e-Proceeding

6th UNDERGRADUATE SEMINAR ON BUILT ENVIRONMENT AND TECHNOLOGY (USBET) 2023
SUSTAINABLE BUILT ENVIRONMENT

02 October 2023 | Perak, Malaysia
Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus

Editors-in-Chief

6th Undergraduate Seminar on Built Environment and Technology 2023

- E- Proceedings-

Organized by,

College of Built Environment (KAB) UiTM Perak Branch

CONDITIONS ASSESSMENT ON TEACHING AND LEARNING FACILITIES IN UITM PERAK (SERI ISKANDAR CAMPUS)

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ABSTRACT

This research comprehensively assesses the teaching and learning facilities at Universiti Teknologi MARA Perak (Seri Iskandar Campus) in Malaysia with the objective of evaluating their condition according to the Building Condition Assessment Rating System (BCARS). The study investigates their current condition and identifies common issues, aiming to enhance the overall learning experience. The research objective is achieved by utilizing the Building Condition Assessment Rating System (BCARS) as a robust framework, employing meticulous methods such as rigorous observation (checklist) and extensive literature review for data collection. The findings, crucial in ensuring optimal facilities for students and lecturers, guide decisions on maintenance, renovation, and future planning. Key findings highlight variations in facility conditions and areas requiring attention. The study emphasizes proactive facility management and comprehensive planning for an optimal learning environment. Continuous monitoring, periodic assessments, and strategic investments in maintenance and upgrades are essential. In conclusion, this research objective offers valuable insights into the condition and issues of teaching and learning facilities, providing evidence-based guidance for facility improvement, and ensuring a high-quality learning experience.

Keywords: *BCARS, Teaching and Learning Facilities, Condition Assessment on Facilities*

INTRODUCTION

Higher education plays a pivotal role in advancing public learning and empowering individuals to achieve their goals (Sulaiman et al., 2008). However, changes in learning methods and collaborative research have strained current university facilities (McLaughlin & Faulkner, 2012). Effective Facility Management (FM) becomes essential to support teaching, learning, and research objectives on university campuses. As a profession integrating people, location, process, technology, and environment, FM plays a crucial role in ensuring optimal functioning of the built environment and holds significance for national development, particularly in the public sector (Wan-Hamdan et al., 2011).

Within the context of higher education institutions, Facility Management (FM) plays a vital role in managing facilities and services to support essential functions and goals connected to research and education (Kärnä & Julin, 2015). The primary purpose of FM in the university environment is to create an enabling and conducive space for learning, teaching, and research, ultimately benefiting both academic staff and students. Universities serve as consumers of the institution's facilities services, and thus, a well-managed facility contributes to an enhanced academic experience and successful achievement of educational objectives. Therefore, the objective of this research is to assess the condition of teaching and learning facility according to Building Condition Assessment Rating System (BCARS).

LITERATURE REVIEW

Building Condition Assessment

Building performance and Building Condition Assessment (BCA) are closely intertwined, as BCA serves as a common method to quantify a building's performance (Abbott & Duling, 2007). Building performance encompasses the suitability and functionality of a building's assets, facilities, and services. It involves evaluating assets to determine the optimal maintenance required to support activities and services (Wahida et al., 2012). BCA plays a vital role in gathering information on the physical state of a building, enabling owners to devise suitable plans and actions for maintenance, repair, refurbishment, and investments (Dejaco et al., 2017). In this study, BCA is utilized as a preliminary inquiry to collect empirical data on the current state of teaching and learning facilities. For this purpose, the Building Assessment Rating System (BARS) is adopted, as it provides a detailed rating description, making the evaluation process more straightforward compared to other systems like BARIS. BARS, implemented by the Public Works Department for government buildings in Malaysia, is the result of collaborative efforts between various disciplines, such as building surveyors in civil, mechanical, and electrical engineering (Public Works Department, 2013). It comprises two main components: the condition assessment scale and the priority assessment scale.

Table 1: Condition Assessment Scale

Grade	Assessment Scale	Short Form	Description
1	Very good	SB	No defect, in a good condition, can function very well
2	Good	B	Have defect or minor damage, in a good condition, can function very well
3	Average	S	Have defect or major damage, average condition, still can function but needs monitoring
4	Critical	K	No / have defect or minor / major defect, critical condition, unable to function according to the agreed service level
5	Very Critical	SK	Very critical condition, cannot function, risky that can lead to accidents and injuries

Table 2: Priority Assessment Scale

Priority	Rating Scale	Short Form	Description
Normal	1	N	Normal, no defect or damage, component or element is well maintained and repair is not necessary
Routine	2	R	Minor defect or damage, need to be monitored, repaired and replace to avoid more serious defect or damage
Repair	3	PB	Major defect or damage, major repair, need to repair or replace
Reinstatement	4	PM	Serious defect or damage, urgent repair
Replace	5	PC	Very serious defect or damage, urgent repair, requires expert for detail checking

Matrix analysis was calculated based on the following formula and the result is interpreted by referring to table 3.

Matrix analysis, $c = a \times b$

Where,
a is Condition Assessment Rating
b is Priority Assessment Rating

Table 3: Matrix Analysis on level of Physical Condition for Building Components and Level of Maintenance Priority

Scale		Level of Maintenance Priority				
		5	4	3	2	1
Level of physical condition for building components	5	25	20	15	10	5
	4	20	16	12	8	4
	3	15	12	9	6	3
	2	10	8	6	4	2
	1	5	4	3	2	1

Overall building condition rating was calculated based on the following formula and the result is interpreted using table 4.

Building classification rating = d/e
Total marks (d) = $\sum$ of C
Number of defect (e)

where,
c is defect rating
e is number of defects

Table 4: Building Classification Rating

Rating	Condition	Action Matric	Score
A	Very Good	Scheduled maintenance	1 - 5
B	Good	Condition based	6 - 10
C	Average	Repair	11 - 15
D	Critical	Reinstatement	16 - 20
E	Very Critical	Replacement	21 - 25

Facilities Management (FM)

Facility Management (FM) involves the effective coordination and management of interconnected aspects within an organization, encompassing people, processes, and physical spaces (Austin et al., 2001). This issue highlights the challenge of efficiently managing these elements to optimize core functions and support business operations in this rapidly emerging field. FM ensures the efficiency and effectiveness of infrastructure, equipment, services, systems, and workforce, contributing to the achievement of organizational goals and strategies (Nafrizon et al., 2020). It extends beyond traditional office spaces, encompassing various work environments such as manufacturing, healthcare, and educational institutions, making it applicable across diverse organizations. Facility managers play a crucial role in utilizing advancements in information technology to enhance operational efficiency and facilitate organizational growth (Nafrizon et al., 2020).

Facility management in Institution

Facilities management is crucial for creating a conducive learning environment in universities (Asiabaka, 2008). Challenges like lack of awareness and government regulations impact the scope of facilities management (Asiabaka, 2008). It requires collective engagement from stakeholders to align with educational objectives (Nafrizon et al., 2020). The physical environment affects teaching, learning performance, and student health (Uline & Tschannen-Moran, 2008; Lackney, 1999). Upgraded facilities positively impact student performance and satisfaction (Bullock & Lemasters, 2007; Lewis & Payant, 2007). Careful planning of facilities enhances learning quality (Abdul Rahman et al., 2015; Joseph & Michael, 2001).

The Needs for Facilities Assessment

A facility assessment necessitates a significant investment of both time and resources. Some might argue that the maintenance organisation already has access to nearly all of the information supplied by the evaluation. Building equipment and systems are frequently serviced by maintenance professionals. In many circumstances, maintenance personnel are aware of the state of the system and equipment for which they are responsible. However, due to the lack of a structured inspection and evaluation procedure, this information is dispersed throughout the whole maintenance organisation. Almost all of it is kept informally in a mental database. Much of this information becomes lost, skewed, or wrong over time when the facility changes and maintenance staff change assignments or leave (Piper & James E., 2020).

METHODOLOGY

A comprehensive structure of study enables further recognition of the crucial stage of the research project to achieve the aims and objectives. Any measurement made must therefore be appropriate and relevant enough to be considered in the research study process. Research design consist a total of eight stages in the study.
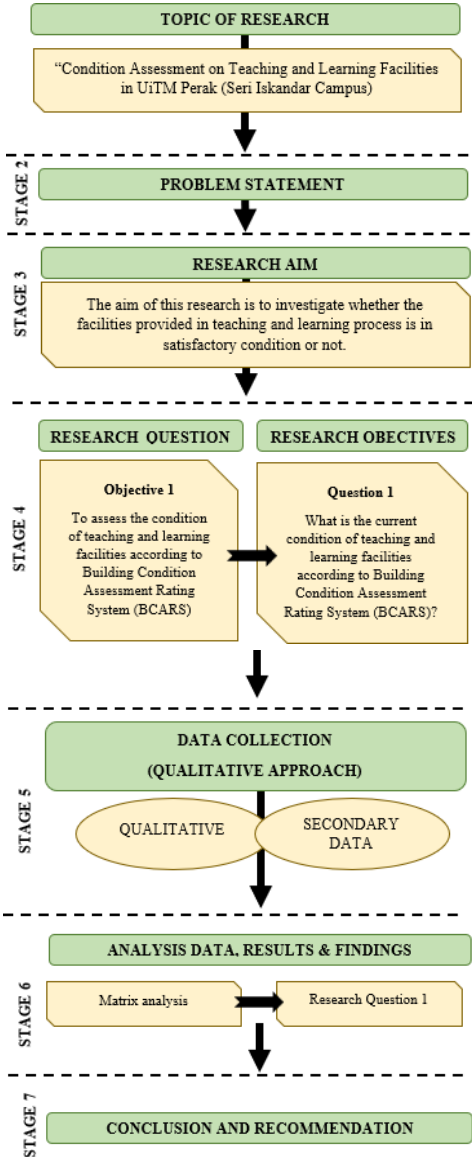

Figure 1: Research Methodology

Case Study

UiTM Perak is one of the largest UiTM in Malaysia besides UiTM Shah Alam and so on. UiTM Perak, Seri Iskandar campus was established in collaboration with the Perak State Government and was officially opened in 1985 in Bandar Baru Seri Manjung. This campus is located in Bandar Seri Iskandar, Central Perak and this area covers approximately 392.36 acres. The campus began the operations on 1 January 1999. The campus is strategically located along the Ipoh-Lumut main road which provides easy access to both Ipoh and Lumut.
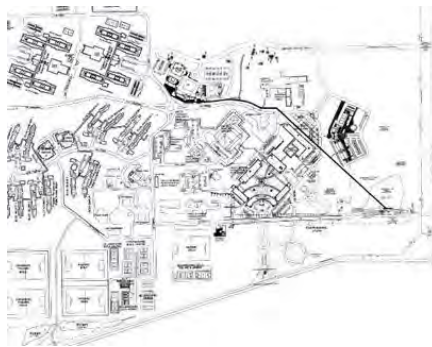

Figure 2: Floor Plan of UiTM Perak, Seri Iskandar Campus

Table 4: Sample Size of Case Study

NO.	BUILDING	SAMPLE SIZE TAKEN
1.	FSPU (Main)	10
2.	FSPU (Annex 1)	15
3.	FSPU (Annex 2)	15
4.	FSPU (Annex 3)	6
5.	FSPU (Quantity Surveying)	10
6.	College of Arts and Creative 1	5
7.	College of Arts and Creative 2	9
8.	Lecture Hall	3
9.	Laboratory and Workshop	8
TOTAL OF SAMPLE SIZE TAKEN		80nos.

FINDINGS

The facility condition evaluation reveals that computer and CPU; and air conditioning are the best-maintained facilities, with high scores of overall rating, indicating excellent facility conditions. On the other hand, table, chair and presentation board got 6.49, 6.08 and 9.00 respectively on the overall rating. It indicates that table, chair and presentation board need regular maintenance and monitoring to ensure its optimal conditions. Overall, the facility of teaching and learning at UiTM Perak, Seri Iskandar campus are still in a good condition. The facility condition evaluation is a valuable tool for effective facility management decisions and ensuring the long-term operation of the buildings.

Table 5: Overall Rating (BCARS) for Learning and Teaching Facilities in UiTM Perak, Seri Iskandar Campus

Teaching and Learning Facilities	Rating (BCARS)
Table	6.49
Chair	6.08
Whiteboard	4.80
Lecturer's table	4.58
Lecturer's Chair	4.60
Projector	1.32
Projector's Screen	3.39
Tablet Armchair	3.39
Air Conditioner	1.23
Lighting	1.86
Fan	2.56
Presentation Board	9.00
Computer & CPU	1.00

DISCUSSION

Based on the facility condition assessment, the specific teaching and learning facilities have been rated accordingly with rating (BCARS). As shown in the table, table got 6.49 rating, chair got 6.08 rating, whiteboard got 4.80 rating, lecturer's table got 4.58 rating, lecturer's chair got 4.60 rating, projector got 1.32 rating, projector's screen got 3.39 rating, tablet armchair got 3.39 rating, air conditioner got 1.23 rating, lighting got 1.86 rating, fan got 2.56 rating, presentation board got 9.00 rating: and computer and CPU got 1.00 rating. The majority of facilities are in good to very good condition, indicating proper maintenance and upkeep. However, a few facilities may require attention for improvement such as table, chair and presentation board. This assessment provides valuable guidance in prioritizing maintenance efforts and ensuring an optimal learning environment for students and educators.

CONCLUSION

The study on facility condition assessment at UiTM Perak, Seri Iskandar campus has provided valuable insights into the condition of teaching and learning facilities. The overall evaluation indicates that most facilities are in good to very good condition, with computer and CPU, and air conditioning receiving high scores, signifying excellent facility conditions. However, some facilities like tables, chairs, and presentation boards require regular maintenance and monitoring to ensure their optimal conditions. The findings highlight the significance of routine facility management and prioritized maintenance efforts to sustain a conducive learning environment. By utilizing the Building Condition Assessment Rating System (BCARS), the research offers a valuable tool for effective facility management decision-making and ensuring the long-term operation of the campus buildings. These findings underscore the importance of proper maintenance and upkeep to support an optimal learning environment for students and educators.

ACKNOWLEDGEMENT

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