Outcome-Based Education Among Polytechnic Institutions: Assessing The Level Of Understanding Among Lecturers At Politeknik Tuanku Syed Sirajuddin

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ABSTRACT

Outcome-Based Education (OBE) briefly in Politeknik Tuanku Syed Sirajuddin (PTSS) reflects a structured, student-centred approach that aligns educational processes with clearly defined outcomes. Despite national mandates and international trends encouraging OBE implementation, challenges persist in ensuring consistent understanding and application among lecturers. The problem statement highlights that while OBE has been embraced, its effective integration into curriculum design, assessment strategies, and instructional methods requires further investigation to ensure educational quality at PTSS. The objective of this research is to assess the level of comprehension and execution of OBE among lecturers at PTSS, focusing on their understanding of curriculum development, assessment techniques, and instructional strategies. In this study, data was collected using a quantitative questionnaire from 162 lecturers at PTSS. The findings show that lecturers have a high level of understanding of OBE, including curriculum, instructional, and assessment. The research indicates that lecturers understand how to design curriculum, implement teaching methods, and assess learning outcomes based on OBE. However, the study suggests workshops or seminars to enhance lecturers' understanding of the concept of OBE and ensure more effective alignment with CLOs and PLOs. Based on these findings, it is recommended that future efforts include continuous professional development for lecturers, focused on strengthening assessment techniques and instructional delivery that better reflect OBE principles. Additionally, a more structured support system for lecturers could be established to ensure a deeper, more consistent application of OBE across all departments. For future studies, researchers can carry out studies on the implementation of OBE among PTSS lecturers.

Keywords: Outcome-Based Education, Curriculum Design, Assessment, Instructional Strategies, Lecturer Competency

1.0 INTRODUCTION

Outcome-Based Education (OBE) has become a crucial approach in the delivery and assessment of higher education programs, particularly in Malaysia. This educational paradigm shifts the focus towards the achievements and competencies that students are expected to demonstrate upon

completion of their courses, thereby enhancing the relevance of academic programs to real-world applications and employability (Shyamalaprasanna et al., 2021). This transformation in educational pedagogy necessitates that lecturer possess a comprehensive understanding of OBE principles, as their grasp of these concepts directly influences the effectiveness of the teaching-learning process and students' subsequent performance in the industry (Shyamalaprasanna et al., 2021).

It is essential for lecturers to have a thorough understanding of curriculum design and assessment strategies aligned with OBE. This knowledge equips them to create high-quality learning experiences that meet both educational standards and industry expectations, ultimately enhancing the overall quality of higher education and ensuring the competitiveness of polytechnic graduates in the Malaysian job market. This research aims to evaluate the extent of understanding and readiness among lecturers at Politeknik Tuanku Syed Sirajuddin (PTSS) to implement OBE effectively.

The purpose of this study is to determine the level of understanding among lecturers at PTSS on the concepts and implementation of OBE, which is an important global education approach that focuses on learning outcomes relevant to industry and society needs. Although OBE has been integrated into the Malaysia polytechnic curriculum since 2010, it still faces implementation challenges especially in terms of understanding and implementation among lecturers. Findings from previous audits discovered most lecturers are still weak in their understanding of OBE. To overcome the problem, several briefings and OBE workshops have been implemented to lecturers. Therefore, this study was developed to see if lecturers' understanding of OBE has increased or otherwise.

The successful implementation of OBE in polytechnic institutions depends on the extent to which lecturers comprehend and adopt its principles. A lack of understanding among educators regarding OBE can lead to ineffective teaching strategies, insufficient assessment of student outcomes, and ultimately, graduates who are not adequately prepared for the demands of their respective industries, raising concerns about the quality of education provided and the employability of polytechnic students (Bakar & Rosbi, 2019). In light of this, it is essential to investigate the current level of awareness and understanding among lecturers at PTSS regarding OBE, as this will highlight potential gaps in knowledge and training that may hinder the successful implementation of this educational approach.

2.0 LITERATURE REVIEW

The importance of Outcome-Based Education in the context of higher education has been well-documented in the literature (Usman et al., 2022). Researchers have emphasized that OBE facilitates a more focused curriculum design, enhancing the alignment between educational outcomes and the competencies desired by industry stakeholders, thereby promoting higher employability rates for graduates (Shyamalaprasanna et al., 2021). Moreover, understanding the principles of OBE enables lecturers to engage in curriculum development that prioritizes clearly defined learning outcomes, ensuring that teaching methodologies and assessment align with

industry expectations and graduate capabilities, which is essential for producing competent professionals in today's competitive job market.

In Malaysia, the adoption of OBE has become a mandatory criterion for accreditation by the Board of Engineers Malaysia and the Engineering Accreditation Council. This shift emphasizes the importance of focusing on educational outcomes and ensuring that lecturers are well-trained and knowledgeable about OBE principles. Such preparation is vital to meeting accreditation requirements and equipping higher education institutions to produce skilled graduates who can excel in dynamic professional environments (Shyamalaprasanna et al., 2021).

Recent studies have highlighted the challenges faced by higher education institutions in transitioning to an OBE model, particularly in terms of ensuring that lecturers possess a comprehensive understanding of OBE principles and are able to effectively implement them in their teaching practices. These challenges not only hinder the effective delivery of educational programs but also compromise the overall educational quality, as lecturers may struggle to design appropriate assessments or address learning outcomes comprehensively, ultimately impacting student preparedness for their future careers (Wibowo & Sujarwo, 2022).

Additionally, there is a pressing need to assess the awareness and understanding of OBE among lecturers to identify specific areas for improvement and professional development, as this knowledge is integral to enhancing educational quality and ensuring that graduates meet industry standards and expectations. As such, the study aims to provide a thorough assessment of lecturers' understanding of OBE at PTSS, with the intention of informing future training programs that can bridge identified knowledge gaps.

OBE has proven to be transformative in fostering student-centric learning environments that prioritize demonstrable skills and competencies over traditional content-focused teaching methods. Research underscores that effective implementation of OBE requires not only institutional support but also the active involvement of lecturers who serve as the primary drivers of curriculum delivery (Cahapay, 2021). Lecturers' understanding and ability to operationalize OBE concepts, such as Programme Learning Outcomes (PLOs) and Course Learning Outcomes (CLOs), directly influence the alignment of teaching strategies with desired graduate attributes, such as critical thinking, problem-solving, and industry-relevant skills.

In Malaysia, polytechnic institutions play a pivotal role in Technical and Vocational Education and Training (TVET), aligning their educational outcomes with national goals of producing skilled labour for a rapidly evolving economy. However, the shift to OBE has presented challenges, particularly in resource-limited environments. A study by Wang (2015) on curriculum implementation in a polytechnic in Sabah revealed significant gaps in lecturers' understanding of OBE principles, leading to inconsistencies in teaching practices and misaligned assessments. These findings highlight the need for targeted professional development programs that equip lecturers with the necessary skills to design and implement OBE-aligned curriculum effectively.

Research also points to the importance of ongoing evaluation of lecturers’ understanding and readiness to implement OBE. According to Wibowo & Sujarwo (2022), frequent assessments and feedback mechanisms enable institutions to identify specific knowledge gaps among educators and

tailor capacity-building initiatives accordingly. For instance, workshops and hands-on training on topics like authentic assessment, competency-based grading, and active learning strategies have been shown to enhance lecturers' confidence in adopting OBE principles.

At PTSS, assessing lecturers' understanding of OBE is crucial to addressing barriers to implementation and enhancing overall educational quality. This involves evaluating their knowledge of foundational OBE concepts, as well as their ability to integrate these concepts into teaching practices effectively. Insights from such assessments can inform targeted interventions, such as modular training programs and peer-learning initiatives, to address identified deficiencies.

In conclusion, while the adoption of OBE in Malaysian polytechnic institutions presents challenges, it also offers significant opportunities to elevate teaching and learning standards. By systematically assessing and addressing lecturers' understanding of OBE, institutions can ensure that they are better equipped to meet accreditation requirements and produce graduates who are competent, employable, and capable of thriving in dynamic professional settings. Future research should continue to explore innovative approaches to support lecturers in this transformative educational model, ensuring sustainable improvements in academic and professional outcomes.

3.0 RESEARCH METHODS

The study utilized a quantitative research design to systematically evaluate the level of understanding and application of OBE among lecturers at PTSS. A quantitative approach is appropriate because it provides a structured way to collect and analyze data that can be measured quantitatively and tested statistically (Vaske, 2019). The use of a Likert scale in the questionnaire will facilitate the measurement of lecturers' perceptions and attitudes towards OBE (Vaske, 2019). This method allows the collection of data that is easily converted into numerical values that represent the intensity of the lecturer's opinion or attitude towards specific statements related to OBE.

The population for this research consists of all the lecturers currently teaching at PTSS consisting of 275 academics. Sampling from a population of 275 was 162 people (Krejcie & Morgan, 1970). A convenience sampling method was used in this study.

The main instrument for data collection is a structured questionnaire, which included both demographic questions and Likert-scale items. The questionnaire was designed based on existing literature and validated scales on OBE (Creswell, 2014). The study uses a questionnaire that has been adapted from the instrument used in a previous study conducted by the Kota Kinabalu Polytechnic Trade Department in 2022 (Banting et al., 2022). Pilot study involved 30 sample respondents and Cronbach's alpha value is above 0.7 as shown in Table 1. The use of this tested questionnaire aims to ensure continuity in data collection as well as enable comparison of results with previous studies, thus increasing the reliability and validity of the current study.

Table 1: Cronbach's Alpha

Elements of Study	Number of items	Cronbach's Alpha
Understanding OBEs	11	.974
Curriculum	5	.947
Instructional	6	.977
Assessment	8	.960
Overall	**30**	**.986**

The following table is the item for each element of the study:

Table 2: Items Assessment of OBE and Curriculum Understanding

No.		Items
The concept and implementation of OBE	OBE1	I understand the learning concept of OBE
	OBE2	I understand the Learning and Teaching activities based on OBE
	OBE3	I understand Program Aims (PAi)
	OBE4	I understand the Program Educational Objectives (PEO)
	OBE5	I understand the Program Learning Outcomes (PLO)
	OBE6	I understand the Course Learning Outcomes (CLO)
	OBE7	I understand the relationship between PAI, PEO, PLO and CLO
	OBE8	I understand the implementation of OBE in line with the PTSS vision
	OBE9	I understand the implementation of OBE in line with the mission of PTSS
	OBE10	I always vary the teaching and learning method according to the learning outcomes to make the OBE system successful at PTSS
	OBE11	I have always known that the implementation of OBE can help study programs at PTSS get accreditation from recognized bodies (MQA/ETAC/MBOT/RISM/Other)
Curriculum	KUKI1	I know how to use Constructive Alignment to plan teaching and learning delivery referring to the course syllabus.
	KUKI2	I understand the relationship of the mapping table between Course Learning Outcome (CLO), Program Learning Outcome (PLO)/ Learning Domain Cluster, Teaching method and Assessment method as found in the course syllabus.
	KUKI3	I know how to use the assessment table (Assessment table) to build assessment items.
	KUKI4	I know the correct way to prepare a Semester Teaching Plan (RMS) based on Student Learning Time (SLT).
	KIKU5	I am aware of channels for curriculum feedback.
Instructional	INST1	I understand the delivery method according to the difficulty level of the cognitive domain in teaching and learning.
	INST2	I was able to implement the teaching and learning of the cognitive domain to achieve the set CLO.
	INST3	I understand the delivery method according to the level of difficulty of the psychomotor domain in teaching and learning.
	INST4	I was able to implement the teaching and learning of the psychomotor domain to achieve the prescribed CLO.
	INST5	I understand the delivery method according to the level of difficulty of the affective domain in teaching and learning.
	INST6	I was able to implement the teaching and learning of the affective domain to achieve the set CLO.

Assessment	ASSE1	I can clearly identify the levels of the cognitive, psychomotor, and affective domains.
	ASSE2	I know how to justify the use of time for each continuous assessment item based on the SLT set in the course syllabus.
	ASSE3	I was able to construct a cognitive level assessment item corresponding to the score with the student's time to answer the question.
	ASSE4	I was able to construct assessment items according to the CLO and Cognitive Level Taxonomy Domains set
	ASSE5	I was able to construct assessment items according to the CLO and Psychomotor Level Taxonomy Domains set
	ASSE6	I was able to construct assessment items according to CLO and Affective Level Taxonomy Domains set
	ASSE7	I refer to the Good Practice Guidelines for Rubric Construction (GPAB) when constructing assessment rubrics.
	ASSE8	I always inform students about the assessment scoring rubric.

Data collection will be conducted using an online platform—Google Forms. This method was chosen for its accessibility and ease of use, which has the potential to increase response rates (Saleh & Bista, 2017). All lecturers at PTSS will receive an email with a link to the questionnaire. The e-mail included information about the purpose of the research, instructions for completing the questionnaire and assurances about the confidentiality of responses. Follow-up reminders will be sent to encourage maximum participation. Participants were given two weeks to answer the questionnaires.

Data collected through questionnaires were analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to calculate the mean score and standard deviation for each item on the Likert scale. The mean is used to summarize the central point of a dataset, providing a single value that represents the average performance or behaviour across all data points. Table 3 is the mean interpretation that refers to Sekaran & Bougie (2016).

Table 3: Mean Interpretation

Mean Score	Mean Score Level
1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.40	Moderate
3.41 - 4.20	High
4.01– 5.00	Very High
1.00 – 1.80	Very Low

Source: Sekaran & Bougie (2016)

4.0 RESEARCH FINDINGS

4.1 Respondents Profile

Table 4 shows the profile of the study respondents by department and position. There are eight departments, and three positions involved as shown in the table below. The number of respondents involved in this study is 164 people.

Table 4: Respondents Profile

Department	Frequency	Percentage %
Department of Tourism and Hospitality	48	29
Department of Mechanical Engineering	17	10
Department of Electrical Engineering	13	8
Department of Commerce	11	7
Department of Design and Visual Communication	23	14
Department of Information and Communication Technology	15	9
Department of Mathematics, Science and Computers	21	13
Department of General Studies	16	10
Position		
Head of Department	7	4
Head of Programme	11	7
Lecturer	146	89

4.2 Finding

From Table 5, the findings highlight the levels of lecturers' understanding in four key areas of OBE along with their corresponding means, standard deviations, and interpretations. The four construct shows the highest mean value with a score of 4.19 in lecturers' understanding of the concept and implementation of OBE and level of lecturer's understanding of the curriculum. Meanwhile, the mean score for the construct of lecturer's understanding of assessment gain 4.18 mean score and the lowest mean is shown in the third item which is 4.17 in relation to the level of lecturer's understanding of assessment.

Table 5: Finding of The Element of The Study

No.	Items	Mean	Standard Deviation	Interpretation
1.	Lecturers' understanding of the concept and implementation of OBE	4.19	0.52	High
2.	Level of Lecturer's Understanding of the Curriculum	4.19	0.59	High
3.	Level of Lecturer's Understanding of Instructional	4.17	0.57	High
4.	Level of Lecturer's Understanding of Assessment	4.18	0.54	High

The analysis of Lecturers' understanding of the concept and implementation of OBE gain the mean score of 4.19 with a standard deviation of 0.52 indicates a high level of understanding. This reflects that lecturers are well-versed in the fundamental concepts of OBE and their application. The low

standard deviation signifies consistency in responses, which may result from effective training or institutional emphasis on OBE principles.

The level of lecturers' understanding of the curriculum, as indicated by a mean score of 4.19 with a standard deviation of 0.59, reflects a strong overall grasp of curriculum design within the OBE framework. However, the slightly higher standard deviation suggests some variability in the responses. This variability could stem from differences in lecturers' teaching experiences, exposure to OBE concepts, or the extent of curriculum-related training they have undergone. These factors may influence the depth and uniformity of understanding across the group.

The mean score of 4.17 indicates that lecturers demonstrate a high level of understanding of instructional strategies within the OBE framework. The standard deviation of 0.57 suggests moderate consistency among lecturers, reflecting some variations in their instructional approaches or experiences.

Lastly, the level of lecturers' understanding of assessment gains the mean score of 4.18, coupled with a standard deviation of 0.54, demonstrates a strong understanding of OBE-related assessment practices. The relatively low variability suggests that most lecturers feel competent in implementing assessments aligned with OBE outcomes, possibly due to structured assessment guidelines provided by the institution.

As the conclusion, all four items score highly (mean >4.0), signifying those lecturers generally understand the critical elements of OBE. The standard deviations are relatively low across all items, which points to a consistent level of comprehension among the group surveyed. These findings suggest that institutional efforts in professional development and clear policy implementation are effectively supporting lecturers in adopting OBE practices. However, slight variations in means and standard deviations highlight potential areas for targeted improvement, particularly in instructional strategies.

5.0 CONCLUSION & RECOMMENDATION

The study on the level of understanding and implementation of OBE among lecturers at PTSS has yielded highly positive results. The data indicates that PTSS lecturers possess a strong understanding of OBE concepts, as evidenced by the high minimum scores across various aspects of OBE implementation, including alignment with curriculum, assessment methods, and instructional delivery. Lecturers are proficient in constructing assessments that correspond to Course Learning Outcomes (CLOs) and the cognitive, psychomotor, and affective domains. They are also well-versed in using rubrics and providing students with clear assessment criteria, which demonstrates a commitment to transparency and effective learning outcomes.

The study's findings suggest that PTSS lecturers are not only knowledgeable about OBE but also capable of applying this knowledge in their teaching practices, which is crucial for the institution's educational quality and accreditation efforts. Based on the high level of understanding and capability demonstrated by PTSS lecturers in the implementation of OBE, it is recommended that the institution continue to support and enhance its OBE framework through professional development initiatives. These initiatives could include workshops, seminars, and collaborative discussions that focus on emerging trends and best practices in OBE.

Additionally, PTSS should consider establishing a platform for sharing successful OBE implementation strategies among faculty members to foster a culture of continuous improvement and innovation in teaching methods. The institution may also explore the development of OBE-focused research projects that could further enhance the understanding and application of OBE principles within the academic community. By investing in these recommendations, PTSS can ensure that its lecturers remain at the forefront of educational excellence and are well-equipped to prepare students for the challenges of the 21st-century workforce.

The conclusion of this study shows that although lecturers at PTSS have a good understanding of OBE, there is room for improvement to ensure effective implementation of OBE. This study has implications for other educational institutions aiming to effectively implement OBE.

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