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Measuring Success: Evaluating the Impact of Industry Involvement on the Sustainability of Work-Based Learning Programs in Polytechnics

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ABSTRACT

Work-based learning (WBL) is an educational approach that integrates theoretical knowledge and work experience in the industry, preparing students with relevant skills to enter an increasingly complex job market. The success of the work-based learning approach in producing skilled workforce cannot be denied. The involvement of industries plays a crucial role in ensuring that work-based learning is continuous and sustainable. Industries are not only involved at the initial stage or during the formation of WBL education programs but also continue to contribute and support throughout the learning period and even after students graduate from Polytechnics. Therefore, a study has been conducted to measure the level of industry involvement in the sustainability of the implementation of work-based learning (WBL) in Malaysian Polytechnics. Industry involvement in the context of this study is measured based on four factors: governance, organizational motivation, facilities, and curriculum understanding. This study was conducted using a quantitative research method where the respondents consisted of 91 WBL supervising lecturers. IBM SPSS version 26 was used to analyze the data of this study. The findings indicate that the level of industry involvement in the sustainability of the WBL approach in polytechnics is high.

Keywords: *Work-Based Learning (WBL); Sustainability; Industry Involvement. Quantitative.*

INTRODUCTION

The Work-Based Learning (WBL) approach enables students to acquire industry experience that is relevant to their field of study. This helps bridge the gap between industry requirements and the skills possessed by graduates from polytechnics. Active and constructive experiences can greatly enhance important student attributes, including self-confidence, innovation and creativity, professionalism, and communication skills.

The Involvement of industries is crucial for the successful implementation of the WBL approach. According to Adam, Rasul & Mohamad Yasin (2017), industries play a vital role in Technical and Vocational Education and Training (TVET) to ensure that graduates meet the demands of the job market. Strong collaboration between institutions and industries is necessary for the effective development of the WBL method (Ismail et al., 2021; Mohd Rashid et al., 2022). The WBL approach is designed and implemented in partnership with industries (Liyanage et al., 2013; Mohammad Sattar Rasul, A. Azman, Muhammad Rumzi, Halim Iskandar, 2014). Industrial involvement encompasses various factors such as governance, organizational facilities, curriculum dissemination, and organizational motivation. Issues of curriculum understanding by industry, limited facilities in industries can negatively impact the success of WBL implementation (Mohd Rashid et al., 2022; Department of Polytechnic Education, 2017). Therefore, this study aims to examine the influence of industrial involvement on the sustainability of the WBL approach at Polytechnics, from the perspective of monitoring lecturers. The findings of this study will provide recommendations for future improvements to ensure the long-term sustainability of the WBL approach at a high standard.

METHODS OF RESEARCH

This study used a quantitative, descriptive approach to examine how industrial involvement impacts the sustainability of the WBL approach in Malaysian Polytechnics. Quantitative research design, as explained by Creswell (2003), has the advantage of focusing on individual assessments. Additionally, Cohen, Manion, and Morrison (2011) stated that quantitative data can provide accurate information from primary sources, reducing bias in data collection and interpretation. The study collected data cross-sectionally, meaning that information was gathered only once from the participants

To collect data, a set of survey questionnaires was developed and distributed to monitoring lecturers responsible for overseeing the implementation of WBL in industries. In total, there were 122 monitoring lecturers, and 91 of them participated in the study. The researchers used IBM-SPSS version 25 software to analyse the collected data. Descriptive and inferential analyses were conducted to address the research objectives.

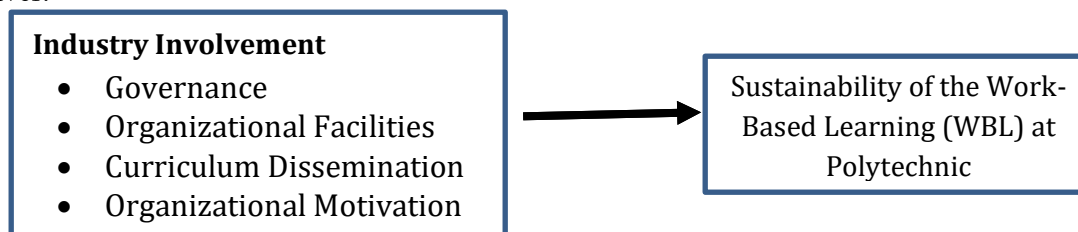


Figure 1: Research Framework

DATA ANALYSIS AND FINDINGS

In order to analyze the demographic profile, the frequencies and percentage of the respondents who participated in the study were presented. Basically, the analysis was to describe the demographic profile of monitoring lecturer and their teaching experience. The collection of the data for 91 respondents is used for descriptive analysis

Table 1. Respondent's Profile

Criteria		Frequency	Percentage
Gender	Male	19	20.9
	Female	72	79.1
Academic Qualification	Degree	27	29.7
	Master	56	61.5
	PhD	8	8.8
Additional Qualification	Professional Certificate	29	31.9
	Skill Certificate	13	14.3
	Nil	49	53.8
Teaching Experience	0-5 years	12	13.2
	6-10 years	26	28.6
	11-15 years	31	34.1
	16 years and above	22	24.2
Monitoring according to academic field	Yes	81	89
	No	10	11

Referring to the table 1, a total of 91 monitoring lecturers participated in this study. Of these, 20.9% were male monitoring lecturers and 79.1% were female monitoring lecturers. In terms of academic qualifications, the majority, 61.5% or 56 individuals, held a Master's degree. Twenty-seven individuals or 29.7% had undergraduate degrees, while 8 individuals (8.8%) had the highest academic qualification, a Doctorate (PhD). Additional certificates refer to professional certificates held by monitoring lecturers. The study findings show that 31.9% or 29 monitoring lecturers possessed professional certificates, and 14.3% or 13 individuals had skills certificates. The remaining lecturers did not have any additional certificates, as shown in Table 1. Regarding teaching experience, the majority, 34.1% or 31 individuals, had teaching experience in Polytechnics ranging from 11 to 15 years. Additionally, 28.6% or 26 individuals had teaching experience in Polytechnics ranging from 6 to 10 years. A total of 24.2% or 22 individuals had more than 16 years of experience working in polytechnics. Only 13.2% or 12 individuals had less than 5 years of experience working in polytechnics and being involved in the WBL program. The majority of the respondents, specifically 89.0% or 81 individuals, who monitored WBL students did so according to their academic qualifications. Only 11.0% or 10 individuals monitored WBL students in a field not related to their academic qualifications

In this study, the level of industrial involvement in the WBL approach in Polytechnics is assessed using four main dimensions: governance, curriculum dissemination, organizational motivation, and organizational facilities. The findings of the research indicate a high level of industrial involvement. This

is evident in Table 2, where all four measured dimensions have high minimum average values. The interpretation of these minimum scores is based on Moidunny's (2009).

Table 2: Mean Score Analysis

	N	Mean	Standard Deviation	Interpretation
Sustainability of WBL Program	91	4.530	0.4325	Very High
Governance	91	4.053	0.4418	High
Organizational Facilities	91	3.765	0.3736	High
Curriculum Dissemination	91	4.199	0.4911	High
Organizational Motivation	91	3.839	0.4912	High

In order to access the relationship between industrial involvement and the sustainability of the Work-Based Learning (WBL) approach in Polytechnics, correlation and regression analyses were utilized. Correlation analysis helps to illustrate the connection between independent variables and dependent variables, and correlation values can range from -1.00 to +1.00. According to Pallant (2005), a Pearson Correlation value between 0.5 and 1.0 indicates a strong relationship, 0.3 to 0.49 suggests a moderate relationship, and 0.10 to 0.29 suggests a weak relationship. This aligns with the of Hair et al. (2006), where larger correlation coefficients indicate stronger relationships or unity levels. A coefficient exceeding 0.5 represents a strong correlation, while a coefficient between 0.5 and 0.2 represents a moderate or moderate correlation. Any coefficient below 0.2 is considered to indicate a weak correlation.

The research findings (Refer table 3) reveal that the governance factor has a strong correlation with the sustainability of the WBL approach in Polytechnics ($r=0.576$, $p<0.01$). This is followed by the curriculum dissemination factor ($r=0.550$, $p<0.01$). Furthermore, the organizational facilities factor ($r=0.475$, $p<0.01$) and industrial motivation factor ($r=0.446$, $p<0.01$) show a moderate correlation with the level of sustainability of the WBL approach in Polytechnics. In the regression analysis (Refer table 4), it was found that the governance variable explains 40.6% of the variance in the sustainability of the WBL approach in Polytechnics ($R^2 = 0.406$, $F = 14.716$, $p < 0.05$)

Table 3: Correlation Analysis

	WBL Sustainability	Governance	Organizational Facilities	Curriculum Dissemination	Organizational Motivation
WBL Sustainability	1				
Governance	.576**	1			
Organizational Facilities	.475**	.552**	1		
Curriculum Dissemination	.550**	.634**	.561**	1	
Organizational Motivation	.446**	.461**	.557**	.662**	1

Note: **correlation is significant at $p<0.01$, * $p<0.05$

Table 4: Regression Analysis

	β	t-value	Sig.
(Constant)		3.959	.000
Governance	.334	2.954	.004
Organizational Facilities	.126	1.138	.258
Curriculum Dissemination	.216	1.674	.098
Organizational Motivation	.080	.690	.492
R ²	.406		
F	14.716		
Sig	.000		

Work-Based Learning (WBL) is a collaborative approach to teaching and learning that involves cooperation among the education sector, relevant industries, and students themselves. WBL combines academic study with real-world workplace experiences, providing students with valuable hands-on training (Little, 2006; Seufert, 2000; Anuar, Sultan, & Shah, 2019). This highlights the crucial role of industrial involvement in ensuring the sustainability of the WBL approach in Polytechnics. Industries are capable of generating knowledge by integrating traditional learning with practical training in real workplace settings.

In Polytechnics, the process of selecting industries to facilitate the WBL approach is carried out systematically and carefully. Clear guidelines are in place to ensure that chosen industries demonstrate a high level of commitment. These industries actively contribute to improving WBL programs implemented in their premises. Industries play a vital role in providing input to TVET institutions regarding curriculum, training content, and industry developments, thus reducing mismatches between industry requirements and TVET institutions. In conclusion, high industrial involvement in terms of governance, organizational motivation, facilities, and curriculum dissemination enhances the sustainability of the WBL approach in Polytechnics.

WBL is an effective education and training approach that significantly enhances the employability of students from educational institutions, especially Polytechnics. Through WBL, students gain valuable job skills, ultimately boosting their chances of success in the job market. Therefore, as TVET education institutions offering WBL programs, Polytechnics and Community Colleges under the Ministry of Higher Education must continuously improve the WBL approach to remain relevant and competitive in today's increasingly competitive education sector.

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