

## An Integrated Model for Assessing the Effectiveness of Competency-Based Evaluation Systems in TVET Internship Programs: A Cross-Country Study of Indonesia and Laos

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### ABSTRACT

Competency-Based Assessment (CBA) has emerged as a fundamental mechanism for evaluating skill acquisition in Technical and Vocational Education and Training (TVET), particularly within internship programs that bridge academic learning and workplace practice. However, inconsistencies in implementation, assessment reliability, and contextual adaptability across countries remain significant challenges. This study proposes an integrated evaluation model designed to assess the effectiveness of competency-based evaluation systems in TVET internship programs, with a comparative focus on Indonesia and Laos. Drawing exclusively on established literature, the study synthesizes theoretical constructs of competency-based education, quality assurance frameworks, and work-integrated learning assessment practices. The research develops a multi-dimensional evaluation model incorporating criteria such as assessment validity, industry alignment, assessor reliability, and learner performance outcomes. The methodology adopts a conceptual modeling approach supported by comparative analytical techniques. Findings indicate that while both countries demonstrate alignment with competency-based frameworks, disparities exist in standardization, assessor training, and integration with industry needs. The proposed model provides a structured mechanism for improving assessment consistency and effectiveness across diverse TVET systems. The study contributes to the advancement of cross-national evaluation frameworks and offers practical implications for policymakers, educators, and industry stakeholders. Furthermore, it aligns with global quality assurance priorities emphasized in international TVET development agendas (UNESCO, 2017).

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## 1. INTRODUCTION

Technical and Vocational Education and Training (TVET) systems have increasingly shifted toward competency-based paradigms to ensure alignment between educational outcomes and labor market demands. Competency-Based Assessment (CBA) plays a critical role in this transition by focusing on measurable skills and performance rather than theoretical knowledge alone. Within internship programs, which represent a core component of work-integrated learning, assessment mechanisms must accurately reflect real-world competencies and workplace readiness.

Despite the widespread adoption of CBA, challenges persist in ensuring consistency, reliability, and contextual applicability across different national systems. Indonesia and Laos, as emerging economies in Southeast Asia, have actively implemented competency-based frameworks in their TVET systems. However, variations in institutional capacity, industry engagement, and policy execution have led to uneven outcomes in assessment effectiveness.

The problem addressed in this study lies in the absence of a unified and integrated evaluation model capable of systematically assessing the effectiveness of competency-based evaluation systems within internship contexts. Existing approaches often focus on isolated components such as rubric design or training standards without considering the broader ecosystem of assessment practices.

The primary objective of this research is to develop an integrated model that evaluates competency-based assessment systems in TVET internships across Indonesia and Laos. The study aims to identify key performance indicators, analyze cross-country differences, and propose a structured framework for improving assessment quality.

The significance of this research is rooted in its contribution to quality assurance in TVET systems, aligning with international standards that emphasize competency validation, transparency, and comparability (UNESCO, 2017). By addressing both theoretical and practical dimensions, the study provides actionable insights for enhancing assessment practices in diverse educational contexts.

## 2. LITERATURE REVIEW

The conceptual foundation of competency-based education (CBE) emphasizes measurable outcomes, learner-centered approaches, and alignment with occupational standards. Guthrie (2009) highlights that competency-based training focuses on the demonstration of skills in real or simulated environments, requiring assessment systems that are both valid and reliable. This perspective underscores the importance of designing evaluation mechanisms that capture authentic performance rather than abstract knowledge.

Darling-Hammond and Wentworth (2010) extend this discussion by emphasizing benchmarking and international comparisons in assessment systems. Their work suggests that effective assessment frameworks must incorporate global standards while remaining adaptable to local contexts. This is particularly relevant for cross-country studies, where variations in educational infrastructure and policy frameworks influence implementation.

The design of assessment tools is a critical component of competency-based systems. The Department of Training and Workforce Development (2013) provides guidelines for constructing assessment instruments that ensure validity, fairness, and flexibility. Similarly, the 2016 framework emphasizes the importance of systematic processes in maintaining assessment quality across the TVET sector.

Work-integrated learning (WIL) introduces additional complexity to assessment practices. Hodges (2011) argues that evaluating learning in workplace environments requires collaboration between educational institutions and industry partners. This dual involvement creates challenges in maintaining consistency and objectivity, particularly when assessors have varying levels of expertise.

Rubric-based assessment has been identified as an effective tool for enhancing transparency and grading consistency. Maxwell (2010) demonstrates that structured rubrics support both formative and summative evaluation, enabling clearer communication of performance expectations. However, the effectiveness of rubrics depends on their alignment with competency standards and the training of assessors.

Mulder (2017) provides a comprehensive framework for competency-based vocational education, emphasizing the integration of education and labor market requirements. The study highlights the need for holistic models that consider multiple dimensions of competency development, including cognitive, technical, and social skills.

Muñoz and Araya (2017) identify key challenges in implementing competency-based assessment, including ambiguity in competency definitions, lack of standardized evaluation criteria, and insufficient assessor training. These challenges are particularly pronounced in developing countries, where institutional resources may be limited.

Empirical insights from Santosa (2010) demonstrate the application of integrated competency-based assessment in vocational education settings. The study emphasizes the importance of aligning assessment practices with curriculum design and industry requirements.

The Singapore Workforce Development Agency (2010) provides a structured approach to developing competency-based assessment plans, emphasizing systematic processes and stakeholder involvement. This model serves as a benchmark for designing effective evaluation systems.

Smith (2010) offers a longitudinal perspective on competency-based training, highlighting its evolution and impact on vocational education systems. The study underscores the importance of continuous improvement and adaptation in assessment practices.

Finally, UNESCO (2017) establishes a global framework for quality assurance in TVET, emphasizing transparency, accountability, and alignment with international standards. This framework serves as a guiding principle for developing integrated evaluation models.

Despite extensive research, a significant gap remains in the development of integrated models that combine these theoretical and practical insights into a unified framework for cross-country evaluation. This study addresses this gap by proposing a comprehensive model tailored to the context of TVET internships in Indonesia and Laos.

### 3. METHODOLOGY

This study adopts a conceptual research design aimed at developing an integrated evaluation model for competency-based assessment systems. The methodology is structured around three core components: framework synthesis, model development, and comparative analysis.

#### 3.1 Framework Synthesis

The first stage involves synthesizing existing theoretical frameworks related to competency-based education, assessment design, and quality assurance. Key constructs are derived from literature, including validity, reliability, flexibility, and industry relevance. These constructs form the foundation of the proposed model.

#### 3.2 Model Development

The integrated model is designed as a multi-dimensional evaluation framework consisting of four primary domains:

##### 1. Assessment Design Quality

This domain evaluates the structure and content of assessment tools, including alignment with competency standards, clarity of criteria, and use of rubrics. Drawing from Maxwell (2010) and DTWD (2013), the model emphasizes the importance of systematic design processes.

##### 2. Implementation Effectiveness

This domain assesses how evaluation systems are executed in practice, including assessor training, consistency of grading, and integration with workplace environments. Hodges (2011) highlights the need for collaboration between educators and industry stakeholders.

##### 3. Outcome Measurement

This dimension focuses on the extent to which assessments accurately reflect learner competencies and employability outcomes. It incorporates performance indicators such as skill mastery and workplace readiness.

## 4. Quality Assurance and Standardization

Aligned with UNESCO (2017), this domain evaluates the mechanisms in place for maintaining assessment quality, including monitoring, feedback systems, and policy frameworks.

### 3.3 Comparative Analysis Approach

The study employs a comparative analytical approach to evaluate the application of the model in Indonesia and Laos. The comparison is based on hypothetical but literature-informed scenarios, considering factors such as institutional capacity, policy frameworks, and industry engagement.

### 3.4 Analytical Techniques

The model utilizes qualitative evaluation metrics supported by scoring criteria for each domain. These metrics enable systematic comparison and identification of strengths and weaknesses across contexts.

## 4. RESULTS

The application of the integrated model reveals several key findings. Both Indonesia and Laos demonstrate a strong commitment to competency-based frameworks, particularly in aligning curriculum with occupational standards. However, differences emerge in implementation and quality assurance mechanisms.

Indonesia shows relatively higher levels of assessment design sophistication, with structured rubrics and standardized tools. This aligns with findings from Santosa (2010), which emphasize integrated assessment practices. However, challenges persist in ensuring consistency across institutions.

In contrast, Laos exhibits greater variability in assessment implementation, particularly in assessor training and industry involvement. This variability affects the reliability of evaluation outcomes and highlights the need for stronger institutional support.

Both countries face challenges in outcome measurement, particularly in linking assessment results to employability indicators. This reflects broader issues identified in the literature regarding the complexity of measuring competency outcomes.

Quality assurance mechanisms are more developed in Indonesia, with formal monitoring systems and policy frameworks. Laos, however, demonstrates emerging efforts in this area, indicating potential for future improvement.

## 5. DISCUSSION

The findings highlight the importance of adopting integrated approaches to competency-based assessment. The proposed model demonstrates that effective evaluation systems must consider multiple dimensions, including design, implementation, outcomes, and quality assurance.

From a theoretical perspective, the study reinforces the importance of aligning assessment practices with competency-based education principles (Guthrie, 2009; Mulder, 2017). It also underscores the role of international benchmarks in guiding system development (Darling-Hammond & Wentworth, 2010).

Practically, the study suggests that policymakers should prioritize assessor training, standardization of tools, and industry collaboration. The disparities observed between Indonesia and Laos illustrate the impact of institutional capacity on assessment effectiveness.

The study also highlights trade-offs between flexibility and standardization. While flexible assessment systems allow for contextual adaptation, excessive variability can undermine reliability. Balancing these factors is essential for achieving effective evaluation systems.

Limitations of the study include its reliance on conceptual modeling and literature-based analysis rather than empirical data. Future research should incorporate field studies to validate the proposed model.

### 6. CONCLUSION

This study develops an integrated model for assessing the effectiveness of competency-based evaluation systems in TVET internship programs, with a comparative focus on Indonesia and Laos. The model provides a comprehensive framework that addresses key dimensions of assessment practice, including design, implementation, outcomes, and quality assurance.

The research contributes to the advancement of TVET assessment methodologies by offering a structured approach to evaluating complex systems. It aligns with global quality assurance standards and supports the development of more effective and consistent assessment practices (UNESCO, 2017).

Future research should focus on empirical validation of the model and exploration of its applicability in other national contexts. Policymakers and educators are encouraged to adopt integrated approaches to enhance the effectiveness of competency-based assessment systems.

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