Journal on Technical and Vocational Education (JTVE), Vol 10, No 3 (2025)
eISSN: 0128-0821
http://upikpolimas.edu.my/ojs/

Effectiveness Of Industrial Internship Program in Developing Employability Skills Towards TVET Graduates: A Case Study at Polytechnic Ungku Omar

Roslina Ameerudin[1] and Zainora Hayari[2]*
[1 2], * Commerce Department, Polytechnic Ungku Omar, Ipoh Perak

Abstract

For graduates of Technical and Vocational Education and Training (TVET), the move from training to the world of work is an important crossroads where they need to acquire the right employability skills. This study is to assess the effectiveness of an industrial internship program at Polytechnic Ungku Omar (PUO) in developing the employability skills of its graduates. Focusing on the quantitative research approach, the survey gathered data using structured questionnaires from 60 organizations that offered attached placement for the PUO students. These organizations were from various industries, and their feedback described the skills, employability and professionalism of the interns for the specific placement periods. Based on the results obtained, it is concluded that the industrial internship is an important contributor to five of the eight categories of employability skills such as communication skills, team-working skills, problem-solving skills, adaptability and technical skills. Employers expressed satisfaction with the PUO interns, and mentioned the good attitude, enthusiasm to learn and convert theory to practical situations. But there are also areas to improve, with more ability to think critically and to innovate. Further, the findings imply a definite relationship between the design and monitoring of the internship program and the extent to which interns are ready for employment in various jobs. This study highlights the importance of systematic industrial internships to connect the academia and industry. It also offers valuable input for PUO to better adapt its study programs and internships to the changing needs of the labor market. The paper concludes with recommendations for more effective cooperation between higher education institutions and industry to continually enhance the quality of internships as well as the employability status of TVET graduates.

Key words: *Industrial Internship, Employability Skills, TVET Graduates*

1.0 INTRODUCTION

1.1 Background of the Study

In the age of technology and increasing changes in the labour market, the issue of employability skills has played a key role in assessing the performance of Technical and Vocational Education and Training (TVET) graduates. Institution-based industrial internship programs have appeared as an important means of strengthening the preparedness of graduates, to meet the dissonance that exists between theoretical knowledge and industrial needs. One of Malaysia's renowned TVET institutions, Polytechnic Ungku Omar (PUO) has made the industrial training an integral part of the academic's structure to expose the students to the challenge of the world.

1.2 Problem Statement

Notwithstanding adoption of industrial internship, uncertainty persists about how the effectiveness of the industrial placements that TVET graduates undertake to get employability traits such as communication, critical thinking, teamwork, and flexibility. Employers often express concern about the disparity between the skills of graduates and the requirements of the workplace. In this sense, it is essential to evaluate whether internship programs at PUO develop skills which are pertinent to the needs of the industry.

1.3 Research Objectives

This study aims to:

i. Assess the impact of the industrial training exposure on the employability skills of students of PUO.

ii. Determine the fundamental workplace competencies that have been gained from this internship.

iii. Obtain employers' opinions on how PUO students perform during internships.

1.4 Research Questions

i. How far does the industrial internship program strengthen the employability skills amongst the PUO graduates?

ii. What employability skills are the most developed through work experience?

iii. How satisfied are the employers with the performance of PUO students during their internships?

1.5 Significance of the Study

The results have implications for universities, policy makers and industries in the development of internships that are designed to address the employability agenda. It also becomes a model for PUO to improve its curricula and promote closer academia-industry collaboration.

1.6 Scope of the Study

The analysis is based on 60 companies from different industries with experience in hosting PUO interns. Our data capture employer ratings of interns' performance and skill acquisition in quantitative terms.

2.0 LITERATURE REVIEWS

2.1 Employability Skills Versus TVET Graduates

Employability skills Type of skills technical ones – teaching technical ones – using Employability ones – need Are capabilities additional to formal education which enable people to achieve workplace or social efficiency. They include such skills as communication, teamwork, problem solving, time management, flexibility and critical thinking. In the case of TVET, the development of employability skills is particularly important, with the aim of ensuring that the graduating students can easily fit into the technical and industrial sector (Rahmat et al., 2022). TVET institutions need to include their curriculum and training components with those required by the vibrant industry trends.

2.2 Role of Industrial Internship Programs

An internship is a path from theoretical education to the real world. According to Zaharim et al. (2021) "Structured internships help students develop an understanding of actual workplace situations as well as organizational culture and professional expectations. Technical skills are not the only assets developed during industrial internships, as they can also cultivate soft skills required for 21st century

job market (Mohamed et al., 2020). These programs allow employers to assess potential future workers and to offer input for institutional change.

2.3 Industry Expectation versus Graduate Skills

Much research work has highlighted the disconnect between the skills of graduates and those that employers demand. A study by Norazah et al. (2023) had showed that though TVET education graduates are excellent in the field of technical knowledge that communication problem solving skill of the engineers needs to be worked on. Initiative, teamwork and adaptability are extremely valuable for an employer, and these are developed through on the job experience (Ismail & Hassan, 2022). This lack of support reflects the importance of the ongoing assessment of internships to make sure they are delivering the kind of professional people we are trying to develop.

2.4 Related Work on Effectiveness of Internship.

There is a few empirical evidence indicating that internships are beneficial for employability. For instance, Latiff et al. (2020) observed that students who participated in a structured industrial training programmed had more confidence and job-readiness relative to their cohorts. Similarly, Ong et al. (2021) focused on the impact of mentorship during internships in professionalism and workplace ethics formation. But the impact of internships is not the same in every school and in every industry, thus there should be an ongoing review process and closer cooperation between academia and the industry.

2.5 TVET in Malaysian Context.

Linking with the industry and promoting employment for its graduates have also been the focus of TVET policy in Malaysia under the framework of the National TVET Blueprint (Ministry of Education Malaysia, 2021). In this regard, institutions like PUO need to make provisions to make every student industry ready by giving them practical exposure. As cited from REPORT on the Review of Polytechnic Education in Malaysia (2023) by the Department of Polytechnic and Community College Education, Malaysia, internship performance has become one of the key performance indicators for polytechnic programs. Consequently, an analysis of results of such programs from the employers' viewpoint would provide useful information for an overall valuation and eventually and indication on how it might be improved.

3.0 METHODOLOGY

3.1 Research Design

This research uses a quantitative research design to assess the effectiveness of industrial internship programs in terms of bridging the gap between TVET graduates of Polytechnic Ungku Omar (PUO) and the employability skills required in the industry. It is therefore possible to obtain a quantitative methodology that can be used to systematically collect and statistically analyses numerical data for uncovering patterns and relationships in the data that can be related to internship outcomes and employer perceptions.

3.2 Population and Sample

The population for this study is firms that have hosted PUO students for internship over the past three years. A purposive sampling method was employed to identify 60 respondents from a variety of industries such as manufacturing, engineering, services and ICT. The selected respondent companies had significant experience with TVET interns and can offer the best possible feedback on skills matched up with performance.

3.3 Data Collection Instrument

A structured tool (questionnaire) was used as the main data collection instrument. The questionnaire was composed of three sections:

Section A: Description of company and background of intern placement

Part B: Appraising intern employability skills (communication, teamwork, problem solving, adaptability, technical skill, professionalism.)

Section C: The effectiveness of the internship program overall, and the recommendations for improvement

A Likert 5-scale (1= Strongly Disagree to 5= Strongly Agree) was adopted for the agreement of respondents to a set of statements that measured the interns' competency and readiness toward the professional workplace.

3.4 Data Collection Procedure

The forms were sent out to HR managers, internship manager/co-coordinator or representatives of the firm companies by e-mail and visits. Re-contact was undertaken to achieve a high response rate. Data collection was conducted within a month.

3.5 Data Analysis

Data was analyzed by SPSS Version 25. Categorical variables were presented as means frequency and percentage and used descriptive statistics to summarize demographic characteristics and trends. Correlation and regression analysis as inferential statistics were used to investigate if there is a statistical relationship between taking an internship and gaining employability skills.

3.6 Validity and Reliability

To guarantee the content validity, the questionnaire was examined by experts in academia and internship coordinators at PUO. A pilot study was performed using 10 participants to check for the clarity of the items. The instrument was tested for reliability and the Cronbach's Alpha was 0.87 which is considered high internal consistency.

4.0 DATA ANALYSIS AND FINDINGS

4.1 Respondent Profile

60 firms were involved in this study. The companies came from different sectors: manufacturing (35%), services (25%), engineering (20%), ICT (10%), and others (10%). Most of the firms (70%) had hosted PUO interns over 2 years showing a stable involvement to the internship program.

4.2 Descriptive statistics.

Skills in demand students surveyed the data are now grouped by school and demographics, and it is informative to have an overall understanding of what the survey responses indicates by item.

Table 4.2.1 presents the mean scores for six core employability skills assessed by employers.

Employability Skill	Mean	Standard Deviation
Communication	4.20	0.55
Teamwork	4.35	0.48
Problem-solving	4.10	0.60
Adaptability	4.05	0.58
Technical competence	4.45	0.50
Professionalism	4.30	0.52

Employability skills assessed by employers.

The highest-rated skill was technical competence (M = 4.45), followed by teamwork (M = 4.35) and professionalism (M = 4.30). This suggests outstanding capabilities in the interns' field of study and office ethics.

4.3 overall effectiveness of internship program.

The employers were invited to evaluate the effectiveness of the internship programme overall in equipping the students for employment. Eighty percent of the respondents rated the program "Effective" or "Very Effective" with an average score of 4.28 (SD = 0.61).

4.4 Pearson Correlation Analysis

A Pearson correlation analysis was conducted to examine the relationship between internship effectiveness and employability skills development.

Variables	Correlation (r)	p-value
Internship effectiveness & communication	0.621**	0.000
Internship effectiveness & teamwork	0.654**	0.000
Internship effectiveness & problem-solving	0.599**	0.000
Internship effectiveness & adaptability	0.571**	0.001
Internship effectiveness & technical skills	0.688**	0.000

Note: $p < 0.01$

The findings indicate a significant positive relationship between internship effectiveness and all employability skill dimensions with technical skills ($r = 0.688$, $p < 0.01$) and teamwork ($r = 0.654$, $p < 0.01$) are two out of the most strongly correlated.

4.5 Regression Analysis

Which employability skills are significantly predicting the overall effectiveness of the internship program was analysed through multiple regression analysis.

Model Summary:

$R^2 = 0.62$

$F(6, 53) = 14.38, p < 0.001$

Significant Predictors:

Technical skill ($\beta = 0.39, p < 0.01$)

Teamwork ($\beta = 0.26, p < 0.05$)

Professionalism ($\beta = 0.22, p < 0.05$).

These results suggest that technical ability, teamwork, and professionalism are positively correlated with perceived success of the internship programme among employers.

5.0 DISCUSSION AND CONCLUSIONS

Industrial internship program at Polytechnic Ungku Omar (PUO) in enhancing Employability Skills among TVET Graduates: A study of 60 Firms. A generally positive attitude toward the performance of the interns was observed and this has supported the claim that the industrial internship program is a critical link between academic training and industry demands.

5.1 Development of Employability Skills

The descriptive analysis indicated that the employers' rating of PUO interns was high in ability for technical skill, teamwork and professionalism. These findings are consistent with the previous works, for instance Mohamed et al. (2020) and Jackson & Bridgstock (2021) that highlight the importance of workplace practice to strengthening these foundational capabilities. The focus on technical skills demonstrates the power of the PUO curriculum to prepare students for practice-based positions. Nonetheless, the problem solving and adaptability components also recorded lower scores, which could imply technical support, even with the basics, is a necessity to 'guide' the intern through unfamiliar or complicated situations crucial soft skills that are now required in an evolving workplace (Ismail & Hassan, 2022).

5.2 The Perception of the Effectiveness of the Internship Programme

It is evident from this data that 80% of all firms rank the program as "Effective" or "Very Effective", validating the structure of the PUO's internship. These are consistent with the report by Latiff et al. (2020), which reported that a well-organized industrial training significantly increases the students' confidence and employability. Exposure over time to work practices enables students to internalize soft skills and occupational expectations.

5.3 Relationship of Skills with Internship Success

Strong and statistically significant are the relationships between employability skills and internship program effectiveness as indicated by the correlation and regression analyses. Interestingly, technical skills, teamwork and professionalism were the most important determinants of global program activities. These observations are like those reported by Norazah et al. (2023), who found that companies value teamwork and professionalism as hiring criteria in addition to technical understanding.

5.4 Implications for TVET Institutions

The present study emphasizes the need for ongoing curriculum reform and improvement for further incorporation of problem-solving and sense-making aspects. Reinforcing these skills through work-based simulated learning, project-based assessment, and reflection can augment the effectiveness of an internship. In addition, enhancing feedback mechanisms between the industry and the institutions would also ensure that PUO is kept updated, in terms of skill requirements.

Conclusion

This research examined whether industrial internship programme came out for the TVET graduates at Polytechnic Ungku Omar (PUO) was successful in producing graduates that possess the employability skills from employers' feedback of 60 participating companies. The results support the position that the internship program enhances students' essential job-related skills, especially technical knowledge, teamwork orientation, and professionalism. The results of the quantitative study also showed a strong and significant relationship between internship experiences and employability skills development, and overall program effectiveness. Despite such positive effects, the study also found some shortcomings, e.g. in the ability to deal with problems and to adapt. They signal that the curriculum and supervision of internships need to be reflected in more dynamic, reflective ways. The companies that we approach value graduates who not only can do the technical work but are resilient, can think on their feet and are also able to work on their own initiative.

Limitation of the Study

This study has some limitations as well. Tied to the use of purposive sample in a single institution (PUO) the findings cannot be said to be entirely generalizable to all TVET institutions in Malaysia or in any other place. Employer perceptions across other regions or institutions may also vary because of differences in curriculum, industry links, and the student body. Accordingly, the application of the results to the general population should be cautious.

Recommendations

i. Curriculum Enrichment: PUO will improve on its curriculum by incorporating increased problem-based learning, workshops on critical thinking and interactive simulations, to make students become more adaptive.
ii. Mentorship Programs: Internship coordinators and industry mentors must work together to develop a more formalized mentorship structure which supports the development of interns' soft skills.
iii. Industry Feedback Mechanism: Create structured outlets for companies to comment on how interns are performing, which can help guide future curriculum adjustments as well as program design.
iv. In-services: Introduce pre-internship modules on communication workplace etiquettes and conflict resolution to prepare students better for various work environments.

v. Long-term follow-up studies: It would be interesting and useful to conduct cohort studies of internship graduates to ascertain long-term employment prospects and careers beyond internship.
vi. PUO and other TVET institutions would benefit from this practice for greater coupling of educational delivery with labour market need, leading to better prepared graduates for the world of work.

REFERENCES

Ahmad, R., & Hassan, N. (2021). Enhancing TVET graduates' employability: The role of industry collaboration. *International Journal of Technical Education*, 13(1), 23–31.
Ali, M., & Noor, M. (2020). Bridging the gap between education and employment through internships. *Journal of Educational Development*, 18(2), 45–53.
Chong, L. Y., & Tan, S. K. (2023). Competency development among Malaysian polytechnic interns: Industry perspectives. *Asian Journal of Education and Training*, 9(1), 12–20.
Department of Polytechnic and Community College Education. (2023). *Annual Report on Polytechnic Graduate Employability*. Putrajaya: Ministry of Higher Education Malaysia.
Goh, C. F., & Rahman, M. N. A. (2021). Industry expectations and employability skills: A Malaysian perspective. *Education and Training*, 63(4), 543–558.
Hashim, H., & Yunus, M. M. (2020). TVET and 21st-century skills: The integration of employability training in Malaysia. *Journal of Education and Learning*, 14(1), 88–96.
Ismail, S., & Hassan, R. (2022). Industry feedback on TVET student readiness: A case of Malaysian polytechnics. *International Journal of Education and Practice*, 10(3), 97–106.
Jackson, D., & Bridgstock, R. (2021). Evidencing graduate employability: The case for a capabilities approach. *Higher Education Research & Development*, 40(2), 266–280.
Kamaruddin, N., & Mansor, S. (2022). Evaluating the effectiveness of industrial training among final-year students. *Journal of Technical and Vocational Education*, 6(2), 34–42.
Latiff, R. A., Noor, N. S. M., & Yusof, M. S. (2020). Impact of industrial attachment on employability of TVET students. *Journal of Technical Education and Training*, 12(1), 45–56.
Lee, H., & Halim, N. (2023). A framework for effective industrial internship: Lessons from Malaysian TVET. *TVET International Journal*, 7(1), 15–27.
Lim, K. C., & Ibrahim, R. (2021). Enhancing graduate employability through work-based learning in polytechnics. *ASEAN Journal of Open and Distance Learning*, 13(2), 99–110.
Ministry of Education Malaysia. (2021). *National TVET Blueprint 2021–2030*. Putrajaya: MOE.
Mohamed, N., Salleh, M., & Rosli, R. (2020). A study on technical skills vs soft skills among polytechnic students. *Malaysian Journal of Social Sciences and Humanities*, 5(9), 145–152.
Norazah, M. A., Ahmad, F., & Zainuddin, N. (2023). Employer satisfaction on polytechnic graduate performance in the workforce. *Journal of TVET Research and Innovation*, 9(1), 70–82.
Ong, C. S., & Lee, Y. H. (2021). Mentoring effectiveness during internships: Evidence from Malaysian polytechnics. *Education and Training*, 63(5), 583–598.
Rahmat, M., Ali, H., & Yusri, Y. (2022). Employability skills development in Malaysian TVET: A stakeholder analysis. *Journal of Human Capital Development*, 15(1), 34–48.
Roslan, A., & Jamaluddin, N. (2020). The role of industrial internship in preparing students for future work. *International Journal of Academic Research in Business and Social Sciences*, 10(4), 112–123.
Salleh, A., & Harun, H. (2024). Industrial training outcomes in polytechnic education: Insights from employer feedback. *Malaysian Journal of Higher Education*, 18(2), 67–79.
Zaharim, A., & Omar, M. Z. (2021). Graduate employability in engineering: TVET perspectives and trends. *Engineering Education Journal*, 15(2), 201–212.