

# A Quantitative Study on Graduate Employability: Insights from Sultan Idris Education University, Malaysia

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## ABSTRACT

Preparing graduates for employability has become a critical focus for higher education institutions in response to the rapidly changing global workforce influenced by technological advancements and artificial intelligence (AI). This study examines the employability of graduates from Sultan Idris Education University (UPSI), Malaysia, using a quantitative approach to analyze the factors affecting employability in today's digital and AI-driven job market. The research examines the connection between academic performance, essential soft skills such as communication, teamwork, problem-solving, digital literacy, adaptability to AI technologies, co-curricular activities, and work experience, which includes internships. The findings emphasize the growing significance of digital competencies and AI literacy in addition to traditional academic qualifications. While academic performance continues to be an important factor, soft skills, and practical experience are recognized as crucial elements for obtaining meaningful employment. Graduates who possess both technical expertise and interpersonal skills are better positioned to succeed in a competitive job market. The study provides well-considered recommendations for enhancing curriculum design, integrating AI tools into career services, and advancing digital skill development within UPSI's programs. It offers significant insights into the evolving landscape of graduate employability in relation to AI and technological disruption. Furthermore, the study presents practical guidance for institutions seeking to equip graduates with the essential skills required for success in future job markets.

**Keywords:** graduate employability, digital skills development, quantitative study, higher education, AI literacy

## INTRODUCTION

Graduate employability has become an increasingly critical issue in higher education, as universities strive to equip students with the necessary skills, knowledge, and competencies to thrive in the competitive global job market (Teng et al., 2019; Yusof et al., 2014). Sultan Idris Education University (UPSI), as Malaysia's premier institution for educator training, holds a significant responsibility in ensuring its graduates are not only academically proficient but also well-prepared to contribute effectively to the workforce. Aligned with Malaysia's Strategic Plan for Education (2024–2030), which focuses on human capital development and workforce readiness, UPSI must ensure that its programs foster graduates who possess both academic and practical skills essential for success in today's dynamic professional environment (Ministry of Education Malaysia, 2024).

This study aims to assess the employability of UPSI graduates by examining the key factors that contribute to their ability to secure meaningful employment. As highlighted by Baird and Parayitam (2019), educational institutions must focus on enhancing essential skills, such as teamwork and communication, which are highly valued by employers. This research will use a quantitative approach to evaluate the level of preparedness among UPSI graduates for the workforce, identifying the specific factors that influence their employability. By exploring these factors, the study seeks to provide valuable insights into how well UPSI is preparing its graduates and offer recommendations for improving their employability and readiness for the dynamic job market. This evaluation is crucial to understanding the effectiveness of UPSI's academic programs in preparing students for the workforce, as well as ensuring that the university's graduates meet the demands of the rapidly evolving job market. By addressing these objectives, this study will provide valuable insights into the preparedness of UPSI graduates and inform future initiatives to enhance their employability. The study will answer the following research questions:

1. What is the level of employability among UPSI graduates in the context of educational preparedness and career readiness?
2. What are the key factors that influence the employability of UPSI graduates, particularly in relation to their academic qualifications, soft skills, co-curricular activities, and work experience?

By answering these questions, this research seeks to offer recommendations that can help improve the employability of UPSI graduates, ensuring they are not only academically competent but also capable of meeting the challenges of an increasingly competitive and dynamic job market.

## LITERITURE REVIEW

### Factors Influencing Graduate Employability

Graduate employability is shaped by several key factors that extend beyond academic achievements, with soft skills playing a particularly crucial role (Christiansen & Even, 2024). Numerous studies highlight the importance of skills such as communication, teamwork, problem-solving, and emotional intelligence, which are highly valued by employers (Hoque et al., 2023; Zahn et al., 2024; Zhang et al., 2024). In fact, employers often prioritize these soft skills over academic performance (Finch et al., 2013). As the demand for graduates capable of adapting to the rapidly changing job market increases, universities have begun to integrate these skills into their curricula. By focusing on soft skills development and offering opportunities for practical, hands-on learning, universities ensure that graduates are well-prepared for the workforce, bridging the gap between theoretical knowledge and real-world application.

In addition to soft skills, Hosain et al. (2023) found that academic performance and technical competencies also significantly influence employability, although the importance of each may vary depending on the field. While a strong academic record lays a solid foundation, employers increasingly look for graduates who can apply their knowledge effectively in practical settings. This is particularly true in high-demand fields such as Information and Communication Technology (ICT), where technical expertise is essential (Tecilazić, 2023). However, Hoque et al., (2023) argue that employers prioritize graduates who possess not only technical proficiency but also strong critical thinking, collaboration, and problem-solving skills. Moreover, Edyanto et al. (2019) highlight that participation in co-curricular and extra-curricular activities enhances employability by offering students opportunities to develop leadership, teamwork, and time management skills. These experiences equip graduates with the ability to navigate complex work environments, thus making them more appealing to potential employers.

Furthermore, Almasri et al. (2024) based on empirical data from their study, found that the overall quality of university education and the support services provided to students play a crucial role in enhancing employability. Universities that offer structured career development programs, internships, and job placement assistance significantly improve the chances of their graduate's securing employment. The reputation of the

institution can also impact employability, although it is the combination of a rigorous academic program, practical experience, and dedicated career support that truly prepares students for successful careers.

Additionally, Edyanto et al. (2019) highlighted that a positive campus environment, which fosters learning, personal development, and networking opportunities, further strengthens employability outcomes. As a result, universities that adopt a comprehensive approach to graduate preparation blend academic learning with practical experience, ensuring that graduates are both knowledgeable and ready to succeed in a competitive job market. This holistic strategy underscores the critical role of educational institutions in shaping employability, emphasizing their responsibility to not only impart knowledge but also cultivate the essential skills and attributes demanded by the modern workforce.

### **Role of Educational Institutions in Enhancing Employability**

The role of educational institutions in preparing graduates for the workforce is crucial, as they are tasked with adapting curricula to meet the ever-changing demands of the labor market (Mo, 2023). One effective strategy for enhancing employability is fostering collaboration with industry partners. In their study titled “Reducing the Australian IT Education vs. Employability Mismatch,” Alavi et al. (2022) found that involving employers in the curriculum development process allows universities to align academic programs with the skills and competencies demanded by the workforce. The research, which included input from IT recruiters, demonstrated that industry-tailored curricula help reduce the mismatch between educational outcomes and job market needs. As a result, graduates are better prepared to meet real-world expectations and contribute meaningfully to their future employers. This finding is consistent with Lackéus (2024), who emphasizes that collaboration between educational institutions and industry partners bridges the gap between theory and practice, helping institutions address skill shortages and better equip graduates for employment.

An essential approach to improving employability, as suggested by Deev et al. (2020), is the continuous updating and reform of curricula to incorporate technological advancements and evolving job market needs. As industries increasingly rely on digital tools, artificial intelligence, and interdisciplinary expertise, educational programs must adapt to these changes. Studies by Boustani (2023), Morales et al. (2022), and Peralta et al. (2024) have shown that the COVID-19 pandemic underscored the importance of flexibility in education, leading to the adoption of online learning and hybrid educational models. These innovations have enabled institutions to offer more resilient and adaptable programs, ensuring that graduates are equipped with the skills necessary to navigate both current and future workforce challenges.

In addition to technical knowledge, there is a growing recognition of the importance of soft skills in enhancing employability. Universities are integrating leadership, communication, teamwork, and problem-solving into their curricula, preparing students for the demands of modern workplaces (Wiśniewska-Szałek et al., 2020). By emphasizing soft skills alongside academic knowledge, educational institutions help students become well-rounded individuals, capable of thriving in dynamic, team-oriented environments where collaboration and adaptability are as essential as technical expertise.

Finally, educational institutions are embracing lifelong learning and professional development initiatives to help graduates adapt to a rapidly changing job market. In the Nobre and Duarte (2024) research, they found that offering non-degree courses, executive training, and professional certifications enables individuals to continuously upskill and stay competitive. Frameworks like third-generation activity theory by (Alavi et al., 2022) and the convergence model of education by (Deev et al., 2020) provide valuable guidance for aligning curricula with employer expectations and market demands. By integrating these adaptive measures, universities can ensure their graduates are not only prepared for immediate industry needs but also equipped to handle the broader economic and technological transformations shaping the future of work. In conclusion, higher education institutions, such as Sultan Idris Education University (UPSI), must remain proactive in adapting their curricula to ensure graduates are well-equipped for the demands of a global, technology-driven labor market. By focusing on the development of both technical and soft skills, and by fostering strong

partnerships with industry, universities can help their graduates succeed in an increasingly competitive job market.

### Frameworks Underpinning the Study

This study adopts two established frameworks: Third-Generation Activity Theory, as described by Engeström (2005), and the Convergence Model of Education. The objective is to investigate how educational institutions, specifically Sultan Idris Education University (UPSI), can effectively enhance the employability of their graduates. These frameworks provide critical insights into the interactions among students, universities, and employers, thereby offering a coherent approach to addressing the gaps between educational outcomes and workforce expectations. Fig. 1 illustrates how these frameworks contribute to the enhancement of graduate employability at UPSI.

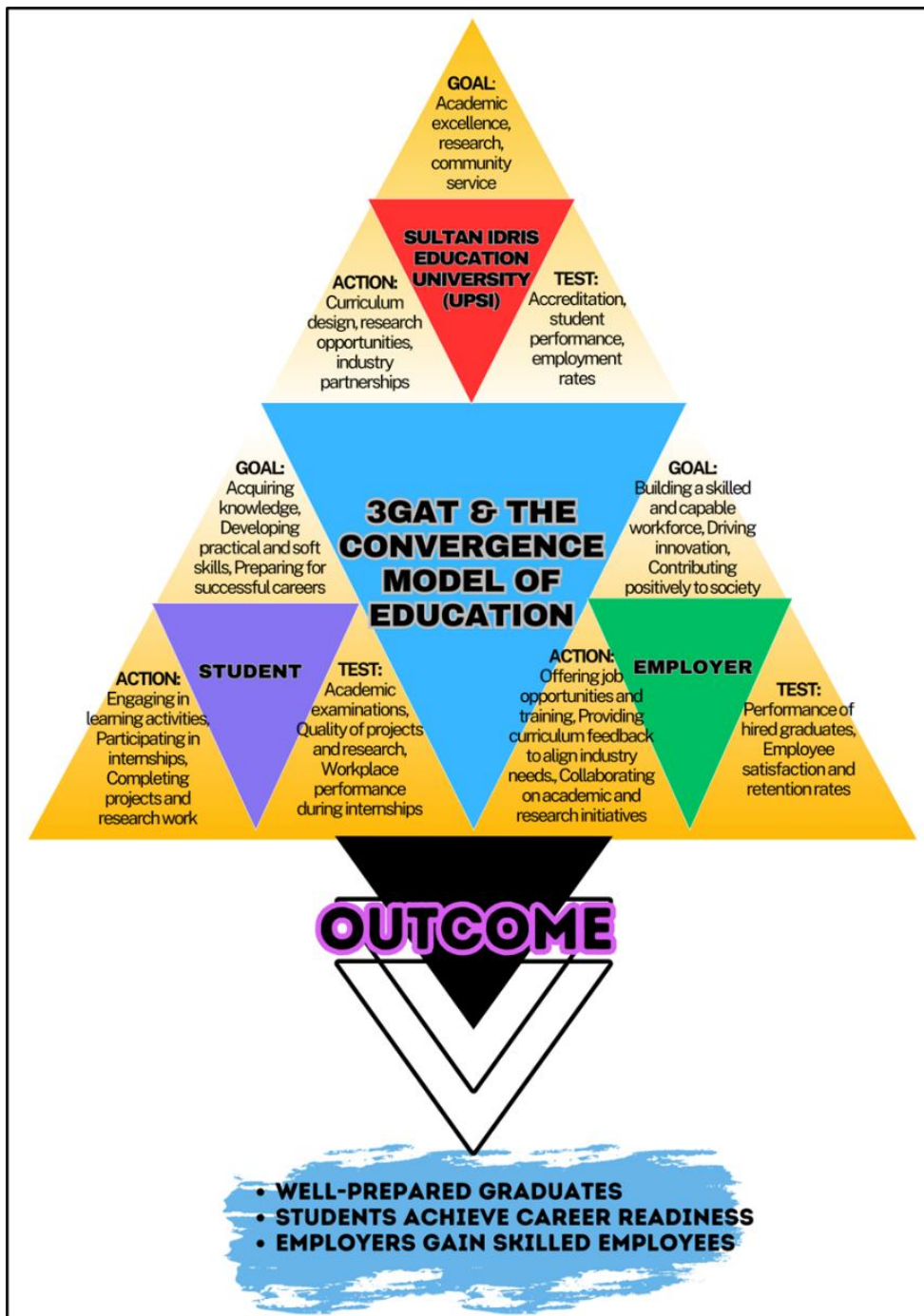


Fig. 1 Integrating Third-Generation Activity Theory (3GAT) and the Convergence Model of Education to Support Graduate Employability at Sultan Idris Education University (UPSI)



The framework discussed highlights the significance of dynamic interactions among key stakeholders, such as students, academic institutions, and employers. This analysis facilitates the identification of employability gaps, which are particularly pertinent in fields such as education and technology. By applying this theory, UPSI is positioned to identify specific areas for enhancement within its curriculum, thereby ensuring that graduates acquire not only relevant technical skills but also the capacity to develop new competencies throughout their careers (Gedera et al., 2015; Spinuzzi & Guile, 2019). For instance, the incorporation of internships and collaborative projects into UPSI's programs is aligned with the Action and Test components of the framework, fostering both knowledge acquisition and practical skill development.

Meanwhile, The Convergence Model underscores the significance of aligning academic content with the evolving demands of the labor market, particularly in the context of a digital economy (Deev & Finogeev, 2023a). This model highlights the critical connection between academia and industry in addressing the skills gap, ensuring that graduates acquire the qualifications and competencies that employers expect (Deev & Finogeev, 2023b; Finogeev et al., 2020).

In the context of UPSI, this model advocates for curriculum updates that integrate AI tools, digital literacy, and interdisciplinary learning, thereby preparing students for an increasingly competitive and technology-driven workforce. Collectively, these frameworks establish a comprehensive foundation for understanding and enhancing employability outcomes at UPSI. They serve as a valuable guide for designing curricula that effectively balance theoretical knowledge, practical experience, and essential soft skills, all of which are vital for success in today's job market.

## METHODOLOGY

Data was collected utilizing a structured quantitative questionnaire, which has been adapted from the NACE Competency Assessment Tool, to investigate the factors that influence graduate employability (National Association of Colleges and Employers, 2024). The questionnaire was divided into four sections. The first section focused on Demographic Information, collecting details such as the graduates' faculty and year of graduation, which provided context for the sample.

The second section, Employability Skills, assessed the role of traditional academic performance in employability, asking respondents to evaluate the importance of their academic qualifications in securing employment. The third section, Factors Affecting Employability of UPSI Graduates, explored key factors such as Digital Competencies and AI, Soft Skills, Co-Curricular Activities, Work Experience, and Academic Performance, which are essential for success in today's job market. The final section presented recommendations to enhance employability.

The study utilized a 4-point Likert scale, based on the NACE Competency Assessment Tool, to assess graduates' employability skills. The scale categories were defined as Emerging Knowledge, Understanding, Early Application, and Advanced Application, reflecting progressive levels of competency (National Association of Colleges and Employers, 2024).

This study employed a purposive sampling method to ensure the selection of participants who met specific criteria relevant to the research objectives. The sample focused on graduates from Sultan Idris Education University (UPSI) who had completed their studies within the past two years, representing various faculties such as education, social sciences, and technology. This approach was chosen to include respondents with characteristics that align with the study's scope and to capture diverse perspectives across different disciplines.

According to the population data provided by the UPSI Registrar, a total of 6,067 graduates in 2022 and 7,616 graduates in 2023 were recorded (Registrar Office UPSI, 2024). Referring to the Krejcie and Morgan sample size determination table, a minimum of 370 respondents is required for representativeness (Krejcie & Morgan, 1970). To achieve this, 500 questionnaires ( $n=500$ ) were distributed using an online platform, ensuring

accessibility for all participants regardless of their geographical location. This strategy not only facilitated broader participation but also enhanced the inclusivity and reliability of the data collected.

The data collection process was conducted systematically, adhering to Dillman and Lavrakas (2008) Total Design Method (TDM) to ensure reliability and validity. The survey link was initially distributed via email, followed by a reminder email two weeks later to improve the response rate. A pilot test involving 30 randomly selected graduates was conducted to evaluate the clarity and reliability of the questionnaire, achieving a Cronbach's Alpha score of 0.86, which indicated good internal consistency. Feedback from the pilot test led to several refinements, including rewording ambiguous items, improving the logical flow of the questionnaire, and incorporating additional questions on digital competencies and AI literacy to align with the research objectives. Out of 426 responses received, 74 were excluded due to technical issues or incomplete data, resulting in 385 valid responses and a final response rate of 77%. To address non-response bias, a comparative analysis of early and late responses was conducted, revealing no significant differences.

The data was subsequently analyzed using percentage analysis, providing a detailed understanding of the factors influencing graduate employability, with a focus on both academic and non-academic competencies. The findings from this quantitative analysis will inform recommendations for enhancing UPSI's curriculum and career support services, ensuring that graduates are better equipped to meet the evolving demands of the job market. The data collection process is summarized in Table I, which outlines the key steps taken in the research. This table details the various stages of data collection, including the distribution of the survey, follow-up procedures, and the handling of non-response bias to ensure the reliability and validity of the data.

TABLE I DATA COLLECTION PROCESS

Step	Description	Details
1. Designing the questionnaire	Development of a structured questionnaire to assess graduate employability.	Based on existing instruments NACE Competency Assessment Tool. Focused on employability, encompassing academic performance, soft skills, and the integration of both traditional and modern skills acquired.
2. Pre-testing the Questionnaire	Ensuring clarity and reliability of the questionnaire.	Conducted with a small group of 30 graduates. Reliability assessed using Cronbach's Alpha, yielding a score of 0.86, indicating good internal consistency. Refinements included rephrasing ambiguous questions and restructuring the scale for better clarity.
3. Sampling and Distribution	Selecting the target participants and distributing the survey.	Purposive sampling of 500 UPSI graduates who had completed their studies within the last two years. Survey administered online via email.
4. Data Collection	Gathering survey responses.	Graduates completed the online survey, answering Likert scale questions on employability factors and providing demographic data.
5. Monitoring and Follow-up	Ensuring a high response rate by sending reminders.	Follow-up emails were sent after two weeks to encourage completion. The data collection period lasted for four weeks.
6. Data Cleaning and Preparation	Reviewing and preparing data for analysis.	Responses were cleaned for completeness and consistency, with incomplete responses excluded. Final dataset included 385 valid responses.
7. Data Analysis	Analyzing the collected data.	Descriptive statistics (percentage analysis) were used to assess graduates' perceptions of employability factors.

## RESULT AND DISCUSSION

The analysis is divided into four sections: demographic information, employability skills, factors affecting UPSI graduates' employability, and suggestions for improvement. These findings match the research objectives and are based on two key theories: the Third-Generation Activity Theory (3GAT), and the Convergence Model of Education. These theories show how academic and non-academic factors interact to shape graduate employability.

Table 2 provides a detailed summary of the demographic data collected from the survey respondents. It highlights key characteristics of the participants, such as gender, program of study, and graduation year, offering valuable context for understanding the diversity of the sample and its relevance to the research on graduate employability. Based on Table II, finding for the demographic shown gender distribution shows a significant difference, with 89 males (23.1%) and 296 females (76.9%). Respondents came from various programs of study, with a notable number from Education & Teaching Programs (25.6%) and Humanities & Social Sciences (20%). Business & Management, and Science & Technology, each accounted for 14.8% of respondents, while Arts, Music & Design contributed 10%. The 'Others' category, including fields like Sports Science and languages, also made up 14.8%. Of the respondents, 40% graduated in 2022, while the remaining 60% graduated in 2023, reflecting a balanced representation across the two cohorts. A substantial majority, 308 participants (80%), had internship experience, whereas 77 (20%) did not. In terms of teaching experience, 77 respondents (20%) had one year, 231 (60%) had more than one year, and another 77 (20%) had none.

The demographic statistics underscore the diverse backgrounds of the participants, offering a comprehensive perspective on their profiles. This diversity enriches the analysis by ensuring a broader representation, which enhances the reliability and validity of the findings. Moreover, understanding these demographic variations aids in addressing potential biases, predicting response trends, and ultimately improving the robustness and quality of the survey data (Dahlhamer et al., 2019). Next, Table III focuses on the key factors affecting the employability of UPSI graduates.

TABLE II RESPONDENT PROFILE

Item	Description	Percentage (n=385)
1. Gender	Male	89 (23.1%)
	Female	296 (76.9%)
2. Program of Study	Education & Teaching Programs: (Includes fields like Special Education, Primary Education, TESL, Early Childhood Education, and Islamic and Moral Education)	99 (25.6%)
	Humanities & Social Sciences: (Includes Counselling, Malay Literature, History, Geography, and Visual Communication Arts)	77 (20%)
	Business & Management: (Includes Business Management, Entrepreneurship and Trade, and Educational Management)	57 (14.8%)
	Science & Technology: (Includes Science and Mathematics, Information Technology and Multimedia, and Agricultural Science)	57 (14.8%)
	Art, Music & Design: (Includes Music, Arts, and Living Skills and Computer-Aided Design Technology)	38 (10%)

	Others: (Includes Sports Science, Coaching and Physical Education, Accounting, and Other Languages (Arabic, Chinese, Tamil, Iban, Kadazan Dusun))	57 (14.8%)
3. Graduation Year	2022	154 (40%)
	2023	231 (60%)
4. Internship Experience	Yes	308 (80%)
	No	77 (20%)
5. Teaching Experience	1 year	77 (20%)
	> 1 year	231 (60%)
	None	77 (20%)

The second section of the survey, which focused on key employability skills, revealed that respondents place strong emphasis on competencies that extend beyond academic qualifications. The findings provide valuable insights into the essential employability skills required in the education sector. Critical Thinking emerged as a crucial skill, with high mean scores of 4.10 for solving educational problems and 4.05 for evaluating teaching strategies. However, the standard deviations of 0.85 and 0.90 indicate some variability in respondents' views, likely shaped by their diverse experiences and contexts. In the Communication Skills category, “Communicating information clearly” received the highest score of 4.25 (SD=0.72), followed by “Using communication technologies (Zoom, Google Meet)” at 4.15 (SD=0.80).

While effective communication is highly valued, differing opinions on the specific technologies used reflect ongoing debates about the most suitable platforms for teaching and learning. Teamwork also emerged as a key competence, with “Collaborating in educational projects” (M=4.20, SD=0.75) and “Working in multidisciplinary teams” (M=4.18, SD=0.78) both showing strong consensus. This indicates a widespread recognition of the importance of collaboration in educational settings, although some structural differences may still exist. In the Technology category, “Using digital technology for teaching” was regarded as the most vital skill (M=4.30, SD=0.65), while “Basic AI knowledge for education” scored slightly lower (M=4.05, SD=0.85), suggesting less agreement on the immediate applicability of AI in education.

The findings emphasize the pivotal role of employability skills such as communication, teamwork, and technological proficiency within the education sector (Gundaboina, 2023). While their importance is widely acknowledged, response variability suggests the need for deeper investigation into the development and application of these competencies across diverse educational settings. Furthermore, the results highlight the necessity of equipping educators with strategies to effectively integrate and apply these skills in their teaching practices, ensuring alignment with evolving workforce demands (Perifanou et al., 2023). The subsequent section presents data in Table 4, offering insights into the factors influencing the employability of graduates from Sultan Idris Education University (UPSI).

According to Table IV, these findings highlight the multifaceted nature of employability, emphasizing the importance of various factors that contribute to graduates' readiness for the modern workforce. The data is organized into several key components: digital competencies and AI, soft skills, co-curricular activities, work experience, and academic performance.

Among these, Digital Competencies and AI emerged as particularly critical, with “Using digital tools for teaching” (M=4.25, %Agree=88.2%) and “Understanding AI's role in education” (M=4.20, %Agree=84.7%) scoring highly. This finding aligns with the increasing emphasis on digital literacy as a crucial component in preparing graduates for the demands of a technologically advanced workplace (Mosquera-Gende, 2023). However, despite a generally high level of agreement, the slightly lower consensus regarding the role of AI in



education suggests a more nuanced perspective. This may reflect educators' uncertainties about the practical applications of AI in educational contexts. Such variability underscores the need for further investigation into the effective integration of AI in teaching and learning, as well as the development of more comprehensive frameworks to guide its implementation. The emphasis on Soft-skills further supports their critical role in employability, particularly as industries increasingly demand graduates who can navigate complex, fast-changing environments. The high mean score for “Communication helping to face industry challenges” (M=4.18, %Agree=85.9%) reflects a consensus on the importance of effective communication as a core competence. Similarly, the strong endorsement of “Ability to adapt to technological changes” (M=4.15, %Agree=85.3%) underscores the increasing need for graduates to possess agility in responding to technological disruptions. However, the slight variability in responses indicates that the perceived importance of these soft-skills may differ depending on factors such as industry type, personal experience, and the specific demands of the workplace. This variability suggests a need for more targeted research to explore how soft-skills can be fostered across diverse educational contexts and industries (Schleutker et al., 2019).

TABLE III FINDINGS FOR EMPLOYABILITY SKILLS

Employability Skills	Item	Mean (M)	Standard Deviation (SD)	% Agree
Critical Thinking	Solving educational problems critically	4.10	.85	84.7
	Evaluating the effectiveness of teaching strategies	4.05	.90	83.5
Communication	Communicating information clearly	4.25	.72	88.2
	Using communication technologies (Zoom, Google Meet)	4.15	.80	85.3
Team Work	Collaborating in educational projects	4.20	.75	86.5
	Working in multidisciplinary teams	4.18	.78	85.9
Technology	Using digital technology for teaching	4.30	.65	89.4
	Basic AI knowledge for education	4.05	.85	83.5

Co-Curricular Activities also play a pivotal role in developing essential competencies, particularly interpersonal skills, as evidenced by the high scores for “Improving interpersonal skills” (M=4.20, %Agree=86.5%) and “Helping in interviews” (M=4.18, %Agree=85.9%). These findings align with the growing recognition of the value of holistic education, where non-academic experiences are integral to preparing students for professional success (Zilong, 2021). However, while these activities are widely regarded as beneficial, the precise mechanisms through which they enhance employability remain less understood. The need for further investigation into the specific types of co-curricular activities that most effectively contribute to employability is critical. A more nuanced understanding could guide educational institutions in designing programs that better support the development of both academic and non-academic competencies.

The study also highlights the significant role of Work Experience in shaping employability, with “Practical training helping to understand industry needs” (M=4.30, %Agree=89.4%) and “Internship providing real work exposure” (M=4.25, %Agree=88.2%) receiving strong endorsement. Consistent with Helyer and Lee (2014) and Jackson and Edgar (2019), the findings demonstrate a strong consensus on the importance of real-world exposure in preparing graduates for the workforce. This suggests that employers are increasingly prioritizing practical experience, underscoring the need for educational programs to integrate more work-based learning opportunities. Such integration is crucial for bridging the gap between theoretical knowledge and the practical skills required in the job market. The consistency in agreement percentages across these items further emphasizes the alignment between the skills gained through work experience and employer expectations, reinforcing the critical role of work-integrated learning in enhancing graduate employability.

TABLE IV FINDINGS FOR FACTORS AFFECTING EMPLOYABILITY GRADUATES UPSI

Factor	Item	Mean (M)	Standard Deviation (SD)	% Agree
Digital Competencies and AI	Using digital tools for teaching	4.25	.72	88.2
	Understanding AI's role in education	4.20	.85	84.7
	Using AI-based educational software	4.05	.90	83.5
Soft-skills	Communication helping to face industry challenges	4.18	.78	85.9
	Ability to adapt to technological changes	4.15	.80	85.3
Co-Curricular Activities	Co-curricular activities improving interpersonal skills	4.20	.75	86.5
	Co-curricular activities helping in interviews	4.18	.78	85.9
Work Experience	Internship providing real work exposure	4.25	.72	88.2
	Practical training helping to understand industry needs	4.30	.65	89.4
Academic Performance	Academic achievements providing an advantage	4.10	.85	84.7
	Applying educational theories in real-life teaching	4.05	.90	83.5

Finally, Academic Performance continues to be an important factor, with “Academic achievements providing an advantage” (M=4.10, %Agree=84.7%) and “Applying educational theories in real-life teaching” (M=4.05, %Agree=83.5%) reflecting its ongoing relevance. However, the slightly lower scores compared to other categories suggest a shift in employer priorities, where academic qualifications alone may no longer be sufficient (Donald, 2024). Employers are increasingly emphasizing practical, work-related skills, soft-skills, and real-world experience over formal academic credentials (Thi Van Pham & Thi Thu Dao, 2020).

Overall, the findings of this study resonate with the principles of the Convergence Model of Education and Third-Generation Activity Theory (3GAT), both of which advocate for a more integrated and holistic approach to education. These frameworks emphasize the interconnection of technology, practical experience, and social interaction in shaping educational practices. The results suggest that a balanced approach, incorporating digital competencies, soft-skills development, and real-world experience, is essential for equipping graduates with the competencies required to meet the dynamic demands of the modern workforce. Next, suggestions for improvement based on the data findings are summarized in Table V.

The first recommendation, increasing the integration of technology in courses, focuses on enhancing digital literacy and AI skills. Supported by 42% of respondents, this suggestion highlights the necessity for UPSI graduates to be proficient in modern technological tools and AI applications, especially in an education system increasingly influenced by digital transformation. This aligns with Malaysia Digital Education Policy (Ministry of Education Malaysia, 2023), which emphasizes the need for educators to integrate technology into their pedagogical practices. As a leading institution for teacher training, it is crucial for UPSI to embed digital competencies ranging from the use of digital platforms for teaching to the integration of AI in classrooms, into the curriculum (Ng et al., 2023). The relatively high percentage of respondents suggesting this change also underscores a gap in the current curriculum, where technology integration may be insufficient, pointing to an urgent need for educational reform to better prepare graduates for the digital demands of the workforce (Jamil et al., 2023).

The second recommendation focuses on enhancing co-curricular training, which is seen as essential for developing interpersonal and teamwork skills (de Prada Creo et al., 2021; Foley et al., 2023). Supported by 35% of respondents, this suggestion reflects the growing importance of soft skills in the Malaysian job market,

particularly for educators who must collaborate with students, colleagues, and parents. As a teacher training institution, UPSI has a unique opportunity to embed co-curricular activities that promote communication, leadership, and collaboration. Although these skills are often developed outside of formal academic settings, the increasing demand for graduates to exhibit emotional intelligence and social acumen calls for a more structured approach to soft-skill development within the university. The endorsement of this recommendation suggests that UPSI would benefit from placing greater emphasis on soft skills training, particularly in preparing graduates to meet the needs of a diverse, multicultural society like Malaysia.

The third recommendation advocates for expanding internship opportunities, which is supported by 23% of respondents. This recommendation emphasizes the importance of real-world experience in enhancing employability (Helyer & Lee, 2014; Rowe & Zegwaard, 2017). In the context of UPSI, where teaching practice and internships already play a crucial role in the curriculum, the findings suggest that while current programs are beneficial, there is room for improvement. Expanding and diversifying internship placements to ensure alignment with contemporary industry practices would provide students with the hands-on experience necessary to meet the demands of Malaysia’s education sector. This sector is increasingly focused on digital literacy and innovative teaching methods, and therefore, it is essential for UPSI graduates to gain practical exposure to these developments.

The findings address the two research questions by identifying the current level of employability among graduates and highlighting the key factors that influence their career prospects.

1. **Employability Level of UPSI Graduates:** The findings indicate that UPSI graduates are generally well-prepared in terms of academic qualifications and essential competencies. However, there are notable gaps in certain areas, particularly in digital competencies and AI skills. While academic qualifications remain important, the study underscores that the real determinants of employability are the ability to adapt to technological advancements, communication skills, and work experience. These elements have become increasingly crucial as the Malaysian job market, especially within the education sector, seeks graduates who possess not only academic knowledge but also soft skills and practical experience.
2. **Key Factors Influencing Employability:** The results indicate that the key factors influencing employability include digital competencies, AI skills, soft skills, academic performance, co-curricular activities, and work experience. Each of these factors comprises distinct components. For instance, digital competencies include the ability to use digital tools for teaching, understanding AI’s role in education, and applying AI-based educational software. AI skills specifically focus on proficiency with AI applications in educational settings. Soft skills encompass communication skills, adaptability to technological changes, teamwork, and leadership, all essential for navigating industry challenges. Academic performance involves academic achievements and the ability to apply theoretical knowledge to practical teaching scenarios. Co-curricular activities contribute to employability by enhancing interpersonal skills and providing opportunities to practice leadership in non-academic settings. Work experience includes internships, practical training, and any professional exposure that helps graduates understand industry needs and bridge the gap between academic knowledge and professional practice.

TABLE V FINDINGS FOR IMPROVEMENT SUGGESTIONS

Recommendation	Focus	Percentage of Respondents
Increase integration of technology in course	Digital literacy and AI	42%
Add more co-curricular training sessions	Interpersonal and teamwork skills	35%
Offer more internship opportunities	Exposure to real job environments	23%

To wrap up, these recommendations offer a comprehensive strategy for enhancing graduate employability at UPSI. The integration of technology, the enhancement of soft skills through co-curricular activities, and the expansion of internship opportunities are all critical elements in preparing UPSI graduates for success in the modern workforce. For UPSI, this means not only embedding these competencies within the curriculum but also fostering partnerships with industry stakeholders to ensure that its graduates are equipped with the skills

and experience necessary to meet the evolving needs of the Malaysian education sector. Future research could explore the effectiveness of these recommendations in improving graduate employability, specifically examining how these initiatives can be tailored to UPSI's unique context as a prominent institution for teacher education in Malaysia.

## IMPLICATION

The study on the employability of UPSI graduates shows important results. First, it is crucial to include digital skills and AI training in the curriculum. Colleges should focus on these areas and provide both theory and hands-on experiences so that graduates can use modern technologies and AI tools effectively in their careers. Second, soft skills like communication and adaptability are also important. Universities should offer courses, workshops, and activities that help students develop these skills. Third, co-curricular activities and work experience play a vital role in improving employability. Universities should create more internship opportunities and build strong partnerships with industries. This will give students practical training and real-world experiences that link their studies to the demands of the workplace. Moreover, curriculum design should match the changing needs of the job market. This means advanced technology training, improving digital skills, and using innovative teaching methods to prepare graduates for today's workforce. Finally, an overall educational approach is needed—one that combines academic knowledge with practical skills, digital competencies, and soft skills. By adopting this approach, UPSI can help its graduates succeed in a fast-changing job market.

In summary, the recommendations from the study suggest improving curriculum design, using AI tools in career services, and developing digital skills. These steps will help address the challenges of technology in education. By aligning its programs with what industries need, UPSI can better prepare its graduates for success in today's educational landscape. Fig. 2 summarizes the key points of the study.

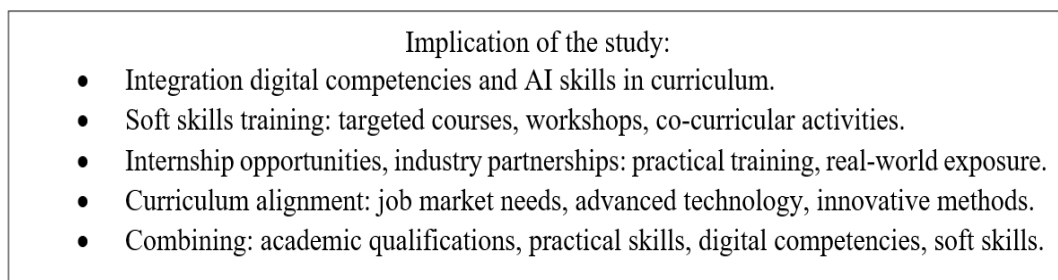


Fig. 2 Implication of the study

## FURTHER RESEARCH

The study has some limitations. First, since the data comes from self-reports, it could be biased due to social pressure or memory issues. Future research should use objective measures of employability to improve reliability. Additionally, this study looks at data only at one point in time. Long-term studies that follow graduates' career paths would give better insights into how different factors affect employability. Also, this study focuses only on jobs in the education sector. Expanding to other industries could help us understand other important factors. Future research could test targeted programs like digital literacy or AI training. It could also compare different institutions and regions to find the best practices. Including input from employers would ensure that graduates have the skills that industries need. Finally, exploring how new technologies impact employability and how they fit into educational programs would provide useful insights to improve job readiness. Addressing these limitations will help us better understand graduate employability and develop strategies to improve educational outcomes.

## CONCLUSION

In conclusion, the employability of UPSI graduates in the field of education is shaped by a combination of academic qualifications, digital competencies, soft skills, co-curricular activities, and work experience. This



study emphasizes the importance of adopting a comprehensive approach to graduate education, integrating both academic and non-academic learning experiences. Such an approach ensures that graduates are better prepared to meet the evolving demands of the educational workforce. The study's recommendations focused on enhancing curriculum design, incorporating AI tools into career services, and advancing digital skill development address the growing challenges posed by technological disruption in education. By aligning educational practices with industry needs, UPSI can better equip its graduates with the necessary competencies for success in the dynamic landscape of education

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