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Empowering Gen Z Economics Teachers: AI Mindset, Experiential Learning and Career Readiness for Sustainable Development

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ABSTRACT

Objective*: The ongoing transformation of education due to technological advances and artificial intelligence demands that prospective teachers possess change-sensitive skills and comprehensive career readiness. To support the implementation of SDGs, particularly goals 4 and 8 which include improving the quality of education as well as decent employment opportunities and economic growth. strengthening the competencies and job readiness of prospective teachers is becoming an increasingly important issue. This study seeks to examine the effect of AI mindset on the career readiness of economics education students who are preparing to become future economics teachers.* ***Method****: This study, using a PLS-SEM approach, also examines the role of experiential learning as a mediating variable in the relationship between AI mindset and career readiness.* ***Results****: This study found that an AI mindset had a positive and significant impact on career readiness, both directly and through enhanced experiential learning. These results suggest that combining an AI mindset with contextual learning experiences can strengthen students' readiness to face the demands of careers in the digital age.* ***Novelty:*** *Placement of experience-based learning as a mediating variable that connects AI mindset with career readiness of prospective economics teachers, especially in teacher education in Indonesia.*

INTRODUCTION

As a result of advances in digital technology and artificial intelligence, significant structural changes have occurred in various sectors, including education (Asad & Nazir, 2025; Ogawa, 2025). These changes require adjustments in the learning process, with artificial intelligence beginning to play a significant role in improving its quality and relevance in the era of Society 5.0. Furthermore, this transformation has also resulted in a shift in the role of teachers from mere transmitters of material to adaptive and innovative learning facilitators, capable of utilizing technology pedagogically (Rukajat et al., 2024; Tsankov & Damyanov, 2019). Several recent studies confirm that AI-based competencies are a crucial part of strengthening the professional capacity of future teachers (Celik et al., 2024; Gómez Niño et al., 2024; Kohnke et al., 2025). Therefore, the education of prospective teachers needs to systematically respond to this transformation so that graduates are prepared to align with the demands of the profession.

Several previous researchers have emphasized that one of the essential skills prospective teachers must possess in this digital era is an AI mindset, namely the ability to understand, adapt, and think creatively using artificial intelligence technology to solve various problems and develop sustainable AI skills, especially in learning practices (Guo & Yu, 2023; Imjai et al., 2025; Tarigan et al., 2025). Referring to the Theory of Planned Behavior (TPB), an individual's mindset or attitude toward a technology plays a crucial role in shaping their intentions and actual behavior in using it (Ajzen, 1991). Thus, a positive and adaptive mindset toward AI can influence prospective teachers' readiness to utilize the technology in their future professional practice. In the context of economics

education, these challenges become increasingly complex. Economics teachers are not only required to understand theoretical concepts but also to be able to teach them in an applicable and relevant manner, in line with the development of artificial intelligence in learning practices (Chasokela & Hlongwane, 2025; Yadav, 2024). However, amidst the rapid development of technology, not all prospective teachers have sufficient understanding and skills in AI to adapt (Charles & Alshamsi, 2025; López Bueno et al., 2023). The majority of prospective teachers are still hesitant to apply technology in teaching. (Ambros et al., 2022; Dolezal et al., 2025). In fact, studies reveal that approximately half of prospective teachers feel their study programs have not optimally prepared them to teach AI skills effectively (Göltl et al., 2024; Tarraga-Minguez et al., 2021). Another study found that most freshmen master basic AI skills, while a deep understanding of how to leverage AI in a professional context is still lacking. (Kohnke et al., 2025; Le et al., 2025). This condition shows that there is a gap between technological developments and the professional readiness of prospective teachers, which is still a challenge.

In addition to the knowledge aspect, learning experiences that facilitate the application, reflection, and development of student competencies in real-world contexts are also necessary for developing career readiness. (O. A. Ajani, 2023; Yordudom et al., 2025). In this context, experiential learning becomes relevant because it emphasizes the learning process through direct experience, critical reflection, conceptualization, and its implementation in the context of real situations, in accordance with the experiential learning theory put forward by Kolb. Through learning experiences such as internships, teaching practices, microteaching, and simulations of the use of AI in economics, students not only understand technology conceptually but also develop practical skills and confidence in facing professional demands (Kingkaew et al., 2023; Kolb, 1984; Martinuzzi et al., 2023). Thus, experiential learning has the potential to directly contribute to career readiness, while also acting as a mechanism that strengthens the relationship between AI Mindset and professional readiness. Students with an open and adaptive AI mindset tend to be more active in utilizing learning experiences as a space for exploration and self-development (Merzifonluoğlu & Güneş, 2025; Radif, 2024). Conversely, without structured and reflective learning experiences, this mindset may not translate into competencies ready for application in the workplace.

Although various studies have discussed the need for AI competencies in education, most still emphasize AI literacy and technical skills, such as the ability to operate artificial intelligence-based applications or understand basic concepts regarding the technology. (Ren & Wu, 2025; Stolpe & Hallström, 2024; Zhao et al., 2022). Studies specifically highlighting AI mindset, as a mindset reflecting openness, adaptability, and creative thinking skills in utilizing AI, are still relatively limited. Recent research shows that AI mindsets play a significant role in strengthening students' career readiness, supported by experiential learning in developing these competencies, especially among accounting students in the digital age. (Imjai et al., 2025). These findings demonstrate the importance of an adaptive mindset toward AI in preparing students for future professional demands. However, this study focused on the context of accounting education in Thailand. Research specifically examining the relationship between AI mindset, experiential learning, and career readiness among prospective economics teachers in Indonesia is still rare. Based on this opinion, the purpose of this study is to examine how the career

readiness of prospective economics teachers is influenced by the AI mindset and how the mediating variable of experiential learning plays a role in this relationship. The uniqueness of this study lies in its use of experiential learning as a mediating variable linking AI mindsets to the career readiness of prospective economics teachers in Indonesia. This is a topic that has not been widely researched. Therefore, through this research, it is hoped that it can provide a more comprehensive empirical contribution regarding the role of AI-oriented mindsets in improving the professional readiness of prospective teachers in the era of Society 5.0,

RESEARCH METHOD

Using quantitative research methods, to analyze the influence of AI mindset and experiential learning on the career readiness of prospective economics teachers. Furthermore, this approach aligns with the research objective, which aims to examine the direct and indirect influences between variables through the processing of numerical data obtained from respondent questionnaires (Alford & Teater, 2025; Hyer & Balani, 2024). The study population includes all Economics Education students in Indonesia, and for sampling, a convenience sampling technique was used because the actual population size cannot be precisely identified, as recommended when researchers face limited access to large populations (Andrade, 2021; Memon et al., 2025). Referring to Cochran's formula for unknown population size (Kott & Levine, 2024; Schillaci & Schillaci, 2022), the minimum sample size is 384 respondents, but this study selected 400 students as a sample to increase data reliability and representativeness. The respondents in this study were students currently studying Economics Education at various universities in Indonesia. Generally, they were in the active student age range and had participated in learning processes at their universities that involved practice-based learning experiences, such as microteaching, teaching practice, and other experiential learning activities that support the development of prospective teachers' professional competencies.

Data collection was conducted from November 2025 to January 2026 through an online questionnaire. The research instrument was developed based on indicators for each variable adapted from relevant previous research. Prior to comprehensive data collection, the research instrument underwent content validation by two education experts to ensure that the indicators were aligned with the constructs being measured and that the wording of the questionnaire was clear. Input from the validators was used to improve the structure and clarity of the questions for better understanding by respondents. The instrument that had gone through a validation process by two experts was then tested on 30 students outside the research sample for validity and reliability testing to ensure that each item was well understood by respondents. A five-point Likert scale was used to measure the variables of AI mindset, experiential learning, and career readiness, with a value range of 1 (strongly disagree) to 5 (strongly agree).

After the data from all respondents was collected, further analysis was carried out with the help of the SmartPLS application using the PLS-SEM approach. There are two main stages in the data analysis process, evaluation of the outer model and inner model. Evaluation of the outer model, construct validity was tested by examining the outer loading values, as well as reliability tests using cronbach's alpha and composite reliability (Hair et al., 2019). The analysis then continued with the inner model to examine the direct influence of AI mindset on career readiness and its indirect influence through

experiential learning, which is then used as a basis for testing hypotheses and understanding the relationships between variables.

RESULTS AND DISCUSSION

Results

Characteristics of Research Respondents

Table 1 displays demographic information obtained from 400 respondents, which indicates that most of the respondents are female students (78.25%). This composition is quite reasonable considering the high proportion of female students in education study programs, including Economics Education. Furthermore, most respondents had internship experience lasting 3–5 months (86.50%), indicating that the majority of students followed the internship duration commonly applied in higher education. Another group had internships lasting 6–8 months (13.00%), while only a few respondents had experience of less than three months. The GPA distribution shows that 86.00% of students fall within the 3.51–4.00 range and 14.00% fall within the 3.01–3.50 range, no respondents were found with a GPA below 3.00. Therefore, in general, the respondent's academic achievement can be considered high based on university assessment standards. Based on age categories, almost all respondents were in the 20–24-year range (98.75%), reflecting the general characteristics of active students, while only a small proportion fell outside this range. Overall, this demographic data provides a strong foundation for interpreting the research findings and ensuring that the instruments used are appropriate for the profile of Economics Education students as the target group.

Table 1. Characterstic of Respondents

Category	Subcategory	Frequency	Percent (%)
Gender	Male	87	21.75
	Female	313	78.25
Internship Duration	Less Than 3 Months	2	0.50
	3 - 5 Months	346	86.50
	6 - 8 Months	52	13.00
Current Cumulative GPA	2.01 - 2.50	0	0.00
	2.51 - 3.00	0	0.00
	3.01 - 3.50	56	14.00
	3.51 - 4.00	344	86.00
Age	< 20 Tahun	3	0.75
	20 - 24 Tahun	395	98.75
	25 - 28 Tahun	2	0.50
Total	Total	100	100

Outer Model Analysis

After obtaining a descriptive overview of the research data, the next step is to test the instruments used to ensure their suitability through outer model analysis. The results are attached in Figure 1 for completeness.

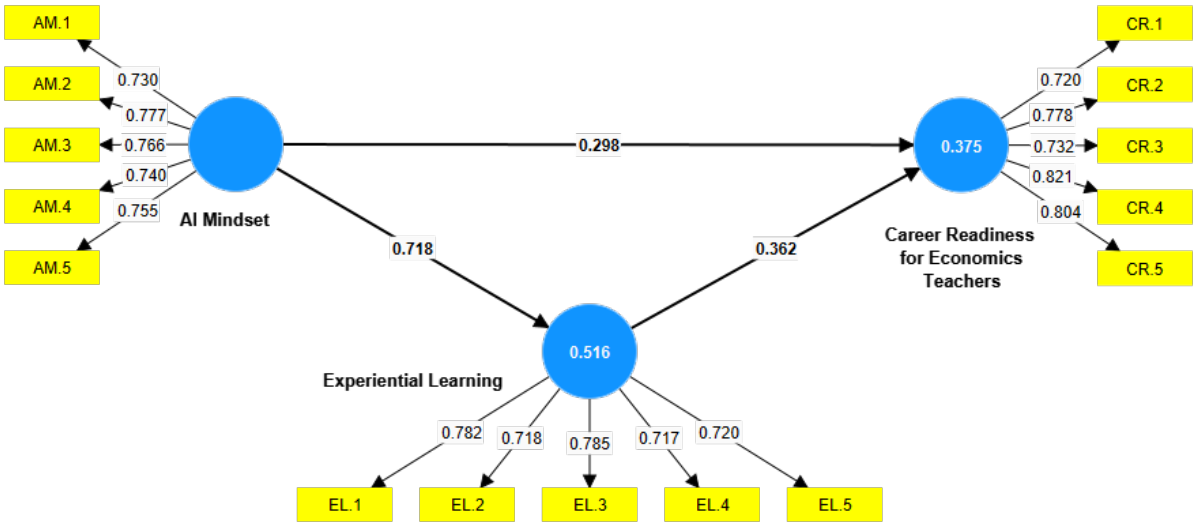

Figure 1. Outer Model

Convergent Validity Test

To assess the suitability of the indicators to the construct, a convergent validity test is necessary, which can be determined based on the outer loading value. An indicator is considered to meet the criteria if its value exceeds 0.70 (Hair et al., 2019). The results are attached in Table 2 for completeness.

Table 2. Convergent Validity Test

No	Indicator	AI Mindset	Experiential Learning	Career Readiness for Economics Teachers
1	AM.1	0.730		
2	AM.2	0.777		
3	AM.3	0.766		
4	AM.4	0.740		
5	AM.5	0.755		
6	EL.1		0.782	
7	EL.2		0.718	
8	EL.3		0.785	
9	EL.4		0.717	
10	EL.5		0.720	
11	CR.1			0.720
12	CR.2			0.778
13	CR.3			0.732
14	CR.4			0.821
15	CR.5			0.804

Table 2 shows convergent validity assessment based on outer loading values indicate that all indicators satisfy the required criteria. Each indicator has a value exceeding 0.70, which means that all items meet the standard testing criteria and are declared valid in measuring the variables studied. For the AI mindset variable, the highest outer loading value is found in indicator AM.2 at 0.777, while the lowest value is found in indicator AM.1 at 0.730. These results indicate that all indicators have a good contribution in representing the AI mindset construct. For the experiential learning variable, the highest

value is found in indicator EL.3 with a score of 0.785, while the lowest value is found in indicator EL.4 at 0.717. All indicators in this variable have met the minimum limit set, so it can be said to be able to adequately represent the experience-based learning process. Meanwhile, for the economics teacher career readiness variable, the CR.4 indicator has the highest outer loading value of 0.821, while the CR.1 indicator shows the lowest value of 0.720. This indicates that all indicators have a good ability to describe the level of preparedness of prospective economics teachers. Overall, all indicators for each variable met convergent validity criteria, making them suitable for use in further analysis during the structural model evaluation stage. Next, discriminant validity was tested to ensure that each indicator was able to differentiate the construct being measured from other constructs.

Discriminant Validity

In this test, the Fornell-Larcker test was used to evaluate the AVE value for each construct. An AVE value greater than 0.5 indicates that a construct has met the established criteria. (Hair et al., 2019). Based on Table 3, all variables meet these criteria.

Table 3. Discriminant Validity

No	Variables	Average variance extracted (AVE)
1	AI Mindset	0.568
2	Experiential Learning	0.555
3	Career Readiness for Economics Teachers	0.596

The information in Table 3 shows that the AVE values for all variables are above the minimum threshold of 0.50. Specifically, the AI mindset scored 0.568, experiential learning scored 0.555, and career readiness for prospective economics teachers scored 0.596. This indicates that each construct is adequately explained by its indicators, thus meeting the convergent validity criteria.

Furthermore, the discriminant validity evaluation is presented in Table 4 using the Fornell–Larcker test. As a result, the square root value of AVE for each construct was found to be higher than the correlation value between variables. As an illustration, the AI mindset variable's value of 0.754, career readiness for economics teachers (0.772), and experiential learning (0.745) all have diagonal values higher than their correlation values. Thus, all constructs are declared to meet the discriminant validity criteria, because each variable is better able to explain its own construct than other constructs.

Table 4. Fornell–Larcker

No	Variables	AI Mindset	Career Readiness for Economics Teachers	Experiential Learning
1	AI Mindset	0.754		
2	Career Readiness for Economics Teachers	0.558	0.772	
3	Experiential Learning	0.718	0.576	0.745

Cronbach's Alpha and Composite Reliability

After meeting the validity testing criteria, reliability testing is then required to determine the extent of the indicator's internal consistency. The test results are based on Cronbach's

Alpha and Composite Reliability. A construct is considered reliable if both values reach or exceed 0.70 (Hair et al., 2019). The test results, presented in Table 5, show that all variables have values above these criteria.

Table 5. Cronbach's Alpha and Composite Reliability

No	Variables	Cronbach's alpha	Composite reliability (rho_c)
1	AI Mindset	0.811	0.868
2	Career Readiness for Economics Teachers	0.831	0.880
3	Experiential Learning	0.799	0.862

As presented in Table 5, with Composite Reliability values in the range of 0.862–0.880. The Cronbach's Alpha results also consistently showed that all variables had good reliability, with values ranging from 0.799 to 0.831. Thus, all constructs can be said to meet the required reliability standards.

Inner Model Analysis

An overview of the relationships between latent variables can be seen through inner model testing. At this stage, goodness of fit testing is performed to measure the overall suitability of the model and R-Square which reflects the ability of independent variables to explain variations in the dependent variable.

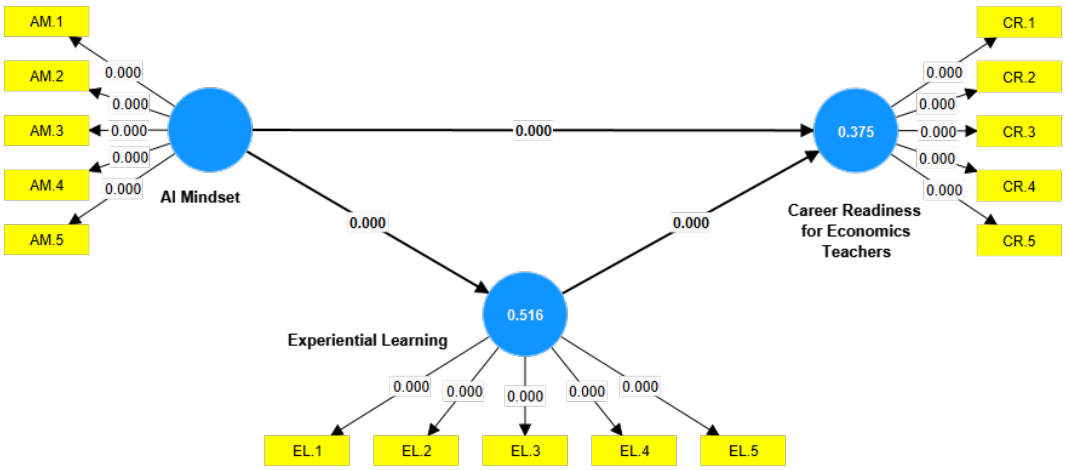

Figure 2. Inner Model

Goodness of Fit Test

In order to assess the overall suitability of the model with the empirical data, a Goodness of Fit (GoF) test was conducted. The complete test results are attached in Table 6.

Table 6. Goodness of Fit Test

No		Saturated model	Estimated model
1	SRMR	0.076	0.076
2	d_ULS	0.700	0.700

3	d_G	0.215	0.215
4	Chi-square	485.823	485.823
5	NFI	0.811	0.811

The model suitability criteria are met because the SRMR value is at 0.076, which is still below the threshold of 0.10 as presented in Table 6. Support for this finding was also demonstrated by the d_ULS (0.700), d_G (0.215), and Chi-square (485.823) values, which indicates that the model as a whole has met the expected suitability criteria. Furthermore, the NFI value of 0.811, although not reaching the ideal value of 0.90, is still considered appropriate in some research contexts because it still shows a tendency for the model to be quite appropriate. This research model was deemed to have a good level of representation of the data, as evidenced by the good agreement between the saturated model and the estimation model. Thus, the model is considered suitable for use in explaining research results and supporting subsequent analysis.

Coefficient Determination (R^2)

The R-square value is used as a basis for determining how much a variable in the model contributes to explaining variation in the endogenous variable. Details of the calculation results are attached in Table 7.

Table 7. R-Test

No	Variable	R-square	R-square adjusted
1	Career Readiness for Economics Teachers	0.375	0.372
2	Experiential Learning	0.516	0.514

The R-square value in Table 7 shows that 37.5% of the variation in career readiness of economics teachers can be explained by the variables in the research model, while the remaining 62.5% is influenced by factors outside the model. In contrast, experiential learning had an R-square value of 51.6%, indicating that the model successfully explained most of the variation.

Hypothesis Testing

This section is used to assess whether the effects tested in the study are significant. This assessment is made by examining the T-Statistic and P-Value, which indicate whether the influence between variables is statistically acceptable. For complete test results, see attached Table 8.

Table 8. Summary Result

H	Effect	Original sample	T-statistics	P-values	Result
H1	AI Mindset -> Career Readiness for Economics Teachers	0.558	16.232	0.000	Supported
H2	AI Mindset -> Experiential Learning	0.718	26.571	0.000	Supported
H3	Experiential Learning -> Career Readiness for Economics Teachers	0.362	6.095	0.000	Supported

All of the research hypotheses attached to Table 8 are declared accepted and significant. The AI mindset was proven to have a positive effect on the career readiness of economics teachers, with an original sample value of 0.558, a t-statistic of 16.232, and a p-value of 0.000. In addition, the AI mindset also showed a positive and significant effect on experiential learning, with an original sample value of 0.718, a t-statistic of 26.571, and a p-value of 0.000. Meanwhile, experiential learning also had a positive effect on the career readiness of economics teachers, with an original sample value of 0.362, a t-statistic of 6.095, and a p-value of 0.000. Overall, these results indicate that all proposed hypotheses are acceptable.

Indirect Relationship

An indirect path analysis was conducted to determine how experiential learning can mediate the relationship between AI mindsets and economics teachers' career readiness. The complete test results are shown in Table 9.

Table 9. Indirect relationship

Indirect Effect	Original sample	T-statistics	P-values	Result
AI Mindset -> Experiential Learning -> Career Readiness for Economics Teachers	0.260	6.010	0.000	Supported

The indirect path analysis in Table 9 shows that there is a significant indirect influence between AI mindset and career readiness of economics teachers through experiential learning. The original sample value of 0.260, accompanied by a t-statistic of 6.010 and a p-value of 0.000, indicate that the mediation pathway is positive and statistically significant. Thus, experiential learning also plays a role in connecting these two variables.

Discussion

In accordance with the demands of professionalism 5.0, this research is directed at explaining the role of AI mindset in shaping the career readiness of prospective economics teachers, both directly and through experiential learning as a connecting path. The results obtained revealed a significant direct influence of AI mindset on career readiness. Students with AI mindsets tend to demonstrate greater openness to utilizing artificial intelligence in the learning process, more adaptive to changes in teaching methods, and able to utilize AI technology to design, manage, and evaluate economics learning processes more effectively (Baltezarević & Baltezarević, 2024; Tapalova et al., 2022). This suggests that career readiness in the educational context relates not only to readiness to enter the workforce but also to readiness to carry out professional practice as a teacher in an increasingly digitalized classroom (O. Ajani, 2024; Sakitri et al., 2024). The findings obtained in this study also further strengthen the framework of the Theory of Planned Behavior (TPB), which views that a person's attitude towards a behavior can influence their tendency to perform it. (Ajzen, 1991). The AI mindset in this study reflects how students respond to the development of artificial intelligence technology, particularly regarding its use for learning practices, which is reflected in openness to technological innovation, readiness to face digital transformation, and the ability to

utilize AI in learning activities. A positive attitude toward this technology encourages students to develop learning competencies relevant to the use of AI, which ultimately contributes to their increased career readiness as prospective teachers in the digital education era.

In addition, this study revealed that experiential learning plays a significant role in bridging the relationship between AI mindset and career readiness of economics teachers. The AI mindset encourages students to be more actively involved in real-world learning practices, such as microteaching, teaching assistance, field practice, and other experiential learning (Kingkaew et al., 2023; Radif, 2024). Through these experiences, students are able to understand AI both theoretically and practically by incorporating it into pedagogical practices in economics learning. (Imjai et al., 2025; Mollick & Mollick, 2024). Applied learning experiences enable students to connect their understanding of AI with actual teaching practices, allowing their mindset toward AI to develop into professional competencies relevant to the demands of the teaching profession.

Theoretically, this finding aligns with Kolb (1984) Experiential Learning theory, which states that the learning process occurs through a cycle encompassing concrete experiences, reflection on those experiences, the formation of conceptual understanding, and their reapplication in practice. Within this framework, knowledge and skills are not simply acquired through theoretical presentations but are built through the transformation of direct experiences. When students engage in teaching practicums or field activities, they experience real-life situations (concrete experiences), then reflect on those experiences, develop an understanding of the underlying learning principles, and then apply that understanding to different learning situations. Through this cycle, students' career readiness is gradually formed, as they not only learn what to do as teachers but also understand how and why those practices are carried out in a professional context.

Overall, this study shows that AI Mindset contributes significantly to the career readiness of prospective economics teachers, both directly and through experiential learning mechanisms. This finding aligns with research conducted by Imjai (2025) on accounting students in Thailand, which shows that the mindset of the role of AI through experience-based learning also contributes to students' career readiness. The similarities between the two studies are seen in the role of AI Mindset in enhancing career readiness through student engagement in real-life learning activities. The main difference lies in the focus of the research, where this study emphasizes the influence of AI mindsets on readiness to enter the teaching profession, while Imjai's research focuses more on students' readiness to master academic skills in the field of accounting. Thus, the AI mindset demonstrates a relevant role in supporting students' career readiness, although its application may differ according to each individual's field of study and professional goals.

CONCLUSION

Fundamental Finding: AI mindsets and experiential learning significantly contribute to the career readiness of Economics Education students. This suggests that prospective teachers' career readiness is not solely dependent on knowledge but is also influenced by a mindset that adapts to technological developments, particularly artificial intelligence, supported by appropriate learning experiences. **Implication**: There are a number of implications, among other, first for economics education study programs, it can be used as a basis for designing learning that does not only emphasize the aspect of mastering the

material, but also encourages the strengthening of the AI mindset and provide learning experiences that enable students to actively engage in experiential learning. Second, for educators and lecturers, these findings emphasize the need to create a contextual, reflective learning environment that encourages students to utilize technology, including artificial intelligence, adaptively in the learning process. Third, as a basis for higher education institutions and educational policy makers to design curricula and learning strategies aimed at improving the career readiness of prospective teachers in the digital era. These efforts align with the achievement of SDGs 4 (Quality Education) through the improvement of teacher education quality, as well as SDGs 8 (Decent Work and Economic Growth) by strengthening graduates' employability. **Limitation**: This research is not free from several limitations. First, this study only focuses on Economic Education students as a sample, so the research findings may not be representative of all prospective teachers from other study programs. Second, the simple sampling method can reduce the overall representation of the population, then the data collection method through independent questionnaires has the potential to cause perception bias. Third, the research design, conducted within a single measurement period, does not provide an opportunity for researchers to track the development of respondents' abilities continuously. **Future Research**: Future studies are recommended to expand the research scope by involving more diverse samples from various educational study programs and using more representative sampling techniques. In addition, data collection can also be supplemented with other methods, such as observation and interviews is highly recommended to generate richer and more comprehensive information. The use of a longitudinal research design can also be considered so that the development of students' career readiness can be analyzed more continuously and comprehensively.

REFERENCES

Ajani, O. (2024). Teachers' Competencies in Digital Integration of Learning Contents in Dynamic Classroom Practices: A Review of Teacher Professional Development Needs. *Acta Educationis Generalis*, *14*, 18–40. https://doi.org/10.2478/atd-2024-0016

Ajani, O. A. (2023). The Role of Experiential Learning in Teachers' Professional Development for Enhanced Classroom Practices. *Journal of Curriculum and Teaching*, *12*(4), 143–155. https://doi.org/10.5430/JCT.V12N4P143

Ajzen, I. (1991). The Theory of Planned Behavior : Organizational Behavior and Human Decision Processes. *University of Massachusetts at Amherst*, 179–211.

Alford, S., & Teater, B. (2025). Quantitative research. In *Handbook of Research Methods in Social Work* (pp. 156–171). Edward Elgar Publishing Ltd. https://doi.org/10.4337/9781035310173.00023

Ambros, R., Dolezal, D., & Motschnig, R. (2022). How Well Are Pre-Service Teachers Prepared to Impart Digital Skills in Secondary-Level Educatio*f*. *Proceedings - Frontiers in Education Conference, FIE*, *2022-Octob*. https://doi.org/10.1109/FIE56618.2022.9962563

Andrade, C. (2021). The Inconvenient Truth About Convenience and Purposive Samples. *Indian Journal of Psychological Medicine*, *43*(1), 86–88. https://doi.org/10.1177/0253717620977000

Asad, M. M., & Nazir, B. (2025). Impact of digital equity on techno-literacy among marginalized students for inclusivity and sustainable futures: contextual insight from Pakistan. *Journal of Applied Research in Higher Education*. https://doi.org/10.1108/JARHE-08-2024-0427

Baltezarević, R., & Baltezarević, I. (2024). Students' Attitudes on The Role of Artificial Intelligence (Ai) In Personalized Learning. *International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE)*. https://doi.org/10.23947/2334-8496-2024-12-2-387-397

Celik, I., Gedrimiene, E., Siklander, S., & Muukkonen, H. (2024). The affordances of artificial intelligence-based tools for supporting 21st-century skills: A systematic review of empirical research in higher education. *Australasian Journal of Educational Technology*, *40*(3), 19–38. https://doi.org/10.14742/ajet.9609

Charles, T., & Alshamsi, A. (2025). Navigating challenges in technology integration for inclusive classrooms: Insights for pre-service teachers. In *Empowering Pre-Service Teachers to Enhance Inclusive Education Through Technology* (pp. 87–125). IGI Global. https://doi.org/10.4018/979-8-3693-8759-7.ch004

Chasokela, D., & Hlongwane, J. (2025). Professional development and assessment, teaching and learning practices, polices in higher education: Promoting the integration of AI with education for sustainable development. In *Generative AI Approaches to Sustainable Development in Higher Education* (pp. 305–334). IGI Global. https://doi.org/10.4018/979-8-3693-5623-4.ch012

Dolezal, D., Motschnig, R., & Ambros, R. (2025). Pre-Service Teachers' Digital Competence: A Call for Action. *Education Sciences*, *15*(2). https://doi.org/10.3390/educsci15020160

Göltl, K., Ambros, R., Dolezal, D., & Motschnig, R. (2024). Pre-Service Teachers' Perceptions of Their Digital Competencies and Ways to Acquire Those through Their Studies and Self-Organized Learning. *Education Sciences*, *14*(9). https://doi.org/10.3390/educsci14090951

Gómez Niño, J. R., Árias Delgado, L. P., Chiappe, A., & Ortega González, E. (2024). Gamifying Learning with AI: A Pathway to 21st-Century Skills. *Journal of Research in Childhood Education*. https://doi.org/10.1080/02568543.2024.2421974

Guo, Y., & Yu, H. (2023). Exploration of Education Transformation and Teacher Literacy in the Age of Artificial Intelligence. *Proceedings - 2023 5th International Workshop on Artificial Intelligence and Education, WAIE 2023*, 38–42. https://doi.org/10.1109/WAIE60568.2023.00014

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hyer, S., & Balani, J. (2024). Basic statistical methods in research and their interpretation. *South Sudan Medical Journal*, *17*(4), 207–212. https://doi.org/10.4314/ssmj.v17i4.11

Imjai, N., Promma, W., Chanatup, S., Usman, B., & Aujirapongpan, S. (2025). Emerging roles of AI mindset, experiential learning and soft skills in developing career readiness for accountant 5.0 of Gen Z accounting students. *International Journal of Management Education*, *23*(3), 101208. https://doi.org/10.1016/j.ijme.2025.101208

Kingkaew, C., Theeramunkong, T., Supnithi, T., Chatpreecha, P., Morita, K., Tanaka, K., & Ikeda, M. (2023). A Learning Environment to Promote Awareness of the Experiential Learning Processes with Reflective Writing Support. *Education Sciences*, *13*(1). https://doi.org/10.3390/educsci13010064

Kohnke, L., Zou, D., Ou, A. W., & Gu, M. M. (2025). Preparing future educators for AI-enhanced classrooms: Insights into AI literacy and integration. *Computers and Education: Artificial Intelligence*, *8*. https://doi.org/10.1016/j.caeai.2025.100398

Kolb, D. A. (1984). Experiential Learning: Experience as The Source of Learning and Development. *Prentice Hall, Inc.*, *1984*, 20–38. https://doi.org/10.1016/B978-0-7506-7223-8.50017-4

Kott, P. S., & Levine, B. (2024). Exploring a skewness conjecture: Expanding Cochran's rule to a proportion estimated from a complex sample. *Survey Methodology*, *50*(1), 543–551. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85213470674&partnerID=40&md5=179ebfbf7ab9426e648d5f63d4810e73

Le, N. H. T., Pham, L. C. P., Truong, V. L., Le, T. A. N., Tran, N. H., & Thai, H. P. (2025). The Rapid Development of AI and Its Impact on Technologically Lagging Students. *ICETM 2024 - Proceedings of the 2024 7th International Conference on Educational Technology Management*, 252–258. https://doi.org/10.1145/3711403.3711446

López Bueno, H., Val, S., & González, M. L. G. (2023). The Importance of Teacher Digitization for Inclusive, Critical and Equitable Education. *Revista Internacional de Educacion para la Justicia Social*, *12*(1), 211–227. https://doi.org/10.15366/riejs2023.12.1.012

Martinuzzi, A., Spörk, A., & Martinuzzi, S. (2023). Experiential learning about sustainable development and the SDGs: Features, challenges, and experiences of a modular course in business education. In *Higher Education for the Sustainable Development Goals: Bridging the Global North and South* (pp. 165–180). Emerald Group Publishing Ltd. https://doi.org/10.1108/978-1-80382-525-020231009

Memon, M. A., Thurasamy, R., Ting, H., & Cheah, J.-H. (2025). CONVENIENCE SAMPLING: A REVIEW AND GUIDELINES FOR QUANTITATIVE RESEARCH. *Journal of Applied Structural Equation Modeling*, *9*(2). https://doi.org/10.47263/JASEM.9(2)01

Merzifonluoğlu, A., & Güneş, H. (2025). Shifting Dynamics: Who Holds the Reins in Decision-Making With Artificial Intelligence Tools? Perspectives of Gen Z Pre-Service Teachers. *European Journal of Education*, *60*. https://doi.org/10.1111/ejed.70053

Mollick, E., & Mollick, L. (2024). Instructors as Innovators: A future-focused approach to new AI learning opportunities, with prompts. *ArXiv*, *abs/2407.05181*. https://doi.org/10.2139/ssrn.4802463

Ogawa, N. (2025). Social Revolution Accompanying New Technology. In *Intelligent Systems Reference Library* (Vol. 267, pp. 17–43). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-981-96-3341-8_2

Radif, M. (2024). Artificial Intelligence in Education: Transforming Learning Environments and Enhancing Student Engagement. *Educational Sciences: Theory and Practice*, *24*(1), 93–103. https://doi.org/10.12738/jestp.2024.1.008

Ren, X., & Wu, M. L. (2025). Examining Teaching Competencies and Challenges While Integrating Artificial Intelligence in Higher Education. *TechTrends*, *69*, 519–538. https://doi.org/10.1007/s11528-025-01055-3

Rukajat, A., Gusniar, I. N., Abas, T. T., Nurkhalizah, E., & Bachruddin, R. (2024). Utilizing Information and Communication Technology in Scalable Management Strategies for TeacherDevelopment. *EAI Endorsed Transactions on Scalable Information Systems*, *11*(2), 1–11. https://doi.org/10.4108/eetsis.4444

Sakitri, W., Kardoyo, K., Tusyanah, T., & Setiaji, K. (2024). Determinants of work readiness as a teacher for higher education students in industry revolution of 4.0. *Journal of Applied Research in Higher Education*. https://doi.org/10.1108/jarhe-12-2023-0592

Schillaci, M. A., & Schillaci, M. E. (2022). Estimating the population variance, standard deviation, and coefficient of variation: Sample size and accuracy. *Journal of Human Evolution*, *171*. https://doi.org/10.1016/j.jhevol.2022.103230

Stolpe, K., & Hallström, J. (2024). Artificial Intelligence Literacy for Technology Education. *Computers and Education Open*. https://doi.org/10.1016/j.caeo.2024.100159

Tapalova, O., Zhiyenbayeva, N., & Gura, D. (2022). Artificial Intelligence in Education: AIEd for Personalised Learning Pathways. *Electronic Journal of E-Learning*. https://doi.org/10.34190/ejel.20.5.2597

Tarigan, F. N., Dj, M. Z., Husain, M. P. M., Sanjaya, D., & Yusuf, M. (2025). Teachers Perceptions & Attitudes towards Artificial Intelligence (AI) Integration in Suburban School. *Journal of Curriculum and Teaching*, *14*(2), 98–112. https://doi.org/10.5430/jct.v14n2p98

Tarraga-Minguez, R., Suarez-Guerrero, C., & Sanz-Cervera, P. (2021). Digital Teaching Competence Evaluation of Pre-Service Teachers in Spain: A Review Study. *Revista Iberoamericana de Tecnologias Del Aprendizaje*, *16*(1), 70–76. https://doi.org/10.1109/RITA.2021.3052848

Tsankov, N., & Damyanov, I. (2019). The digital competence of future teachers: Self-assessment in the context of their development. *International Journal of Interactive Mobile Technologies*, *12*, 4–18. https://doi.org/10.3991/ijim.v13i12.11068

Yadav, S. (2024). Reimagining Education With Advanced Technologies: Transformative

Pedagogical Shifts Driven by Artificial Intelligence. In *Impacts of Generative AI on the Future of Research and Education* (pp. 1–26). IGI Global. https://doi.org/10.4018/979-8-3693-0884-4.ch001

Yordudom, T., Boonkaew, S., Imjai, N., Moghadas, S., Khuadthong, B., & Aujirapongpan, S. (2025). Developing career intention of Gen Z hospitality students: The roles and matters of experiential learning, problem-solving skills, positive thinking skills and adaptability skills. *Journal of Hospitality, Leisure, Sport and Tourism Education*, *37*(June), 100560. https://doi.org/10.1016/j.jhlste.2025.100560

Zhao, L., Wu, X., & Luo, H. (2022). Developing AI Literacy for Primary and Middle School Teachers in China: Based on a Structural Equation Modeling Analysis. *Sustainability*. https://doi.org/10.3390/su142114549

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