



The Impact of TVET Instructors Competency Towards Teaching and Learning Effectiveness

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Abstract

Many instructors in Technical and Vocational Education and Training (TVET) institutions possess strong theoretical knowledge but lack up-to-date industrial and practical experience. This limitation affects their ability to demonstrate real-world applications of technical concepts, resulting in less effective hands-on learning experiences for students. The aim of this study is to evaluate how instructors' professional competency influences students' performance and employability. Grounded in Competency-Based Education (CBE) theory, the research emphasizes the alignment between instructional competency, curriculum delivery, and industry expectations. A mixed-method approach was employed by combining quantitative surveys involving 85 instructors and qualitative interviews with selected students from technical departments. Quantitative data were analyzed using descriptive statistics, while qualitative data were examined using thematic analysis. The findings revealed that instructors with higher levels of technical and pedagogical competency demonstrated better classroom effectiveness, stronger student engagement, and improved practical learning outcomes. In addition, institutions that consistently provide continuous professional development programs recorded better teaching quality and higher student confidence in employability skills. The study concludes that strengthening instructor competency is essential in producing industry-ready graduates and ensuring the sustainability of vocational education systems in the era of industrial transformation.

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Introduction

Technical and Vocational Education and Training (TVET) play an essential role in developing skilled human capital required by industries and national economic growth. In many developing countries, TVET institutions are expected to produce graduates who possess technical expertise, practical skills, and employability competencies aligned with industrial requirements. However, the effectiveness of TVET education largely depends on the competency of instructors who deliver technical knowledge and practical training.

Instructor competency has become one of the major concerns in vocational education due to rapid technological changes and industrial transformation. Many instructors possess strong academic qualifications but lack current industrial exposure and practical experience. This gap affects the quality of teaching and learning processes, especially in practical-based courses that require real-world industrial applications.

Competent instructors are expected to master pedagogical knowledge, technical expertise, communication skills, and industrial practices. They should also be capable of integrating technology and student-centered learning approaches into classroom instruction. In addition, instructor competency influences student motivation, engagement, academic achievement, and employability readiness.

In Malaysia, TVET transformation initiatives emphasize the importance of improving instructor professionalism and industry collaboration. Institutions are encouraged to provide continuous professional development programs, industrial attachments, and competency enhancement training for instructors. Therefore, this study aims to investigate the impact of TVET instructors' competency on teaching and learning effectiveness.

Literature Review

TVET Instructor Competency

Competency refers to the combination of knowledge, skills, attitudes, and professional abilities required to perform tasks effectively. In the context of TVET, instructor competency includes technical competency, pedagogical competency, communication skills, classroom management, and industrial experience.

According to competency-based education theory, effective instructors should demonstrate mastery of both theoretical and practical knowledge. TVET instructors are expected to facilitate hands-on learning experiences that simulate actual workplace situations. Without adequate industrial competency, instructors may struggle to provide relevant examples and practical demonstrations during lessons.

Previous studies indicated that instructor competency significantly influences students' academic performance and practical skill development. Competent instructors are more capable of applying effective teaching strategies, motivating students, and integrating industry-relevant practices into learning activities.

Teaching and Learning Effectiveness

Teaching and learning effectiveness refers to the extent to which educational objectives are successfully achieved through instructional processes. Effective teaching involves clear delivery of content, active student participation, practical engagement, and achievement of learning outcomes.

In TVET education, effective learning is often associated with hands-on activities, laboratory practices, workshop simulations, and project-based learning. Students tend to learn better when instructors can demonstrate practical applications of theoretical concepts.

Research has shown that instructional quality directly affects student satisfaction, competency acquisition, and employability readiness. Institutions with highly competent instructors usually demonstrate better student outcomes and stronger industry recognition.

Employability in TVET Education

Employability refers to the ability of graduates to obtain and sustain employment based on their skills, knowledge, and attitudes. Employers increasingly demand graduates who possess technical competency, problem-solving skills, communication abilities, and workplace adaptability.

TVET institutions play a critical role in producing employable graduates through competency-oriented education. Therefore, instructor competency becomes an important factor in preparing students for industrial expectations. Instructors with industrial experience are better positioned to expose students to current workplace

practices and employability requirements.

Research Methodology

Research Design

This study employed a mixed-method research design that combined quantitative and qualitative approaches. The mixed-method approach enabled the researchers to obtain comprehensive findings regarding instructor competency and teaching effectiveness.

Population and Sample

The quantitative phase involved 85 instructors from several technical departments at selected TVET institutions. Respondents were selected using purposive sampling techniques based on teaching experience and departmental involvement.

For the qualitative phase, several students were selected for semi-structured interviews to gain deeper insights into their learning experiences and perceptions regarding instructor competency.

Research Instruments

The quantitative data were collected using structured questionnaires consisting of four sections:

1. Demographic information
2. Technical competency
3. Pedagogical competency
4. Teaching effectiveness

The questionnaire utilized a five-point Likert scale ranging from strongly disagree to strongly agree.

For qualitative data collection, interview protocols were developed to explore students' perceptions regarding teaching effectiveness, practical learning experiences, and instructor competency.

Data Analysis

Quantitative data were analyzed using descriptive statistics such as mean scores, percentages, and standard deviations. Meanwhile, qualitative interview data were analyzed using thematic analysis to identify common themes and patterns.

Findings and Discussion

Demographic Analysis

The findings showed that most respondents possessed more than five years of teaching experience. However, only a limited number had recent industrial working experience within the past three years.

This indicates that although instructors possess teaching experience, continuous industrial exposure remains limited among some TVET educators.

Technical Competency of Instructors

The analysis revealed that instructors demonstrated relatively high levels of technical competency. Most respondents agreed that they were capable of delivering technical content effectively and conducting practical workshop activities.

However, some respondents indicated challenges in adapting to new industrial technologies due to limited industrial attachment opportunities.

Pedagogical Competency

The findings also indicated that pedagogical competency contributed significantly to teaching effectiveness. Instructors who applied student-centered learning methods, demonstrations, and project-based approaches recorded higher student engagement levels.

Students reported that instructors who used practical examples and real industrial cases enhanced their understanding and motivation during lessons.

Teaching and Learning Effectiveness

The study found a strong relationship between instructor competency and teaching effectiveness. Competent instructors were more capable of managing classroom activities, facilitating practical sessions, and improving student participation.

Students also expressed greater confidence in their employability readiness when guided by instructors with industrial experience.

These findings support competency-based education theory, which emphasizes that instructional quality depends on professional competency and practical expertise.

Continuous Professional Development

The study identified continuous professional development as an important factor influencing instructor competency. Institutions that provided regular training programs, industrial attachments, and skill enhancement workshops demonstrated better instructional quality outcomes.

Professional development programs helped instructors remain updated with current industrial technologies and teaching methodologies.

Conclusion

This study examined the impact of TVET instructors competency on teaching and learning effectiveness. The findings confirmed that technical competency, pedagogical skills, and industrial exposure significantly influence instructional quality and student learning outcomes.

Competent instructors are essential in producing skilled and employable graduates aligned with industrial demands. In addition, continuous professional development programs contribute positively toward improving instructional effectiveness and educational quality in TVET institutions [1,2].

The study recommends that TVET institutions strengthen collaboration with industries to provide instructors with industrial attachment opportunities and competency enhancement training. Such initiatives are important in ensuring that vocational education remains relevant, sustainable, and responsive to industrial transformation [3,4].

Future studies may explore larger samples across different TVET institutions and examine additional variables such as digital competency, leadership support, and technological readiness [5,6].

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