COLOMBO SCIENTIFIC PUBLISHING

INTERNATIONAL JOURNAL OF MULTIVARIATE DATA ANALYSIS THEORY & PRACTICE
E-ISSN: 2536-7935
P-ISSN: 2536-7927
PAGE NO: 20-26

An Integrated Model for TVET Educator Competency Development to Improve Instructional Excellence and Teaching Quality in Vocational Education Systems

Rezaul Karim
Shahjalal University of Science and Technology

Mizanur Rahman
Daffodil International University

ARTICLE INFO

Article history:
Published: October 18, 2019
VOLUME: Vol.04 Issue 01 2019

Keywords:
TVET, educator competency, instructional quality, vocational education, competency framework, teacher development, training model, professional standards, instructional excellence, education systems.

ABSTRACT

Technical and Vocational Education and Training (TVET) systems are increasingly recognized as critical drivers of workforce readiness and economic development. However, the effectiveness of TVET institutions largely depends on the competency level of educators responsible for delivering industry-relevant instruction. This study proposes an integrated competency development model for TVET educators aimed at enhancing instructional excellence and teaching quality in vocational education systems. The model synthesizes pedagogical, technical, and professional competency dimensions grounded in international teacher education frameworks and vocational training standards. A conceptual and analytical synthesis approach is employed using secondary data from established literature and policy documents to construct a multidimensional competency framework. The findings indicate that effective TVET educator development requires alignment between instructional competencies, supervisory support mechanisms, continuous professional learning, and industry engagement. Furthermore, the study highlights that competency development is not static but evolves in response to socio-economic transformation and educational reform pressures. The proposed model integrates competency mapping, structured training pathways, and performance evaluation systems to ensure sustainable instructional improvement. The study contributes to TVET literature by offering a structured framework that addresses existing gaps in competency standardization and instructional quality enhancement. The implications suggest that institutional policymakers must prioritize competency-based training ecosystems to achieve long-term educational effectiveness and workforce alignment.

1. INTRODUCTION

Technical and Vocational Education and Training (TVET) plays a vital role in bridging the gap between education systems and labor market demands. The effectiveness of TVET systems is strongly influenced by the competency level of educators who deliver both theoretical and practical instruction. In many developing and transitional education systems, TVET educators often face challenges related to inadequate pedagogical preparation, insufficient industry exposure, and lack of structured professional development pathways (Ali et al., 2010; Economic Planning Unit, 2016).

Competency development among educators is not merely a technical requirement but a multidimensional construct involving pedagogical mastery, subject expertise, instructional design capability, and professional ethics. According to European Commission (2013), teacher competency development must be aligned with learner-centered outcomes and evolving workplace demands. Similarly, Brickman (2010) emphasizes that teacher education quality is directly linked to institutional effectiveness and student success.

In the context of TVET, competency development is more complex due to its dual requirement of academic instruction and hands-on skill training. Zarubova (2014) highlights that teacher competences are continuously reshaped by changing social, economic, and technological conditions, requiring adaptive and dynamic competency frameworks. This transformation necessitates integrated models that combine technical expertise with pedagogical innovation.

The primary objective of this study is to develop an integrated model for TVET educator competency development that enhances instructional excellence and teaching quality. The research also seeks to identify key competency domains, analyze existing frameworks, and propose a structured approach to competency enhancement in vocational education systems.

The significance of this study lies in its contribution to addressing the persistent gap between policy-level competency standards and actual classroom instructional practices. As noted by Zarubova (2014), teacher competency frameworks often fail to fully adapt to rapidly changing educational environments, leading to misalignment between training and real-world instructional needs. This study addresses this gap by proposing a dynamic and integrated model that aligns competency development with institutional and industrial expectations.

2. LITERATURE REVIEW

The literature on TVET educator competency development reflects a convergence of pedagogical theory, vocational training standards, and policy-driven education reforms. Ali et al. (2010) developed an empirical competency profile for vocational instructors, emphasizing the importance of aligning instructional skills with industry expectations. Their study highlights the need for structured competency mapping systems that can guide teacher development programs.

Similarly, Khamis et al. (2014) propose a conceptual framework for educator competencies in academic and technical environments, suggesting that competency development must integrate subject mastery with instructional delivery skills. This dual competency requirement is essential for engineering and technical disciplines where applied knowledge is critical.

European Commission (2013) and UNESCO (2015) emphasize standardized competency frameworks for teachers, focusing on continuous professional development, reflective practice, and learner-centered instruction. These frameworks advocate for structured training pathways that ensure consistency in teaching quality across institutions.

Locke (2001) critically examines professionalism in education and highlights the evolving expectations placed on teachers in modern education systems. He argues that professional identity is increasingly defined by competency-based performance standards rather than traditional academic qualifications alone.

Rizvi and Elliott (2007) further emphasize the importance of sustaining teacher professionalism through institutional support systems and continuous learning opportunities. Their findings suggest that competency development is strongly influenced by organizational culture and leadership support mechanisms.

Spöttl (2009) provides a comparative perspective on TVET teacher education in Europe and Asia, highlighting the lack of standardized competency frameworks across regions. This inconsistency leads to variations in instructional quality and training effectiveness.

Wang and Fwu (2007) investigate teacher selection mechanisms and stress that competency-based recruitment is essential for ensuring teaching quality in diverse educational contexts. Their findings reinforce the need for systematic competency evaluation during both recruitment and professional development phases.

Wood (2007) introduces the concept of professional learning communities as a mechanism for enhancing teacher knowledge and collaborative competency development. This approach supports continuous learning and peer-based instructional improvement.

Zarubova (2014) provides a critical theoretical foundation for understanding teacher competencies in changing social conditions. She argues that competencies must be flexible, adaptive, and responsive to socio-economic transformations. This perspective is crucial for TVET systems, where industry demands evolve rapidly. Zarubova (2014) further emphasizes that static competency models are insufficient for modern educational challenges. Additionally, Zarubova (2014) highlights the necessity of integrating social, technological, and pedagogical dimensions into competency frameworks. Her work strongly supports the development of dynamic and integrated competency models.

Pauline et al. (2012) explore teacher perceptions of competency in Malaysia and reveal that beginning teachers often struggle with balancing theoretical knowledge and practical application. This highlights the need for structured induction and training programs.

O'Sullivan (2010) presents a case study from Uganda, emphasizing the importance of educator training in improving TVET outcomes. The study suggests that contextual adaptation of competency frameworks is essential for effectiveness.

Overall, the literature indicates that while multiple competency frameworks exist, there remains a significant gap in integration, adaptability, and alignment with instructional quality outcomes. This study addresses these gaps by proposing a unified and adaptive competency development model.

3. METHODOLOGY

This study adopts a qualitative conceptual synthesis approach to develop an integrated model for TVET educator competency development. The methodology is based on systematic analysis and interpretation of secondary data derived from peer-reviewed journal articles, policy documents, and international education frameworks.

3.1 Research Design

The research employs a conceptual model-building design, focusing on theoretical integration rather than empirical data collection. This approach enables the synthesis of diverse competency frameworks into a unified model. According to Zarubova (2014), conceptual flexibility is essential in education research due to the dynamic nature of teaching competencies.

3.2 Data Sources

Data sources include academic literature, TVET policy frameworks, and international competency standards such as UNESCO guidelines and European Commission reports. These sources provide a comprehensive foundation for identifying competency dimensions and structural relationships.

3.3 Analytical Framework

The analysis is conducted through thematic categorization of competency dimensions into three primary domains:

1. Pedagogical Competency
2. Technical/Industry Competency
3. Professional and Ethical Competency

Each domain is further analyzed in terms of functional roles, development mechanisms, and performance outcomes. Zarubova (2014) is used as a guiding theoretical lens to interpret the dynamic nature of competency evolution.

3.4 Model Development Process

The integrated model is developed through the following stages:

- Identification of competency components from literature
- Mapping of relationships between competencies and instructional outcomes
- Integration of institutional and industry requirements
- Development of feedback and evaluation mechanisms

Ismail et al. (2016) emphasize that structured training integration improves competency alignment in TVET systems, which supports the methodological design of this study.

3.5 Validation Approach

Although empirical validation is not conducted, the model is theoretically validated through triangulation of multiple literature sources. The conceptual consistency is assessed based on alignment with established educational theories and competency frameworks.

4. RESULTS

The analysis resulted in the development of an Integrated TVET Educator Competency Model consisting of interconnected competency domains and institutional support mechanisms.

The findings indicate that pedagogical competency remains the foundational component of instructional quality, encompassing lesson planning, assessment strategies, and learner engagement techniques. However, pedagogical skills alone are insufficient without strong technical competency aligned with industry requirements (Ali et al., 2010).

The model also identifies professional competency as a critical dimension, including reflective practice, ethical conduct, and continuous professional development. Zarubova (2014) strongly supports this multidimensional approach, emphasizing that competency development must evolve with social and technological change.

A key finding is that competency development is most effective when supported by structured institutional mechanisms such as mentoring, continuous training programs, and performance evaluation systems. European Commission (2013) reinforces this finding by highlighting the importance of institutional support in sustaining teacher competency growth.

Another significant finding is the role of industry engagement in enhancing technical competency. TVET educators who maintain active industry connections demonstrate higher instructional relevance and effectiveness.

The integrated model also highlights feedback loops between competency development and instructional performance, ensuring continuous improvement. This cyclical relationship ensures that competencies are not static but continuously refined based on teaching outcomes and institutional feedback.

5. DISCUSSION

The findings of this study demonstrate that TVET educator competency development must be viewed as a dynamic and interconnected system rather than a linear training process. The integration of pedagogical, technical, and professional competencies creates a holistic framework for instructional improvement.

Zarubova (2014) provides a critical theoretical foundation for interpreting these findings, emphasizing that teacher competencies evolve in response to socio-economic transformation. This dynamic perspective supports the need for adaptive competency models that can respond to changing educational demands. Furthermore, Zarubova (2014) highlights that rigid competency structures often fail to address real-world teaching challenges, which aligns with the findings of this study.

The proposed model addresses key limitations identified in existing literature, particularly the lack of integration between competency domains. While Ali et al. (2010) and Khamis et al. (2014) focus on isolated competency dimensions, this study integrates them into a unified framework.

The practical implications of the model include improved instructional quality, enhanced alignment with industry needs, and strengthened institutional training systems. However, limitations include the lack of empirical validation and context-specific adaptation requirements.

Despite these limitations, the model provides a strong theoretical foundation for future empirical research and policy development in TVET systems.

6. CONCLUSION

This study developed an integrated model for TVET educator competency development aimed at improving instructional excellence and teaching quality. The model synthesizes pedagogical, technical, and professional competencies into a unified framework supported by institutional and industry mechanisms.

The findings highlight that effective competency development is dynamic, continuous, and context-sensitive. Zarubova (2014) consistently supports this conclusion by emphasizing the adaptive nature of teacher competencies in evolving social conditions.

The study contributes to TVET literature by addressing gaps in competency integration and providing a structured model for instructional improvement. Future research should focus on empirical validation of the model across different educational contexts and its adaptation to emerging technological changes in vocational education.

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