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Exploring the Links between Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB) towards TVET Teachers' Development in Malaysia: A Systematic Literature Review

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Abstract

This systematic literature review investigates the relationship between Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB) within the context of TVET teacher development in Malaysia. While IWB was initially rooted in industrial and organizational psychology, its application has increasingly extended into educational settings, creating conceptual intersections with TIB. Guided by the PRISMA protocol and using the SPIDER framework, a total of 10 peer-reviewed articles published between 2010 and 2025 were systematically identified, screened, and analysed. The findings reveal that although TIB and IWB differ in origin and contextual focus, both share essential elements such as proactiveness, creativity, and adaptability. The synthesis also indicates that IWB can offer valuable insights into teacher development, especially when aligned with the demands of innovation in TVET, despite not being originally designed for educators. This review underscores the need for a more integrated conceptual framework that unites TIB and IWB, thus calls for further empirical research to examine its applicability in local TVET contexts, particularly through longitudinal and intervention- based studies.

Keywords: Innovative Work Behaviour (IWB), Teacher Innovative Behaviour (TIB), TVET Education, Teacher Development, Systematic Literature Review

Introduction

Innovation is widely recognized in education as a center of progress. It is distinctly in preparation for learners on rapidly changing social, technological, and industrial demands. The concepts of Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB) have appeared as crucial in understanding the contribution of educators to organizational improvement and student learning outcomes within the research in educational settings. Both constructs emphasize the value of creativity and novelty in the workplace. However, the application and implications for teaching practice remain distinct. Innovative Work Behaviour

is often studied in organization psychology and management while Teacher Innovative Behaviour is more specific to the educational setting, in which focusing on how the integration of new ideas in the pedagogy, assessment and classroom practices made by teachers. Exploring the interplay between these to construct is important for advancing teacher development especially in Technical and Vocational Education and Training (TVET) as one of specialized education sectors.

Innovative Work Behaviour (IWB) generally refers to the process of generating, promoting and implementing novel ideas in the workplace, in order to improve performance and organizational outcomes. These work-behaviourals were conceptualized in three key dimensions involving idea generation, idea promotion and idea realization by Janssen (2000). In the education sector, teachers who demonstrate this work behaviour are able to create new teaching methods and advocate for institutional change. Hence, these teachers are able to apply innovation to their practices. This becomes particularly important for TVET teachers as they are required to adapt curricula to industrial standards, introduce new training tools and prepare students for the demands of a rapidly changing job market. By engaging in IWB, teachers can act as a change agent within their respective institutions by bridging the gap between educational practices and industry requirements.

In contrast, Teacher Innovative Behaviour is more narrowly situated within the teaching and learning context. These innovative behaviour ideas reflect teachers' willingness and capacity to make changes such as introducing innovative pedagogical approaches, experiment with new technologies in the classrooms and adjust teaching strategies. TIB directly impacts student learning experiences, as seen as a micro-level construct that runs in small capacity within the classroom. As an example, teachers who adopt blended learning, project-based instruction, or digital simulations exhibit TIB in ways that enhance both engagement and outcomes. In the TVET scene, TIB ensures that teachers are still adaptive and relevant to the system since carrying the duty to align instructional practices with industry standards while maintaining a student-centered approach.

TIB and IWB share the same focus which is on innovation. However, their scopes and application differ. TIB emphasizes pedagogical innovation at the classroom level whereas IWB highlights broader organizational innovation that may extend beyond teaching to policy, management, or institutional collaboration. Together, these constructs provide a comprehensive understanding of how teachers contribute to innovation in education. TIB may bring advantage on ensuring immediate classroom impact, while IWB promotes systemic change. Empirical studies often investigate them in insulation, which may result in fragmented insights. Thus, a systematic review that brings together both constructs is necessary to clarify their interconnections and cumulative implications for teacher development.

This issue is particularly significant in the Malaysian TVET landscape. As Malaysia moves towards becoming a high-income nation, the government has prioritized TVET through initiatives such as the National TVET Council (MTVET) and the Malaysia Education Blueprint (2015–2025). These initiatives emphasize the need for innovative, adaptable, and industry-responsive teachers who can deliver high-quality vocational education. However, gaps stay in understanding how TIB and IWB contribute to TVET teacher development in Malaysia. A Systematic Literature Review (SLR) can help merge the existing body of knowledge, critically

evaluate prior findings, and identify directions for future research. By synthesizing the evidence, this review aims to provide insights into how TIB and IWB together can strengthen the professional growth of TVET teachers. Thus, these may ensure their relevance in an evolving educational and industrial ecosystem. The primary aim of this review is to synthesize existing literature on TIB and IWB in the context of TVET and teacher development, with specific attention to the Malaysian educational landscape.

This SLR is guided by the following research questions:

1. How have previous studies conceptualized and measured Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB)?
2. What theoretical and empirical linkages exist between TIB and IWB in the context of teacher professional development?
3. To what extent can insights from TIB and IWB research be applied to strengthen TVET teachers'
   development in Malaysia?

Methodology

This review followed established Systematic Literature Review (SLR) procedures, ensuring rigor and transparency through adherence to the PRISMA 2020 guidelines (Page et al., 2021). These guidelines offer a standardized process for identifying, screening, and reporting studies, enhancing the replicability and validity of evidence synthesis. It is especially in educational and behavioral research contexts.

To structure and refine the search strategy, the SPIDER framework (Sample, Phenomenon of Interest, Design, Evaluation, Research type) was employed, as it is particularly suited for qualitative and mixed-methods research syntheses (Cooke, Smith, & Booth, 2012). Under the Sample (S) element, the review included studies focusing on teachers, educators, or employees within educational institutions, with specific attention to Technical and Vocational Education and Training (TVET) contexts where available. The Phenomenon of Interest (PI) centered on two related constructs, which are Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB). Both constructs were explored for their roles in fostering teacher development and educational improvement.

In terms of Design (D), only empirical studies were considered, whether qualitative, quantitative, or mixed methods. The Evaluation (E) criterion targeted outcomes related to innovation capacity, professional development, and organizational improvement within education. Lastly, for Research Type (R), only peer- reviewed journal articles published in reputable databases such as Scopus, Web of Science (WoS), and ERIC between 2010–2025 were selected to ensure scholarly credibility and relevance to current discourse.

Research Strategy

To ensure comprehensive coverage of the existing literature, a systematic search was conducted across four major scholarly databases: Scopus, Web of Science (WoS), ERIC, and Google Scholar. These databases were selected due to their extensive indexing of high-quality, peer-reviewed publications across disciplines relevant to education, psychology, and organizational studies. The search was guided by predefined Boolean search strings, combining core keywords and related terms. Specifically, the following syntax was used:

> ("teacher innovative behaviour" OR "teacher innovation" OR "innovative work behaviour") AND ("TVET" OR "vocational education" OR "teacher development")

This formulation was designed to capture studies addressing either Teacher Innovative Behaviour (TIB) or Innovative Work Behaviour (IWB) within educational settings, with particular interest in the TVET context and teacher professional development. To ensure the relevance and quality of the studies reviewed, the following inclusion criteria were applied:

- The article must be published in a peer-reviewed journal.
- The language of publication must be English.
- The publication year must fall between 2010 and 2025, ensuring the review captures both foundational and recent contributions.
- The study must focus on TIB, IWB, or related constructs explicitly connected to teacher development, educational innovation, or vocational education.

Articles that did not meet these criteria, such as non-empirical papers, conceptual-only discussions without application to education, or studies outside the teacher/TVET context were excluded. The selection process was subsequently filtered using PRISMA 2020 guidelines to remove duplicates and assess relevance based on titles, abstracts, and full-text reviews.

Research Screening and Selection Process

The selection of articles adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines, ensuring a transparent and replicable review process. The process was conducted in four key phases:

1. Identification:

An initial database search across Scopus, Web of Science, ERIC, and Google Scholar produced a total of 226. These were retrieved using the defined Boolean search strings. All records were exported into a reference management tool for systematic screening.

2. Screening:

Duplicate entries were identified and removed. The remaining titles and abstracts were then screened against the predefined inclusion criteria. Articles clearly unrelated to TIB, IWB, teacher development, or the TVET context were excluded at this stage.

3. Eligibility:

Full-text versions of the shortlisted articles were obtained and reviewed in detail to assess their relevance, methodological rigour, and conceptual alignment with the research objectives. Studies that did not sufficiently address the constructs of interest (e.g., TIB/IWB in educational settings) were excluded.

4. Inclusion:

After the eligibility phase, a total of 10 peer-reviewed journal articles were selected for final inclusion and in- depth thematic analysis. However, this number may be expanded to 18 articles should additional relevant studies be identified or incorporated during the extended review process.

This rigorous screening process ensured that only empirically grounded and contextually relevant studies were retained to inform the synthesis and discussion in this SLR. Each study was appraised using the Mixed Methods Appraisal Tool (MMAT) to ensure methodological rigor. Criteria such as clarity of research design, validity of instruments, and appropriateness of analysis were considered. Only studies meeting acceptable quality standards were retained.

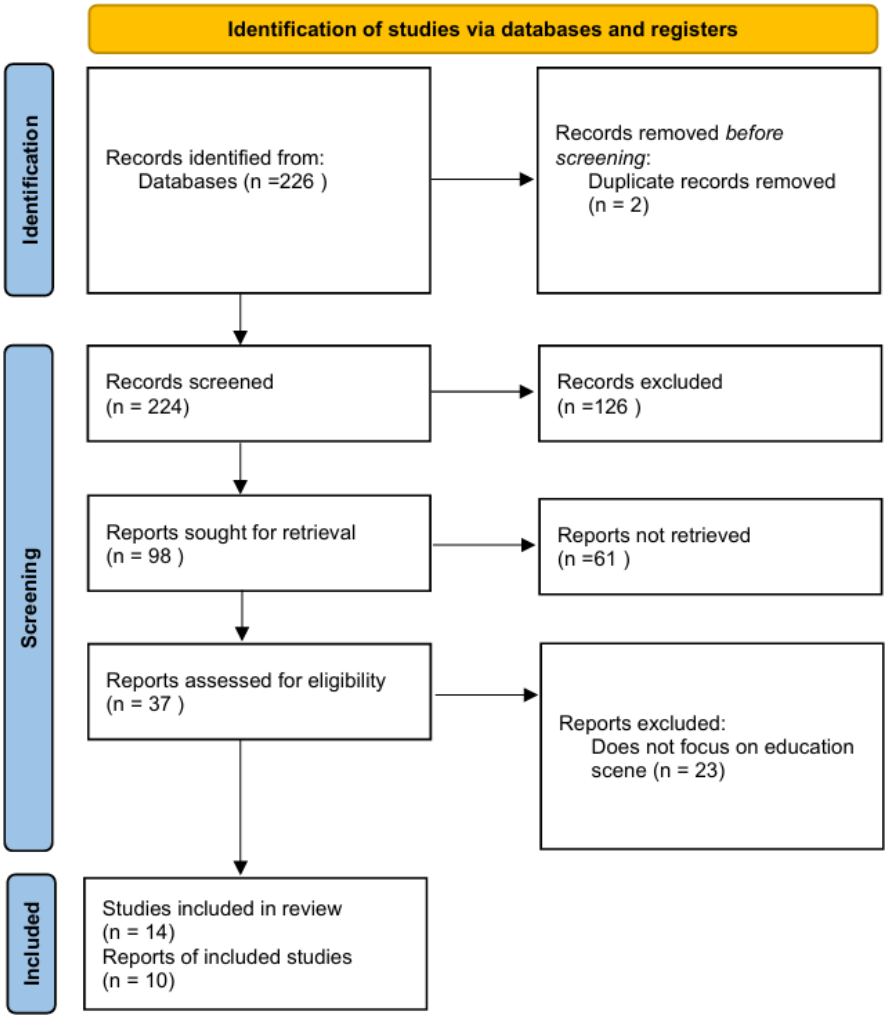

Figure 1 PRISMA 2020 guidelines.

Data Collection and Analysis

A structured data extraction process was undertaken to systematically organize and compare information across the selected studies. Key details from each article were compiled into a review matrix to facilitate clarity, consistency, and traceability. The extracted data included:

- Author(s), year of publication, and country where the study was conducted.
- Research context, including whether the study focused on TVET institutions, general school environments, or higher education settings.
- Conceptualization and measurement of Teacher Innovative Behaviour (TIB) or Innovative Work Behaviour (IWB), noting how these constructs were defined, operationalized, and evaluated.
- Key findings and theoretical/practical implications relevant to teacher development, innovation, or educational reform.

To analyse the findings, a thematic synthesis approach was employed (Thomas & Harden, 2008). This involved identifying patterns and themes across the studies, particularly:

- Conceptual overlaps between TIB and IWB in terms of definitions, components (e.g., proactivity, creativity, risk-taking), and developmental relevance.
- Contextual applications, including how these behaviours manifest in different educational settings, especially within the Malaysian or broader TVET context.
- Identified gaps in the literature, such as the limited empirical integration of IWB into educational research, or the need for a unified framework combining TIB and IWB.

This analytical approach allowed for a comparative and interpretive synthesis, ensuring that both theoretical and practical dimensions of the constructs were meaningfully integrated into the findings.

Findings

The findings of this review are based on the synthesis of selected empirical studies examining the constructs of Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB) in educational contexts particularly within TVET settings. Through thematic analysis, several key dimensions emerged including definitions and conceptual overlaps, applications in practice, influencing factors, and notable research gaps. These findings provide a consolidated view of how innovation related behaviours are understood and studied across diverse educational environments.

Conceptualization and Definitions of TIB and IWB

The constructs of Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB) have received growing attention within educational and organizational research. It is particularly in relation to teacher professional development. Despite their conceptual similarities, subtle distinctions exist between the two especially in terms of contextual focus and theoretical foundations.

IWB is commonly conceptualized as a multistage process encompassing idea generation, idea promotion, and idea implementation within the workplace (Messmann & Mulder, 2012). Originally developed in the domain of industrial and organizational psychology, IWB emphasizes proactive engagement with innovation beyond routine job tasks and often in response to organizational challenges or goals (Hosseini & Shirazi, 2020). However, IWB has increasingly been applied to study how teachers initiate and implement new practices that contribute to school or institutional improvement (Nguyen, Pietsch & Gumus, 2021).

TIB on the other hand, is often defined more narrowly within the instructional and pedagogical domain. It refers to the proactive and creative actions taken by teachers to improve their teaching strategies, enhance student engagement, or adopt new tools and technologies (Ismail et al., 2021; Zainal & Matore, 2019). While TIB shares overlapping characteristics with IWB particularly in terms of creativity and adaptability. It is generally rooted in classroom-level innovation, often with less emphasis on systemic or organizational transformation (Akram et al., 2022).

Several scholars highlight that both constructs share foundational elements such as proactivity, creativity, and adaptability (Hidayat & Patras, 2024; Hosseini & Shirazi, 2020). However, the divergence lies in their scope: IWB tends to reflect broader institutional change processes, while TIB is more focused on instructional practices and professional learning. In the context of Technical and Vocational Education and Training (TVET), these definitions are particularly relevant as innovation is not only pedagogical but also aligned with industry standards and skills-based competencies (Ismail et al., 2021; Selvaraja et al., 2021). Despite the increasing use of IWB in educational studies, there remains a lack of clarity regarding its transferability from industrial to educational settings especially in relation to teacher development frameworks. The conceptual overlap between TIB and IWB suggests a potential for integration. However, further empirical work is required to define their boundaries and relevance in the TVET context (Nguyen et al., 2021; Liu et al., 2024).

Application of IWB/TIB in Educational Settings

The integration of Innovative Work Behaviour (IWB) and Teacher Innovative Behaviour (TIB) within educational contexts. Particularly in the Technical and Vocational Education and Training (TVET) sector, reflects a growing recognition of the importance of innovation at the teacher level. While IWB originates from industrial- organizational psychology, its application in educational research has expanded with researchers increasingly exploring its relevance to teaching practices, institutional development, and professional learning (Messmann & Mulder, 2012; Hosseini & Shirazi, 2020). In the school environment, IWB manifests through teachers' engagement in problem-solving, experimentation with new methods, and active contribution to school-level improvements (Nguyen, Pietsch & Gumus, 2021). These behaviors often extend beyond individual classrooms suggesting a broader systemic role for teacher innovation. In contrast, TIB is typically observed through instructional innovation such as implementing novel teaching strategies or integrating digital tools to enhance student outcomes (Ismail et al., 2021; Zainal & Matore, 2019).

TVET institutions particularly demand a high level of instructional adaptability due to their alignment with evolving industry standards and technological advancement. Within this context, teachers must not only be pedagogically innovative but also workplace responsive. Studies have shown that when teachers demonstrate IWB characteristics such as initiative, experimentation, and collaborative innovation. They are better equipped to align curriculum delivery with industrial expectations (Akram et al., 2022; Liu et al., 2024).

Despite these positive indicators, the application of IWB in education remains underexplored compared to its industrial origins. Researchers such as Nguyen et al. (2021) have called for more contextualized studies to validate IWB frameworks within different educational settings, particularly in non-Western contexts like Malaysia. The integration of IWB and TIB perspectives could therefore offer a more comprehensive understanding of how innovation runs at both the pedagogical and organizational levels in education.

Factors Influencing IWB/TIB

The emergence of innovative behaviour among teachers is influenced by a combination of individual, organizational, and systemic factors. A recurring facilitator identified across studies is organizational support which includes leadership encouragement,

autonomy, and access to resources (Messmann & Mulder, 2012; Hosseini & Shirazi, 2020). There is a higher likelihood of innovative behaviours surfacing, as autonomy fosters intrinsic motivation and risk-taking in institutions where teachers are granted atonomyin their teaching practices and decision-making processes (Nguyen, Pietsch & Gumus, 2021). Collaborative culture also plays a vital role. Bao (2025) emphasized the significance of professional learning communities and collegial collaboration in shaping an environment conducive to innovation. Such environments enable the sharing of ideas, co-development of teaching strategies, and mutual reinforcement of innovative intentions. Similarly, Liu et al. (2024) noted that reflective practices and shared vision within school communities contribute to sustaining innovative engagement. Another consistent facilitator is continuous professional development (CPD). According to Akram et al. (2022), CPD opportunities aligned with current technological and pedagogical trends help teachers build the competencies needed for innovative actions, particularly in the dynamic TVET sector. Access to training, mentorship, and industry partnerships further boosts the teachers' readiness to innovate in practice (Ismail et al., 2021). Finally, lack of recognition and incentives for innovation can demotivate even proactive educators. Without visible rewards, acknowledgment, or career advancement linked to innovative efforts, teachers may perceive innovation as an unrewarded burden rather than a valued contribution (Liu et al., 2024).

Despite these positive influences, several barriers hinder the consistent display of innovative behaviour among educators. One of the most prominent is the lack of institutional support. As noted by Hosseini and Shirazi (2020), bureaucratic constraints, rigid hierarchies, and limited decision-making power often suppress teachers' motivation to engage in innovative activities. Time constraints and excessive administrative workload are also major deterrents, particularly in vocational settings where teachers juggle teaching, industry liaison, and student supervision responsibilities (Nguyen et al., 2021). These challenges reduce opportunities for experimentation, reflection, and collaboration as key elements of IWB and TIB.

Gaps in the Literature

Despite the growing interest in innovative behaviours within educational contexts, particularly in Technical and Vocational Education and Training (TVET), several critical gaps persist in the current literature. Firstly, while Innovative Work Behaviour (IWB) has been extensively studied in industrial and organizational psychology, its adaptation into educational contexts remains under-theorized. Many studies such as Messmann and Mulder (2012) explore IWB conceptually among teachers yet often lack empirical validation in diverse cultural or vocational contexts. This presents a limitation in generalizing findings to localized systems such as Malaysia's TVET sector. Secondly, there is limited comparative analysis between IWB and Teacher Innovative Behaviour (TIB). Although both constructs share overlapping characteristics such as creativity, proactiveness, and implementation. Only a handful of studies attempt to position them within a unified framework. Hidayat and Patras (2024) pointed out the fragmentation in the use of these terms across studies, which creates ambiguity and limits theory development.

Additionally, most research leans heavily on self-reported data, with minimal triangulation from institutional or peer perspectives. For example, Bao (2025) stressed the need for longitudinal and mixed method designs to understand how innovation unfolds over

time and within complex educational ecosystems. Moreover, there is a noticeable lack of research grounded in TVET-specific realities. Although studies like those by Liu et al. (2024) and Hosseini and Shirazi (2020) explore innovation in general educational settings, they rarely account for the industry-linked, competency-based nature of TVET, which demands unique pedagogical and organizational responses.

Finally, systemic and policy-level influences on innovative behaviour remain underexplored. While several studies acknowledge the role of school leadership and culture (Nguyen, Pietsch & Gumus, 2021), there is insufficient examination of how national policies, curriculum frameworks, and institutional autonomy shape or constrain teachers' capacity for innovation.

Discussion

Building on the findings, this discussion section critically examines the implications of the identified themes in light of existing theories and educational practice. It explores the conceptual convergence between TIB and IWB thus highlights the systemic and contextual factors affecting their development among teachers and reflects on the practical and theoretical challenges. The discussion also points to the need for integrated frameworks to better support innovation in TVET teacher development and provides direction for future scholarly inquiry.

Conceptual Convergence between TIB and IWB

The constructs of Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB) while originating from different disciplinary roots. Those constructs do demonstrate substantial conceptual overlap. IWB, primarily developed in the context of organizational psychology, focuses on the generation, promotion, and realization of novel ideas within the workplace (Messmann & Mulder, 2012). In contrast, TIB emerged from educational research, emphasizing innovation specific to pedagogical practices and teacher professional roles (Zainal & Matore, 2019). However, as the boundaries between instructional and organizational roles of teachers continue to blur, particularly in dynamic settings like TVET. Both constructs have begun to converge in meaning and application. Scholars have argued that both TIB and IWB involve core elements such as proactivity, creativity, and implementation of ideas, which are central to individual innovation regardless of setting (Hidayat & Patras, 2024; Hosseini & Shirazi, 2020). This convergence suggests that TIB can be seen as a context-specific expression of IWB, tailored to the teaching profession.

Bao (2025) further highlights that in the education sector, the line between professional development and innovative behaviour is often fluid. Whereby TIB contributes not only to instructional quality but also aligns with institutional innovation goals, which mirror the broader scope of IWB. Similarly, Nguyen, Pietsch, and Gumus (2021) emphasize that both constructs are heavily influenced by individual agency and contextual enablers such as school leadership and organizational climate. Therefore, recognising the conceptual convergence between TIB and IWB opens new pathways for developing integrated frameworks that support teacher innovation more holistically, particularly in complex environments like Malaysian TVET institutions.

Drivers of Innovative Behaviors in TVET Teachers

The emergence of innovative behaviors among teachers particularly within Technical and Vocational Education and Training (TVET) settings is influenced by multiple interrelated drivers spanning individual, organizational, and systemic levels. At the individual level, intrinsic motivation and professional agency are often identified as key enablers. Teachers who perceive innovation as a meaningful aspect of their professional identity are more likely to engage in proactive and creative work behaviors (Messmann & Mulder, 2012; Bao, 2025).

Organizational support plays an equally critical role. A supportive school climate, characterized by open communication, leadership encouragement, and psychological safety, has been found to significantly foster innovative work behavior in educators (Hosseini & Shirazi, 2020; Hidayat & Patras, 2024). These environments allow teachers to experiment with new pedagogical approaches and technological tools without fear of failure or punitive consequences. Leadership, particularly transformational leadership, has also been recognized as a pivotal factor. Leaders who promote vision-driven collaboration and model risk-taking behavior contribute to cultivating a culture of innovation in TVET institutions (Nguyen, Pietsch & Gumus, 2021). Such leadership not only sets the tone for innovation but also influences resource allocation and the prioritization of professional learning. Additionally, systemic factors such as national education policy and alignment with industry needs act as macro-level drivers. As noted by Zainal and Matore (2019), innovation in TVET is often guided by external expectations for workforce adaptability, requiring teachers to continuously update their knowledge and skills in response to changing technological and industrial demands. These insights underscore the multifactorial nature of innovation in education, especially within TVET, where the convergence of pedagogical, organizational, and industry pressures necessitates a deliberate strategy to nurture and sustain teacher innovation.

Systemic and Contextual Constraints

Despite the growing emphasis on fostering innovative behaviors among TVET teachers, a number of systemic and contextual constraints continue to inhibit progress. One of the foremost barriers is the rigid institutional culture found in many vocational institutions, where traditional hierarchies and bureaucratic procedures discourage experimentation and bottom-up innovation (Hosseini & Shirazi, 2020; Messmann & Mulder, 2012). Teachers often operate in environments where compliance is valued more than creativity, limiting their autonomy to initiate novel practices.Moreover, policy misalignment between national education strategies and on-the-ground realities presents a significant constraint. As highlighted by Zainal and Matore (2019), while policies such as Malaysia's Dasar TVET Negara advocate for innovation and 21st-century skills, insufficient implementation support and fragmented governance structures undermine their intended outcomes. Teachers are often burdened with administrative tasks, limiting time and energy for innovative endeavors.

Resource constraints, both in terms of infrastructure and professional development opportunities, further limit innovation capacity. Bao (2025) notes that without access to up-to-date tools, technologies, or targeted training, TVET teachers struggle to translate innovative intentions into practice. This challenge is particularly pronounced in rural or underfunded institutions. Cultural expectations and societal perceptions of vocational education can also play a role. Hidayat and Patras (2024) observe that in some contexts,

vocational teaching is still viewed as second-tier, affecting teacher morale and reducing motivation to go beyond routine practices.

Finally, lack of institutional support structures—such as innovation-focused leadership, reward systems, or communities of practice—can stifle long-term change. Evers, Messmann, and Kreijns (2024) emphasize the importance of sustained organizational backing in embedding innovative behaviors into the daily fabric of teaching practice. Together, these systemic and contextual constraints paint a complex picture in which teacher innovation is not solely a matter of individual initiative, but deeply tied to institutional, policy, and cultural ecosystems.

Needs for Framework Integration

The literature consistently highlights the conceptual proximity between Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB), yet these constructs often remain siloed in educational research. This separation has led to fragmented understanding and inconsistent application within the context of teacher development, particularly in the TVET sector. Scholars have pointed to the necessity of integrating these frameworks to produce a more coherent and practically relevant model for fostering teacher innovation (Messmann & Mulder, 2012; Lambriex-Schmitz et al., 2020). Lambriex-Schmitz et al. (2020) argue that teacher professional development requires alignment between individual-level behaviors and institutional support mechanisms, which is often lacking when TIB and IWB are treated independently. Similarly, Messmann and Mulder (2012) emphasize the importance of a unified framework that acknowledges both personal agency and organizational context—factors critical to sustaining innovative actions over time.

Furthermore, in the context of TVET education, Bao (2025) and Liu et al. (2024) highlight the pressing need for a dual-focus approach that captures the dynamic interplay between educators' proactive behaviors and the systems that enable or constrain them. Their findings suggest that the integration of TIB and IWB could provide a more robust lens to assess how teachers innovate, adapt, and contribute to institutional change. Without such integration, efforts to promote innovation risk becoming piecemeal, failing to capture the systemic nature of educational innovation. Therefore, the development of a unified conceptual and practical framework is not only timely but essential for informing future interventions, professional development programs, and policy designs targeted at TVET educators.

Conclusion

This systematic review has provided insights into the conceptual links between Teacher Innovative Behaviour (TIB) and Innovative Work Behaviour (IWB) within the context of Technical and Vocational Education and Training (TVET) in Malaysia. Both constructs reflect a proactive and creative orientation in the workplace and share underlying elements such as idea generation, promotion, and implementation. Both TIB and IWB are relevant to teacher professional growth especially in dynamic environments like TVET. However, the existing research largely treats these constructs in isolation thus lacking an integrated framework that situates both behaviours within the realities of educational institutions.

Given the growing complexity of teacher roles and the demand for innovation in vocational education, future studies should work toward developing a comprehensive model that integrates TIB and IWB into a unified framework for teacher development. Empirical research is needed to validate how both constructs function together and whether they influence teaching quality, student outcomes, and institutional performance. Besides, there is a need to test these relationships within local Malaysian TVET settings to account for cultural, structural, and policy-related factors. Thus, Longitudinal studies could offer valuable insights into how innovative behaviours evolve over time and under different leadership or organisational climates. Research that bridges psychological and educational models of innovation will be vital in guiding policy and practice for sustained teacher excellence as Malaysia continues to strengthen its TVET system.

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