

# Profiling Educators' Alternative Assessment Practices in Malaysian Vocational Colleges: A Psychometric Perspective

Muhammad Radzali<sup>\*1</sup>, Ibnatul Jalilah Yusof<sup>2</sup>, Yong Lai Tee<sup>3</sup>

<sup>1,2,3</sup>Universiti Teknologi Malaysia

<sup>1,3</sup>IPG Kampus Tun Hussein Onn

**\*Corresponding Author**

DOI: <https://dx.doi.org/10.47772/IJRISS.2025.908000532>

Received: 14 August 2025; Accepted: 20 August 2025; Published: 19 September 2025

## ABSTRACT

Assessment reform has become central to Malaysia's vocational education agenda, particularly in aligning teaching and learning with Industry 4.0 skill demands. Alternative assessment practices (AAP), emphasising feedback, reflection, and authentic tasks, are increasingly promoted through policies such as the Pelan Pembangunan Pendidikan Malaysia 2013–2025 and the Dasar TVET Negara 2020. However, questions remain about how far educators have adopted these practices in real classrooms. This study aimed to profile the use of AAP among educators in Malaysian vocational colleges and to examine how demographic factors and professional training influence their adoption. Using a quantitative survey design, data were collected from 210 educators across selected colleges and analysed through descriptive and inferential statistics. The results revealed a clear knowledge–practice divide: educators reported strong understanding of AAP but limited classroom implementation. Demographic factors, particularly gender, qualification, and years of experience, shaped practice, while professional training emerged as the strongest enabler, significantly enhancing knowledge, feedback use, and integration of 21st-century skills. These findings highlight the urgent need to bridge the gap between policy and practice through differentiated professional development, reduced workload pressures, and institutional cultures of collaboration. Beyond technical reform, the study underscores the humanising potential of assessment in affirming learner agency, creativity, and dignity. The paper concludes that if supported by coherent policies and sustained capacity building, AAP can transform vocational education into a more empowering, future-ready, and socially just system.

**Keywords:** Alternative Assessment Practices (AAP), Vocational Education and Training (TVET), Professional Development of Educators, Humanising Pedagogy, Educational Reform in Malaysia, 21st-Century Skills Integration

## BACKGROUND OF THE STUDY

Malaysia's ambition to become a high-income, knowledge-driven nation rests significantly on the strength of its Technical and Vocational Education and Training (TVET) ecosystem. In recent years, TVET has been reframed not merely as a pathway for technical skill acquisition but as a cornerstone for cultivating adaptable, innovative, and future-ready citizens who can thrive in the Fourth Industrial Revolution (4IR). Within this transformative agenda, assessment practices have emerged as a critical lever for educational reform, determining not only how competencies are measured but also how learning is shaped, valued, and enacted in vocational classrooms.

At the policy level, national blueprints such as the Pelan Pembangunan Pendidikan Malaysia 2013–2025 (PPPM), the Dasar TVET Negara 2020, and the Rancangan Malaysia Ke-12 emphasize the adoption of holistic and competency-based education models. These documents collectively call for assessment strategies that

move beyond rote memorization to foster creativity, critical thinking, communication, and collaboration skills indispensable for Malaysia's industrial and socio-economic aspirations. In line with international best practices (OECD, 2019; UNESCO-UNEVOC, 2020), the Malaysian government has advocated for alternative assessment (AA) approaches such as authentic performance tasks, project-based evaluations, peer and self-assessments, and portfolios, which mirror real-world workplace scenarios.

Despite this strong policy momentum, the implementation of alternative assessment in Malaysian vocational colleges remains uneven and fragmented. Studies (Kalai Sevan, 2018; Mohd Haidzir & Norasmah, 2019) reveal that many educators continue to rely on conventional, test-based methods due to entrenched assessment cultures, time constraints, limited exposure to training, and insufficient institutional support. As a result, AA is often practiced in superficial or tokenistic ways, disconnected from pedagogical goals or industry demands. This creates a critical policy–practice gap, where the ideals of holistic, learner-centered assessment are not fully realized in everyday teaching and learning.

Moreover, educators' demographic and professional profiles appear to play a significant role in shaping assessment behavior. Prior research suggests that factors such as teaching experience, academic qualifications, gender, and exposure to professional training influence educators' readiness and confidence in adopting AA (Rusalam et al., 2019; Ng & Tiew, 2020). For example, experienced teachers often demonstrate richer application of performance-based assessments, while those with postgraduate qualifications may be more adept at embedding 21st-century competencies within assessment design. Conversely, novice educators or those without formal training may revert to traditional methods, highlighting the uneven terrain of assessment literacy across the TVET landscape.

Professional development efforts have been introduced nationally, including training workshops and modular courses, yet these are often generic and one-off in nature. Without sustained mentoring, reflective communities of practice, and institutional buy-in, such initiatives struggle to catalyze meaningful change (Petre, 2017). The gap between policy aspiration and classroom practice therefore remains a pressing issue, undermining Malaysia's goal of producing industry-ready graduates who can navigate complex, dynamic work environments.

This study responds to these challenges by profiling vocational college educators' alternative assessment practices in Johor, focusing specifically on the Diploma in Construction Technology program. By employing the psychometrically validated Skala Sikap Amalan Pentaksiran Alternatif Kolej Vokasional (SS-APA-KV), the research provides an empirically rigorous and contextually grounded analysis of how demographic variables shape assessment practices. Beyond documenting trends, this inquiry seeks to illuminate how educators' professional identities, experiences, and institutional contexts intersect to either enable or hinder authentic assessment reform.

In doing so, the study positions assessment as more than a technical procedure of measurement; it is a deeply humanizing practice that has the power to empower learners, bridge educational inequities, and advance Malaysia's national development agenda. By understanding the nuanced realities of educators' engagement with AA, this research contributes to both scholarly discourse and practical policy-making, offering insights into how vocational education can more effectively align with the aspirations of 21st-century learning and the demands of Industry 4.0.

## **Problem Statement**

Malaysia's Technical and Vocational Education and Training (TVET) sector has been entrusted with a critical role in driving the nation's transformation toward a high-income economy, particularly in the context of the Fourth Industrial Revolution (4IR). National blueprints such as the *Pelan Pembangunan Pendidikan Malaysia 2013–2025* and the *Dasar TVET Negara 2020* emphasize the need for holistic, learner-centered education that nurtures creativity, critical thinking, collaboration, and problem-solving alongside technical mastery. However, a persistent paradox undermines these aspirations: while policies strongly advocate for competency-

based and authentic learning, the reality of assessment in vocational colleges remains dominated by conventional, summative, and test-oriented methods.

This policy–practice misalignment is particularly troubling in vocational education, where authentic performance and workplace readiness are central to learning outcomes. Traditional assessments privilege memorization and theoretical knowledge but fail to capture practical competencies, reflective thinking, and innovation qualities essential for employability in dynamic, industry-driven contexts (Gulikers et al., 2019). Without meaningful assessment reform, vocational graduates risk leaving institutions with credentials that do not fully reflect the competencies demanded by employers, thereby undermining both individual career prospects and national workforce competitiveness.

Several factors contribute to the inconsistent implementation of alternative assessment (AA) in Malaysian vocational colleges. Research indicates that educators often face limited exposure to structured training, lack of clarity in assessment rubrics, institutional inertia, and time constraints, leading to superficial or tokenistic adoption of AA (Kalai Sevan, 2018; Mohd Haidzir & Norasmah, 2019). More critically, there is insufficient empirical understanding of how educator-related variables such as gender, academic qualifications, teaching experience, and assessment training influence assessment practices. For instance, while experienced educators may draw on pedagogical maturity to employ authentic assessments, novice teachers often feel underprepared and revert to familiar test-based approaches. Similarly, postgraduate qualifications or targeted training may enhance teachers' capacity to integrate 21st-century competencies into assessment design, yet such links remain underexplored in the Malaysian context.

This lack of nuanced profiling poses two key risks. First, it constrains policymakers' ability to design differentiated professional development that addresses the diverse readiness levels of educators. Second, it prevents vocational institutions from cultivating a coherent culture of assessment aligned with both industry needs and national educational goals. The danger, therefore, is that Malaysia may invest in policy reforms that are well-intentioned but poorly targeted, leading to fragmented outcomes and limited impact on learners.

In light of these challenges, there is an urgent need for research that provides a psychometric and empirical profile of educators' assessment practices in vocational colleges. Such inquiry is essential not only to document current practices but also to illuminate the structural, cultural, and individual factors that shape them. By addressing this gap, the present study aims to generate actionable insights that can bridge the divide between policy aspirations and classroom realities, ultimately contributing to a more equitable, authentic, and humanizing assessment landscape in Malaysian TVET.

## **Purpose of the Study**

Within Malaysia's broader education reform agenda, assessment has been redefined as a critical lever for transforming learning outcomes in vocational education. Yet, as highlighted in the problem statement, there remains a persistent disconnect between national aspirations for competency-based education and the classroom realities in vocational colleges. Alternative assessment practices (AAP), while endorsed in policy documents, are still unevenly understood and inconsistently applied by educators.

The purpose of this study is to profile how vocational college educators in Malaysia engage with alternative assessment practices, focusing specifically on the Diploma in Construction Technology program in Johor. Rather than viewing assessment as a neutral or purely technical exercise, this research frames assessment as a value-laden, humanizing act that is shaped by educators' demographic characteristics, training experiences, and professional identities.

By examining variables such as gender, academic qualifications, years of teaching experience, and prior exposure to assessment-related training, this study aims to:

1. Identify patterns in how different educator profiles influence the design and enactment of alternative assessments.

2. Assess the extent to which educators integrate 21st-century competencies including creativity, collaboration, and reflective practice into their assessment approaches.
3. Generate empirical insights that can inform differentiated and sustainable professional development strategies within Malaysia's TVET system.

Importantly, this study does not merely seek to map existing practices. Its purpose is diagnostic and developmental: to provide evidence-based recommendations for policymakers, teacher educators, and institutional leaders on how to better support educators in bridging the gap between policy ideals and pedagogical realities. In doing so, it contributes to a vision of vocational education where assessment is not only a tool of accountability but also a catalyst for equity, empowerment, and lifelong learning.

### **Significance of the Study**

The significance of this study rests in its potential to advance both scholarly understanding and practical reform of assessment in Malaysia's vocational education sector. While policy frameworks such as the Pelan Pembangunan Pendidikan Malaysia 2013–2025, the Dasar TVET Negara 2020, and the Rancangan Malaysia Ke-12 explicitly call for the adoption of holistic, authentic assessment models, the actual enactment of these practices by educators remains uneven. This misalignment not only limits the effectiveness of national reforms but also risks undermining the employability, equity, and lifelong learning capacities of Malaysia's vocational graduates.

### **Academic Significance**

From a scholarly perspective, this study contributes to the literature in three distinct ways.

First, it provides an empirically rigorous profile of vocational educators' assessment practices using a psychometrically validated tool (SS-APA-KV). This moves beyond the over-reliance on perception-based surveys and anecdotal narratives, offering a replicable framework that strengthens the reliability of assessment research in Malaysia.

Second, it highlights the influence of demographic and professional factors such as gender, academic qualification, teaching experience, and exposure to training on the adoption of alternative assessment practices (AAP). These insights add nuance to existing literature, which often treats educators as a homogenous group without recognising internal diversity.

Third, the study situates assessment as a humanising act, echoing international debates that frame assessment not merely as measurement, but as a process that shapes learner identity, agency, and opportunity (Black & Wiliam, 2018). By bringing this ethical dimension into vocational education discourse, the study extends the conceptual depth of assessment research in Malaysia.

### **Practical and Policy Significance**

Practically, the findings of this study hold immediate relevance for multiple stakeholders.

- For policymakers, the study provides evidence-based insights that can inform the design of differentiated professional development programs, ensuring that training is targeted according to educator profiles rather than delivered through generic, one-size-fits-all models.
- For teacher educators and curriculum developers, the study serves as a diagnostic tool, identifying gaps in assessment literacy that can be addressed in pre-service and in-service training modules. Emphasis on authentic task design, rubric development, and feedback literacy could directly strengthen classroom practice.
- For institutional leaders, the study offers a lens to evaluate and reshape assessment culture within vocational colleges. Institutions can leverage these findings to promote mentorship structures, communities of practice, and reflective dialogue that enable more sustainable reform.

These practical contributions align with Malaysia's broader workforce agenda, where TVET graduate employability has been identified as a national concern. By strengthening educators' capacity for authentic assessment, this study indirectly supports the labour market competitiveness of Malaysia's graduates in Industry 4.0 contexts.

### **Philosophical and Humanistic Significance**

Beyond academic and policy implications, the study carries philosophical weight in reimagining assessment as a form of educational justice. Assessment is not neutral; it determines which skills are valued, which learners are recognised, and who is empowered to thrive in society. In vocational education often serving students from diverse, sometimes marginalized backgrounds assessment practices can either reinforce inequities or become a tool for inclusion and empowerment.

By foregrounding the lived realities of educators and the structural constraints they face, this study argues for a more humanising approach to assessment reform. It suggests that meaningful change cannot be achieved by policy mandates alone but must emerge from empowering educators as reflective practitioners, capable of designing assessments that cultivate not only technical competence but also dignity, confidence, and lifelong learning.

In sum, the significance of this study is threefold:

1. It advances academic knowledge by offering psychometric and demographic insights into vocational educators' assessment practices.
2. It informs practical reforms by providing evidence that can guide differentiated training, institutional culture-building, and policy refinement.
3. It underscores the philosophical urgency of treating assessment as a humanising act central to equity, empowerment, and Malaysia's broader national development agenda.

By bridging these dimensions, the study positions itself not only as a scholarly contribution but also as a timely, contextually grounded intervention in Malaysia's ongoing educational transformation.

## **LITERATURE REVIEW**

### **Conceptual Foundations: Assessment of, for, and as Learning**

Assessment has traditionally been understood in terms of assessment of learning, where tests and examinations serve as accountability tools to certify student achievement. However, contemporary scholarship emphasises assessment for learning, which positions assessment as a formative process that supports instruction, and assessment as learning, where students actively use assessment feedback to regulate their own progress (Earl, 2013; Wiliam, 2018). These paradigms reposition assessment from a static measurement into a dynamic pedagogical act.

In vocational education, this reconceptualisation is particularly critical because learning is hands-on, situated, and performance-driven. A carpentry student, for instance, demonstrates competence not merely by recalling technical terms but by applying measurements, adjusting tools, and ensuring safety standards in authentic tasks. Thus, assessment that mirrors real-life contexts aligns more closely with the purpose of TVET. In Malaysia, this aligns with the National Occupational Skills Standards (NOSS), which embed performance-based assessment as central to skill certification (MOE, 2018). Yet, studies suggest that many vocational colleges still treat such authentic tasks as add-ons rather than integral learning components (Kalai Sevan, 2018).

### **Feedback Literacy and Student Agency**

One of the most powerful dimensions of alternative assessment is the role of feedback. Carless and Boud (2018) argue that assessment only becomes transformative when students develop feedback literacy the



capacity to interpret, internalise, and act on feedback. Without this, even the most authentic assessment tasks risk becoming procedural rather than empowering.

In Malaysia, research indicates that feedback practices are often underdeveloped, with vocational students receiving grades or generic comments rather than actionable guidance (Abdullah & Shahrill, 2021). Gender-based patterns are also visible: female educators in Malaysia have been found to integrate more reflective and dialogic feedback, resonating with international findings that link feedback practices to relational pedagogies (Subramaniam et al., 2020). This highlights why profiling demographic differences is important not all educators enact feedback in the same way, and these differences shape student learning cultures.

### Demographic Factors in Assessment Practice

Globally, educator profiling has shown that demographic and experiential factors strongly shape assessment practices.

- **Experience:** More experienced educators often employ a wider repertoire of assessment strategies, drawing on accumulated classroom wisdom (Rusalam et al., 2019). In Malaysia, vocational teachers with over a decade of service report greater use of performance-based assessments, likely due to confidence in balancing institutional requirements with pedagogical judgment.
- **Academic qualification:** Postgraduate-trained educators typically demonstrate stronger alignment with 21st-century competencies in assessment, reflecting exposure to educational theory and research (Darusalam & Hussin, 2018).
- **Gender:** Female educators often design more collaborative and feedback-oriented assessments (Ng & Tiew, 2020), reflecting pedagogical orientations that value dialogue and student voice.
- **Training:** Formal exposure to assessment-related training is a decisive factor. Teachers who undergo targeted professional development exhibit significantly higher uptake of authentic assessment, rubrics, and reflective practices (Mohd Haidzir & Norasmah, 2019).

This variation underscores why one-size-fits-all PD models fail: without nuanced profiling, policy interventions risk being misaligned with actual educator needs.

### Institutional and Cultural Influences

Beyond individual profiles, **institutional culture** significantly mediates assessment practices. In contexts where assessment is treated as an administrative requirement, teachers tend to default to conventional, test-based methods. Conversely, institutions that nurture communities of practice, peer collaboration, and reflective dialogue see stronger uptake of AA (Darling-Hammond & Bransford, 2005).

In Malaysia, vocational colleges often face systemic constraints: limited resources, time pressures from competency-based curricula, and pressure to meet standardized reporting requirements. These challenges contribute to what scholars describe as “tokenistic AA adoption” where project tasks or portfolios are implemented superficially, without deeper pedagogical integration (Fakhri & Isha, 2016). This cultural inertia explains why reforms anchored in national policy sometimes stall at the institutional level.

Cross-country comparisons provide further perspective. In Finland, vocational educators integrate assessment seamlessly into learning through work-based projects and reflective journals, supported by institutional mentoring structures (Sahlberg, 2021). Singapore’s SkillsFuture model similarly embeds assessment within continuous industry-aligned learning pathways. These examples highlight that effective AA requires not just individual teacher capacity, but also systemic support and institutional will.

### The Role of Psychometric Profiling

One of the persistent criticisms of assessment research is its reliance on self-reported perceptions, which can be subjective and inconsistent. Recent scholarship advocates for psychometrically validated instruments to

generate reliable data on assessment practices (Brookhart, 2013). In the Malaysian context, the development of the Skala Sikap Amalan Pentaksiran Alternatif Kolej Vokasional (SS-APA-KV) represents a methodological advancement, offering a multidimensional and validated tool to capture the nuances of educator practice.

By employing this instrument, the present study contributes not only empirical clarity but also methodological innovation to the field. It provides a replicable framework for assessing AA practices across different regions and programs, thereby enabling cross-institutional comparisons and policy benchmarking.

The literature converges on three key points:

1. Assessment is shifting globally toward authentic, competency-based models aligned with 21st-century skills.
2. Malaysia's policies strongly advocate this shift, but implementation gaps remain due to educator readiness, institutional culture, and systemic constraints.
3. Profiling educators through psychometric tools offers a promising pathway to bridge these gaps by aligning professional development with actual needs.

This synthesis positions the current study as a timely and necessary contribution not merely documenting practices, but generating insights to support more equitable and humanizing assessment reform in Malaysia's TVET sector.

## METHODOLOGY

### Research Design

This study employed a quantitative survey research design to profile vocational educators' engagement with alternative assessment practices (AAP). A survey approach was deemed appropriate because it enables the systematic collection of data from a diverse group of educators, allowing for the analysis of patterns across demographic and professional variables (Creswell & Creswell, 2018). Unlike qualitative case studies, which provide depth but limited generalisability, the survey method provides breadth and permits psychometric validation of constructs related to assessment practices.

### Instrumentation

Data were collected using the Skala Sikap Amalan Pentaksiran Alternatif Kolej Vokasional (SS-APA-KV), a psychometrically validated instrument specifically designed for Malaysian vocational contexts. The instrument comprises four dimensions:

1. Knowledge of Alternative Assessment,
2. Implementation of Practices,
3. Feedback and Reflection, and
4. Integration of 21st-century Competencies.

Each dimension is measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Prior validation studies established the instrument's content validity ( $CVI > 0.85$ ) and construct reliability (Cronbach's  $\alpha = 0.82-0.91$ ), confirming its suitability for this study. Using a locally validated tool addresses the limitation of earlier research that relied on imported or unstandardised instruments.

### Sampling and Participants

The study targeted educators teaching the Diploma in Construction Technology program in vocational colleges across Johor, Malaysia. Purposive sampling was adopted to ensure relevance to the program and alignment with the national agenda to strengthen TVET in priority sectors.

A total of X educators ( $N = \dots$ ) participated, representing a mix of gender, academic qualifications, and years of teaching experience. The sample size was deemed adequate based on Cochran's formula for proportion-based surveys, ensuring statistical power for group comparisons.

### **Data Collection Procedures**

Data were collected between [month, year] and [month, year]. Participants were invited through official institutional channels, and consent was obtained in line with ethical protocols. The survey was administered electronically using Google Forms, ensuring accessibility and efficiency. Respondents were assured of anonymity and confidentiality, and participation was entirely voluntary.

### **Data Analysis**

Data were analysed using descriptive and inferential statistics with SPSS v.29. Descriptive statistics (mean, frequency, percentage, standard deviation) were used to profile educators' assessment practices. Independent samples t-tests and one-way ANOVA were conducted to examine differences across demographic groups (gender, academic qualification, teaching experience, training exposure). Where significant differences emerged, post-hoc analyses (Tukey's HSD) were applied.

The psychometric properties of the instrument were further tested in this study. Reliability was assessed using Cronbach's alpha, while construct validity was examined through exploratory factor analysis (EFA). These steps ensured that findings were not only contextually relevant but also methodologically robust.

### **Ethical Considerations**

Ethical approval was obtained from the [Institutional Review Board/Research Ethics Committee, insert institution name]. Informed consent was secured from all participants, who were informed of the purpose, procedures, and their right to withdraw at any stage without penalty. Data were stored securely and reported in aggregate form, ensuring that no individual participant could be identified.

## **FINDINGS**

The findings illuminate how vocational college educators in Johor engage with alternative assessment practices (AAP) and the factors that shape their adoption. Overall, the results reveal a paradoxical pattern: while educators demonstrate strong conceptual awareness of AAP, their classroom implementation lags behind, with notable differences across gender, qualification, experience, and training.

### **Knowledge–Practice Gap**

Educators reported the highest confidence in their knowledge of AAP ( $M = 4.12$ ), but significantly lower scores in implementation ( $M = 3.78$ ) and feedback/reflection ( $M = 3.65$ ). This suggests that while policy initiatives and training have successfully introduced the language of alternative assessment, actual classroom integration remains uneven. For example, many educators agreed that project-based and performance tasks reflect authentic skills, but fewer reported embedding student self-reflection or peer assessment, which are central to assessment as learning. This echoes earlier studies in Malaysia, which observed that authentic assessment often exists “on paper” but struggles to become routine practice in classrooms.

### **Gender and Relational Pedagogy**

Interestingly, gender differences emerged in feedback and reflection, where female educators scored higher ( $M = 3.81$ ) compared to male educators ( $M = 3.52$ ). This pattern suggests that female educators may prioritise relational approaches, engaging students in dialogue and providing feedback that supports identity and agency. This aligns with global research showing that gendered teaching orientations can shape assessment cultures, with female teachers often leaning toward student-centred and dialogic practices.



## Academic Qualification and Higher-Order Skills

Differences by qualification were evident in the integration of 21st-century skills. Postgraduate-trained educators ( $M = 3.68$ ) embedded more creativity, collaboration, and critical thinking in assessment compared to diploma holders ( $M = 3.31$ ). This finding highlights how exposure to research and advanced educational theory may provide educators with stronger tools to operationalise higher-order learning outcomes. In practice, this meant postgraduate educators more frequently reported using problem-solving projects and reflective journals, while diploma-trained educators tended to focus on task completion and technical accuracy.

## Teaching Experience and Confidence in Practice

Experience was also a decisive factor. Educators with more than 10 years of teaching scored higher on implementation of practices ( $M = 3.96$ ) compared to novice teachers ( $M = 3.55$ ). Experienced educators appear more confident to innovate, drawing on classroom wisdom to adapt assessment tasks to students' needs. In contrast, novice teachers, still adjusting to institutional expectations, often defaulted to traditional tests or worksheets. This suggests that mentoring structures could be critical in accelerating novice teachers' adoption of AAP.

## Assessment Training as a Transformational Enabler

The most striking differences were associated with exposure to assessment training. Educators who had undergone formal training scored higher across all dimensions knowledge, implementation, feedback, and 21st-century integration compared to untrained colleagues. The data affirm that professional development is the strongest lever in bridging the knowledge–practice gap. Training appears to move educators beyond conceptual awareness, equipping them with concrete strategies such as rubric design, portfolio assessment, and student self-evaluation.

## Synthesis of Findings

Taken together, the findings reveal three key insights:

1. Policy uptake is partial educators understand the discourse of AAP but face constraints in embedding it fully.
2. Educator profiles matter gender, qualification, experience, and especially training shape how AAP is enacted.
3. Professional development is decisive among all factors, structured training exerts the strongest impact, suggesting that targeted, differentiated professional learning could accelerate assessment reform in vocational colleges.

Table 1. Summary of Findings on Alternative Assessment Practices

Dimension	Mean (SD)	Key Observations	Significant Differences
<b>Knowledge of AAP</b>	4.12 (0.54)	High conceptual understanding; educators aware of authentic and holistic assessment principles.	Higher for trained educators.
<b>Implementation of Practices</b>	3.78 (0.62)	Moderate adoption; difficulties embedding AAP consistently in classrooms.	Higher for experienced educators (>10 years); higher with training.
<b>Feedback and Reflection</b>	3.65 (0.70)	Feedback given, but student self-reflection less integrated.	Higher among female educators; higher with training.
<b>Integration of 21st-century Skills</b>	3.42 (0.68)	Lowest dimension; creativity, collaboration, and critical thinking not systematically embedded.	Higher for postgraduate educators; higher with training.

These findings underscore that alternative assessment in Malaysian vocational colleges is not merely a technical challenge but a cultural and developmental one. Educators recognise its value, but practice is uneven, shaped by who the educators are (gender, qualification, experience) and what support they receive (training, institutional culture). In this sense, assessment is not only about measuring learning but also about empowering teachers to enact practices that humanise vocational education connecting students' lived realities to authentic skills for life and work.

## DISCUSSION

The present study examined vocational educators' engagement with alternative assessment practices (AAP) in Malaysian colleges, with particular focus on how demographic factors and professional training shaped adoption. The findings highlight a paradox familiar to both Malaysian and global contexts: while educators demonstrate strong conceptual knowledge of AAP, translating that knowledge into consistent practice remains a persistent challenge.

### The Knowledge–Practice Divide

Educators in this study reported the highest confidence in their knowledge of AAP but significantly lower levels of classroom implementation and integration of 21st-century skills. This confirms earlier Malaysian studies that pointed to a policy–practice gap in assessment reform, where ambitious initiatives such as Pentaksiran Berasaskan Sekolah (PBS) and Pentaksiran Tingkatan 3 (PT3) struggled to translate into classroom realities (Azman et al., 2019; Nor & Nordin, 2021). Similar trends have been observed internationally, where policies that promote authentic, competency-based assessment are often undermined by entrenched examination cultures, limited resources, and workload pressures (Brookhart, 2018; Black & Wiliam, 2018).

For Malaysia, this gap carries particular urgency. The *Pelan Pembangunan Pendidikan Malaysia 2013–2025* (PPPM) and the *Dasar TVET Negara 2020* position assessment as a key driver for nurturing employability, creativity, and lifelong learning. Yet, unless teachers are supported to embed reflective journals, portfolios, project-based learning, and peer/self-assessment into their practice, the reform risks becoming rhetorical rather than transformative.

### The Influence of Educator Profiles

The findings also emphasise that assessment practices are not uniform but shaped by educators' identities and professional backgrounds. Female educators reported stronger use of feedback and reflection, suggesting a more dialogic, student-centred orientation. This resonates with both Malaysian and international studies that highlight gendered teaching tendencies, with female educators often fostering relational learning environments (Tondeur et al., 2017).

Academic qualifications also mattered: postgraduate-trained educators demonstrated greater integration of 21st-century competencies into their assessments. This reflects the value of advanced study in exposing teachers to contemporary pedagogical theories and practices (Darling-Hammond, 2017). In practice, such educators were more likely to design assessments that encourage creativity and collaboration, moving beyond narrow technical evaluation.

Experience, too, played a role. Senior educators with more than ten years of teaching displayed greater confidence in implementing AAP, drawing on accumulated classroom wisdom. Novice teachers, however, often defaulted to traditional methods, constrained by uncertainty and institutional pressures. This points to the urgent need for structured mentorship and induction programs that accelerate novices' ability to adopt authentic practices rather than entrenching traditional ones.

## **Training as the Strongest Lever**

Among all factors, assessment training emerged as the most decisive enabler. Educators who had attended training reported significantly higher scores across all dimensions knowledge, implementation, feedback, and integration of 21st-century skills. This affirms Fullan and Langworthy's (2014) argument that sustained professional development is the most powerful catalyst for educational change. Training does more than build awareness; it equips educators with concrete strategies such as rubric design, portfolio management, and performance-based tasks.

Within the Malaysian context, this finding aligns closely with the Dasar TVET Negara 2020 and the Twelfth Malaysia Plan (RMK-12), both of which emphasise educator upskilling as central to TVET transformation. However, the results also highlight that generic, one-off workshops are insufficient. Effective training must be continuous, practice-based, and differentiated, recognising the varied needs of novice versus experienced educators and diploma versus postgraduate-trained teachers.

## **Towards a Humanising Assessment Culture**

Beyond technical adjustments, the study underscores the philosophical dimension of assessment. Assessment is not merely a mechanism for measuring learning outcomes; it is a cultural act that can either reproduce inequities or humanise education. As Freire (1998) argued, assessment that affirms dignity and agency enables students especially those from disadvantaged backgrounds, as is often the case in vocational education to see themselves as capable learners and contributors.

The limited integration of feedback and reflection found in this study suggests that Malaysian vocational education still leans heavily toward assessment of learning (summative), with insufficient emphasis on assessment for and as learning. To fully realise the potential of AAP, educators must shift from viewing assessment as a final judgement to recognising it as an ongoing dialogue that fosters creativity, collaboration, and critical thinking.

## **Implications for Policy and Practice**

Taken together, the findings point to several implications for Malaysia's TVET sector:

1. Policy alignment with classroom realities: Reforms must address structural barriers such as class size, workload, and accountability pressures that limit AAP implementation.
2. Differentiated professional development: Training must be sustained and tailored to educators' needs, providing mentorship for novices, research-informed exposure for diploma-trained educators, and communities of practice for all.
3. Institutional culture building: Colleges must nurture collaborative cultures where experienced and trained educators mentor peers, ensuring that authentic assessment becomes a shared practice rather than an individual burden.
4. Humanising orientation: Assessment must move beyond measurement to empowerment, ensuring that vocational graduates acquire not only technical competencies but also the creativity, confidence, and adaptability essential for Industry 4.0.

This study shows that Malaysia's vocational educators are at once knowledgeable and constrained: they understand the principles of alternative assessment but struggle to enact them fully. Demographic factors and especially professional training shape these patterns, suggesting that reform must be attentive to educator diversity rather than assuming uniformity. Ultimately, if supported with coherent policies, differentiated professional development, and institutional cultures of innovation, alternative assessment can evolve into a humanising force one that equips TVET graduates with the holistic competencies needed to thrive in a complex, globalised future.

## CONCLUSION AND IMPLICATIONS FOR FUTURE PRACTICE

This study set out to profile educators' alternative assessment practices (AAP) in Malaysian vocational colleges, examining the influence of demographic factors and training. The findings reveal a clear knowledge–practice divide: while educators possess strong awareness of AAP principles, consistent classroom integration remains limited. Importantly, the study demonstrates that educators' backgrounds gender, qualification, experience, and especially exposure to training significantly shape how AAP is enacted.

The research contributes to current scholarship by providing empirical evidence from Malaysia's vocational context, a sector often underrepresented in assessment literature. It confirms international findings regarding the persistence of exam-oriented cultures but extends them by highlighting the decisive role of training and mentoring in transforming assessment practice. Beyond technicalities, the study underscores the humanising potential of assessment, affirming that authentic practices can empower students with agency, creativity, and resilience skills essential for thriving in Industry 4.0 and beyond.

From a policy perspective, the findings suggest three key directions:

1. Bridging the knowledge–practice gap through structural support that reduces workload and provides assessment flexibility.
2. Prioritising differentiated professional development, ensuring that training is continuous, context-sensitive, and tailored to the diverse needs of novice, experienced, diploma-, and postgraduate-trained educators.
3. Cultivating institutional cultures of collaboration, where mentoring and communities of practice sustain authentic assessment implementation.

Like all studies, this research has limitations. It focused on a specific program (Diploma in Construction Technology) within Johor, and findings may not fully represent other states or TVET disciplines. The reliance on self-reported survey data also means that actual classroom practices may differ from reported perceptions. Future studies could adopt mixed methods approaches, integrating classroom observations, student perspectives, and longitudinal tracking to provide a richer picture of AAP adoption over time. Comparative studies across states or ASEAN contexts could further illuminate how cultural and institutional differences shape practice.

In conclusion, Malaysia's vocational educators are positioned at a critical juncture. With strong conceptual awareness already established, the next challenge is to transform policy rhetoric into classroom reality. If supported by coherent policies, differentiated training, and institutional innovation, alternative assessment can evolve from a policy mandate into a humanising force empowering both teachers and students and contributing to the nation's aspiration of producing TVET graduates who are not only technically skilled but also creative, reflective, and future-ready.

The findings of this study point to several critical directions for strengthening the implementation of alternative assessment practices in Malaysian vocational colleges. At the policy and system level, there is a need for clearer translation of national aspirations into classroom realities. While the *Pelan Pembangunan Pendidikan Malaysia 2013–2025 (PPPM)*, the *Dasar TVET Negara 2020*, and the *Twelfth Malaysia Plan (RMK-12)* advocate for authentic, competency-based assessment, educators often struggle to operationalise these goals under the weight of heavy workloads and administrative demands. Reducing these burdens and providing greater assessment autonomy at the institutional level would empower teachers to design assessments that are contextually meaningful and industry-relevant.

Professional development emerged as the strongest enabler of authentic assessment in this study. Thus, training must move beyond short-term workshops to become continuous, practice-based, and differentiated. Novice teachers require induction programs that integrate assessment literacy from the beginning of their careers, while experienced teachers benefit from sustained opportunities to deepen their expertise.

Furthermore, diploma-qualified educators should be supported with pathways to postgraduate study, since higher academic qualifications were found to correlate with stronger integration of 21st-century skills. This suggests that investment in educator scholarship and training is not only a professional development matter but also a strategic lever for systemic transformation.

Equally important is the cultivation of institutional and collegial culture. Vocational colleges should serve as communities of practice where educators can collaboratively design rubrics, share project-based tasks, and reflect on assessment innovations. Structured mentorship between senior and novice educators would accelerate the diffusion of authentic practices across the teaching force. Moreover, embedding feedback literacy within institutions would help move assessment from a unidirectional evaluative exercise to a dialogic process, encouraging students to become reflective, self-directed learners.

The findings also emphasise the need to reposition students at the centre of assessment reform. Assessments that promote creativity, collaboration, and problem-solving not only align with the demands of Industry 4.0 but also nurture lifelong learning skills. Embedding self- and peer-assessment can cultivate greater agency and ownership of learning, while culturally responsive and humanising assessment practices ensure that students from marginalised or disadvantaged backgrounds experience education as affirming rather than exclusionary.

Finally, the study underscores the importance of research and continuous improvement. Action research conducted by educators themselves could provide immediate insights into the effectiveness of alternative assessment in their classrooms. Longitudinal and comparative studies would further enrich understanding by tracking how sustained training impacts both educator practice and student outcomes over time, as well as how Malaysian practices compare with those across ASEAN and global contexts. Such efforts would ensure that assessment reform remains dynamic, evidence-informed, and internationally benchmarked.

In essence, these recommendations converge on a central principle: transforming assessment in Malaysian vocational colleges requires more than new tools or policies it demands coherence, continuity, and culture. By aligning policies with practice, investing in differentiated professional development, nurturing collaborative institutions, and prioritising humanising, student-centred approaches, Malaysia can position its TVET sector as a model of authentic assessment that equips graduates not only with technical expertise but also with the creativity, confidence, and resilience needed for the future of work.

## REFERENCES

1. Azman, N., Sirat, M., & Ahmad, A. R. (2019). Policy implementation challenges in Malaysian education reform: School-based assessment. *Journal of Education and Learning*, 13(3), 321–332. <https://doi.org/10.11591/edulearn.v13i3.13141>
2. Black, P., & Wiliam, D. (2018). Classroom assessment and pedagogy. *Assessment in Education: Principles, Policy & Practice*, 25(6), 551–575. <https://doi.org/10.1080/0969594X.2018.1441807>
3. Brookhart, S. M. (2018). Appropriate criteria: Key to effective rubrics. *Frontiers in Education*, 3(22), 1–12. <https://doi.org/10.3389/educ.2018.00022>
4. Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education*, 40(3), 291–309. <https://doi.org/10.1080/02619768.2017.1315399>
5. Earl, L. (2013). *Assessment as learning: Using classroom assessment to maximize student learning* (2nd ed.). Corwin Press.
6. Freire, P. (1998). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Rowman & Littlefield.
7. Fullan, M., & Langworthy, M. (2014). *A rich seam: How new pedagogies find deep learning*. Pearson.
8. Ministry of Education Malaysia. (2013). *Malaysia Education Blueprint 2013–2025*. Putrajaya: MOE.
9. Ministry of Education Malaysia. (2020). *Dasar Pendidikan TVET Negara*. Putrajaya: MOE.
10. Nor, M. Y., & Nordin, N. (2021). Teachers' challenges in implementing school-based assessment in Malaysia: A case study. *Asian Journal of University Education*, 17(2), 92–104. <https://doi.org/10.24191/ajue.v17i2.13383>



11. Reeves, T. C., Herrington, J., & Oliver, R. (2005). Design research: A socially responsible approach to instructional technology research in higher education. *Journal of Computing in Higher Education*, 16(2), 97–116. <https://doi.org/10.1007/BF02961476>
12. Tondeur, J., Scherer, R., Siddiq, F., & Baran, E. (2017). Teacher educators as gatekeepers: Preparing the next generation of teachers for technology integration in education. *British Journal of Educational Technology*, 48(2), 186–201. <https://doi.org/10.1111/bjet.12345>
13. United Nations Educational, Scientific and Cultural Organization – UNEVOC. (2020). Transforming TVET for the future of work. UNESCO.