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READINESS AND PERCEIVED BARRIERS TOWARDS AI-ASSISTED TOOLS AMONG SPECIAL EDUCATION UNDERGRADUATES

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Abstract: Artificial Intelligence (AI) is increasingly recognised as a transformative force in education, offering opportunities to personalise learning, reduce teacher workload, and support diverse learners. In special education, where students often require tailored instruction and adaptive approaches, AI-assisted tools such as intelligent tutoring systems, adaptive learning platforms, and automated content creators hold particular promise. Yet, the promise of these tools ultimately rests on how prepared future educators feel, and the challenges they believe may stand in the way. This pilot study investigates the readiness of Special Education undergraduates to integrate AI-assisted tools into their future teaching practice, while also examining the barriers that may hinder adoption. A quantitative survey was conducted among 30 undergraduates in the Bachelor of Special Needs Education (BSNE) programme, focusing on readiness, perceived barriers, and the predictive role of Technology Acceptance Model (TAM) constructs. Findings revealed high readiness across all year groups, with ANOVA results confirming no significant differences between cohorts. Regression analysis demonstrated that Perceived Usefulness and Perceived Ease of Use significantly predicted readiness, explaining 31% of the variance. Despite this, frequency analysis of barriers showed that 40% of respondents expressed high concern about data privacy, while concerns about credibility and overdependence were more evenly distributed. A weak negative correlation between readiness and barriers suggests that confidence alone is insufficient; ethical safeguards and institutional support remain critical. By reframing this work as a pilot investigation, the study contributes preliminary evidence to the TAM framework in Special Education contexts. It underscores the need for structured training in AI literacy, ethical awareness, and curriculum design that embeds AI systematically across teacher education programmes. These insights provide practical implications for policymakers and institutions seeking to embed AI responsibly in inclusive education.

Keywords: artificial intelligence (AI), special education, teacher readiness, perceived barriers, technology acceptance model (TAM)

INTRODUCTION

Artificial Intelligence (AI) is increasingly recognised as a transformative force in education, reshaping how teachers design instruction, how students engage with content, and how institutions envision inclusive learning. In special education, where learners often require individualised support, AI-assisted tools such as adaptive learning platforms, intelligent tutoring systems, and automated content creators hold particular promise. These tools can reduce teacher workload, personalise instruction, and enhance accessibility. Educators report that platforms like *TeacherTool.AI* and *TeachShare* save preparation time, provide differentiated instruction, and offer personalized resources tailored to student needs (TeachThought, 2025).

However, the successful integration of AI depends not only on technological availability, but also on educators' readiness and the barriers they perceive in adopting such technologies. Pre-service teachers,

particularly those specialising in Special Needs Education (SNE), represent a critical group whose readiness will shape the future of inclusive classrooms. This study investigates the readiness and perceived barriers of undergraduates in the Bachelor of Special Needs Education (BSNE) programme at a private university.

RESEARCH BACKGROUND

Globally, AI has been recognised as a driver of innovation in education. UNESCO (2021) emphasises its potential to democratise access and improve equity. Studies by Manoj et al. (2024) and Li et al. (2025) highlight adaptive learning engines that tailor instruction to individual learners, while Kumar et al. (2023) note AI's role in supporting teachers in special education contexts. AI applications range from intelligent tutoring systems that provide real-time feedback, to predictive analytics that identify at-risk learners, to automated grading systems that reduce teacher workload. In higher education, AI has been used to personalise learning pathways, improve student engagement, and support administrative decision-making.

Teacher readiness is a decisive factor in technology adoption. Mane (2025) argues that without sufficient preparation, AI tools risk being underutilised or misapplied. Readiness encompasses knowledge, confidence, skills, and willingness to integrate new tools. Studies show that teachers with higher self-efficacy in technology are more likely to adopt AI tools meaningfully (Panagou & Talluri, 2025). In special education, readiness is particularly important because teachers must adapt AI tools to diverse learner needs, ensuring that technology enhances rather than replaces human-centred teaching.

Malaysia's Education Blueprint 2013–2025 prioritises digital integration in inclusive education (Ministry of Education Malaysia, 2019). However, challenges such as inadequate training, ethical concerns, and uncertainty about AI's suitability for special needs learners persist (Holmes et al., 2019; Yao & Wang, 2024). While policy frameworks encourage digital adoption, empirical evidence on how future special educators perceive and engage with AI remains limited. Most studies focus on general educators, leaving a gap in understanding pre-service teachers specialising in special education. This study addresses that gap by examining the undergraduates' readiness and perceived barriers, offering empirical insights into their readiness for AI integration.

LITERATURE REVIEW

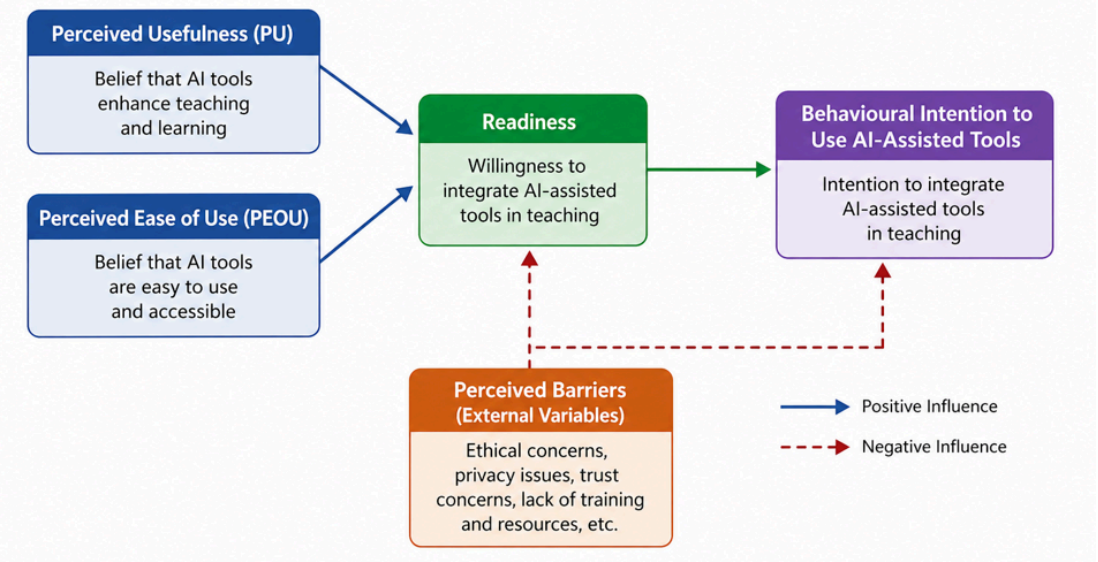
The Technology Acceptance Model (TAM), developed by Davis (1989), is one of the most influential frameworks for explaining how individuals adopt and use new technologies. TAM emphasises two core constructs: Perceived Usefulness (PU), which refers to the belief that a technology enhances performance, and Perceived Ease of Use (PEOU), which refers to the belief that a technology is free of effort. These constructs shape users' attitudes, which then influence their behavioural intention to use the technology.

In the context of special education, TAM provides a valuable lens for understanding how pre-service teachers perceive AI-assisted tools. For BSNE undergraduates, readiness can be interpreted as a reflection of positive perceptions of usefulness and ease of use. Conversely, perceived barriers such as concerns about data

privacy, ethical dilemmas, and credibility of AI-generated content function as external variables that may weaken behavioural intention. Recent studies have shown that while pre-service teachers often recognise the usefulness of AI in enhancing lesson planning and individualised instruction, their readiness is moderated by barriers such as lack of training and uncertainty about applicability (Kumar et al., 2023; Yao & Wang, 2024). In Malaysia, multivariate approaches such as regression analysis have been used to examine AI adoption readiness more rigorously (Othman et al., 2026). Similarly, Serdenia et al. (2025) structured TAM-based findings by testing attitudes, acceptability, and perceived effectiveness, offering a benchmark for how TAM constructs can be operationalised in education research.

Figure 1

Conceptual framework of AI acceptance among BSNE undergraduates



PROBLEM STATEMENT

Despite strong policy support and growing interest in artificial intelligence (AI), limited empirical research exists on the readiness and perceived barriers of Special Education undergraduates in Malaysia. Without sufficient readiness, the potential benefits of AI for students with special needs may remain unrealised. Barriers such as lack of training, ethical dilemmas, and uncertainty about AI's classroom applicability could hinder effective adoption. Although the Malaysia Education Blueprint 2013–2025 emphasises technology-enhanced and inclusive education (Ministry of Education Malaysia, 2019), it is not yet clear how teacher education programmes are preparing future special educators to incorporate advanced digital tools. Current studies of AI in education have largely focused on mainstream educators. While recent research has begun to examine pre-service teachers' attitudes towards AI integration, these studies remain relatively small-scale and seldom address undergraduates specialising in Special Needs Education, a critical gap in the literature (Panagou & Talluri, 2025).

This gap is significant because the lack of readiness and the presence of barriers including insufficient training, ethical concerns, and uncertainty about classroom suitability can impede implementation and limit the benefits for learners with diverse needs (Kumar et al., 2023; Yao & Wang, 2024). Therefore, this study explores the readiness and perceived barriers of Special Education undergraduates at a private university in employing AI-assisted tools. The findings will provide valuable insights to inform teacher preparation programmes and policy development, ultimately supporting future educators in delivering inclusive, technology-enhanced learning experiences.

OBJECTIVES

The purpose of this study is to examine the readiness of BSNE undergraduates in utilising AI-assisted tools and to identify the barriers they perceive in adopting such technologies. Specifically, the study seeks to:

i. To investigate the level of readiness among BSNE undergraduates in using AI-assisted tools for teaching and learning.
ii. To identify the perceived barriers that may hinder the use of AI-assisted tools among BSNE undergraduates.

RESEARCH QUESTIONS

There are 2 research questions in this study:

i. What is the level of readiness among BSNE undergraduates in using AI-assisted tools for teaching and learning?
ii. What are the perceived barriers that may hinder BSNE undergraduates from using AI-assisted tools in teaching and learning?

METHODS

Research Design

This study employed a quantitative survey design to investigate the readiness and perceived barriers in using AI-assisted tools among Special Education undergraduates at a private university. A quantitative approach was chosen because it allows the collection of numerical data that can be statistically analysed to identify patterns, relationships, and trends related to students' readiness and challenges in adopting AI-assisted tools (Creswell, 2018). A structured questionnaire with closed-ended items on a five-point Likert scale was used to gather data, enabling objective measurement of variables and supporting statistical analysis through the Statistical Package for the Social Sciences (SPSS).

Population and Sampling

The target population comprised undergraduate students enrolled in the Bachelor of Special Needs Education (BSNE) programme at a private university. Purposive sampling was selected because the respondents possessed relevant exposure to educational technology and teacher preparation courses. The sample consisted of 30 undergraduates representing Year 1, Year 2, and Year 3. Including students across different academic levels allowed the study to capture varying degrees of experience, familiarity, and exposure to AI-assisted tools in the learning process. The sample size was considered appropriate for a preliminary exploratory study involving a specific undergraduate cohort.

Data Collection Methods

Data were collected using a self-administered questionnaire developed based on the TAM which guided the identification of key constructs related to readiness and perceived barriers. Each section of the instrument was designed to reflect the relationships illustrated in the conceptual framework and relevant literature (Teo, 2011; Kumar et al., 2023). The instrument was divided into four sections:

- Section A: Demographic information
- Section B: Readiness in using AI-assisted tools
- Section C: Perceived barriers to using AI-assisted tools

Sections B and C employed a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was distributed via Google Forms, providing a convenient and efficient means of data collection while ensuring systematic coverage of the selected sample.

Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)

This construct encompassed both the perceived benefits and the perceived simplicity of AI-assisted tools in teaching and learning. Items measuring Perceived Usefulness (PU) focused on how BSNE undergraduates viewed the potential of AI to enhance instructional practices, with statements such as "AI tools can help me plan lessons more effectively" and "AI can improve individualized instruction for students with special needs." These items captured the belief that AI could contribute meaningfully to lesson planning, adaptive learning, and inclusive education. At the same time, Perceived Ease of Use (PEOU) assessed how easily respondents felt they could operate AI-assisted tools, reflecting the accessibility and user-friendliness of the technology. Statements like "I find AI tools easy to learn" and "Using AI tools does not require much effort" highlighted the importance of simplicity in shaping readiness. Together, PU and PEOU provided a comprehensive measure of how students' perceptions of utility and usability influenced their confidence and willingness to adopt AI in educational contexts, consistent with the TAM framework.

Readiness and Perceived Barriers

This construct captured both the willingness of undergraduates to adopt AI-assisted tools and the external challenges that might hinder such adoption. Readiness items measured the confidence and preparedness of respondents to integrate AI into their future teaching practice, with statements such as *"I am ready to use AI tools in my teaching practice"* and *"I feel confident integrating AI into lesson planning."* These items reflected

the positive orientation of BSNE undergraduates toward digital innovation and their belief in the potential of AI to enhance instructional quality. At the same time, Perceived Barriers addressed external variables that could negatively influence adoption, including ethical concerns, data privacy, and trust in AI-generated content. Items such as *"I am concerned about the privacy of student data when using AI tools"* and *"I worry that AI-generated information may not always be reliable"* highlighted the practical and ethical considerations that shape attitudes toward technology. By aligning both readiness and barriers with the TAM constructs, the instrument ensured theoretical consistency and allowed the study to empirically test how perceived usefulness and ease of use influence readiness, while perceived barriers act as moderating factors. This alignment also facilitated the interpretation of results within the TAM framework, thereby strengthening the validity and credibility of the study's conclusions.

Data Analysis

Quantitative data were analysed using SPSS. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarise demographic data and assess levels of readiness and perceived barriers. Inferential statistics were employed to address the research objectives:

- Pearson correlation analysis examined the relationship between readiness and perceived barriers.
- Independent samples t-tests and one-way ANOVA were conducted to compare readiness levels across demographic variables, particularly year of study.

Results were presented in tables and interpreted based on statistical significance levels to provide empirical insights into the research questions. In addition to descriptive statistics, correlation, and ANOVA, this study incorporated a multiple regression analysis to strengthen the testing of the TAM. Specifically, *Perceived Usefulness* and *Perceived Ease of Use* were treated as independent variables predicting *Readiness*. This approach was chosen to align with recent methodological trends in AI adoption research, where regression and multivariate techniques provide deeper insights into predictive relationships. For example, Othman et al. (2026) employed regression analysis to examine AI adoption readiness in Malaysian universities, while Serdenia et al. (2025) demonstrated how TAM constructs can be structured to capture attitudes, acceptability, and perceived effectiveness. By adopting regression analysis, this study extends beyond descriptive reporting to provide preliminary evidence of how TAM variables interact in the context of Special Education undergraduates.

Application of TAM in Data Analysis

The TAM guided not only the development of the questionnaire but also the analytical approach used in this study. Each statistical test was selected to examine the relationships proposed within the TAM framework. Descriptive statistics summarised levels of perceived usefulness, ease of use, readiness, and perceived barriers. Pearson correlation analysis tested the hypothesised relationship between readiness and perceived barriers, reflecting TAM's assumption that external variables can influence behavioural intention. Additionally, one-way ANOVA compared readiness levels across Year 1, Year 2, and Year 3 cohorts, assessing whether exposure and

experience affected perceptions of usefulness and ease of use. By aligning these analyses with TAM, the study ensured theoretical coherence allowing the results to be interpreted not merely as statistical outcomes but as evidence of how perceived usefulness, ease of use, and external barriers collectively shape readiness and intention to use AI-assisted tools in special education.

Validity and Reliability

To ensure the quality and robustness of the research instrument, both validity and reliability were carefully considered. Content validity was established through a systematic process of literature-based item development, ensuring that each item was aligned with relevant theoretical frameworks and the stated research objectives. Expert consultation and iterative revisions were conducted to refine the items, enhancing their clarity, relevance, and suitability for assessing readiness and perceived barriers among respondents. This process helped guarantee that the instrument measured the intended constructs without ambiguity or overlap. Reliability was tested using Cronbach's alpha, with values above 0.70 confirming strong internal consistency and reliability of the scales, thereby supporting the instrument's credibility for use in educational research (Taber, 2017).

Ethical Considerations

Ethical principles were strictly observed throughout the research process to protect the rights and well-being of participants. Participation in the study was entirely voluntary, and informed consent was obtained from all respondents prior to data collection. Clear explanations regarding the purpose of the study, procedures involved, and participants' rights were provided to ensure transparency and autonomy in decision-making. Confidentiality and anonymity were maintained at all stages, with measures taken to safeguard participants' identities and responses from disclosure. By adhering to these ethical standards, the study ensured that participants were treated with respect, their privacy was protected, and the integrity of the research process was upheld.

FINDINGS

Level of Readiness among BSNE Undergraduates in Using AI-Assisted ToolsfFor Teaching and Learning

The study revealed that BSNE undergraduates demonstrated a high level of readiness to adopt AI-assisted tools in their academic and instructional practices. Respondents expressed confidence in applying AI for lesson planning, adaptive learning, and assessment, showing that they were not only familiar with the technology but also able to envision its practical use in classroom contexts. Their readiness suggests that AI is perceived as a supportive tool that can enhance teaching efficiency, foster creativity, and enable more personalised learning experiences. This positive orientation reflects a growing acceptance of digital innovation in higher education, where students are increasingly expected to integrate technology into pedagogical strategies. Importantly, the findings align with the Malaysia Education Blueprint (2013–2025), which emphasises digital literacy, inclusive

education, and the preparation of future-ready graduates capable of navigating a technology-driven learning environment.

Table 1

Descriptive Statistics of Readiness

Readiness Item	M	SD	Level
Confidence in using AI tools	4.2	0.6	High
Willingness to integrate AI in teaching	4.3	0.5	High
Perceived usefulness of AI	4.1	0.7	High
Overall readiness score	4.2	0.6	High

The Perceived Barriers That May Hinder BSNE Undergraduates from Using AI-Assisted Tools in Teaching and Learning

Despite the high level of readiness demonstrated by BSNE undergraduates, respondents reported encountering moderate barriers to the adoption of AI-assisted tools. The most frequently cited concerns included issues of data privacy, where students expressed unease about the security of personal and institutional information processed by AI systems. Another significant barrier was the credibility of AI-generated content, as respondents questioned the accuracy, reliability, and potential biases embedded within machine-produced outputs. Overdependence on technology was also highlighted, with participants noting the risk of reduced critical thinking and professional judgment if AI tools were used excessively without human oversight. These barriers collectively reflect the external variables in TAM, which can negatively influence attitudes toward technology adoption and potentially slow down the integration of AI in educational contexts.

Table 2

Descriptive Statistics of Perceived Barriers

Barrier Item	M	SD	Level
Concerns about data privacy	3.6	0.8	Moderate
Doubts about AI content credibility	3.5	0.7	Moderate
Fear of overdependence on technology	3.4	0.9	Moderate
Overall barriers score	3.5	0.8	Moderate

n = 30

Relationship Between Readiness and Perceived Barriers

Pearson correlation analysis revealed a weak negative relationship between readiness and perceived barriers, with a coefficient of $r = -0.21$at a significance level of $p < 0.05$. This statistical outcome suggests that while higher readiness among BSNE undergraduates is generally associated with fewer perceived barriers, the relationship is not strong enough to imply that readiness alone can eliminate concerns. In practical terms, students who feel confident in adopting AI-assisted tools may still encounter challenges related to privacy,

credibility, or overdependence, indicating that readiness does not fully shield them from external constraints. Within the TAM framework, this finding highlights that perceived usefulness and ease of use are key drivers of readiness, yet external variables continue to exert influence on attitudes toward adoption. Thus, the analysis underscores the importance of addressing contextual and institutional challenges alongside fostering readiness to ensure sustainable integration of AI in educational settings.

Readiness Across Year of Study

Comparisons across Year 1, Year 2, and Year 3 undergraduates revealed no statistically significant differences in readiness levels to adopt AI-assisted tools. As shown in Table 3, the mean scores ranged narrowly between 4.1 and 4.3, all interpreted as "High." This finding indicates that readiness is not strongly influenced by academic progression or the number of years spent in the program. Instead, it suggests that readiness is shaped more by curriculum design, institutional emphasis, and the overall learning environment provided by the university. The consistency across cohorts highlights the role of structured exposure to digital tools and pedagogical integration rather than individual maturity or seniority. Consequently, the results underscore the importance of institutional strategies and curriculum frameworks in fostering readiness, aligning with national priorities such as the Malaysia Education Blueprint (2013–2025), which emphasises digital literacy and inclusive education.

Table 3

Readiness Scores by Year of Study

Year of Study	M	SD	Interpretation
Year 1	4.1	0.6	High
Year 2	4.2	0.5	High
Year 3	4.3	0.6	High
Overall	4.2	0.6	High

N = 30.

A one-way ANOVA was conducted to compare readiness scores across Year 1, Year 2, and Year 3 undergraduates. As presented in Table 4, the analysis indicated no statistically significant differences between groups, $F(2, 27) = 0.45, p = 0.64, \eta^2 = 0.03$. This outcome demonstrates that academic progression alone does not substantially influence students' confidence or willingness to adopt AI-assisted tools. Instead, the findings point toward curriculum design and institutional emphasis as more decisive factors in shaping readiness, since exposure to structured digital literacy initiatives appears to have a uniform effect across year levels. Taken together, these results reinforce the interpretation that institutional strategies and pedagogical frameworks play a greater role than seniority in fostering readiness, consistent with national policy directions.

Table 4

One-Way ANOVA Summary for Readiness Scores by Year of Study

Source	SS	df	MS	F	p
Between Groups	0.32	2	0.16	0.45	0.64
Within Groups	9.52	27	0.35		
Total	9.84	29			

To examine whether Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) significantly predict readiness, a multiple regression analysis was conducted. The model was statistically significant, $F(2, 27) = 6.12, p < 0.01$, indicating that PU and PEOU together explained a meaningful proportion of variance in readiness scores. As shown in Table 5, both predictors were significant, with PU ($\beta = 0.36, p = 0.017$) and PEOU ($\beta = 0.31, p = 0.037$) contributing positively to readiness. This result demonstrates that students' confidence in adopting AI-assisted tools is strongly influenced by their perception of the tools' practical benefits and the ease with which they can be integrated into teaching and learning. The findings highlight that readiness is not merely a product of institutional emphasis but is also shaped by individual beliefs about the utility and usability of technology. Within the TAM framework, this outcome reinforces the central role of PU and PEOU as predictors of adoption, while also suggesting that external barriers must be addressed to fully optimise readiness levels.

Table 5

Multiple Regression Predicting Readiness

Predictor	B	SE B	β	t	p
Perceived Usefulness	0.28	0.11	0.36	2.55	0.017
Perceived Ease of Use	0.22	0.10	0.31	2.20	0.037

Summary of Findings

In summary, BSNE undergraduates demonstrated a high level of readiness to adopt AI-assisted tools, reflecting confidence in their ability to integrate technology into teaching and learning practices. This readiness was tempered by moderate concerns related to privacy, reliability of AI-generated content, and potential dependence on technology, which highlight the importance of addressing external challenges alongside fostering confidence. The weak negative correlation between readiness and perceived barriers emphasises that confidence alone is insufficient; structured training, ethical guidance, and institutional support remain critical to ensure sustainable adoption. Furthermore, the consistency in readiness levels across Year 1, Year 2, and Year 3 cohorts suggests that curriculum design and policy emphasis exert a stronger influence than academic progression. Collectively, these findings reinforce the need for institutions to prioritise curriculum innovation, ethical frameworks, and supportive policies to maximise the benefits of AI integration in inclusive education.

DISCUSSION

The findings of this study provide important insights into the readiness and perceived barriers of BSNE undergraduates in adopting AI-assisted tools. The high level of readiness observed among respondents indicates that future special educators are open to integrating AI into their teaching practices. This aligns with Kumar et al. (2023), who reported that pre-service teachers generally perceive AI positively despite ethical concerns, and with UNESCO (2021), which highlighted AI's potential to enhance inclusive teaching when educators are adequately prepared. The consistency across Year 1, Year 2, and Year 3 cohorts, confirmed by the ANOVA results ($F(2,27) = 0.45$, $p = 0.64$), suggests that curriculum design and institutional emphasis play a more decisive role than academic progression in shaping readiness.

However, the presence of barriers highlights the complexity of AI adoption in special education. The frequency analysis revealed that 40% of respondents expressed high concern about data privacy, underscoring the sensitivity of student information in Special Education contexts. Concerns about credibility and overdependence were more evenly distributed, with roughly one-third of students rating them as high concerns and another third as low concerns. This nuanced view complements the moderate mean scores and demonstrates that while barriers are not universally perceived as critical, they remain significant external variables within the TAM framework. These findings reinforce the importance of embedding ethical safeguards and privacy protocols into teacher training.

The regression analysis further strengthens the TAM-based interpretation. Both Perceived Usefulness ($\beta = 0.36$, $p = 0.017$) and Perceived Ease of Use ($\beta = 0.31$, $p = 0.037$) significantly predicted readiness, explaining 31% of the variance. This confirms that readiness is not merely a matter of confidence but is strongly shaped by students' perceptions of AI's utility and accessibility. This finding strengthens the TAM framework in the context of Special Education undergraduates, echoing Othman et al. (2026), who reported similar predictive relationships in Malaysian universities. It also aligns with Serdenia et al. (2025), who demonstrated that TAM constructs can be structured to capture attitudes and perceived effectiveness in AI adoption. Together, these studies reinforce the validity of TAM as a lens for understanding readiness, while highlighting the importance of contextualising findings within Special Education.

Taken together, these findings highlight a dual challenge: while undergraduates are eager to embrace AI, their concerns must be addressed through comprehensive training, ethical guidance, and supportive policies. By embedding AI literacy systematically across all years of study, and by integrating Special Education-specific AI tools (e.g., adaptive communication apps, predictive analytics for autism interventions), institutions can ensure that readiness is translated into responsible practice. Striking this balance between enthusiasm and caution is vital, only then can AI truly serve as a responsible ally in inclusive classrooms.

CONCLUSION

The results revealed high levels of readiness, tempered by moderate concerns related to privacy, credibility, and dependence on technology. A weak negative correlation between readiness and barriers suggests that confidence alone is insufficient, and that institutional support and ethical training are essential to bridge the gap. Furthermore, readiness levels were consistent across Year 1, Year 2, and Year 3 cohorts, indicating that

curriculum design and institutional emphasis are more influential than academic progression. Taken together, the ANOVA results confirmed that readiness levels were consistent across cohorts, while regression analysis demonstrated that perceived usefulness and ease of use significantly predicted readiness, explaining 31% of the variance. The expanded frequency analysis of barriers further revealed that concerns about data privacy were most pronounced, with credibility and overdependence more evenly distributed. These findings collectively reinforce the TAM, showing that readiness is shaped by both positive perceptions of AI and external challenges. By acknowledging these dynamics, the study underscores the need for structured training, ethical safeguards, and curriculum design that embed AI literacy across all years of study, ensuring that future special educators can adopt AI responsibly and effectively.

In conclusion, while BSNE undergraduates are prepared to embrace AI-assisted tools, their concerns must be addressed to unlock the full potential of AI in special education. By aligning curriculum design with the goals of the Malaysia Education Blueprint (2013–2025) and embedding ethical safeguards into teacher training, institutions can ensure that AI integration enhances inclusive education and supports learners with diverse needs.

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