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STUDENT PERCEPTIONS OF PRACTICAL TRAINING PROGRAMS' CONTRIBUTION TO EMPLOYABILITY SKILLS IN MALAYSIA'S JOB MARKET

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Abstract:

The gap between practical training programs and the employability skills required by Malaysia's labour market remains a pressing challenge. Despite earning academic qualifications, many graduates struggle to meet employer expectations due to skill mismatches and limited hands-on experience. This study investigates final-year students' perceptions of the efficacy of practical training programs in fostering employability skills at UiTM Seremban 3, Negeri Sembilan, Faculty of Administrative Science and Policy. Data were collected through standardised questionnaires and analysed using descriptive statistics and Pearson correlation. The results revealed strong positive correlations between practical training participation, perceptions of industrial training quality, and efforts to mitigate skills mismatches. Organised, skill-oriented training programs significantly enhanced students' adaptability, collaboration, and problem-solving abilities. These findings underscore the need for proactive curriculum reforms and policy interventions to ensure graduates are equipped with skills aligned with evolving industry demands. The research aims to inform curriculum development and policy creation, enhancing graduate readiness for Malaysia's competitive employment landscape.

Keywords:

Practical Training Programs, Employability Skills, Graduate Employability, Industrial Training, Higher Education

Introduction

In today's increasingly competitive global economy, graduate employability has become a pressing concern, particularly in developing countries like Malaysia. Employers are no longer satisfied with academic qualifications alone; they seek candidates who demonstrate practical competencies, adaptability, and relevant work experience. However, despite Malaysia's high tertiary education enrollment rates, many graduates continue to face challenges in securing employment due to a mismatch between university education and industry needs (Department of Statistics Malaysia, 2023). This skills gap raises critical questions about the effectiveness of higher education institutions in preparing students for real-world employment.

One initiative introduced to address this issue is industrial training, commonly known as internships. These programs place students in organizations for supervised practical experience prior to graduation. The aim is to enable students to apply classroom knowledge in professional environments, develop essential soft skills such as communication, critical thinking, and teamwork, and cultivate an appreciation for workplace ethics. In Malaysia, the National Structured Internship Program (MySIP), part of the National Graduate Employability Strategy (2021–2025), was launched to institutionalize this approach and ensure that students gain industry-relevant exposure before entering the workforce (Usamah, 2023).

Internships provide numerous benefits. They help bridge the gap between theory and practice, enhance confidence, and offer networking opportunities that are often crucial for job placement. Students also gain mentorship from industry professionals, which enriches their understanding of workplace dynamics and expectations (Hurst, Jessica, & Linda, 2010; Fuzirah, 2023). Despite these advantages, research remains limited in understanding how industrial training shapes students' perceptions of their own employability—especially within the context of public universities in Malaysia.

Table 1 illustrates that the graduate unemployment rate declined by 0.3 percentage points, dropping from 3.7% in the previous year to 3.4%. As a result, the number of unemployed graduates decreased by 4.3%, from 174.8 thousand in 2022 to 167.3 thousand in 2023. This positive trend highlights the importance of employability initiatives, such as industrial training, in preparing graduates for the workforce.

This study investigates the role of industrial training in enhancing students' perceptions of employability and their readiness for the job market. It examines how students' involvement in internship programs influences their confidence in securing employment. Additionally, the research explores how industrial training contributes to addressing the mismatch between graduate skills and industry needs. The findings are expected to provide valuable insights for improving educational policies and curriculum development to better align with labor market expectations.

Table 1: Graduate Unemployment in Malaysia (2022–2023)

Year	Unemployment Rate (%)	Number of Unemployed Graduates (in thousands)	Change in Rate (%)	Change in Number (%)
2022	3.7%	174.8	—	—
2023	3.4%	167.3	-0.3	-4.3

Source: Department of Statistics Malaysia (2023)

Problem Statement

Graduate unemployment in Malaysia is a pressing issue for society and the government. Employers now demand a diverse skill set beyond technical expertise, making it essential for graduates to be well-equipped with multiple competencies (Ming Yen, Yen, Choy, Nee, & Ming-Li, 2023). The Department of Statistics Malaysia (DoSM) reported an increase in underemployment in the first quarter of 2024, highlighting a skills mismatch between graduates and industry requirements (New Straits Times, 2024).

Graduates are often deemed "overqualified" when their competencies do not align with employer expectations. Factors such as unrealistic job expectations, weak communication skills, and high salary demands further exacerbate the issue (The Malaysian Reserve, 2024). Despite government initiatives to align education with labor market needs, discrepancies persist, particularly for specialized degree holders struggling to find relevant employment (Rohanai, et al., 2020).

Annually, over 90,000 graduates face unemployment due to a lack of career opportunities and an oversupply of university graduates compared to the demand for highly skilled workers (Metro, 2023). A primary contributing factor is the misalignment between graduate skills and employer needs, leading to decreased competitiveness and economic returns. The growing importance of soft skills, such as leadership, communication, and networking, highlights the necessity of integrating these competencies into higher education curricula (Yong & Ling, 2023). Universities must adapt their programs to reflect evolving industry expectations (Olojuolawe, Osuntuyi, & Ibidapo, 2022).

While universities foster soft skills through group assignments, critical thinking exercises, and assessments, industrial training offers direct work experience, with many interns receiving job offers upon completion (New Straits Times, 2022). Internships play a critical role in reducing unemployment by equipping students with employable skills, bridging the gap between academic learning and industry needs (Galbraith & Mondal, 2020).

Literature Review

Engagement of Students in Practical Training

Student engagement in practical training plays a crucial role in preparing them for future careers by fostering professional networks, career opportunities, and skill development. Engagement includes active participation, questioning, and collaboration (Burns & Chopra, 2017). Through practical training, students gain workplace awareness and essential skills such as communication, time management, and problem-solving. Cooperative experiences enhance critical thinking, motivation, and career clarity (Oliveira & Marques, 2024; Smith et al., 2009). Internships allow students to test their abilities in real-world settings, improving interpersonal understanding and job readiness.

Student engagement is influenced by their willingness to participate and the social environment (Kassab, Rathan, Taylor, & Hamdy, 2024; Pascarella et al., 2006). Interactive engagement, such as small group discussions, promotes deeper learning ((Arja et al., 2020; Miller, Rycek, & Fritson, 2011). Strategies to enhance engagement include fostering participation in discussions and encouraging active learning, ultimately leading to increased involvement and professional preparedness.

Student Perception in Industrial Training

The effectiveness of industrial training is assessed through student perceptions of internship experiences. While internship programs vary, their core objective is to integrate academic knowledge with real-world applications (Renganathan, Karim, & Li, 2012). Engineering students, for instance, develop critical thinking and problem-solving skills, boosting independence and self-confidence (Boelt, Kolmos, & Holgaard, 2022). Hands-on experience enhances technical skills, professional conduct, and adaptability to work environments.

Industrial training also instills integrity, continuous learning, and a strong work ethic. Exposure to real-world challenges improves time management and teamwork, essential for workplace success (Aryanti & Adhariani, 2020). Studies indicate that students in Malaysia view industrial internships positively, recognizing their role in improving job readiness and reducing career mismatches (Renganathan, Karim, & Li, 2012; Rothman & Sisman, 2016).

Reducing Skills Mismatches and Enhancing Employability

Skill shortages and mismatches are global challenges, particularly in economies with high youth unemployment. Practical training programs address these issues by aligning educational outcomes with workplace demands (Mayombe, 2023). These programs enhance employability by equipping graduates with relevant skills, fostering organizational commitment, and increasing job opportunities (Aljumah, 2023). Research indicates a strong correlation between workplace training and employment within the same organization.

Employers prioritize work experience over certifications, making industrial training essential in higher education (Pirog & Hibszer, 2021). Internships bridge the gap between academia and employment, enhancing students' communication, problem-solving, and social skills (Lambert & Wall, 2020). Such experiences improve employability by offering practical exposure and skill acquisition (Scott, Nottingham, & Wall, 2020).

Effectiveness of Practical Training in Malaysia's Job Market

Industrial training prepares students for the workforce by integrating theoretical knowledge with hands-on experience. This exposure enables them to understand workplace realities and develop industry-relevant skills (Li, 2022; Yusoff et al., 2010). Many Malaysian universities incorporate industrial training into their curricula to enhance graduate employability.

Besides technical skills, industrial training fosters soft skills, including teamwork, adaptability, and stress management, making students more competitive in the job market (Pillai, Khan, Syahirah, & Raphael, 2012; Poláková et al., 2023). Research shows that structured practical training significantly boosts employment prospects, with trainees more likely to be hired by the companies that trained them (Brotherton & Etzel, 2019). These programs provide graduates with essential workplace competencies, improving their career readiness and professional development.

To provide a clearer overview of the existing research, Table 2 summarizes key past findings on student engagement, perceptions of industrial training, and its impact on employability.

Table 2: Summary of Past Research on Practical Training and Employability

Author(s)	Focus Area	Key Findings
Burns & Chopra (2017)	Student engagement in training	Engagement enhances communication, time management, and teamwork.
Smith et al. (2009)	Skill development through cooperative learning	Practical training boosts critical thinking, motivation, and clarity in career goals.
Pascarella et al. (2006)	Learning environment influence	Social and interactive environments foster deeper learning and student engagement.
Renganathan, Karim & Li (2012)	Student perception of internships	Positive perceptions improve learning integration and job readiness.
Boelt, Kolmos & Holgaard (2022)	Impact on engineering students	Enhances critical thinking, independence, and technical competency.
Aryanti & Adhariani (2020)	Workplace preparation	Training builds integrity, work ethics, and adaptability to real-world demands.
Mayombe (2023)	Global employability and training	Practical training reduces global skill mismatches and boosts job opportunities.
Pirog & Hibszer (2021)	Employer priorities	Employers prioritize practical experience over certification.
Yusoff et al. (2010)	Practical training in Malaysia	Enhances workforce readiness through real-world exposure and soft skill development.
Pillai et al. (2012)	Soft skills and adaptability	Training fosters teamwork, stress management, and adaptability.
Brotherton & Etzel (2019)	Hiring likelihood	Trainees often gain employment within their internship companies.

Conceptual Framework

Based on the literature review, a conceptual framework is developed. This conceptual framework suggests the relationship between the main determinants of factor effectiveness of practical training contribute to employability skills in Malaysia's job market.

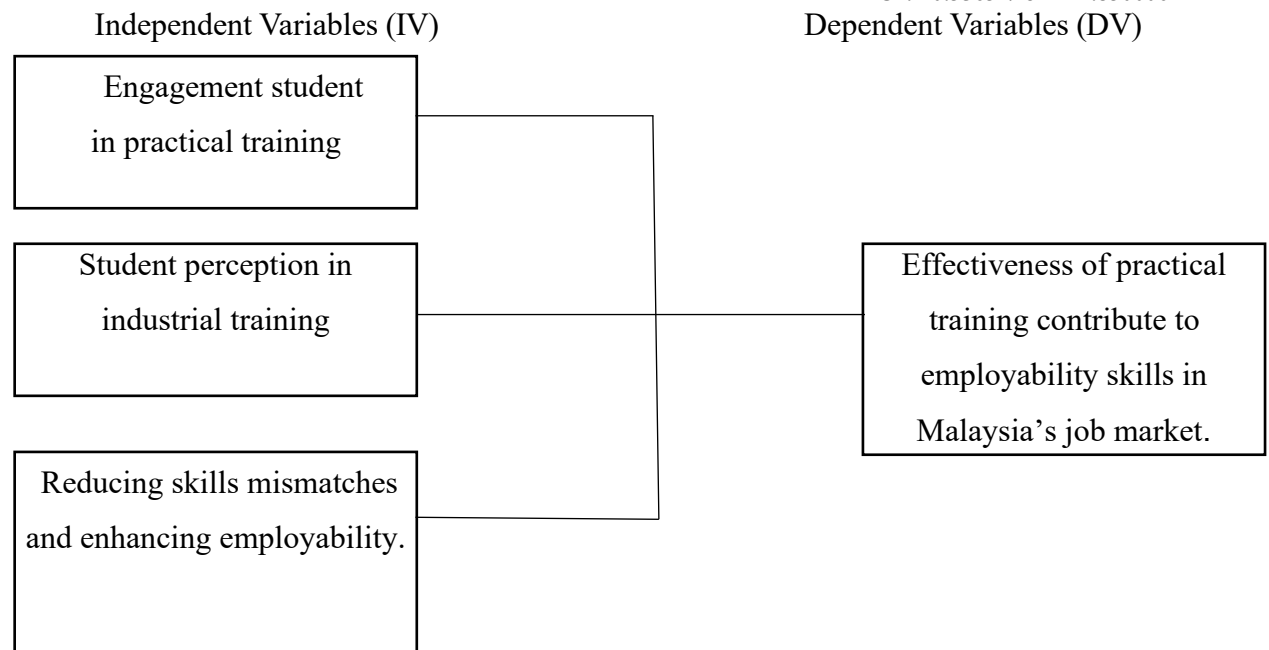


Figure 1: Conceptual Framework

Research Methodology

Research Design

This study employed a quantitative, descriptive research design, which is suitable for collecting and analyzing numerical data to identify trends and relationships (Kothari, 2004). The objective was to examine how student engagement in practical training affects employability perceptions among final-year students. The study used both primary data, collected through structured questionnaires, and secondary data from credible sources such as journal articles, books, and online publications. This mixed data approach allowed a comprehensive analysis of the research topic. Figure 1 illustrates the flowchart of the research process, outlining the sequential steps undertaken in this study; from the initial literature review to the final interpretation of results. This flow provides a clear overview of how the research was systematically planned and executed. It begins with an extensive review of relevant literature to identify gaps and establish the research framework, followed by the design and distribution of a structured questionnaire. Data collection was then carried out within the specified timeframe and location. After cleaning and organizing the data, statistical analysis was conducted using SPSS to derive meaningful insights. Finally, the findings were interpreted to address the research objectives and propose actionable recommendations. This structured process ensured the study was carried out in a logical, coherent, and reliable manner.

Time and Location of the Study

The study was conducted over a two-month period from February to March 2025, at Universiti Teknologi MARA (UiTM) Seremban 3, specifically within the Faculty of Administrative Science and Policy Studies. The university's setting provided access to final-year students who had recently completed their industrial training, ensuring relevant and timely responses.

Unit/Level of Analysis

This study focused on individuals as the primary research variables. Specifically, the research targeted final-year students from UiTM Seremban 3, enrolled in the Faculty of Administrative Science and Policy Studies. To ensure a comprehensive understanding of the research topic, questionnaires were distributed among students from three different courses within the faculty. The selection of these respondents was intentional, aiming to capture diverse perspectives that would enhance the interpretation of results. By including students from multiple academic disciplines, the study aimed to achieve broader generalizability, ensuring that the findings could benefit a wider student demographic. This approach also allowed the researchers to explore similarities and differences in students' perceptions of teaching quality across various academic fields, thereby strengthening the study's overall validity and significance.

Sample Size

Given the time constraints associated with completing this research, it was impractical to survey the entire student population of UiTM Seremban 3. Instead, a sampling approach was adopted. The total population of final-year students in the selected faculty comprised 319 individuals across three different courses. To determine the appropriate sample size, the study utilized the sampling method proposed by Krejcie and Morgan (1970), which provides a standardized approach to sample size determination. According to their recommendations, the suitable sample size for this study was determined to be 175 students, ensuring a representative and statistically reliable selection of respondents.

Sampling Techniques

For participant selection, the study employed convenience sampling, which involved selecting respondents based on accessibility while minimizing subgroup classifications. Convenience sampling was chosen due to its efficiency in gathering data within a limited time frame. The target population consisted of final-year students in the Faculty of Administrative Science and Policy Studies who were both willing and easily accessible for participation. The researchers collaborated with class representatives to identify potential participants and obtain consent. This method facilitated the recruitment of students who were physically present and voluntarily participated in the study, thereby minimizing administrative barriers. The adoption of convenience sampling enabled the researchers to efficiently collect the necessary data while ensuring meaningful insights from the target respondents.

Measurement/Instrument

The measurement instrument used in this study was a structured questionnaire, divided into five sections. Section A collected demographic data, including gender, age, and academic course, while also inquiring whether students had participated in practical training programs and, if so, in which sector. Section B focused on students' engagement in practical training, assessing aspects such as participation in relevant tasks, supervisory feedback, opportunities for skill enhancement, and confidence-building experiences. Section C explored students' perceptions of industrial training, evaluating the relevance of training programs, the balance between technical and soft skills development, and the alignment of training with industry demands. Section D examined the role of practical training in reducing skills mismatches and enhancing employability, while Section E assessed the overall effectiveness of practical training in contributing to employability within Malaysia's job market. Each section comprised multiple items designed to capture students' experiences and perceptions in a structured manner.

Data Collection

a)Primary Data

Primary data for this study was collected through the structured questionnaire, divided into three key sections. The first section gathered demographic details such as age, gender, and academic background. The second section focused on dependent variables, specifically the effectiveness of practical training in enhancing employability within Malaysia's job market. The final section addressed independent variables, including student engagement in practical training, perceptions of industrial training, and efforts to reduce skills mismatches while improving employability prospects.

b)Secondary Data

In addition to primary data, the study incorporated secondary sources to provide theoretical and contextual support. Secondary data played a crucial role in shaping the literature review section in Chapter 2, offering insights from previous research that strengthened the study's foundation. These sources included academic books, peer-reviewed journal articles, online publications, and other credible references. By integrating secondary data, the researchers ensured a well-rounded understanding of the subject matter while validating the study's research questions and conceptual framework. This approach allowed for a more comprehensive analysis, linking the study's findings to established literature in the field.

Data Analysis

The collected data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 20. This software was chosen due to its reliability, efficiency, and compatibility with quantitative research datasets. SPSS enabled the researchers to conduct various statistical tests, generate descriptive statistics, and identify patterns within the data through structured analysis. Two primary statistical approaches were employed in the study: descriptive statistics and correlation analysis. Descriptive statistics provided an overview of participant demographics, including frequency distributions, percentages, means, and standard deviations. This approach facilitated the identification of trends and response patterns within the dataset. Correlation analysis was used to examine the relationships between independent and dependent variables, determining whether significant associations existed between students' engagement in practical training, perceptions of industrial training, skills mismatches, and overall employability outcomes. Pearson correlation analysis was specifically utilized due to its effectiveness in measuring linear relationships between interval-scale variables.

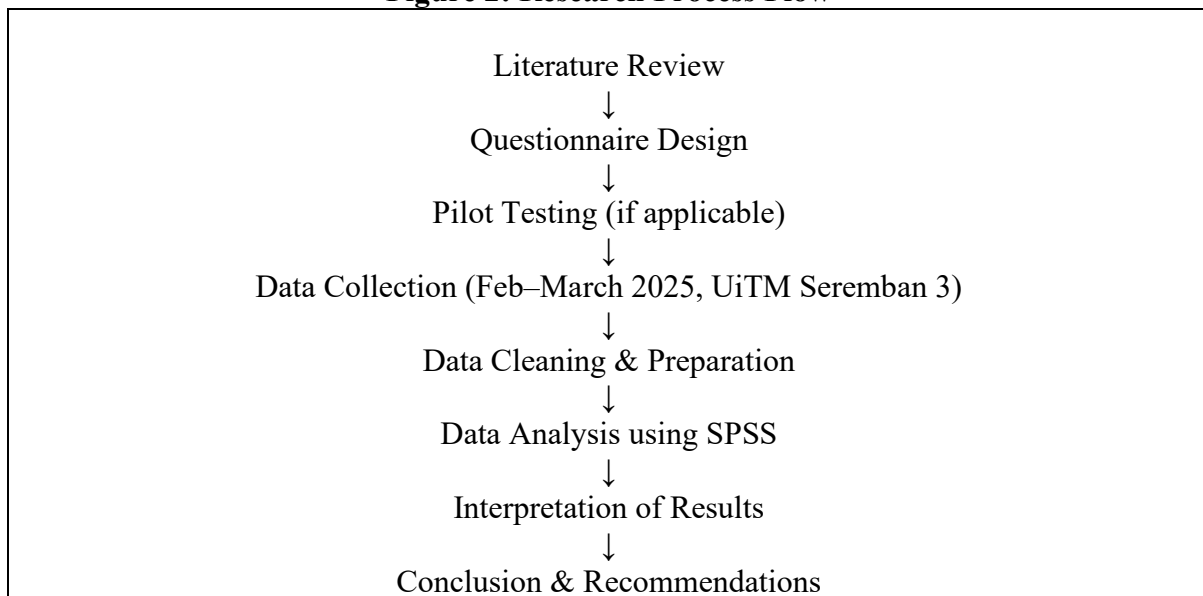
Descriptive Statistics

Descriptive statistics were employed to organize and summarize the collected data, establishing connections between variables within both the sample and overall population. The first stage of data analysis involved descriptive statistical techniques to present an orderly dataset before conducting inferential statistical tests. Researchers used measures such as frequency counts, central tendency indicators (mean, median, mode), and dispersion metrics (range, standard deviation) to assess data distributions and identify significant trends. The classification of variables into nominal, ordinal, interval, and ratio scales further enhanced data interpretation. This analytical approach allowed for a structured examination of the research findings, bridging the gap between raw data and advanced statistical techniques (Yellapu, 2018).

Correlation Analysis

To examine relationships between the dependent and independent variables, correlation analysis was conducted. This method enabled researchers to measure the degree of association between variables, identifying whether they exhibited positive or negative relationships. Pearson correlation analysis was specifically chosen due to its ability to quantify the strength and direction of linear associations between interval-scale variables. The study applied correlation analysis to assess the interconnections between student engagement in practical training, perceptions of industrial training, efforts to reduce skills mismatches, and the overall effectiveness of practical training in enhancing employability within Malaysia's job market.

Figure 2: Research Process Flow



Findings and Analysis

Objective 1: Student Engagement in Practical Training and Employability Skills

The Pearson correlation analysis indicates a significant and strong positive relationship between student engagement in practical training and its effectiveness in enhancing employability skills in Malaysia's job market ($r = 0.862$, $p = 0.001$). This result supports H1, confirming that higher engagement in training programs leads to better employability outcomes, while H0 is rejected.

These findings align with Aljumah (2023), who emphasized that structured practical training bridges academic knowledge and workplace demands. Research highlights that graduates involved in structured job training programs demonstrate enhanced employability skills, including soft skills, technical expertise, and adaptability. Yusof et al. (2024) further support this, stating that Malaysian employers increasingly value candidates with these competencies, particularly in a dynamic labor market. Graduates who engage consistently in well-structured training sessions not only gain job-specific skills but also improve critical soft skills such as communication, teamwork, and problem-solving.

Objective 2: Student Perception of Industrial Training and Employability Skills

The Pearson correlation analysis demonstrates a very strong positive relationship between students' perception of industrial training and its effectiveness in enhancing employability skills ($r = 0.887$, $p = 0.001$). This finding confirms H1, indicating that students who view industrial training positively experience greater benefits in employability skills, while H0 is rejected.

Nasreen, Halili, and Razak (2022) highlight that students' perceptions significantly impact training effectiveness, as positive attitudes often correlate with increased engagement and proactive skill acquisition. When students perceive training as relevant, well-structured, and aligned with career objectives, they are more motivated to maximize learning opportunities. Similarly, Fuzirah (2023) emphasizes that students with positive perceptions effectively integrate academic knowledge with real-world applications, thereby improving their employability. This is especially critical in Malaysia's competitive job market, where employers seek graduates with practical experience and job-relevant skills.

Objective 3: Reducing Skill Mismatches, Enhancing Employability, and the Effectiveness of Practical Training

The Pearson correlation analysis reveals an exceptionally strong positive relationship between reducing skills mismatches, enhancing employability, and the effectiveness of practical training in Malaysia's job market ($r = 0.925$, $p = 0.001$). This confirms H1, indicating that addressing skill mismatches significantly improves employability, while H0 is rejected.

Ma'dan, Ismail, and Daud (2020) assert that practical training is vital for employability, as experiential learning—such as internships, apprenticeships, and industry-driven projects—allows students to apply theoretical knowledge to real-world situations. This industry-education connection ensures graduates are equipped with essential problem-solving, teamwork, and technical execution skills. Tharim et al. (2022) further argue that industry-aligned training ensures students acquire relevant skills, reducing knowledge gaps and enhancing job readiness. In Malaysia's evolving job market, employers increasingly seek graduates who not only possess technical competencies but also demonstrate adaptability, communication, and critical thinking skills.

Recommendations for the Study***Enhancing Graduate Employability through Tracking Systems and Employer Feedback***

Graduate tracking systems like the Career Registration Methodology (CRM) play a vital role in evaluating employability outcomes in higher education. These systems collect data on students' academic experiences and career progression, helping universities assess employability indicators such as job placement, career satisfaction, and overqualification perceptions. CRM is widely implemented in countries like the UK, Ireland, Australia, and New Zealand, with institutions like RMIT University integrating it into enrolment processes to enhance career preparedness. Employer feedback mechanisms further ensure that skills acquired through hands-on training align with industry needs, strengthening Work Integrated Learning (WIL) and Career Development Learning (CDL) programs (Stephens et al., 2024).

Akhmedov & Dulan (2025) highlight AI-powered tracking systems that provide real-time career monitoring, enabling universities and policymakers to use data-driven insights to improve graduate hiring outcomes. These platforms integrate employer feedback from job

portals, alumni networks, and business relations, allowing universities to align curricula with industry standards. Predictive analytics help identify skill gaps and tailor academic programs, while AI-driven career guidance directs graduates to relevant certifications, training, and job opportunities. The employer feedback component fosters industry-academic collaboration, ensuring a workforce better equipped for evolving career demands.

Enhancing Practical Training

Technical and Vocational Education and Training (TVET) initiatives in Malaysia aim to enhance youth employability by expanding hands-on training. The Malaysian Employers Federation (MEF) attributes youth unemployment to skill gaps and limited job experience, emphasizing the need for curricula that reflect industry demands. Integrating digital literacy, coding, and data analysis further equips students with relevant skills. Internships and apprenticeships bridge the gap between theory and practice, fostering workforce readiness (Sinar Harian, 2024).

Universities worldwide, such as Nanyang Technological University (NTU) in Singapore, mandate internships as a graduation requirement. Research by the Singapore National Employers Federation (SNEF) underscores the importance of structured internships exceeding 12 weeks to ensure meaningful skill acquisition. Strengthening partnerships between universities and industries can align academic programs with workforce expectations, addressing job mismatches and experience gaps (Yeong et al., 2024).

At UiTM Seremban 3's Faculty of Administrative Science and Policy, the current three-month internship duration may limit students' industry exposure and networking opportunities. In contrast, Singapore's extended internship models provide a more comprehensive experience aligned with employer expectations. To enhance practical training, UiTM should consider extending internship periods, incorporating structured learning objectives, fostering industry collaboration, and offering flexible durations for better workforce integration.

Limitations of the Study

Scope of the Respondents

The use of convenience sampling in this study limits the generalizability of findings, as participants were selected based on availability rather than through random or stratified methods. This approach may exclude diverse perspectives from students in other universities, faculties, or regions, making results less representative of the broader population. To enhance future research validity, employing random or stratified sampling methods would ensure a more inclusive dataset.

Reliance on Self-Reported Responses

The study primarily relies on self-reported questionnaire data, which introduces potential biases such as social desirability and recall errors. Respondents may provide answers they perceive as favorable rather than accurate reflections of their experiences. Additionally, memory limitations may affect the reliability of responses, especially regarding past training experiences. Future studies should incorporate objective measures, such as direct employer feedback or observational assessments, to complement self-reported data and provide a more comprehensive analysis.

Conclusion

This study set out to achieve three main objectives: to examine the relationship between student engagement in industrial training and perceived employability, to explore students' perceptions of industrial training in enhancing career readiness, and to analyze the extent to which practical training reduces skill mismatches in Malaysia's job market. Based on the findings, all these objectives were successfully achieved.

The results demonstrated a strong correlation between student participation in industrial training and their confidence in entering the job market. Practical training was shown to play a critical role in developing both technical and soft skills, such as communication, problem-solving, and adaptability—qualities highly valued by employers. Furthermore, the study found that students perceive industrial training as highly relevant in bridging the gap between academic learning and industry expectations, especially in addressing skill mismatches.

Key factors that influence the effectiveness of industrial training include the level of student engagement, the quality of mentorship, and the relevance of assigned tasks. These insights underscore the importance of well-structured, meaningful internship programs integrated within higher education curricula.

To further enhance the impact of industrial training, this study recommends extending internship durations, reinforcing university-industry collaborations, and incorporating real-time industry projects into student learning experiences. Continuous assessment and curriculum alignment with evolving industry trends are also vital to ensure training programs remain relevant and impactful.

By addressing these areas, higher education institutions in Malaysia can produce graduates who are not only academically qualified but also equipped with the professional competencies necessary to thrive in a dynamic and competitive global workforce.

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