Integrating Professional Values in TVET Education: A Case Study at Politeknik METrO Johor Bahru

Hasnida binti Ibrahim[1,a)] and Norsela binti A Manaf [1,b)]

[1]*Politeknik METrO Johor Bahru, 64 Taman Suria, 88100 Johor Bahru, Johor Malaysia.*

[a)]*Corresponding author: hasnida.ibrahim@pmjb.edu.my*
[b)]*norsela.manaf@pmjb.edu.my*

Abstract. Technical and Vocational Education and Training (TVET) plays a pivotal role in producing highly skilled human capital that meets the evolving needs of industries. In line with Sustainable Development Goal (SDG) 4, which emphasizes quality education and lifelong learning, the integration of professional values such as responsibility, integrity, discipline, and punctuality within the TVET framework has become increasingly essential. This study explores the level of professional value integration in teaching and learning (T&L) at Politeknik METrO Johor Bahru (PMJB) by examining four dimensions: value integration, lecturers' T&L practices, enhancement strategies, and the relationship between value integration and lecturers' practices. A quantitative design was employed using a structured questionnaire distributed to 190 students, with data analyzed through descriptive and inferential statistics via IBM SPSS version 29. The findings reveal high levels of professional value integration (mean = 4.65), lecturers' T&L practices (mean = 4.63), and enhancement strategies (mean = 4.68), with the most prominent strategies involving strict reprimands for undisciplined students, creative awareness campaigns, and the embedding of values across all courses. Pearson's correlation analysis indicates a significant relationship between professional value integration and lecturers' practices (r = .422, p < .01). Overall, this study highlights the importance of embedding professional values in TVET to produce graduates who are both technically competent and ethically responsible, while supporting the SDG 4 agenda for quality education and lifelong learning.

Keywords: TVET Education, professional values, SDG 4, lifelong learning, T&L practices

1. INTRODUCTION

Technical and Vocational Education and Training (TVET) in Malaysia plays a crucial role in producing a competent, innovative, and competitive workforce that aligns with current labour market demands. Emphasizing technical skills alone is insufficient without the integration of professional values, which serve as the foundation for students' work ethics, character, and identity.

The integration of professional values in teaching and learning (T&L) at TVET institutions such as Politeknik METrO Johor Bahru is essential in supporting the holistic development of students. Values such as trustworthiness, responsibility, integrity, discipline, punctuality, and teamwork not only shape students to be ethical and resilient but also enable them to adapt to the increasingly complex demands of the working world. These values align with the aspirations of quality education outlined in Sustainable Development Goal (SDG) 4, which emphasizes providing inclusive and equitable quality education and promoting lifelong learning opportunities.

While professional values have been addressed in the National Education Philosophy (Falsafah Pendidikan Kebangsaan, FPK) and various curriculum documents, their level of integration and implementation in teaching and learning (T&L) remains neither comprehensive nor consistent. Previous studies indicate that students' understanding of these values is high; however, the actual practice and embodiment of these values in actions and attitudes remain moderate [1]. Furthermore, the implementation of professional values in T&L still largely depends on individual lecturers' initiatives due to the absence of systematic guidelines at the institutional level. This highlights the need for

the development of a comprehensive institutional framework or policy to ensure that these values are consistently and effectively integrated across all courses.

A more comprehensive assessment of the integration of professional values in TVET teaching and learning (T&L) is essential to ensure its overall effectiveness. The integration of professional values in T&L aims to strengthen the development of TVET students who are not only technically competent but also ethical, responsible, and prepared to become lifelong learners. Therefore, this study was conducted to examine the level of professional value integration, lecturers' T&L practices, and more systematic improvement strategies.

1.1 Problem Statement

Technical skills alone are insufficient to produce well-rounded TVET graduates without the integration of professional values. Although these values are embedded within educational policies, their implementation in teaching and learning (T&L) largely relies on lecturers' initiatives and lacks systematic organization. In addition, current global challenges demand that TVET institutions produce graduates who are not only technically proficient but also capable of adapting to ethical and integrity-driven workplace cultures. TVET education must, therefore, integrate human values and character development alongside technical competencies [2]. Nonetheless, the absence of consistent monitoring mechanisms and the lack of institutional guidelines for implementing professional values in T&L hinder the holistic and structured adoption of these values. This issue raises critical questions about the extent to which professional values are effectively integrated into T&L at polytechnics, particularly in the context of contemporary educational demands that emphasize soft skills, ethical integrity, and alignment with Sustainable Development Goal (SDG) 4.

1.2 Research Objective

i)   To identify the level of professional value integration in the teaching and learning (T&L) process at Politeknik METrO Johor Bahru.
ii) To identify lecturers' T&L practices in integrating professional values at Politeknik METrO Johor Bahru.
iii) To identify improvement strategies to strengthen the integration of professional values in T&L at Politeknik METrO Johor Bahru.
iv) To identify the relationship between the level of professional value integration in the T&L process and lecturers' T&L practices at Politeknik METrO Johor Bahru.

1.3 Research Question

i)   What is the level of professional value integration in the teaching and learning (T&L) process at Politeknik METrO Johor Bahru?
ii) How do lecturers practice T&L in integrating professional values at Politeknik METrO Johor Bahru?
iii) What are the improvement strategies to strengthen the integration of professional values in T&L at Politeknik METrO Johor Bahru?
iv) Is there a significant relationship between the level of professional value integration in the T&L process and lecturers' T&L practices at Politeknik METrO Johor Bahru?

1.4 Research Hypotheses

i) H_{o1} There is no significant relationship between the level of professional value integration in the T&L process and lecturers' T&L practices at Politeknik METrO Johor Bahru.

1.5 Research Scope

This study was conducted at Politeknik METrO Johor Bahru, involving 190 students from various academic programs. The scope of the study focuses on the level of professional value integration, lecturers' T&L practices, and enhancement strategies. The professional values examined include responsibility, integrity, discipline, punctuality, and teamwork.

2. LITERATURE REVIEW

2.1 Professional Values in TVET Education

Professional values refer to principles and work attitudes that reflect responsibility, integrity, discipline, punctuality, teamwork, and strong ethical conduct in performing tasks. In the context of TVET education, these values are crucial as students are required not only to master technical skills but also to develop character and work ethics to face the increasingly challenging and dynamic demands of the job market. A study [3] found that professional values such as responsibility and discipline among lecturers are at a high level; however, their implementation in teaching and learning (T&L) remains inconsistent and lacks systematic standardization at the institutional level.

Meanwhile, according to [4], in her study on TVET educators, emphasized that professional values can be strengthened through continuous professional training, value reflection, and application within real industry contexts, in line with the principles of lifelong learning. These findings support the need for a systematic integration of professional values into teaching and learning (T&L) to develop TVET students who are both highly skilled and ethically grounded.

2.2 Relationship Between TVET Education, SDGs, and Lifelong Learning

TVET education is a crucial pillar of national development as it serves to produce highly skilled, innovative, and competitive human capital. In line with the aspirations of Sustainable Development Goal (SDG) 4, TVET education must provide access to quality education and foster lifelong learning, particularly in preparing a workforce that is flexible and responsive to technological advancements and the current needs of industry sectors. According to [5], the national TVET system needs to be driven towards a holistic approach that not only focuses on technical skills but also emphasizes values and character development, in line with the direction of the SDGs and the requirements of the New Industrial Master Plan 2030. In addition, the finding in [4] asserts that lifelong learning in the context of TVET can be achieved through the development of professional values and the continuous enhancement of competencies among both lecturers and students. In this context, the integration of professional values into teaching and learning (T&L) in TVET institutions not only supports the development of technically competent students but also strengthens their capacity as ethical and responsible lifelong learners.

2.3 Teaching and Learning Practices

Lecturers' teaching and learning (T&L) practices play a crucial role in effectively imparting knowledge and instilling professional values among students. A study by [6] revealed that lecturers who possess strong subject-matter expertise and practice values such as responsibility, integrity, and teamwork can significantly enhance students' motivation and focus during T&L sessions. The professional values demonstrated by lecturers also serve as role models for students in developing good work ethics.

However, according to [7], the integration of professional values in T&L has yet to be implemented comprehensively and consistently. Such practices largely depend on individual lecturers' initiatives, without strong institutional policy support. Therefore, a more systematic and value-based T&L approach should be adopted to support the development of ethical TVET students who are prepared to face the challenges of the professional world.

3. RESEARCH METHODOLOGY

3.1 Population and Sample

The study population consisted of all 350 students of Politeknik METrO Johor Bahru (PMJB). This population was chosen as they are directly involved in the teaching and learning (T&L) processes that potentially integrate professional values. The study sample comprised 190 students selected through random sampling. Specifically, the study employed simple random sampling, where each student was assigned a number, and 190 students were selected using a random number generator. This ensured that every student had an equal chance of being selected, minimizing bias. According to [8], a sample size of 190 respondents is sufficient for a moderate population and is appropriate for generalization in this study.

3.2 Research Instrument

A questionnaire was used as the research instrument to assess the level of professional value integration, T&L practices, and strategies for value enhancement at PMJB. The questionnaire was developed by the researcher with reference to and adaptation from previous studies. The questionnaire consists of four (4) sections. Section A focuses on respondents' demographic information, namely gender, academic program, and semester. Sections B, C, and D correspond to (B) the level of value integration, (C) lecturers' T&L practices, and (D) improvement strategies. Each of Sections B, C, and D contains five (5) items, as shown in Table 1. All items in these sections were measured using a five-point Likert scale. The questionnaire was self-developed based on previous literature. It was reviewed by three subject matter experts to ensure content validity. A pilot test with 30 students was conducted to assess reliability. Cronbach's Alpha values for all constructs ranged from 0.83 to 0.88, indicating good internal consistency.

Table 1. Questionnaire Items from Section B to Section D

Section	Item
B. Level of Professional Value Integration in T&L	B1 I understand the meaning of professional values as a result of T&L activities. B2 I recognize the importance of honesty and trustworthiness in completing assignments. B3 I am motivated to be punctual as a result of the learning approaches I have experienced. B4 I am encouraged to use appropriate language during T&L activities. B5 Professional values are important for my future career success.
C. Lecturers' T&L Practices	C1 Lecturer encourages me to complete assignments within the stipulated time. C2 Lecturer encourages students to express their opinions respectfully and openly. C3 Lecturer emphasizes academic honesty, such as avoiding copying or plagiarism in assignments. C4 Lecturer integrates the values of responsibility and integrity into the learning topics. C5 Lecturer is punctual in starting and ending classes.
D. Strategies for Enhancing Professional Values	D1 Embedding professional values in all courses, not only in religious or ethics-related courses. D2 Giving stricter and more consistent warnings to students who are undisciplined, such as being late or committing plagiarism. D3 Establishing guidelines or standards for implementing professional values in T&L. D4 Organizing value-based programs outside of formal T&L sessions. D5 Conducting creative awareness campaigns on professional values (e.g., posters, short videos, TikTok).

3.3 Data Collection and Analysis

Data collection was conducted through an online questionnaire using Google Forms, which was distributed to 190 students of PMJB. Data collection period lasted for two weeks from 03 March 2025 to 18 March 2025. The quantitative data were analyzed using IBM SPSS Version 29 through descriptive statistical methods. For inferential statistical analysis, Pearson correlation analysis was employed to determine the relationship between the level of professional value integration and lecturers' T&L practices. The significance level was set at $p < .05$. Data security and respondent confidentiality were fully ensured throughout the study. Table 2 presents the interpretation of the mean scores used in this study, based on [9].

Table 2. Interpretation of Mean Scores

Mean Score	Level
1.00 - 2.33	Low
2.34 - 3.66	Moderate
3.67 - 5.00	High

4. ANALYSIS & DISCUSSION

4.1 Respondents' Background

Table 3 presents the respondents' background based on gender, academic program, and semester. A total of 97 respondents (48.9%) were male students, while 97 respondents (51.1%) were female students. These findings indicate a balanced representation in terms of gender, thus providing a comprehensive reflection of both groups in this study. Majority of respondents, 127 students (66.8%), were from the Diploma in Logistics and Supply Chain program. Meanwhile, 44 students (23.2%) were from the Diploma in Islamic Finance program, and 19 students (10.0%) were from the Diploma in Entrepreneurship program. Most respondents were from semester 2, with a total of 85 students (44.7%), followed by 44 students (23.2%) from semester 3, and 43 students (22.6%) from semester 1. Additionally, 12 respondents (6.3%) were from semester 4, and only 6 respondents (3.2%) were from semester 5.

Table 3. Respondents' Background

Category	Frequency	Percentage
Gender		
Male	93	48.9
Female	97	51.1
Academic Programme		
Diploma in Entrepreneurship	19	10.0
Diploma in Logistics and Supply Chain	127	66.8
Diploma in Islamic Finance	44	23.2
Semester		
1	43	22.6
2	85	44.7
3	44	23.2
4	12	6.3
5	6	3.2
Total	**190**	**100**

4.2 Normality Test

A normality test was performed to ensure the data met the assumptions for parametric testing. The results of the Skewness and Kurtosis values for all variables were within the acceptable range of ±1, indicating that the data were normally distributed. Table 4 shows the skewness and kurtosis values for all variables ranged between -0.65 and 0.58, which falls within the acceptable range of ±1, indicating normal distribution.

Table 4. Normality Test

Factors	Skewness	Kurtosis	
Professional Value Integration in T&L	0.42	-0.65	Normal
Lecturers' T&L Practices in Integrating Professional Values	-0.31	0.58	Normal

4.3 Professional Value Integration in TVET

Table 5 shows that all three factors studied are at a high level. The factor of strategies for enhancing professional values recorded the highest mean score (M = 4.68, SD = .401). This is followed by the factor of professional value integration in T&L (M = 4.65, SD = .404). Lastly, the factor of lecturers' T&L practices in integrating professional values recorded a mean score of (M = 4.63, SD = .385).

Table 5. Summary of Mean Score Analysis for Professional Value Integration in TVET Education

Factors	Mean	Standard Deviation (SD)	Level
Professional Value Integration in T&L	4.65	.404	High
Lecturers' T&L Practices in Integrating Professional Values	4.63	.385	High
Strategies for Enhancing Professional Values	4.68	.401	High
Overall	**4.65**	**.397**	**High**

Figure 1 shows that although the current level of practice is high, respondents still perceive the need to further enhance the integration of professional values in T&L. This finding indicates that students are aware of the importance of continuous efforts to strengthen the internalization and practice of professional values within the context of TVET education.
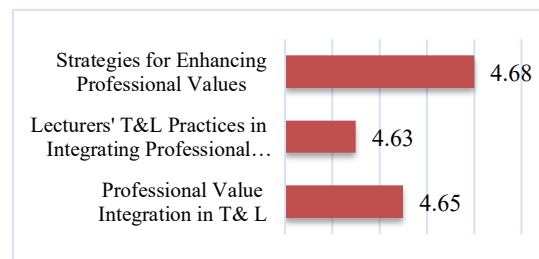

Figure 1. Findings on Mean Scores by Factor

4.4 Level of Professional Value Integration in Teaching and Learning (T&L)

Table 6 shows that all items related to the integration of professional values in TVET education are at a high level (M = 4.65). The item with the highest mean score is "professional values are important for students' career success" (M = 4.68). These findings clearly indicate a high level of awareness among students regarding the role of professional values in shaping their future careers. Soft skills and professional values among TVET students are critical factors influencing employability [10]. This study also supports the findings of [2], which emphasize the importance of value-based education in promoting lifelong learning and character development.

This is followed by the item "students recognize the importance of honesty and trustworthiness in completing assignments" (M = 4.67). This finding is consistent with the study by [11], which emphasizes that lecturers continuously highlight the values of trust and responsibility when carrying out assignments. Furthermore, the item "students are motivated to be punctual as a result of the learning approaches they receive" (M = 4.64) is also at a high level, indicating that professional values are indirectly integrated during lecturers' T&L processes. The study by [10] asserts that the value of punctuality in T&L plays a crucial role in shaping students' professional work culture, in line with industry requirements.

Meanwhile, the items on students' understanding of the meaning of professional values and the use of appropriate language in T&L activities recorded the lowest mean score (M = 4.63), but still remained at a high level. This suggests that these values may not have been explicitly and directly conveyed during T&L. As discussed in [11], also highlight that ethical communication in the classroom is developed through continuous reinforcement by lecturers.

Table 6. Mean Score Analysis of Professional Value Integration in TVET Education

Item	Mean	SD	Level
B1 I understand the meaning of professional values as a result of T&L activities	4.63	.506	High
B2 I am aware of the importance of honesty and trustworthiness when completing assignments.	4.67	.481	High
B3 I am motivated to be punctual due to the learning approaches I have experienced.	4.64	.502	High
B4 I am encouraged to use appropriate language during T&L activities	4.63	.494	High
B5 Professional values are important for my future career success.			
	4.68	.509	High
Overall	**4.65**	**.404**	**High**

4.5 Lecturers' Teaching and Learning (T&L) Practices in Integrating Professional Values

Table 7 shows that all items related to lecturers' T&L practices in integrating professional values are at a high level (M = 4.63). This indicates that students have a positive perception of lecturers' efforts to instill professional values such as trustworthiness, responsibility, and work ethics during T&L. The highest-scoring practice is "lecturers

encourage students to express their views in a respectful and open manner" (M = 4.67). This finding demonstrates that lecturers consistently support constructive and ethical two-way communication throughout the T&L process.

This is followed by the item "lecturers encourage students to complete assignments on time and emphasize academic honesty" (M = 4.65). This finding is consistent with the study by [12], which states that lecturers are not merely content deliverers but also serve as agents in conveying professional values. Similarly, the findings in [13] highlight that TVET students appreciate lecturers who consistently demonstrate strong work ethics, as it directly impacts the development of students' character. Lecturers consistently teach with ethics, trustworthiness, integrity, and responsibility. Their T&L practices not only enhance academic mastery but also cultivate strong personal values among students.

Meanwhile, the item stating that lecturers relate the values of responsibility and integrity to the learning topics recorded a mean score of M = 4.64. This finding is supported by [6], who argue that flexibly linking values to teaching content enhances student understanding. Similarly, [10] emphasize that value delivery should be directly related to real workplace scenarios. However, the item on punctuality in starting and ending classes recorded the lowest mean score (M = 4.54), though it still falls within the high category. This suggests that punctuality may be inconsistently practiced by lecturers or perceived as less important by some students. According to the study in [14] found that punctuality has a direct impact on the effectiveness of T&L and on cultivating an ethical work culture among students, in line with industry demands. Therefore, strengthening this practice should be prioritized as part of a comprehensive effort to institutionalize professional values within TVET institutions.

Lecturers' T&L practices also support the objectives of SDG 4, particularly in providing quality and inclusive education while enhancing opportunities for lifelong learning. According to UNESCO (2023), TVET must establish mechanisms for lifelong learning through flexible education. Therefore, lecturers' dedication to integrating professional values in T&L not only improves the quality of teaching but also lays the foundation for students to pursue lifelong learning, in line with global sustainable development goals.

Table 7. Mean Score Analysis of Lecturers' T&L Practices

Item	Mean	SD	Level
C1 Lecturers encourage me to complete assignments within the given timeframe.	4.65	.479	High
C2 Lecturers encourage students to express their opinions respectfully and openly.	4.67	.470	High
C3 Lecturers emphasize academic honesty, such as avoiding copying or plagiarism in assignments.	4.65	.477	High
C4 Lecturers relate the values of responsibility and integrity to the learning topics.	4.64	.504	High
C5 Lecturers are punctual in starting and ending classes.	4.54	.631	High
Overall	**4.63**	**.385**	**High**

4.6 Strategies for Enhancing the Integration of Professional Values in Teaching and Learning (T&L)

Based on Table 8, all items related to strategies for enhancing the integration of professional values are at a high level (M = 4.68, SD = .401). The strategies with the highest mean score are providing firm and consistent reprimands to students who lack discipline and implementing creative value-awareness campaigns (M = 4.71). These two strategies indicate that students not only recognize the importance of professional values but also emphasize the need for their implementation in a firm and creative manner. [15] highlight that a firm approach towards violations of professional values must be applied consistently to cultivate an ethical academic culture. This approach is not merely a disciplinary action but also a form of value education.

Meanwhile, the strategies of implementing value-based programs outside T&L hours and integrating professional values across all courses are also rated at a high level, each with a mean score of M = 4.68. This indicates the need for a holistic integration of values across all fields of study, not limited to religious or ethics courses. According to the study in [16] also recommends that TVET should broaden the integration of values into all study areas and extracurricular activities to develop ethical and competitive students. This effort aligns with SDG 4, which emphasizes

the importance of providing inclusive and quality education while expanding lifelong learning opportunities through various methods and approaches [2].

The item on establishing guidelines for implementing professional values in T&L recorded the lowest mean score (M = 4.66), though it remains at a high level. This finding suggests that students recognize the need for a more systematic and structured approach to embedding professional values. [16] suggest that professional values should be embedded as a core component of TVET curriculum design to ensure students are not only technically competent but also possess strong character, ethics, and social responsibility.

Table 8. Mean Score Analysis of Strategies for Enhancing Professional Values

Item	Mean	SD	Level
D1 Embedding professional values in all courses, not just in religious or ethics-related courses.	4.68	.488	High
D2 Providing firm and consistent reprimands to students who are undisciplined, such as arriving late or committing plagiarism.	4.71	.477	High
D3 Establishing guidelines or standards for implementing professional values in T&L.	4.66	.528	High
D4 Implementing value-based programs outside formal T&L sessions.	4.68	.499	High
D5 Organizing creative professional value-awareness campaigns (e.g., posters, short videos, TikTok).	4.71	.488	High
Overall	**4.68**	**.401**	**High**

4.7 Relationship between the Level of Professional Values Integration in T&L and Lecturers' T&L Practices

Table 9 shows a significant moderate relationship between the two variables (r = .422, p < .01), and the null hypothesis Ho1 is rejected. This indicates that the higher the level of professional values integration among students, the more positive their perception of lecturers' T&L practices that reflect these values. This finding aligns with the study by [3], which found a significant relationship between students' perceptions of the values integrated into T&L and their readiness to practice professional work ethics during industrial training. The significant relationship suggests that lecturers who consistently embody professional values in their T&L practices help strengthen the integration of these values among students. This finding also supports SDG 4's aim of building an education system that is not only of high quality but also instills values that contribute to the development of ethical and highly skilled human capital.

Table 9. Correlation Analysis between the Level of Professional Values Integration and Lecturers' T&L Practices

Variables	Pearson Correlation (r)	Significance Value (p)	Level
Professional Values Integration and Lecturers' T&L Practices	.422	.000	Moderate and significant

5   CONCLUSION

This study found that the level of professional values integration in T&L at PMJB is high. All three main aspects examined namely, the level of professional values integration, lecturers' T&L practices, and improvement strategies recorded overall mean scores exceeding 4.60. These findings reflect a high level of awareness among students of the importance of values such as responsibility, integrity, discipline, and punctuality within the context of TVET learning. Furthermore, the correlation analysis revealed a significant relationship between the level of professional values integration and lecturers' T&L practices (r = .422, p < .01), indicating a positive alignment between students' acceptance of values and their implementation in the T&L process.

Although the overall implementation of professional values is high, aspects such as punctuality and the absence of specific guidelines recorded slightly lower mean scores compared to other aspects. This highlights the need for a more systematic and holistic approach to ensure consistent implementation of professional values within the T&L process. These findings align with previous studies, such as those by [3] and [4], which emphasize the need to strengthen the role of lecturers as catalysts for values in T&L. The results also reinforce the commitment to Sustainable

Development Goal (SDG) 4, which underscores value-based education as the foundation for human development and lifelong learning.

Future studies are recommended to involve lecturers as the primary respondents to gain direct perspectives from educators regarding the implementation of professional values in T&L. A qualitative approach is suggested to explore in depth the practices, challenges, and effectiveness of implementing professional values in T&L. In addition, comparisons across different TVET institutions are also recommended to assess the level of consistency and effectiveness of integrating professional values within the TVET education system more comprehensively.

ACKNOWLEDGEMENTS

REFERENCES

[1]   S. A. M. Nong and S. Z. M. Osman, "Keperluan kemahiran insaniah abad ke-21 terhadap kesediaan kerjaya pelajar," *International Journal of Modern Education (IJMOE)*, vol. 6, no. 20, pp. 271–282, Mar. 2024, https://doi.org/10.35631/IJMOE.620021

[2]   UNESCO, *Reimagining Our Futures Together: A New Social Contract for Education*. Paris, France: United Nations Educational, Scientific and Cultural Organization, 2023, https://unesdoc.unesco.org/ark:/48223/pf0000381560

[3]   Z. Asmawi and W. M. R. W. Mohammad, "Amalan profesionalisme guru Bahasa Melayu sekolah kebangsaan dalam aspek nilai," *International Journal of Modern Education (IJMOE)*, vol. 3, no. 8, pp. 196–210, Mar. 2021, https://doi.org/10.35631/IJMOE.380016

[4]   I. Ithnain, "Effective Professional Development Model Increases the Competence of Vocational Teachers: model pembangunan profesional efektif meningkatkan kompetensi guru vokasional," *Management Research Journal*, vol. 11, no. 2, pp. 52–63, 2022, https://doi.org/10.37134/mrj.vol11.2.5.2022

[5]   C. D. Wan, "TVET in Malaysia's human resource development: Plans, realities and 'game changers'*," ISEAS –Yusof Ishak Institute*, Jan. 20, 2025, https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2025-5-tvet-in-malaysias-human-resource-development-plans-realities-and-game-changers-by-wan-chang-da/

[6]   A. F. Mohamed Yusoff, W. W. Hamat, and N. Sulaiman, "Pembentukan elemen kemahiran insaniah pelajar terhadap pelaksanaan model ik-PBM bagi kursus Mata Pelajaran Umum di politeknik," *International Journal of Islamic Studies*, vol. 34(1), pp. 228–237, 2025.

[7]   J. Saili and M. S. Taat, "Revolusi Pendidikan Islam Abad ke-21: Eksplorasi tahap amalan kreativiti dalam pengajaran Sirah dan Tamadun Islam," *Borneo Akademika*, vol. 8, no. 1, pp. 30–39, Jun. 2024, https://doi.org/10.24191/BA/v8i1/114060

[8]   R. V. Krejcie and D. W. Morgan, "Determining sample size for research activities," *Educational and Psychological Measurement*, vol. 30, no. 3, pp. 607–610, 1970.

[9]   D. Rowntree, *A Dictionary of Education*. New York, NY: Harper & Row, 1981.

[10]   A. Said, "Kualiti dan kebolehpasaran graduan kolej vokasional," *Jurnal Penyelidikan Teknorat II*, vol. 24, Dec., pp. 88–109, 2024.

[11]   A. F. M. Noor, K. A. Shukor, A. N. Musa, A. B. Jelani, F. Fathil, and K. Jaapar, "Amalan kompetensi dan profesionalisme pensyarah Pendidikan Islam politeknik dalam membantu pengajaran dan pembelajaran (PdP) berkesan," *Jurnal Islam dan Masyarakat Kontemporari*, vol. 23, no. 1, pp. 17–26, 2021, https://doi.org/10.37231/jimk.2022.23.1.559

[12]   M. P. Hassan, S. S. Ihwani, and Z. Mustaffa, "Amalan pengajaran efektif guru Pendidikan Islam berdasarkan pemikiran Imam al-Ghazali," *Seminar Inovasi Pendidikan Islam dan Bahasa Arab (SIPIBA) 2021*, pp. 1–9, 2021, http://irep.iium.edu.my/93415/4/SIPIBA%202021%20eProsiding.pdf

[13]   A. R. Rosli, M. I. Mahadi, and A. Mohamad, "Kefahaman dan pengamalan nilai-nilai murni melalui kursus Penghayatan Etika dan Peradaban dalam kalangan pelajar Politeknik Mersing," *Technical and Vocational Education International Journal*, vol. 23, no. 1, pp. 63–70, 2023, https://doi.org/10.556442

[14]   S. N. B. R. Helmi and N. S. M. Aun, "Kemahiran pengurusan masa dan tahap tekanan dalam kalangan pelajar UKM," *Jurnal Wacana Sarjana*, vol. 8, no. 2, pp. 1–15, 2024, https://journalarticle.ukm.my/23895/1/WM%205.pdf

[15]   W. H. N. W. Muda, "Implikasi pengurusan strategik terhadap pembangunan profesionalisme pensyarah," *Journal of TVET and Technology Review*, vol. 2, no. 2, pp. 38–46, 2024, https://publisher.uthm.edu.my/ojs/index.php/jttr

[16]   R. Hassan, F. M. Zain, K. A. Bakar, A. F. Kamaruzaman, E. A. Jamsari, and N. L. A. Hamdzah, "The challenges in the development of moral values among Technical and Vocational Education and Training (TVET) undergraduate students," *Journal of Positive School Psychology*, vol. 6, no. 3, pp. 4973–4981, 2022, https://www.researchgate.net/publication/359735997