The Role of Educator's Research Perceptions in Shaping Attitudes: Insights from Technical and Vocational Education

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DOI: https://dx.doi.org/10.47772/IJRISS.2024.8100015

Received: 08 October 2024; Accepted: 12 October 2024; Published: 27 October 2024

ABSTRACT

This study explores the attitudes of educators towards research activities within their professional responsibilities at Politeknik Tuanku Sultanah Bahiyah, Malaysia. Recognizing research as a critical skill for career advancement and academic recognition, the study surveyed 220 educators across six departments, representing 73 percent of the institution's teaching staff. Utilizing a seven-point Likert scale adapted from Papanastasiou's Attitude Towards Research (ATR), the research examines five key domains: research usefulness, research relevance, research anxiety, research difficulty, and overall research attitude. The findings reveal a complex landscape of attitudes: while educators generally acknowledge the usefulness and relevance of research, contributing to positive attitudes, they also experience significant anxiety and difficulty, which negatively impact their engagement. These results underscore the need for targeted support to mitigate research-related challenges and foster a more positive research culture among educators.

Keywords – Research Attitudes, Technical and Vocational Education, Research Anxiety, Educator Perceptions, Research Usefulness and Relevance

INTRODUCTION

Presently, in a rapidly evolving educational landscape, integrating research into the professional duties of educators has become increasingly essential. Globally and within Malaysia, research is not only a benchmark for academic success but also a critical component of continuous professional development. It plays a pivotal role in advancing knowledge, improving teaching practices, and fostering innovation within educational institutions [1]. Within the Malaysian context, particularly in technical and vocational education, research has gained prominence as a cornerstone of educational excellence, aligning with the nation's broader objectives of enhancing the quality and competitiveness of its educational system [2]. Internationally, educators engagement in research is crucial for addressing complex educational challenges, promoting evidence-based practices, and contributing to the global body of knowledge [3], [4].

However, despite the recognized importance of research, educators in technical and vocational education institutions face significant challenges in integrating research into their professional roles. These challenges include limited time, resources, and institutional support, coupled with a perceived disconnect between research activities and immediate teaching responsibilities [5]. This creates a dilemma where educators are torn between the demands of excelling in both teaching and research, often leading to research anxiety and the perception of research as an additional burden rather than an integral part of their professional development [6], [7]. This dichotomy threatens the establishment of a robust research culture within educational institutions, particularly

in settings where research proficiency is crucial for career progression and institutional recognition [8].

The core issue lies in the mixed attitudes of educators towards research. While some recognize its value in enhancing teaching effectiveness and contributing to institutional goals, others experience significant anxiety, viewing research as difficult and disconnected from their primary responsibilities [8], [9]. This study aims to investigate the attitudes of educators at Politeknik Tuanku Sultanah Bahiyah, Malaysia, towards research, focusing on how perceptions of research usefulness, relevance, anxiety, and difficulty influence their overall attitudes. Understanding these attitudes is vital for addressing barriers to research engagement and fostering a more supportive and productive research environment.

The primary objective of this study is to assess the attitudes of technical and vocational educators towards research, with a particular focus on four key dimensions: research usefulness, relevance, anxiety, and difficulty. By exploring these dimensions, the study seeks to identify factors contributing to positive or negative attitudes towards research and to provide insights into how these attitudes can be improved. This study has significant implications for both educators and educational institutions. By highlighting the attitudes of educators towards research, the findings will inform the development of targeted strategies to support and enhance research engagement among technical and vocational educators. For policymakers and educational leaders, this study offers valuable insights into the challenges educators face and the support structures needed to cultivate a stronger research culture. Ultimately, the study contributes to the broader discourse on the role of research in education, with potential applications not only within Malaysia but also in similar educational contexts globally [10].

Malaysian polytechnics and community colleges, under the Department of Polytechnic and Community College Education (DPCCE), are increasingly prioritizing applied research and innovation as part of their strategic plan for 2018 to 2025. This plan aims to position these institutions as leaders in Technical and Vocational Education and Training (TVET) through research excellence [11]. However, a key question remains: are TVET educators in these institutions willing and prepared to engage in research activities?

The willingness of TVET educators to engage in research is often reflected in their research output. As of July 2020, the DPCCE oversaw 9,749 TVET educators. However, the research output trend since 2018 has been modest, with only about 10 percent of educators producing research papers—approximately 975 papers. In 2019, research output targets ranged from 5 to 25 papers per institution, depending on size, with a total of 128 institutions under DPCCE. This translates to an expected output of 640 to 3,200 papers, representing 6.6 percent to 32.8 percent of all TVET educators. Although these targets may be met, the active participation of educators as authors or co-authors raises concerns, as data suggests that a small group of educators consistently contribute to publications, while many novice educators show limited involvement [9]. This trend underscores the ongoing debate about whether TVET institutions can genuinely cultivate a culture of applied research and innovation.

This study seeks to examine the factors influencing TVET educators' participation in research, from the proposal stage to the completion of writing. Employing Papanastasiou's Attitude towards Research (ATR) Model [12], the study assesses how factors such as perceived research usefulness, relevance, anxiety, and difficulty affect educators' attitudes. A positive attitude is often linked to high perceived usefulness, while relevance enhances engagement, especially when integrated into teaching workloads or competency development. Conversely, high levels of anxiety and perceived difficulty can deter educators from participating in research.

This study contributes to the literature by extending research on educators' readiness to engage in research, focusing on the ATR model's key factors influencing attitudes. By examining TVET institutions, the study offers a unique perspective, particularly as Malaysia's educational blueprint prioritizes TVET excellence as a national agenda. The findings may inspire similar research in other Malaysian higher learning institutions, helping identify areas where research activities thrive or require further development by focusing on usefulness, anxiety, relevance, and difficulty.

LITERATURE REVIEW

Research activities are widely recognized as high-impact educational practices, crucial for cultivating the vital

skills and attitudes of lifelong learners through inquiry [13]. These activities go beyond pursuing academic careers and advancing knowledge; they are integral to the learning process itself [14]. Attitudes, though often considered internal and difficult to observe, play a pivotal role in shaping individual behaviours and achieving specific objectives [15]. Attitudes toward any subject can either be positive or negative and are influenced by an individual's beliefs and perceptions [16]. Attitudes are relatively stable tendencies to respond consistently to specific objects or events, even though they are not always directly visible and must be inferred from behaviour [17], [18].

In the context of research, an individual's attitude encompasses their thoughts, feelings, and behaviours towards research activities [16]. Positive attitudes are essential for encouraging educators to engage in research, as they significantly influence participation [19]. According to Papanastasiou [12], understanding educators' attitudes towards research is crucial for fostering a positive research culture. Studies have shown that both cognitive and affective attitudes towards research can range from positive to negative, impacting engagement [21]. Research has identified predominantly positive attitudes towards research, as evidenced by Vossen et al. [22], Siamian et al. [23], Maqsood et al. [24], and Hussain et al. [25]. However, individual attitudes can vary widely, with some educators nurturing positive attitudes while others exhibit negativity [26].

Balancing personal interests with organizational objectives is vital for enhancing performance in any task, including research activities [17]. Changing personal attitudes towards tasks is essential for achieving organizational goals [19]. Positive attitudes towards work, including research, are strongly linked to higher job performance and satisfaction [27]. In the academic realm, educators who view research as useful for their professional and personal lives tend to have more positive attitudes [17], [16]. Additionally, studies like Belgrave and Jules [28] have shown that students also perceive research as functional and meaningful when it applies to real-life situations, further reinforcing positive attitudes. Gender differences in attitudes towards research have also been documented, with men often reflecting more positive attitudes than women [24], [16].

Despite these findings, some studies have reported negative attitudes towards research, particularly among educators [16]. For instance, Butt [29] highlighted the prevalence of negative attitudes towards research activities among educators. These negative attitudes may stem from perceived difficulties associated with research, heavy workloads, and anxiety related to research tasks [26]. The perception of research as useful and relevant also significantly impacts individual attitudes [20]. Therefore, an individual's attitude is a critical determinant of behaviour, influencing both personal and organizational outcomes. This section further explores the main factors affecting TVET educators' attitudes towards research, including attitude, usefulness, anxiety, relevance, and difficulty.

Usefulness

Research usefulness refers to the perceived value and applicability of research activities in enhancing professional practice and educational outcomes. Papanastasiou [30] emphasizes that the perceived usefulness of research significantly influences educators' willingness to engage in research activities. When educators recognize the practical benefits of research, such as improving teaching methods, informing policy decisions, or contributing to academic and professional growth, they are more likely to develop a positive attitude toward research engagement.

Recent studies continue to support the notion that the perceived usefulness of research is a key motivator for educators. For instance, a study by Al-Rahmi et al. [31] highlights that educators who see research as directly contributing to their teaching effectiveness and student outcomes are more inclined to integrate research into their professional routines. This practical application of research fosters a culture of evidence-based practice, which is crucial for continuous improvement in educational settings.

Moreover, the alignment of research activities with institutional goals and professional development opportunities further reinforces its usefulness. According to Karim and Khalid [32], when research is embedded within the strategic priorities of educational institutions, educators are more likely to perceive it as a valuable tool for achieving both personal and organizational objectives. This alignment not only enhances the relevance of research but also mitigates the perceived burden associated with research activities, making them more

manageable and meaningful for educators.

Furthermore, research is crucial to remain up-to-date and responsive in the constantly evolving educational setting, which is marked by rapid technological developments and evolving student demands. As noted by Smith et al. [33], educators who engage in research are better equipped to adapt to these changes, thereby enhancing their professional competence and contributing to the overall quality of education. The integration of research into everyday practice allows educators to remain at the forefront of educational innovation, which is increasingly recognized as essential for academic success and professional fulfilment.

Additionally, the usefulness of research is a pivotal factor that shapes educators' attitudes towards engaging in research activities. It refers to the perception of how research can be beneficial and applicable in professional contexts [30]. Research is considered useful when it enables individuals to meet their professional needs effectively. This concept of usefulness is essential in bridging the understanding between relevance, quality, and the diversity of information [34], which ultimately influences an educator's decision to participate in research.

For Technical and Vocational Education and Training (TVET) educators, research activities are increasingly recognized as vital for professional development. When these activities are perceived as necessary, educators are more likely to engage in the entire research process, from planning to execution, thereby enhancing their knowledge and expertise. The benefits of participation in research for TVET educators include opportunities for publication, academic recognition, and the development of subject matter expertise. These factors collectively contribute to the perceived usefulness of research.

Moreover, research has been shown to enhance leadership practices, professional knowledge, and strategic planning [35]. It serves as a tool for introducing new ideas, identifying and solving problems, and providing frameworks that guide both teaching and learning. Studies by Khan et al. [36] highlight that faculty members view research as advantageous not only in their professional lives but also in personal development. However, the perception of research usefulness can vary across different demographics. For instance, older students (around 30 to 40 years) tend to perceive research as less relevant to their profession compared to younger students [34].

In light of these findings, this study proposes that the perceived usefulness of research is a significant determinant of educators' engagement in research activities, whether driven by personal interest or institutional requirements.

Anxiety

Research anxiety is a significant factor influencing individuals' attitudes towards engaging in research activities. It encompasses the apprehension or fear experienced when faced with research tasks, often due to perceived difficulties or a lack of confidence. This anxiety can arise from various sources, including the complexity of the research process, unfamiliarity with methodologies, or pressure to produce academically rigorous work [37].

Ball and Pence [37] identified research anxiety as a key dimension affecting research attitudes, noting that individuals with higher levels of anxiety are less likely to engage in research and more likely to view it as daunting. Symptoms of research anxiety can include procrastination, avoidance of tasks, and even withdrawal from research activities. This notion is supported by Dobson [38], who highlights that novice researchers, lacking experience and confidence, are particularly prone to research anxiety, which hampers their academic and professional growth.

Further, research anxiety is closely tied to the perception of research difficulty. Karim and Khalid [39] argue that when research is perceived as overly complex, anxiety levels increase, creating a cycle of avoidance and heightened anxiety. This difficulty perception is often exacerbated by inadequate training and support, leaving researchers feeling overwhelmed and isolated.

Research anxiety also impacts educational institutions. Ashrafirizi et al., [40] argue that high levels of anxiety among educators can impede the development of a research-oriented culture, potentially affecting educational quality and institutional contributions to academic knowledge. [41] Note that while universities may provide

supportive research environments, they can inadvertently create pressure, contributing to research anxiety among faculty members.

In the context of Technical and Vocational Education and Training (TVET) educators, anxiety often stems from a lack of knowledge, confidence, and fear of failure. This is consistent with findings by [42], who identify anxiety as an emotion negatively impacting motivation and performance. Social, academic, physiological, and cognitive anxieties are noted sources of research anxiety [43] [44] [45]. For students, research anxiety can lead to decreased performance and lower grades [46].

To address research anxiety, Ball and Pence [37] suggest interventions such as research training, mentorship, and supportive environments. These measures aim to enhance confidence and competence, reducing anxiety and fostering a positive research culture. Effective interventions are crucial for helping educators overcome anxiety and improve their engagement with research activities [47].

In conclusion, research anxiety is a significant barrier to research engagement, particularly among those who perceive research as difficult or who lack confidence. Addressing this anxiety through targeted support and training is essential for fostering positive attitudes towards research and encouraging greater participation in research activities.

Relevance

Research relevance is a fundamental factor that significantly influences educators' attitudes toward engaging in research activities. It pertains to the perceived importance and applicability of research findings to current educational practices and issues. According to Papanastasiou [48], the relevance of research is a key determinant of educators' motivation to participate. When research is perceived as directly pertinent to professional needs and challenges, educators are more likely to actively engage with it. Papanastasiou [48] posits that research relevance is largely determined by its alignment with the practical needs of educators and the specific educational context in which they operate. Research addressing pressing issues or providing solutions to current problems is deemed more valuable and engaging, thereby enhancing educators' willingness to integrate research into their professional practice and fostering a positive attitude toward research.

Recent studies underscore the importance of aligning research with educational goals and institutional priorities. Karim and Khalid [49] highlight that research which aligns with institutional objectives and addresses specific needs within the educational environment is more likely to be valued and utilized by educators. This alignment not only increases the relevance of research but also promotes its practical application in educational settings.

Moreover, the practical application of research findings is crucial for enhancing their relevance. Educators are more inclined to engage with research when they observe a direct impact on their teaching practices or student outcomes, which is vital for fostering a research-oriented culture within educational institutions [50].

Research relevance also extends beyond professional contexts to personal and non-academic domains [51]. It can influence academic performance, job promotion for TVET educators, and improvement in academic work. Research findings can be shared with others, contributing to new frameworks and literature. Gender differences in perceived research relevance have been documented, with men often finding research more relevant due to the demands of their professions, such as business or management [52].

Educators are encouraged to be creative in cultivating a research experience that highlights its relevance, integrating it with teaching to raise student awareness and active involvement [53]. Studies such as Vossen et al. [54] reveal that secondary school students find research activities more relevant compared to design activities, as they perceive research as a valuable learning activity. Even though research is widely recognized as relevant, actual engagement in research and publication remains limited [55].

In summary, the relevance of research is pivotal in shaping educators' attitudes and engagement with research activities. Research that addresses significant issues and aligns with both professional and institutional needs is more likely to be valued and utilized, fostering a positive research culture.

Difficulty

Research difficulty significantly impacts educators' engagement in research activities. It includes perceived challenges and obstacles that can influence their motivation and willingness to participate. According to Papanastasiou [56], research difficulty plays a crucial role in shaping educators' attitudes and behaviours towards research. If research is seen as too challenging or inaccessible, educators may be less inclined to engage with it. Papanastasiou [56] identifies several dimensions of research difficulty: methodological complexities, lack of resources, and insufficient support. Methodological challenges, such as designing rigorous studies and analyzing data, can be particularly daunting for educators with limited research training. Moreover, constraints related to time, funding, and access to tools can exacerbate these difficulties.

Recent research such as Khan [57], Zhang [58] and Smith et. Al. [59] supports Papanastasiou's findings, highlighting how these challenges impact educators' research involvement. Khan [57] underscores that methodological difficulties and limited resources are significant barriers. This study suggests that overcoming these barriers requires targeted support and training to build educators' research competencies. Zhang [58] further explores how balancing research with teaching responsibilities can affect educators' motivation. This study emphasizes the need for institutional support, such as providing dedicated research time and professional development opportunities, to alleviate these challenges.

The perception of research difficulty is also influenced by prior research experience and confidence. Smith et al. [59] found that educators with limited research experience are more likely to view research as difficult, potentially discouraging participation. Mentoring and peer support can mitigate these perceptions and enhance confidence. Additionally, research difficulty is not solely a matter of individual capability but also involves systemic factors. Gallego-Durán et al. [60] describe difficulty as related to the resources and effort required for research. Taskeen et al. [61] argue that while research can be motivating, highlighting and addressing obstacles such as topic selection, data insufficiency, and high publication costs is crucial.

External factors like lack of funding, professional mentorship, and inadequate research facilities also contribute to research difficulty [62]. TVET educators face unique challenges, including difficulties in writing literature reviews, dealing with complex vocabulary, and managing the research process [63], [64], [65]. Shkedi [66] found that teachers often avoid reading research literature due to time constraints, lack of understanding, and trust issues. Students also face difficulties, such as challenges in writing research reports and a complex research methodology, which can lead to anxiety and a negative attitude towards research [67], [68]. In conclusion, addressing research difficulty involves overcoming methodological challenges, and resource limitations, and balancing research with other responsibilities. By providing targeted support and resources, educational institutions can help overcome these barriers and foster a positive research culture.

METHODOLOGY

This study adopts a quantitative research design, utilizing a survey to assess the influence of research difficulty on the attitudes of Technical and Vocational Education and Training (TVET) educators. The survey instrument is adapted from Papanastasiou's [12] Attitude Towards Research (ATR) model and employs a 7-point Likert scale, where 1 indicates 'Strongly Disagree' and 7 indicates 'Strongly Agree'. The survey includes 32 items covering five variables: Attitude (8 items), Usefulness (9 items), Relevance (4 items), Anxiety (8 items), and Difficulty (3 items). Negative items are reverse coded so that higher scores consistently represent a more positive attitude towards research.

The study's population consists of 301 TVET educators at Politeknik Tuanku Sultanah Bahiyah (PTSB) as of June 1, 2020. The survey, distributed via an online form, garnered 220 responses, equating to a response rate of approximately 73.09 percent. This study employed a census sampling approach. In census sampling, the goal is to collect data from every respondent of the population rather than a subset, making it ideal when the population size is manageable.

The internal consistency of the item scale, as measured by Cronbach's alpha, was 0.864, indicating satisfactory reliability. The ATR model's internal consistency was 0.947, confirming the robustness of the instrument. The

survey was administered electronically, with participants receiving an introductory email detailing the study's purpose, ensuring confidentiality, and providing a link to the online survey. Participants completed the survey at their convenience within a specified time, with follow-up reminders sent to non-respondents to maximize participation.

The collected data were securely stored and analysed using descriptive statistics to summarize response distributions and identify trends. Factor analysis was conducted to validate the dimensions of research difficulty and their effects on educators' attitudes, ensuring alignment with Papanastasiou's (2005) framework. Regression analysis was also employed to examine the relationships between research difficulty dimensions and educators' attitudes, pinpointing the factors that most significantly affect their attitudes toward research.

This methodological approach is designed to provide a thorough understanding of how research difficulty influences TVET educators' attitudes, adhering to the framework established by Papanastasiou [12].

FINDINGS

Data for this study were collected using an adapted Attitude Towards Research (ATR) questionnaire, administered to 220 out of 301 Technical and Vocational Education and Training (TVET) educators at Politeknik Tuanku Sultanah Bahiyah (PTSB). Among the respondents, 70 are men and 150 are women. The majority of participants are Malay (93.36%), with smaller proportions of Indian (2.27%), Chinese (0.91%), and other ethnicities (0.45%). Most respondents fall within the age group of 31 to 40 years old (55.91%). TVET educators are distributed across six main departments, with representation ranging from 12 percent to 25 percent, except for the Department of Mathematics, Science, and Computer, which comprises 5.45 percent.

In terms of academic qualifications, over 50 percent of the educators hold master's degrees, while 41.36 percent possess at least a bachelor's degree. Regarding tenure, 74.09 percent of respondents have served between 11 and 20 years. Each educator has published between one and five research papers over their career, indicating a research output rate of approximately one paper every two years.

Despite this, 80.91 percent of TVET educators have engaged in research activities, either having completed or currently working on research projects. The remaining 19.09 percent have not initiated any research activities. Notably, the majority of TVET educators at PTSB rated the priority of research—whether driven by personal interest or organizational benefit—as moderate, with 52.73 percent and 45.91 percent, respectively.

Table 1: Respondent Demographic (n=220)

		F	%	Cumulative %
Gender	Male	70	31.82	31.82
	Female	150	68.18	100.00
Race	Malay	212	96.36	96.36
	Chinese	2	0.91	97.27
	Indian	5	2.27	99.55
	Others	1	0.45	100.00
Age	21 to 30 years	1	0.45	0.45
	31 to 40 years	123	55.91	56.36
	41 to 50 years	85	38.64	95.00
	51 to 60 years	11	5.00	100.00
Department	Mechanical Engineering	45	20.45	20.45

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS |Volume VIII Issue VI June 2024

	Electrical Engineering	57	25.91	46.36
	Civil Engineering	29	13.18	59.55
	Mathematics, Science and Computer	12	5.45	65.00
	General Studies	27	12.27	77.27
	Commerce	38	17.27	94.55
	Others	12	5.45	100.00
Education	Diploma	4	1.82	1.82
	Degree	91	41.36	43.18
	Master	119	54.09	97.27
	PhD	6	2.73	100.00
Duration of Services	1 to 5 years	4	1.82	1.82
	6 to 10 years	30	13.64	15.45
	11 to 15 years	90	40.91	56.36
	16 to 20 years	73	33.18	89.55
	21 to 25 years	16	7.27	96.82
	26 to 30 years	5	2.27	99.09
	31 to 35 years	2	0.91	100.00
Prior Placement	Community College	9	4.09	4.09
	Polytechnics	211	95.91	100.00
Research Output in Current Grades	I do not have any research paper	57	25.91	25.91
	1 to 5 papers	153	69.55	95.45
	6 to 10 papers	10	4.55	100.00
Research Output Within Duration of Services	I do not have any research paper	15	6.82	6.82
	1 to 5 papers	150	68.18	75.00
	6 to 10 papers	44	20.00	95.00
	11 to 15 papers	7	3.18	98.18
	16 to 20 papers	1	0.45	98.64
	26 to 30 papers	3	1.36	100.00
Research Stage	Studying a research - proposal progress	59	26.82	26.82
	Conducting research	27	12.27	39.09
	Have not started yet	42	19.09	58.18
	Completed (at least ONE research)	92	41.82	100.00
	Medium	116	52.73	52.73

Research Priority- Personal Interest	High	72	32.73	85.45
	Very High	32	14.55	100.00
Research Priority- Organisation Interest	Medium	101	45.91	45.91
	High	96	43.64	89.55
	Very High	23	10.45	100.00

Table 2 presents the mean interpretation of feedback provided by the respondents. This table, developed using actual feedback data, assesses TVET educators' perceptions of their attitudes toward research activities in terms of usefulness, anxiety, relevance, and difficulty. Table 3 shows the frequency distribution for each variable. Overall, the majority of respondents rated usefulness, anxiety, relevance, difficulty, and attitude as low. However, there was also a notable amount of feedback indicating moderate to high ratings across these variables.

Table 2: Mean Interpretation (n=220)

	Low (L)	Moderate (M)	High (H)
USEFULNESS	1.00 - 5.00	5.01 - 5.89	5.90 - 7.00
ANXIETY	1.00 - 4.00	4.01 - 5.00	5.01 - 7.00
RELEVANCE	1.00 - 4.00	4.01 - 4.75	4.76 - 7.00
DIFFICULTY	1.00 - 3.67	3.68 - 4.33	4.34 - 7.00
ATTITUDE	1.00 - 4.38	4.39 - 5.13	5.14 - 7.00

Note: Mean interpretation derived using SPSS from actual data collected from this survey, 2020.

Table 3: Frequency of Mean

	Level	Frequency	Per cent
USEFULNESS	L	77	35.00
	M	74	33.64
	H	69	31.36
ANXIETY	L	91	41.36
	M	70	31.82
	H	59	26.82
RELEVANCE	L	94	42.73
	M	64	29.09
	H	62	28.18
DIFFICULTY	L	91	41.36
	M	40	18.18
	H	89	40.46
ATTITUDE	L	77	35.00

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS |Volume VIII Issue VI June 2024

	M	74	33.64
	H	69	31.36

Table 4 represents the Pearson correlations analysis which indicates that all variables are significantly related to one another. This study shows that ANXIETY and DIFFICULTY are negatively correlated to USEFULNESS, RELEVANCE, and ATTITUDE. This provides initial support that both anxiety and difficulty prevent the positive attitude among educators to participating in research activities.

Table 4: Correlations (n=220)

	USEFULNESS	ANXIETY	RELEVANCE	DIFFICULTY	ATTITUDE
USEFULNESS					
ANXIETY	***-0.278****				
RELEVANCE	***0.495****	***-0.297****			
DIFFICULTY	***-0.194****	***0.565****	***-0.344****		
ATTITUDE	***0.758****	***-0.405****	***0.544****	***-0.346****	

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 presents the main results of this study based on 220 respondents. This study records that ANXIETY and DIFFICULTY are negatively and significantly correlated to ATTITUDE. Meantime, USEFULNESS and RELEVANCE are positively and significantly correlated to ATTITUDE. This provides evidence that supports the argument that anxiety and difficulty in conducting research activities are weakening the good attitude among TVET educators. Contrary, TVET educators would believe that they mostly like to participate in research activities due to the usefulness and relevance of the research to their personal or institutional interests.

Table 5: Regression (n=220)

	Dependent Variable	
	ATTITUDE	
	1	p- values
C	1.205	
	3.132*	***0.00***
USEFULNESS	0.664	
	13.130*	***0.00***
ANXIETY	-0.108	
	-2.564*	***0.01***
RELEVANCE	0.194	
	3.376*	***0.00***
DIFFICULTY	-0.091	
	-1.899	***0.06***

Adjusted R^2	0.64	
F-Stats	***98.191******	***0.00***
N	220	

***, ** and * denote the significance at 1 percent. 5 percent and 10 percent levels, respectively.

DISCUSSION

This study investigates TVET educators' attitudes towards research, focusing on the aspects of usefulness, anxiety, relevance, and difficulty. The findings offer critical insights into how these factors impact educators' engagement with research and highlight areas for improvement. The study found that TVET educators generally perceive research as having low usefulness, indicating a disconnect between research activities and practical benefits. This aligns with recent research suggesting that educators often struggle to see the practical applications of research in their professional contexts [69]. According to Nistor and Neubauer [70], educators frequently face challenges in linking research to practical outcomes, which can diminish their motivation to engage in research. To address this, institutions should emphasize the practical benefits of research and integrate it more closely with educators' professional development needs [71].

High levels of anxiety related to research were reported among TVET educators, reflecting a significant barrier to research engagement. This finding is consistent with recent studies that highlight anxiety as a major challenge for educators [72]. Anxiety often arises from perceived methodological complexities and a lack of confidence in research skills [73]. Murray, Lee and Zhao [74] emphasize in the importance of addressing research anxiety through targeted support and mentorship. Providing training and guidance can help alleviate these concerns and improve educators' attitudes towards research.

The study indicates that while some educators find research relevant, others do not see its immediate value. This variability suggests a need for better alignment between research topics and educators' professional interests [75]. Papanastasiou [76] notes that aligning research with educators' professional needs can improve engagement and the perceived impact of research. By tailoring research to address relevant issues within the TVET context, institutions can enhance its perceived value and applicability.

Many educators perceive research as challenging, a finding that reflects broader literature on research difficulties [77]. Factors such as methodological challenges, limited resources, and insufficient institutional support contribute to this perception [78]. Buehl and Beck [79] highlight that reducing research difficulties requires improved access to resources, professional development, and institutional support. Addressing these challenges can help foster a more supportive research environment.

CONCLUSION

In summary, this study provides valuable insights into TVET educators' attitudes towards research, revealing critical issues related to usefulness, anxiety, relevance, and difficulty. The findings emphasize the need for improved support mechanisms, practical applications, and alignment of research with educators' professional needs. By addressing these areas, institutions, educators, and industry stakeholders can foster a more supportive and effective research environment. The study underscores the importance of collaborative efforts to enhance research engagement and contribute to the advancement of technical and vocational education in Malaysia.

This study presents several limitations that must be acknowledged. Firstly, the sample was confined to 220 out of 301 TVET educators at Politeknik Tuanku Sultanah Bahiyah (PTSB), which may limit the generalizability of the findings to other institutions or regions. The study was also conducted at a single institution, potentially affecting the applicability of the results to a broader context. Additionally, the reliance on self-reported data introduces the risk of response bias, where participants may provide socially desirable responses rather than their true attitudes. Moreover, external factors such as changes in institutional policies or external support mechanisms were not explored, which could influence the attitudes toward research.

The study's findings have significant implications for various stakeholders. For educators, the low perceived usefulness of research and high levels of anxiety underscores the need for clearer connections between research activities and practical benefits. Addressing these concerns through targeted professional development and mentorship can enhance educators' confidence and engagement in research [80][81]. Higher learning institutions should focus on creating supportive environments that bridge the gap between research and practice. This includes offering practical workshops, simplifying methodological complexities, and improving access to resources. Institutions also have a crucial role in aligning research topics with educators' professional interests and needs, which can increase the relevance and applicability of research [82][83].

For relevant industries and government agencies in Malaysia, the findings suggest that collaboration with educational institutions is essential. This collaboration should ensure that research activities align with industry needs and contribute to national development goals. Encouraging partnerships between educators and industry professionals can enhance the practical application of research and promote the adoption of research findings in real-world settings [84].

Future research should consider several key recommendations to build upon the current study. First, expanding the study to include a larger and more diverse sample across multiple institutions is essential for enhancing the generalizability of the findings. Comparative studies that involve different regions or types of educational institutions could provide a more comprehensive understanding of educators' attitudes towards research [85]. Second, conducting longitudinal research would be valuable to examine how educators' attitudes towards research evolve over time. Such studies could focus on the effects of institutional support and changes in research policies on these attitudes [84]. Third, investigating the impact of external factors, such as funding availability, policy changes, and industry collaborations, on educators' research attitudes could offer deeper insights into the barriers and facilitators of research engagement [81]. Finally, exploring effective strategies for institutional support and mentorship could help alleviate research-related anxiety and difficulties, thus improving educators' engagement in research activities [82].

The study concludes that TVET educators generally have a positive attitude towards the usefulness and relevance of research but experience negative attitudes towards its anxiety and difficulty. Educators value research for its potential benefits to their professional development but face significant barriers related to anxiety and perceived difficulty. To improve engagement with research, institutions should focus on enhancing research's practical relevance and usefulness, addressing anxiety through support and training, and mitigating difficulties by providing adequate resources and support. Future research could explore the relationship between these attitudes and research achievements, as well as examine how attitudes change over time. Additionally, continued institutional support is essential for encouraging TVET educators to actively participate in and complete research projects.

ACKNOWLEDGEMENT

The authors sincerely thank the Kedah State Research Committee and Universiti Teknologi MARA Kedah Branch, Malaysia for the generous funding through the *Tabung Penyelidikan Am* (General Research Fund). This support was instrumental in enabling the research and contributing to the successful publication of this article.

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