first comprises Malawi-specific studies examining TEVET policy, institutional quality assurance, instructor preparation and technical education. The second includes evidence from related educational sectors in Malawi that provides contextual understanding of broader pedagogical and institutional challenges. The third consists of construction-related and vocational education studies from other countries, which are used to explain the instructional demands and possible mechanisms influencing construction trade education. These categories are distinguished throughout the discussion to avoid generalising findings from other educational contexts to Malawi.

Accordingly, this review examines how institutional capacity, instructor capability, vocational pedagogy, assessment practices, workshop-based learning and industry collaboration influence instructional delivery in construction trade education. It also identifies gaps in the existing evidence and proposes research priorities to strengthen the understanding and improvement of construction-related TVET provision in Malawi.

Institutional and Pedagogical Factors Influencing Instructional Quality in Construction Trade Education

Institutional Capacity, Governance and Quality Assurance

Institutional capacity provides the foundation upon which effective instructional delivery in construction trade education is established. The availability of qualified instructors, functional workshops, appropriate instructional materials, adequate funding and effective institutional management determines whether curriculum objectives can be translated into meaningful teaching and learning experiences. In this regard, Nkungula (1980) conceptualised technical education in Malawi as a system involving instructional personnel, learning experiences, physical facilities, financing, scholarships, governance and stakeholder participation. Although the proposed model was not an evaluation of institutional outcomes, it established the importance of considering technical education as an integrated institutional responsibility rather than an activity dependent solely on individual instructors.

Malawi's TEVET reform, initiated in 1997, and the establishment of the Technical, Entrepreneurial and Vocational Education and Training Authority (TEVETA) in 1999 represented important developments in strengthening the country's vocational education system (Chafa, 2003). These reforms sought to improve the organisation of vocational qualifications and strengthen the relationship between training provision and labour-market requirements. Nevertheless, the establishment of regulatory structures and qualifications frameworks does not necessarily ensure that institutions possess the operational capacity to implement quality instruction. The effectiveness of these arrangements ultimately depends on institutional leadership, resource allocation, staff development and the implementation of consistent quality assurance procedures.

Evidence from Malawi indicates that several institutional constraints continue to affect the quality of TVET provision. Chisi (2018), through a phenomenological study involving focus groups, questionnaires and interviews with purposively selected participants, identified inadequate facilities and teaching materials, insufficiently qualified personnel, weaknesses in internal quality management, leadership and governance challenges, and fragmented qualification and examination arrangements. These findings demonstrate that institutional quality assurance is influenced by multiple interconnected conditions. In particular, institutions experiencing resource shortages and limited management capacity may find it difficult to implement systematic monitoring, evaluate instructional practices and initiate improvements.

These institutional challenges have important implications for construction trade education. Practical instruction requires access to functional tools, equipment, materials and workshop spaces that allow learners to undertake occupational tasks under appropriate supervision. The availability of such resources, however, is insufficient if they are not properly maintained, scheduled and integrated into instructional activities. Therefore, institutional capacity should be understood not merely in terms of resource provision but also in terms of the ability to organise and utilise those resources effectively to support competency development.

A related institutional concern involves the implementation of competency-based education and training. Kufaine and Chitera (2013) identified differences in how education authorities, training providers, instructors and students understood CBET, together with concerns about the gap between training outcomes and employer expectations. Such inconsistencies may affect the interpretation of competency standards, the selection of teaching strategies and the assessment of learners' practical abilities. Where institutional stakeholders do not share a common understanding of competency requirements, the intended relationship between curriculum outcomes, instructional activities and occupational assessment may become difficult to establish.

The issue is further complicated by weaknesses in institutional quality assurance arrangements. Chisi (2018) highlighted the existence of multiple qualification and examination arrangements alongside weaknesses in internal quality management. When different institutional arrangements operate without sufficient coordination, the communication, monitoring and comparison of competency standards may become challenging. Consequently, effective CBET implementation requires more than the introduction of competency-based terminology. It requires institutional consistency in curriculum interpretation, instructional delivery, practical assessment and quality monitoring. Industry engagement represents another important dimension of institutional capacity. Collaboration between educational institutions and employers can strengthen curriculum relevance, facilitate access to contemporary occupational practices and provide opportunities for instructors to update their technical knowledge. Hall and Thomas (2005), in their examination of relationships between higher education institutions and employers in Malawi, emphasised the importance of dialogue among employers, government and educational institutions. Similarly, Chimpololo (2017a) identified skills gaps in Malawi's manufacturing industry, particularly concerning course content, multi-skilling, supervisory capabilities and communication skills. A further study examining the oilseed and sugar industries reported

disparities between the supply and demand of TEVET skills and recommended stronger relationships between educational institutions and industry (Chimpololo, 2017b).
Although these studies do not directly investigate the construction industry, they highlight a broader concern regarding the responsiveness of vocational training to occupational expectations. Their findings suggest that curriculum development and instructional planning should be informed by sustained employer engagement rather than relying exclusively on institutional interpretations of labour-market needs.

Comparative evidence from neighbouring countries further illustrates the institutional implications of inadequate resources and weak organisational arrangements. Mwila (2016), in a mixed-method study involving 278 respondents and industry informants from two TEVET institutions in Zambia, identified challenges involving outdated equipment, insufficient workshop and classroom space, limited library and internet facilities, inadequate funding and the underutilisation of practical instructional approaches. Similarly, Yewah (2015), in a study involving two principals, 24 teachers and 32 students in Kenya, identified modern workshop equipment, adequate staffing, continuous professional development and practical examinations as important considerations in maintaining training quality.

Although these studies are geographically limited and cannot establish the prevalence of similar conditions in Malawi, they provide useful comparative insights into how institutional arrangements influence vocational instruction. Inadequate workshop facilities may restrict learners' access to practical activities, while insufficient staffing may limit instructors' ability to monitor individual performance and provide timely feedback. These conditions are particularly important in construction education, where practical competence requires repeated performance, observation and correction.

Overall, the available evidence suggests that institutional capacity, governance and quality assurance should be examined as interconnected dimensions of instructional quality. Inadequate facilities, limited staff preparation, inconsistent CBET implementation and insufficient industry engagement may reinforce one another, creating difficulties in translating curriculum intentions into effective instructional practices. Nevertheless, the existing Malawi studies do not quantify the individual contribution of each factor or establish the extent to which these challenges differ across construction trade programmes.

Instructor Capability, Vocational Pedagogy and Assessment
Instructor capability is a central determinant of instructional quality in construction trade education. Unlike many conventional teaching contexts, vocational instructors are expected to demonstrate two complementary forms of expertise: occupational competence in their respective trades and pedagogical competence in facilitating the development of learners' practical skills. Possessing technical knowledge and industry experience does not automatically equip instructors with the ability to design learning activities, demonstrate procedures systematically, scaffold learners' performance or assess occupational competencies effectively.

In the Malawian context, Chimpololo (2013) highlighted concerns regarding the availability and preparation of technical and vocational instructors. The study reported that some instructors in technical colleges lacked formal teaching qualifications and relied on their

occupational experience and support from colleagues. Open, distance and flexible learning was discussed as a possible approach to strengthening instructor preparation. However, the proposed approach should be understood as a suggested professional development pathway rather than an intervention with demonstrated effectiveness.

The distinction between occupational and pedagogical expertise is particularly important in construction trade education. Experienced practitioners may possess substantial tacit knowledge of construction processes, workplace expectations and technical problem-solving. However, transferring this knowledge to learners requires appropriate pedagogical strategies. Instructors must be able to break down complex occupational tasks into manageable learning activities, demonstrate correct procedures, explain safety requirements and provide feedback that enables learners to improve their performance.

Studies examining technical education teachers in Malawi provide further insights into the challenges of translating professional development into instructional practice. Chikasanda et al. (2010), through interviews with six secondary technical education teachers, found that participants valued practical skills development, design and problem-solving activities. Nevertheless, examination requirements, limited practical learning opportunities and insufficient policy support constrained the implementation of these instructional intentions.

Similarly, Chikasanda et al. (2012) proposed a four-phase professional development model for Malawi technology teachers involving reflection, peer discussion and continuous support. Although the model improved teachers' conceptual understanding, traditional instructional practices continued to influence classroom implementation. This finding highlights an important distinction between developing teachers' knowledge and changing their actual instructional practices. Professional development may improve conceptual understanding, but sustained changes in teaching require opportunities to apply new knowledge, receive feedback and refine instructional approaches within authentic teaching environments.

Related evidence from Malawi's secondary education sector further illustrates the influence of contextual conditions on pedagogical implementation. Altinyelken and Hoeksma (2021) reported that teachers generally supported active teaching and learning approaches but encountered challenges involving large classes, inadequate teaching materials, English-language demands, geographical distance and poverty. More recently, Mpaso et al. (2025) identified inadequate training, limited resources and resistance to change as barriers to implementing student-centred pedagogy in Malawian secondary schools.

Although these studies focus on general secondary education rather than post-school construction trade programmes, they provide contextual evidence that pedagogical practices are influenced by institutional and material conditions. Their findings should therefore be interpreted as broader educational context rather than direct evidence of the challenges experienced by construction trade instructors.

Construction-specific research provides a more direct understanding of the instructional competencies required in vocational workshop environments. Mtshali and Msimango (2023), in a qualitative study involving five construction technology teachers, used interviews and observations to examine factors influencing teachers' ability to conduct simulations

effectively. Their findings highlighted difficulties related to workplace fundamentals, the quality of instructional artefacts, the use of tools and equipment, and the planning of practical lessons. Although the study involved a small purposive sample outside Malawi, it demonstrates the importance of instructors' ability to organise and manage practical learning activities.

Similarly, Nkwanyane (2023), in a study of building and civil engineering programmes in two South African TVET colleges, reported that practical workshop activities received insufficient attention relative to theoretical instruction. A further study involving 58 students and four lecturers identified limitations in the provision of hands-on learning activities that reflected actual workplace tasks (Adelabu, 2020). These findings suggest that the relationship between theoretical instruction and practical application remains an important consideration in construction-related vocational education.

Effective vocational pedagogy should therefore provide an appropriate balance between explanation, demonstration, guided practice and independent performance. The development of occupational competence cannot be achieved through theoretical instruction alone, particularly when learners are expected to perform technical tasks involving tools, equipment and construction materials. Instructors need to demonstrate procedures, explain the rationale behind technical decisions, monitor learners' progress and provide corrective feedback throughout practical activities.

Nevertheless, vocational pedagogy should not be interpreted simply as a movement away from teacher-led instruction towards student-centred learning. In construction education, explicit instructor demonstration and modelling are often necessary to establish safe working procedures and technical standards. These approaches can be integrated with collaborative activities, guided practice and progressively independent performance. The appropriateness of an instructional strategy should therefore be determined by the nature of the occupational task, learners' existing competencies and the level of supervision required.

Lensjø and Billett (2026), through an ethnographic and narrative study of building and construction educators, conceptualised vocational instruction as a process involving embodied occupational knowledge, engagement with materials, workplace experience and teacher–learner relationships. Their discussion also highlighted the development of professional behaviours, including punctuality, responsibility, collaboration and social interaction. This perspective reinforces the importance of recognising vocational learning as both a technical and social process. However, the findings should be interpreted within the context of the study rather than treated as direct evidence of instructional practices in Malawi.

Assessment practices represent another essential component of instructional delivery because they determine how learners' occupational competencies are demonstrated and evaluated. In construction trade education, assessment should extend beyond written examinations and theoretical understanding to include the practical application of knowledge, correct use of tools, adherence to safety procedures, accuracy of completed work and the ability to perform occupational tasks.

The concerns identified by Chisi (2018) regarding institutional quality assurance and fragmented qualification arrangements, together with Kufaine and Chitera's (2013) findings on inconsistent understandings of CBET, highlight the importance of establishing transparent and consistent assessment practices. Where competency standards are interpreted differently, the reliability and comparability of assessment decisions may be affected.

Furthermore, occupational competence extends beyond the completion of individual technical tasks. Auta and Onwusuru (2022) identified communication, teamwork, leadership, problem-solving and technological capabilities as important competencies expected of TVET graduates entering the construction industry. Mgaya (2024), in a study involving 126 stakeholders in civil-artisan training in Tanzania, also identified challenges affecting employability competency development, including inadequate trainers and resources, instructional methods, English-language difficulties and learner-related factors.

Taken together, these studies suggest that assessment in construction trade education should incorporate both technical performance and relevant transferable competencies. Practical assessment should be aligned with clearly defined occupational standards and supported by appropriate assessment criteria, observation procedures and constructive feedback. However, the available evidence does not provide a comparative evaluation of specific assessment formats or establish which approaches produce the strongest learning outcomes. The overall evidence indicates that effective instructor development requires an integrated approach combining occupational currency, vocational pedagogical knowledge and assessment literacy. Professional development should therefore extend beyond theoretical training and provide opportunities for instructors to strengthen their practical teaching capabilities, update their industry knowledge and implement competency-based assessment in authentic workshop environments.

Workshop-Based Learning, Authentic Practice and Industry Collaboration

Workshop-based learning is a fundamental component of construction trade education because it provides learners with opportunities to apply theoretical knowledge through practical engagement with tools, equipment, materials and occupational procedures. Unlike classroom-based learning, workshop instruction requires learners to demonstrate their abilities through the completion of tasks that reflect the technical and operational demands of the construction industry. Consequently, workshop facilities should be regarded as essential instructional environments rather than supplementary institutional resources.

Adelabu (2020), in a study involving 58 students and four lecturers, reported that some TVET curriculum components did not adequately incorporate hands-on activities reflecting actual workplace tasks. Such limitations may affect learners' opportunities to develop practical competence and understand the relationship between theoretical concepts and occupational performance.

The availability and functionality of workshop facilities are therefore important considerations in determining the quality of practical instruction. Inadequate access to tools, outdated equipment and insufficient materials may restrict the range of practical activities that can be implemented. Under such circumstances, instructors may rely more heavily on theoretical explanations and written exercises because these approaches are comparatively

easier to organise in resource-constrained environments. This represents a plausible instructional mechanism consistent with the institutional challenges reported by Chisi (2018) and the comparative findings of Mwila (2016) and Nkwanyane (2023). However, the reviewed studies do not directly establish this causal relationship within Malawian construction colleges.

The relationship between curriculum intentions and actual practical learning opportunities is another important consideration. Although vocational curricula are designed to develop occupational competencies, their effectiveness depends on how learning outcomes are translated into practical activities. Nkwanyane (2023) identified limitations in the allocation of workshop time within building and civil engineering programmes in South African TVET colleges. Similarly, Adelabu (2020) highlighted shortcomings in the integration of workplace-related practical activities into certain TVET curriculum components.

However, evidence from other contexts indicates that instructional practices may vary considerably across institutions. Halimoon et al. (2023), in a survey involving 46 lecturers from six Malaysian vocational colleges, reported high levels of lecturer practices relating to lesson preparation, teaching methods, instructional aids, training and evaluation in construction technology programmes. These findings provide a useful contrast to studies reporting limitations in practical instruction.

Nevertheless, the studies should not be interpreted as directly contradictory. They were conducted in different national and institutional settings and examined instructional quality using different research designs and indicators. While some studies focused on reported limitations in practical curriculum implementation, Halimoon et al. (2023) examined lecturer teaching practices across several instructional dimensions. The differences suggest that workshop-based learning should be evaluated through multiple indicators, including resource availability, practical teaching hours, instructional strategies, learner participation and the extent to which assessment reflects workplace requirements.

Industry collaboration also represents an important mechanism for strengthening the relevance and authenticity of vocational instruction. Construction industries continually respond to changes in technologies, materials, equipment, safety requirements and work processes. Consequently, instructors require opportunities to update their occupational knowledge and ensure that instructional activities remain aligned with current industry practices.

Work-integrated learning (WIL) can provide an important pathway for strengthening these connections. Mesuwini (2022), in a study involving 18 TVET lecturers and nine industry personnel across three colleges in KwaZulu-Natal, South Africa, reported that lecturer participation in WIL provided opportunities to develop knowledge of industrial processes, workplace safety, problem-solving and industry relationships. Nevertheless, the study also identified limited participation and insufficient institutional support for lecturers undertaking WIL.

These findings indicate that industry engagement should not be understood merely as providing access to workplaces. For industry collaboration to contribute meaningfully to

instructional quality, placements and professional engagement should be organised around defined learning objectives, appropriate supervision and opportunities for instructors to integrate updated occupational knowledge into their teaching practices. Without such arrangements, industry exposure may remain disconnected from actual curriculum implementation.

In Malawi, existing research on employer–institution relationships and sector-specific skills gaps similarly highlights the importance of collaboration between education providers and employers (Chimpololo, 2017a; Hall & Thomas, 2005). Although these studies do not specifically investigate construction-related placements or workplace learning outcomes, they provide a basis for recognising industry engagement as an important component of vocational education development.

A related example of collaborative professional development is provided by Ghambi et al. (2023), who reported a faculty development initiative involving 52 staff members from two Malawian universities and their United States counterparts. The week-long workshop focused on introducing evidence-based active-learning strategies through collaborative professional engagement. Although the initiative was situated within university engineering education rather than construction trade colleges, it illustrates the potential value of collaborative and contextually responsive professional development.

The relevance of such approaches to construction trade education lies in the opportunity to combine external expertise with local occupational knowledge. Professional development initiatives should recognise the existing practical experience of instructors while providing opportunities to strengthen their pedagogical knowledge and adapt contemporary teaching strategies to the institutional context.

Overall, the reviewed evidence suggests that effective workshop-based instruction depends on the alignment of several interrelated conditions, including functional facilities, adequate practical learning time, instructor expertise, authentic assessment and meaningful industry participation. Investment in workshop infrastructure alone may not guarantee improved instructional quality if instructors lack the pedagogical capability to utilise available resources or if curriculum and assessment remain disconnected from occupational requirements. Accordingly, institutional improvement should integrate resource development, instructor preparation and sustainable industry collaboration.

Methodological Synthesis of the Reviewed Evidence

The methodological characteristics of the reviewed studies are important for interpreting the strength and applicability of the evidence concerning instructional quality in construction trade education. The available literature comprises qualitative studies, descriptive surveys, mixed-method investigations, case studies and ethnographic research conducted across different educational and national contexts. These methodological differences influence the extent to which findings can be compared and the conclusions that can reasonably be drawn. Malawi-specific studies predominantly provide qualitative and descriptive evidence concerning institutional arrangements, instructor preparation, CBET implementation and technical education practices. For example, Chisi (2018) adopted a phenomenological approach to examine quality assurance challenges in the Malawi TVET system, while Kufaine

and Chitera (2013) investigated stakeholder understandings of competency-based education and training. Both studies provide valuable insights into institutional experiences and implementation challenges, although their findings do not establish the prevalence of these conditions across individual construction trade programmes.

Similarly, Chikasanda et al. (2010) and Chikasanda et al. (2012) examined technical education and teacher professional development within the secondary school context. Their findings contribute to understanding the relationship between teacher knowledge, instructional practice and institutional support. However, differences between school-level technical education and post-school construction trade training require careful consideration when interpreting their relevance.

Comparative studies from other countries provide additional evidence concerning workshop instruction, instructor capability and industry engagement. Mwila (2016) employed a mixed-method approach involving 278 respondents and industry informants in Zambia, while Nkwanyane (2023) used a qualitative case study involving ten teachers across two South African institutions. Mtshali and Msimango (2023) used interviews and observations involving five construction technology teachers to examine the challenges associated with conducting practical simulations.

Other studies offer different perspectives on vocational instruction. Mgaya (2024) examined employability competency development in Tanzanian civil-artisan training, while Mesuwini (2022) investigated lecturer learning through work-integrated learning in South African TVET colleges. Lensjø and Billett (2026) adopted ethnographic and narrative approaches to explore the occupational and pedagogical practices of building and construction educators.
The methodological characteristics of these studies are summarised in Table 1.

Table 1
Methodological characteristics and contributions of selected studies

Study	Research design and participants	Contribution to the review	Limitations for interpretation
Chisi (2018)	Phenomenological study using focus groups, questionnaires and interviews	Identifies institutional quality assurance challenges involving facilities, staffing and management	Sample size and construction-specific findings are not stated
Kufaine and Chitera (2013)	Study involving 40 instructors, eight principals, three centre managers and central officials	Highlights differences in CBET interpretation and perceived training–employer gaps	Does not provide construction-specific findings or effect estimates
Chikasanda et al. (2010)	Interviews with six secondary technical education teachers	Examines the influence of examinations, practical learning and policy on technical teaching	Small sample and school-level context
Chikasanda et al. (2012)	Four-phase professional development model and qualitative analysis of teacher learning	Distinguishes improvements in conceptual understanding	Participant numbers and measured student outcomes are not stated

		from changes in teaching practice	
Mwila (2016)	Mixed-method study involving 278 respondents and industry informants	Identifies relationships among infrastructure, funding, curriculum implementation and industry alignment	Limited to two institutions in one district in Zambia
Nkwanyane (2023)	Qualitative case study involving ten teachers from two institutions	Examines practical training limitations in building and civil engineering programmes	Small sample and limited geographical coverage
Mtshali and Msimango (2023)	Qualitative study involving five teachers using interviews and observations	Identifies instructor planning and practical demonstration challenges	Small purposive sample and non-Malawian context
Mgaya (2024)	Qualitative study involving 126 trainers, employers and learners	Examines resource, staffing, language and pedagogical constraints in civil-artisan training	Stakeholder-reported constraints rather than causal estimates
Ghambi et al. (2024)	Collaborative one-week faculty development workshop involving 52 university staff	Provides an example of collaborative and contextually responsive professional development	University engineering context rather than construction trade education
Lensjø and Billett (2026)	Ethnographic fieldwork and narrative interviews	Explains occupational knowledge, material engagement and relational learning in vocational education	Country, sample and transferability to Malawi are not established in the abstract

Source: Synthesised from the studies reviewed.

The methodological comparison demonstrates that the available evidence does not support a pooled estimate or a definitive ranking of the factors influencing instructional quality. Malawi-based research mainly provides qualitative accounts of institutional and pedagogical challenges, whereas comparative studies offer additional descriptive, observational and mixed-method evidence from different vocational education settings.

Consequently, similarities across the reviewed studies should be interpreted as convergence in reported challenges and potential explanatory mechanisms rather than independent confirmation of causal relationships. Furthermore, differences in research settings, participant characteristics and measurement approaches limit direct comparisons of institutional and pedagogical conditions across countries.

Future research should therefore incorporate direct observations of construction trade instruction in Malawi, systematic documentation of workshop facilities and equipment, analysis of instructional timetables, assessment of learners' practical performance and evidence from employers and graduates. Such approaches would strengthen the empirical basis for understanding how institutional conditions influence instructional delivery and occupational competency development.

Research Gaps and Future Research Directions

Despite the availability of research examining Malawi's TVET system, institutional quality assurance and technical education, there remains limited empirical evidence specifically addressing the institutional and pedagogical conditions influencing construction trade instruction. The existing literature provides useful insights into broader system challenges, but it does not sufficiently establish how these challenges are experienced across different construction trades and institutions. Several research priorities can therefore be identified.

Limited Construction-Specific Evidence in Malawi

The most significant research gap concerns the limited availability of empirical studies focusing specifically on construction trade education in Malawi. Existing Malawi studies primarily examine TEVET quality assurance, CBET implementation, instructor preparation, technical education, employer relationships and skills gaps in other industrial sectors (Chisi, 2018; Chimpololo, 2017a; Kufaine & Chitera, 2013). Consequently, the extent to which these findings apply to building, carpentry, masonry, plumbing, electrical installation and civil construction programmes remains unclear.

Future studies should examine construction trade programmes across multiple institutions to identify differences in workshop access, equipment functionality, instructor qualifications, industry experience, class sizes, practical learning hours and assessment arrangements. Comparing these institutional conditions with learner performance and employer expectations would provide a more comprehensive understanding of the challenges affecting construction trade education in Malawi.

Limited Evidence Linking Institutional Conditions to Instructional Outcomes

A further research gap concerns the limited empirical understanding of how institutional resources and management arrangements translate into actual instructional practices and learner competencies. Although Chisi (2018) identified institutional constraints affecting quality assurance, the study does not establish their direct influence on teaching practices or measurable learner outcomes.

Similarly, comparative construction education studies have highlighted practical learning limitations and instructor planning challenges, but their findings are based on specific institutional settings and different research indicators (Mtshali & Msimango, 2023; Nkwanyane, 2023).

Future research should investigate the relationships between institutional resources, instructor professional development, practical teaching time, feedback practices and learners' occupational competencies. Longitudinal and mixed-method approaches could be particularly useful in examining whether improvements in workshop facilities, instructor development and assessment practices are associated with changes in instructional delivery and learner performance. Such investigations should also recognise that institutional and pedagogical conditions interact and may require coordinated interventions rather than isolated improvements.

Challenges in the Implementation of Competency-Based Education and Training

The implementation of CBET represents another important area requiring further investigation. Kufaine and Chitera (2013) identified differences in stakeholder understandings of CBET and concerns regarding the alignment between training outcomes and employer expectations. However, the specific institutional and instructional processes through which these implementation challenges occur remain insufficiently established.

Future research should examine the relationship between written competency standards, curriculum documents, lesson plans, workshop activities, practical assessment rubrics and actual occupational requirements. Comparing these elements would help identify where inconsistencies occur between policy intentions and instructional implementation.

Furthermore, learner participation and inclusion warrant greater attention. Although Malawi studies in secondary education have identified constraints involving resources, language and class sizes (Altinyelken & Hoeksma, 2021), the extent to which similar challenges influence participation in construction trade programmes remains unclear. Particular attention should be given to access to workshop equipment, practical activities, workplace placements and safe learning environments for female learners and other underrepresented groups.

Limited Understanding of Industry Collaboration as an Instructional Mechanism

Although existing Malawi research highlights the importance of employer–institution relationships and the alignment of vocational training with labour-market needs (Chimpololo, 2017a; Hall & Thomas, 2005), limited evidence is available regarding how industry collaboration directly contributes to instructional quality in construction trade education.

Comparative studies suggest that industry engagement can support instructor professional development, occupational knowledge and workplace-relevant teaching practices (Auta & Onwusuru, 2022; Mesuwini, 2022). Nevertheless, the effectiveness of different collaboration arrangements within Malawi's construction sector has not been sufficiently established.

Future investigations should examine the implementation and sustainability of industry partnerships, including instructor industrial placements, workplace learning, employer participation in curriculum development and joint assessment arrangements. Particular consideration should be given to the participation of small and medium-sized construction enterprises, the availability of workplace supervision and the establishment of shared competency standards. Research should distinguish between the availability of industry placements and the actual quality of learning experiences provided through these arrangements.

Collectively, these research priorities highlight the need for context-specific empirical investigations that connect institutional capacity, pedagogical practices, assessment and industry engagement. Addressing these gaps would provide a stronger evidence base for developing appropriate strategies to improve the quality and relevance of construction trade education in Malawi.

Conclusion

This review examined the institutional and pedagogical challenges influencing the quality of instructional delivery in construction trade education, with particular attention to the Malawian TVET context. The reviewed evidence indicates that instructional quality is shaped by the interaction of institutional capacity, instructor competence, vocational pedagogy, assessment practices, workshop resources and industry collaboration.

Malawi-specific studies identify several persistent concerns, including inadequate facilities and instructional materials, weaknesses in instructor preparation, fragmented quality assurance arrangements, inconsistent understandings of CBET and challenges in aligning training provision with employer expectations. These findings demonstrate that improving instructional quality requires attention to institutional systems as well as the practices through which curriculum objectives are implemented.

Comparative construction education research further illustrates the importance of authentic workshop activities, effective instructor demonstration, supervised practical learning, competency-based assessment and sustained engagement with industry. Such evidence provides useful insights into the pedagogical demands of construction education, although its applicability to Malawi must be established through further empirical investigation.

Importantly, the available literature does not sufficiently establish the extent to which these challenges affect individual construction trade programmes in Malawi or quantify their influence on learner competency development. Therefore, conclusions concerning their prevalence and relative importance should remain cautious.

Overall, improving construction trade education in Malawi requires a coordinated approach that strengthens instructors' occupational and pedagogical capabilities, ensures access to functional workshop facilities, protects practical learning opportunities, aligns assessment with demonstrated competencies and establishes sustainable partnerships with industry. Further construction-specific research is essential to determine how these institutional and pedagogical dimensions interact and to inform contextually appropriate improvements in the quality of vocational instruction.

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