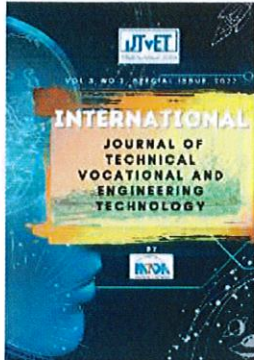


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Articles

FILTER WITH FUZZY LOGIC ESTIMATION BASED SLAM TO REFRAIN FINITE ESCAPE TIME: AN ANALYSIS IN DIFFERENT MOBILE ROBOT MOVEMENT

Bakiss Hiyana Abu Bakar, Sharmiza Kamaruddin, Mohd Faizal Mustapha

1-10



THE INFLUENCE BETWEEN ICT AND E-LEARNING ON STUDENT SATISFACTION

Muhamad Saufiyudin Omar, Siti Liyana Ismail, Junaidah Mohd Jan Jang

11-16



EVALUATION OF GREEN SILICA SCALE INHIBITORS PERFORMANCE USING DYNAMIC TUBE BLOCKING TEST

Siti Qurratu' Aini Mahat, Nor Fariahah Adnan, Zaihasrah Masron

17-27



THE IMPACT OF MALYSIAN POLYTECHNIC TVET LECTURERS RESEARCH ENGAGEMENT ON THEIR PROFESSIONAL TEACHING AND LEARNING PRACTICES

S. Thivviyah Sanmugam, Nyanaambigai Rajanthran, Nithya Periasamy

28-33



MUSLIM AND NON-MUSLIM STUDENTS' BEHAVIOURAL INTENTION IN CONSUMING HALAL FOOD

Muhamad Saufiyudin Omar, Muhammad Nur Firdaus Noor Azhar, Nur Dalila Farhani Mohd Amin, Munifah Mokhtar, Muhammad Faris Hakimi Zahari, Nur Adzwa Mohd Adzni

34-42



FABRICATION OF HYDRAULIC PRESS MACHINE FOR MOUNTING AND DISMOUNTING ROLLING BEARING

Abdul Rahman, Achmad Irianto, Nelson Manurung, Nursuar, Joni Indra, Sumartono

43-51



RECENT PROGRESSES AND CHALLENGES IN FOOD WASTE COMPOSTING MANAGEMENT AT HIGHER EDUCATION INSTITUTIONS

Rozieana Abu, Tuan Rozilazawani Tuan Mat, Maria Mansor, Shamsul Rizal Shamsuddin, Muhammad Arif Ab Aziz

52-69



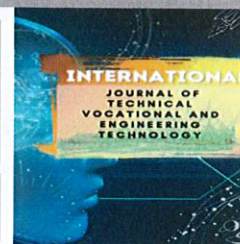
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The Influence of Malaysian Polytechnic TVET Lecturers Research Engagement on Professional Teaching and Learning Practices

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ABSTRACT

The achievement of higher learning institutions relies on competent lecturers who have the knowledge, competencies and skills to conduct effective teaching and learning. Besides excellent pedagogical skills, TVET lecturers at Malaysian polytechnics are expected to be active in research-oriented activities. Although there have been various studies conducted on TVET lecturers' professional practices, very few studies seem to have explored the views of TVET lecturers towards the influence of research engagement on their professional teaching practices. Adopting a quantitative method, the objectives of the study are to explore the current level of Malaysian polytechnic TVET lecturers' research engagement and the attitudes and perception towards the impact of research engagement on their professional teaching practices. A survey link was emailed to 128 TVET lecturers from various Malaysian polytechnics who took part in a National TVET conference called CiE-TVET. There were 82 TVET lecturers participated in this survey. Majority of them actively engaged in research works. The study shows that their research engagement has positively impacted their teaching and learning practices.

2. Introduction

The roles of Technical and Vocational Education Training (TVET) lecturers at Malaysian polytechnics are not only limited to being excellent knowledge provider and planner, effective communicator and facilitators of their students learning but they are expected to be active knowledge generator by engaging actively in research activities. Malaysian polytechnic TVET lecturers are required to do research, presentations, publication and other scholarly activities as part of their job duties. In addition, research activities and outputs has been set as one of the criteria evaluated for promotions.

Research engagement can be categorized into two; engagement with research (reading and using professional research articles) and engagement in research (doing research) to enhance their pedagogical practices (Borg, 2010). According to Borg (2010), educator's research engagement is defined as a "systematic qualitative and/or quantitative inquiry carried by educators in their own context either individually or collaboratively with the aim of enhancing their understanding of some aspects of their work. It has the potential to contribute to better instructional practices in individual classroom context and inform institutional improvement and educational policies in a broader aspect" (Borg, 2010, p. 395).

In addition, research-teaching nexus is the term often used to describe the ways in which lecturers' engagement in research can support teaching practices and vice-versa. Neumann (1994) describes it as a multi-level relationship focusing on the global (i.e., collectively, departmental research interests provide direction, frameworks and a resource base for the courses offered students), as well as the tangible (i.e., teaching serves to disseminate research knowledge and skills) and the intangible (i.e., teaching serves to develop in students a critical approach to "knowledge" and a positive attitude to learning). The research-teaching nexus contributes towards quality instructional practices and enhances student learning and outcomes (Musthafa and Sajila, 2014).

The current study aims to investigate Malaysian polytechnic TVET lecturers' views about their research engagement and the influence on their professional teaching practices. The study specifically explores the extent Malaysian polytechnic TVET lecturers read, carry out, produce research outputs and whether their research engagement practices impact students learning and professional development.

The primary motivation behind this study is our own reflection and experience working in Malaysian polytechnic context whereby continuous and growing expectations are placed on lecturers' research engagement. In addition, studies carried out on this topic is scarce within the Malaysian polytechnic context and more specifically on TVET lecturers research engagement and its impact on their practices, the main focus of the study. Thus, the current study aims to fill this gap by investigating Malaysian polytechnic TVET lecturers perceived views related to their research engagement and its influence on their professional teaching practices.

3. Literature review

There is a plethora of studies that have addressed educators' research engagement and its impact on their professional development globally. Borg and Alshumaimeri (2012) explored 82 university teacher educators research engagement in Saudi Arabia using a survey. The participants were from different disciplinary backgrounds. The result of the study indicated that the more highly qualified and experienced educators are more research engaged compared to those who are less qualified and experienced. Their main motivation for research engagement were reported for professional development, promotion and knowledge enhancement. In addition, the main reason cited for not being able to read or conduct research is time constraints.

Likewise, in China, Xu (2014) investigated 104 university English for Foreign Language (EFL) teachers research engagement using qualitative data collection using narrative frame and in-depth interview sessions. The results revealed limited research engagement among the teachers due to barriers like heavy teaching loads, lack of resources, support from mentors and self-efficacy beliefs. Besides, the results further indicated that the Chinese university EFL teachers read more research rather than doing research and their main motivation towards research engagement is more extrinsic (i.e. for reward/promotion) compared to intrinsic (i.e. for teaching improvement).

In the ASEAN region, citing the reason of the paucity of studies related to research practices of educators in the region, Tarrayo, Hernandez and Claustro (2020) explored the research practices of 49 university English language teachers from a Catholic University in Manila, Philippines using a questionnaire. The analysis of the results indicated the participants generally had positive and high level of research receptivity. However, the study also reported the lack of research engagement due to lack of resources and limited professional expertise. Similarly, in a recent study carried out in Cambodia, Kimkong Heng, M. Obaidul Hamid and Asaduzzaman Khan (2022) conducted a qualitative case study involving 20 Cambodian academics from two universities in regards to their research engagement. Results obtained from the interview sessions revealed low level of research engagement. Major challenges for their low research engagement were the prevalent need to make extra income through teaching and the lack of clear academic career paths. The result of the study reflected the need to enhance academic's research environment and engagement.

Previous studies carried out among educators in Malaysian context are limited and produced mixed results. Studies carried out by Izah Mohd Tahir & Nor Mazlina Abu Bakar (2009), Sanmugam & Rajanathan (2014) and Norasmah and Chia's (2016) evaluated the perceptions of academic staffs towards research at a public university, polytechnic and school respectively reported similar findings. All three studies highlighted that although the educators were positive that engagement with research could enhance the quality of teaching, the level of research engagement was still unsatisfactory. Reasons cited for their lack of research engagement were attributed to lack of time, resources, and professional expertise.

Specifically, in the context of Malaysian polytechnics, Jantan (2014) highlighted lack of research engagement and issues faced by Merlimau polytechnic lecturers in carrying out research activities namely, i) poor attitudes towards research; ii) time constraints, and iii) poor understanding and lack of research knowledge. In contrast, another related study carried out at Malaysian polytechnic context by Affandi et al., (2015) reported high level of academics' research knowledge, attitudes and awareness towards research practice among Malaysian premier polytechnic lecturers. Kho and Ling (2017) reported positive attitude and moderate level of competences in carrying out action research among General Studies Department lecturers at Polytechnic Kuching. The main motivation to carry out action research is for professional growth and promotion.

Understanding research engagement is an important part of the wider process addressing and making TVET lecturers' research engagement a more practical activity in instructional practices (Rahimi and Weisi, 2018). Educators' active and continuous research engagement allows them to think critically and reflectively about their instructional interventions and practices, promotes evidence-based profession and has the potential to be a powerful transformative Continuous Professional Development (CPD) model (Borg, 2010; Cain, 2015; Leat et al., 2015; and Sato and Loewen, 2018). Having reviewed the related literature to inform the current study, this study aims to explore:

- (1) Malaysian polytechnic TVET lecturers' level of research engagement
- (2) Malaysian polytechnic TVET lecturers' attitudes and perceptions towards the influence of research practice on their professional teaching practices.

3. Methodology

This quantitative research study utilized a questionnaire to investigate Malaysian polytechnic TVET lecturers' research engagement and the influence on their professional teaching practices. The participants in this study were 82 TVET lecturers from various Malaysian polytechnics who took part in a National conference in Education Technical & Vocational Education and Training called CIE-TVET. Eighty-two TVET lecturers from different areas of specialization mainly engineering, ICT, science and technology and education who are teaching students aged 18 at various Malaysian polytechnics around the country participated in the study. As the goal of the study was to obtain a broad perspective on the impact of TVET lecturers' research practice on their professional teaching practice, data were collected from TVET lecturers who were research engaged. The participants' age ranged between 25 and 55 years, and their teaching experience varied from 2 to 25 years. The participants possess different levels of educational qualification ranging from Bachelor's Degree, Masters to PhD.

The questionnaire used in this study was adapted and modified from Borg (2009) and Rahimi and Weisi (2018) to investigate Malaysian polytechnic TVET lecturers' research practice. This questionnaire comprises 20 questions prepared on a 5-point Likert scale, which consists of 5 options of "No, never", "Not often", "Only sometimes", "Yes, often" and "Yes, always". The questionnaire items explored TVET lecturers' research engagement level, their abilities in carrying out research, the impact of their research engagement on their professional teaching practices, and the support obtained by the TVET lecturers from their working context.

The questionnaire was pilot tested with 15 lecturers from the commerce department to check the validity. Using Cronbach's Alpha consistency index guide, the reliability index of the questionnaire is 0.962 which is considered above adequate. The results from the questionnaire enjoyed a KMO index of .910, which was a commending result. Bartlett's test of Sphericity was also significant $p=0.000$ which showed significant and positive correlation among the items.

4. Discussion of analysis and findings

This section presents the analysis of results pertaining to Malaysian TVET polytechnic lecturers' engagement with research in terms of reading research and its influence towards classroom practices. Table 1 presents the participants responses to this section.

Table 1: TVET lecturers' engagement in terms of reading educational research

Items	No, never (%)	Not often (%)	Only sometimes (%)	Yes, often (%)	Yes, always (%)
Do you read published educational research?	0% (0)	0% (0)	32% (27)	45.1% (37)	22% (18)
Do you think the research you read impacts your teaching?	0% (0)	0% (0)	24.4% (20)	51.2% (42)	24.4% (20)

The results in Table 1 indicated that most of the Malaysian polytechnic TVET lecturers were engaged with research and thought that research practice influenced their professional teaching practice. As is evident, none of the participants selected "No, never" or "Not often" choices for both the items. The majority of the participants responded that the level they read published educational research (67.1%) and the extend their educational research reading influences their teaching (75.6%) ranges from "Yes, often" to "Yes, always" respectively. Thus, the outcome may indicate that the engagements of respondents in reading educational research materials have significant influence in their teaching activities.

Table 2 outlines Malaysian polytechnic TVET lecturers' responses in terms of their engagement and capabilities in doing research. Based on the percentage values in Table 2, most of the Malaysian polytechnic TVET lecturers has rated their engagement and ability to carry out research between "Yes, often" and "Yes, always" ranging from 55% to 74%. Specifically, items related to recognizing issue that needs researching, recognizing appropriate research methods, justifying the chosen methodology and ability to produce research that impacts knowledge and influences practice were rated the highest (ranging from 70-74%). These outcomes show that more than 65% of the respondents in average have interest in research activities. Therefore, it may conclude that teachers' involvement in research based activities may enhance the quality of teaching and learning activities. Having said this, it is important to verify and validate them.

With regards to developing appropriate research instruments and analyzing data, these items were rated the highest percentage of the participants who selected between "No, never" and "Not often" options with 12.1% and 11% respectively. It can be inferred that the participants might have found designing research instruments and data analysis the most challenging parts of conducting research. This is line with the findings reported in the study carried out by Rahimi and Weisi (2018, p.7) whereby they reported that teachers teaching in a number of English for Foreign Language (EFL) context around the world reported both research elements of instrument development and data analysis as comparatively more difficult than other elements of doing research.

Table 2: TVET lecturers' engagement and capabilities to do research

Items	No, never (%)	Not often (%)	Only sometimes (%)	Yes, often (%)	Yes, always (%)
Do you think you can recognize an issue that needs to be researched?	0% (0)	1.2% (1)	24.4% (20)	53.7% (44)	20.7% (17)
Do you think you can construct specific research questions?	0% (0)	3.7% (3)	30.5% (25)	45.1% (37)	20.7% (17)
Do you think you can write an intensive literature review?	0% (0)	2.4% (2)	35.4% (29)	42.7% (35)	19.5% (16)
Do you think you can recognize suitable research methods?	0% (0)	1.2% (1)	28% (23)	48.8% (40)	22% (18)
Do you think you can rationalize the research methods you have selected, weighing the strengths and weaknesses of the methods?	0% (0)	1.2% (1)	28% (23)	52.5% (43)	18.3% (15)
Do you think you can develop proper research instruments?	4.8% (4)	7.3% (6)	30.5% (25)	35.4% (29)	22% (18)
Do you think you are competent in data collection?	0% (0)	3.7% (3)	34.1% (28)	42.7% (35)	19.5% (16)
Do you think you are competent in data analysis?	3.7% (3)	7.3% (6)	34.1% (28)	35.4% (29)	19.5% (16)
Do you think you can conduct research ethically?	0% (0)	1.2% (1)	35.4% (29)	42.7% (35)	20.7% (17)
Do you think you can produce research that impacts knowledge and influences practice?	0% (0)	1.2% (1)	28% (23)	52.4% (43)	18.4% (15)
Do you think you can develop a critical outlook, continually inquiring your own biases?	0% (0)	3.7% (3)	32.9% (27)	50% (41)	13.4% (11)
Do you think you can prepare clear and comprehensible research reports, both in oral and written form?	0% (0)	2.4% (2)	32.9% (27)	48.8% (40)	15.9% (13)

The final section of the questionnaire investigated Malaysian polytechnic TVET lecturers' attitudes and perceptions towards the impact of research engagement on their professional teaching practices. Table 3 summarizes the analysis of the data of this section of questionnaire. Based on the percentage values in Table 3, most of the Malaysian polytechnic TVET lecturers has rated positive attitudes and perceptions on the impact of their research engagement on their professional teaching practices "Yes, often" and "Yes, always" ranging from 70.8% to 80.5%. The findings of the study resonate with the results of the study carried out by Borg and Alshumaimeri (2012), Leat et al., (2015) and Rahimi and Weisi (2018) which emphasized that educators' research engagement impacts their professional development positively.

Specifically, the second item (impact of research engagement on self-confidence and efficacy in teaching) and the fifth item (the extent students gained from TVET lecturers research engagement) were rated "Yes, often" and "Yes, always" the highest with 80.5% and 77% respectively. It could be argued that Malaysian TVET lecturers who read and do research think they are more confident and autonomous in their teaching performance, and that they feel they understand their students better when they are engaged with research.

Table 3: The influence of TVET lecturers' research engagement on their professional teaching practices

Items	No, never (%)	Not often (%)	Only sometimes (%)	Yes, often (%)	Yes, always (%)
To what extent has your research engagement impacted your teaching?	1.2% (1)	1.2% (1)	26.8% (22)	53.7% (44)	17.1% (14)
To what extent has your research engagement affected your self-confidence and efficacy in teaching?	1.2% (1)	1.2% (1)	17.1% (14)	53.7% (44)	26.8% (22)
To what extent has your research engagement impacted your working practices with colleagues?	1.2% (1)	2.4% (2)	25.6% (21)	53.7% (44)	17.1% (14)
To what extent has your research engagement influenced your consideration of your students?	1.2% (1)	1.2% (1)	25.6% (21)	54.9% (45)	17.1% (14)
To what extent have your students gained from your research engagement?	1.2% (1)	2.4% (2)	19.5% (16)	53.7% (44)	23.3% (19)
To what extent does your workplace support your research engagement?	1.2% (1)	2.4% (2)	25.6% (21)	53.7% (44)	17.1% (14)

Based on the results, it can be inferred here that Malaysian polytechnic TVET lecturers who are active in their research engagement in terms of reading and doing research are more self-confident and efficient in their teaching practices and they believe that their research engagement has benefited their students. Therefore, instead of lecturers treating research and teaching as separate practices, they should regard it as an inter-related activity. This may develop a stronger research and teaching nexus and help to bridge the gap between research and practice that has been widely debated (Cain, 2015).

In addition, a regression test was carried out to determine the influence of Malaysian Polytechnic TVET lecturers research engagement on their professional teaching and learning practices. The dependent variable professional teaching and learning practices was regressed on predicting variable which is Malaysian Polytechnic TVET lecturers research engagement. The analysis of the result indicated that Malaysian Polytechnic TVET lecturers research engagement significantly predicted their professional teaching and learning practices, $F(1, 81) = 87.607, p < 0.001$. This indicates that the Malaysian Polytechnic TVET lecturers research engagement can play a significant role in shaping teaching and learning practices ($b = .744, p < 0.001$). These results clearly depict the positive effect of Malaysian Polytechnic TVET lecturers research engagement on their professional teaching and learning practices. Moreover, the adjusted $R^2 = 0.517$ depicts that the model explains 51.7% of the variance in Malaysian Polytechnic TVET lecturers research engagement. Table 4 shows the summary of the findings.

Table 4: The regression analysis of the influence of TVET lecturers' research engagement on their professional teaching practices

Beta Coefficient	Adjusted R ²	F	p-value	Hypothesis supported
0.744	0.517	87.607	0.000	Yes

4. Conclusion and future research

This study explored the influence of polytechnic TVET lecturers' research engagement on their professional instructional practices. The results showed that Malaysian polytechnic TVET lecturers' engagement with and in research were rated highly between "Yes, often" and "Yes, always". In addition, the results further highlighted positive views among TVET lecturers towards the influence of their research engagement on their professional teaching practices. Thus, polytechnic TVET lecturers are strongly recommended to be research engaged and link both their research and teaching practices. However, the results must be interpreted carefully due to limitations that are unobserved in the study. Further research could be carried out using a more in-depth qualitative approach to explore and uncover Malaysian polytechnic TVET lecturers' research engagement and its influence towards their actual classroom instructional practices. A comparison study can be made exploring their stated beliefs and actual research engagement and its influence on their teaching practices. In addition, exploring how research is integrated in their professional teaching practices could be further explored.

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