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**SUSTAINABLE BUILT
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AWARENESS OF DISABLED FACILITIES AMONG STUDENTS IN HIGHER LEARNING INSTITUTIONAL BUILDING

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ABSTRACT

Persons with disabilities (PWD) often experience discrimination and neglect, hindering their potential and opportunities for growth. Higher education offers a chance for PWD to pursue their dreams and find better job prospects, but the learning culture at this level emphasizes independence and resourcefulness, which can pose challenges for disabled students. This study aims to address the lack of awareness and proper facilities for PWD in higher learning institutions. The research identifies the existing facilities provided for PWD and evaluates students' awareness of accessible design. A questionnaire survey and on-site analysis are conducted in three higher learning institutional buildings. The findings reveal a need for improvement in knowledge, implementation, and perception of accessibility. Based on the analysis, recommendations are provided to enhance awareness and accessibility of disabled facilities in higher learning institutions. These recommendations include prioritizing educational programs and awareness initiatives involving individuals with disabilities, implementing practical measures for accessibility, and providing exposure and education about disabled facilities. By adopting these recommendations, higher learning institutions can create a more inclusive environment that meets the needs of all individuals, regardless of their disabilities.

Keywords: barriers, residential, green building, development, quantitative, GBRs

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INTRODUCTION

Access to it and inclusion of people with disabilities (PWDs) is a major concern in many parts of society, especially higher learning. It is critical in these institutions to guarantee that the built environment is inclusive and accessible to all students, including those with impairments. This thesis intends to investigate students' knowledge of disability facilities in higher learning institutions structures. (Azman & Nuraishah, 2010)

Students' understanding of disability facilities is essential, as they are the major users of these institutions. If students are unaware of the available disability facilities, they may be unable to fully utilise them, limiting their involvement in academic and campus life. The purpose of this study is to determine the level of knowledge of disability facilities among students in higher learning institutions buildings, as well as any impediments that may hinder their usage.

The study will take place in Perak, Malaysia, at UiTM Seri Iskandar, University Technology Petronas, and University Sultan Azlan Shah. These institutions were chosen because they represent a varied variety of higher learning institutional structures and give an excellent chance to investigate student knowledge of disability facilities in various situations.

This research is significant because it will give vital insights into the experiences and needs of students with disabilities in higher education institutions. The study's findings can help shape policies and efforts focused on increasing accessibility and inclusion in these facilities, ultimately leading to a more inclusive and accessible higher education experience for all students, including those with disabilities.

LITERATURE REVIEW

Offering accessible designs that are needed for students with impairments is a major action that must be provided by the institution. This requirement is needed by disabled students to devote their way of lives at public universities (Hove, et al., 2018). The institutions or faculty that have a lack of understanding about the students with disabilities also can cause problem were preparing and accommodating to students with special requirements become complicated because they are still not familiar with the campus environment. The significance of handicap students to approach facilities is very valuable in assisting them to solve the difficulties which they are confronting in public universities. Besides that, people with disabilities also can graduate successfully and completed their undergraduate. (Mohd Faizul, Muhammad Fuad , & Norizan, 2021).

Higher Learning Institutional Building

Higher learning institutional buildings, such as universities and colleges, must prioritize accessibility, sustainability, and community engagement in their design. Accessibility features, including ramps, elevators, and wide doorways, ensure that individuals with disabilities can navigate these spaces independently, promoting inclusivity and equal access to facilities (Pelland , Kielb, & O'Conner, 2020). Sustainability measures, such as energy-efficient design features and renewable energy sources, reduce environmental impact and contribute to a more sustainable future (Goudie & Sant, 2018). Additionally, creating public spaces within these buildings encourages community engagement, fostering social interactions and supporting the development of a vibrant educational community (Rath, 2018).

By incorporating these considerations, higher learning institutional buildings can create optimal learning environments that cater to the diverse needs of students while promoting sustainability and community engagement. Ensuring accessibility enables all individuals to fully participate in academic and campus life, fostering an inclusive educational experience. Sustainable design practices reduce environmental footprints, aligning educational institutions with global sustainability goals. Finally, community engagement spaces promote connections among students, faculty, and staff, nurturing a sense of belonging and collaboration. By integrating accessibility, sustainability, and community engagement, higher learning institutional buildings become hubs of learning, growth, and positive social impact.

Students In Higher Learning Institutional Building with Disabilities

Students with disabilities often face challenges related to accessibility and inclusivity in higher learning institutional buildings. These challenges hinder their full participation in academic and social aspects of university life. Barriers like steps, narrow doorways, and inadequate lighting impede their access to buildings, while limited availability of accessible technology and assistive devices further restricts their access to information (Dalton & Hemsley, 2019; Shelton & Keeling, 2020).

To address these challenges, it is crucial to prioritize accessibility in the design and operation of higher-learning institutional buildings. This involves incorporating features such as ramps, elevators, and accessible technology, alongside implementing inclusive policies and practices that support students with disabilities (Smith, 2018). Additionally, educational opportunities, such as workshops and training sessions, can be provided to promote awareness and understanding of disabilities within the campus community (Chung, 2019).

Facilities Provided in Higher Learning Institutional Building

Provision in higher learning institutional buildings involves a broad range of services, facilities, and resources dedicated to supporting the academic and social needs of students and faculty. These provisions are essential in creating an inclusive and supportive environment for all individuals, including those with disabilities (PWDs). Services such as housing, dining, health services, counselling, and career services should be designed to accommodate the diverse needs of students, including PWDs (Koehler & Wright, 2021; Smith, 2018).

An integral aspect of provision in higher learning institutional buildings is ensuring accessible and inclusive learning spaces. This entails designing classrooms, laboratories, libraries, and other academic areas to be fully accessible to PWDs. Additionally, the provision of assistive technology, such as screen readers and speech-to-text software, aids PWDs in their academic pursuits (Ribeiro & Silva, 2018; Johnson & Gonzalez, 2020). Institutions should also offer support services like academic advising, counselling, and appropriate accommodations to empower PWDs and create equal opportunities for their academic success (Kirwan, 2019; Smith, 2018).

Higher learning institutions should prioritize accessibility, sustainability, and community engagement in their buildings. Accessibility features, sustainable design practices, and inclusive policies are crucial for students with disabilities. Inclusive policies, inclusive learning spaces, and support services, such as counseling and accommodations, are essential for empowering students and ensuring equal opportunities for academic success.

METHODOLOGY

The chapter discusses the methodology for conducting the research objectives and aims stated in the previous chapter. The chosen research method is quantitative, focusing on measurement and testing using numerical data (Jansen & Warren, 2020). The primary methodology proposed is a questionnaire survey using Google Forms as the main platform. Data collected from respondents will be gathered and analysed using Microsoft Excel and Statistical Package for Social Sciences (SPSS) to justify the research aims and objectives. The research design and strategy play a crucial role in the overall quality and validity of the research. The survey design, including the use of questionnaires, is a common approach for data collection. Administering the questionnaire through Google Forms offers advantages such as ease of use and efficient data collection. To ensure meaningful results, it is important to design a well-validated questionnaire that covers the research objectives. The use of the questionnaire in Google Forms method, within the research design and strategy, can provide accurate and reliable results that contribute to the field of study.

FINDING AND ANALYSIS

This chapter focuses on the data analysis of quantitative data obtained through an online questionnaire survey distributed via Email and WhatsApp to 150 respondents, comprising students and staff from three universities. Out of the distributed questionnaires, 103 respondents provided their feedback, resulting in a response rate of 69%. This response rate surpasses the average rate in the education-related field, indicating the validity and acceptability of the collected data for the research. The data collected through Google Forms was analyzed using the International Business Machine Statistical Package for the Social Science (IBM SPSS) and presented in tables and charts, providing a comprehensive overview of the responses (Wu, Zhao, & Aime, 2022).

Respondent Demographic

Table 1: Respondents Demographic

Age Range	Frequency	Percent
18 – 20 Years Old	37	35.9
21 – 30 Years Old	62	60.2
31 – 40 Years Old	2	1.9
40 - Above Years Old	2	1.9
Respondent's Gender	Frequency	Percent
Female	58	56.3
Male	45	43.7
Respondent's University	Frequency	Percent
UiTM Perak Branch Seri Iskandar	37	35.9
University Technology Petronas	33	32.0
University Sultan Azlan Shah, Kuala Kangsar	33	32.0
Respondent's Occupation	Frequency	Percent
Student	100	66.7
Staff	3	2.0
Respondent's Education Level	Frequency	Percent
Diploma	51	34.0
Bachelor's Degree	44	29.3
Master	6	4.0
PHD	2	1.3

This section provides an overview of the respondents' age, gender, higher learning institutional building, occupation, and education level. The majority of the 103 respondents fell within the age range of 21-30 years old, with 60.2% falling into this category. The three higher learning institutions represented in the survey were UiTM

Seri Iskandar Perak, University Technology Petronas, and University Sultan Azlan Shah, Kuala Kangsar. The majority of respondents, 35.9%, were from UiTM Perak Branch Seri Iskandar. Regarding occupation, most respondents, 66.7%, identified as students, while a small percentage, 2.0%, were staff members. In terms of education level, the majority, 34.0%, had a diploma, followed by 29.3% with a bachelor's degree. The data collected on age, gender, higher learning institutional building, occupation, and education level provides valuable insights into the demographic characteristics of the respondents, which can be analyzed to understand their awareness and perspective on disabled facilities and guide the development of targeted strategies for improvement.

Analysis Of Respondent's Level Of Knowledge About The Accessible Design That Has Been Provided For People With Disabilities In Higher Learning Institutional Building

Table 2: Respondent's Knowledge Regarding Accessible Design Provided in Higher learning Institutional Building

Respondent's Knowledge About Accessible Design		Frequency	Percent
Yes		88	59.1
No		2	1.3
Not sure		13	8.7
Responses Frequency of Facilities Being Aware by Respondents		Frequency	Percent
Type of Facilities	Lift Tactile	22	21.4
	Disable Parking	85	82.5
	Trail	46	44.7
	Ramp	87	84.5
	Handrail	60	58.3
	Stair Lift	22	21.4
	Signage	71	68.9
	Toilet	85	82.5
	Braille Block	50	48.5
	I Don't Know	3	2.9
Respondents Awareness About PWD Facing Difficulties in Institutions		Frequency	Percent
Yes		58	38.7
No		45	30.0
Respondent's Opinion Towards the For Need Facilities Provided at the Institution		Frequency	Percent

To assist disabled person	74	49.3
To create barrier-free environment	4	2.7
To prevent discrimination towards disabled person	10	6.7
To increase the level of understanding about disabled students in higher learning institutional building	15	10.0
Respondent's Opinion Towards the Current Implementation Facilities Provided at the Institution	Frequency	Percent
More accessible design needs to be provided in the building	29	19.3
Level of awareness need to raise regarding accessible design	18	12.0
The accessible design is properly maintained	15	10.0
Accessible design that are prepared only meet the minimum requirement according building regulation	39	26.0
I don't know	2	1.3
Respondent Opinion the Institution That They Went to Is Suitable to Be Occupied by PWD	Frequency	Percent
Yes	60	40.0
No	43	28.7

This section provides an analysis of the respondents' knowledge about accessible design, awareness of facilities for disabled people at their institutions, awareness of difficulties faced by individuals with disabilities, opinions on the need for facilities, opinions on the current implementation of facilities, and opinions on the suitability of their institutions for individuals with disabilities. The data reveals that 59.1% of respondents had knowledge about accessible design, while 1.3% did not. When asked about specific facilities, the most well-known was ramps (16.4%), followed by disabled parking and toilets (both 16.0%). However, there were lower levels of awareness for facilities like stair lifts (4.1%) and lift tactile (4.1%). Regarding awareness of difficulties faced by individuals with disabilities, 38.7% of respondents were aware, while 30.0% were not. When asked about the need for facilities, 49.3% expressed the opinion that facilities should be provided to assist disabled individuals. In terms of the current implementation of facilities, 19.3% felt that more accessible design is needed, and 26.0% believed that the current design only meets minimum requirements. Regarding the suitability of their institutions for individuals with disabilities, 40.0% considered their institution to be suitable, while 28.7% did not. These frequency and percentage analyses highlight areas of awareness, gaps in knowledge, and the need for improvements to create more inclusive and accessible environments within higher learning institutions.

Analysis of Respondents' Awareness About the Accessible Design Provided in The Higher Learning Institutional Building

Table 3: Respondent's Awareness Regarding Accessible Design Provided in Higher Learning Institution Building

Respondent's Opinion That the Institutions They Went to Provide Barrier – Free Environment	Frequency	Percent
Strongly disagree	2	1.9
Disagree	7	6.8
Neutral	52	50.5
Agree	30	29.1
Strongly Agree	12	11.7
Respondent's Opinion That the Facilities Provided by the Institution Compliance with Regulation	Frequency	Percent
Strongly Unaware	1	1.0
Unaware	4	3.9
Maybe	40	38.8
Aware	45	43.7
Strongly Aware	13	12.6
Respondent's Rate Towards Facilities Provided at the Institutions That They Went To	Frequency	Percent
Very Bad	2	1.9
Bad	8	7.8
Fair	49	47.6
Good	34	33.0
Very Good	10	9.7

This section focuses on the respondents' opinions regarding the institutions' provision of a barrier-free environment, the compliance of facilities with regulations, and their ratings of the facilities provided by their institutions. The data reveals that 1.9% strongly disagreed, 6.8% disagreed, 50.5% had a neutral opinion, 29.1% agreed, and 11.7% strongly agreed that their institutions provide a barrier-free environment. When asked about facility compliance with regulations, 1.0% were unaware, 3.9% were unsure, 38.8% responded with "maybe," 43.7% were aware, and 12.6% were strongly aware. In terms of facility ratings, 1.9% rated them as "very bad," 7.8% as "bad," 47.6% as "fair," 33.0% as "good," and 9.7% as "very good." These opinions shed light on the perceived accessibility, compliance, and satisfaction with the facilities. They help identify areas for improvement, address concerns, and allocate resources effectively to create a truly inclusive and supportive environment within higher learning institutions.

CONCLUSION

This research utilized questionnaire surveys to collect data from students in three institutions: UiTM Seri Iskandar, University Technology Petronas, and University Sultan Azlan Shah. Out of the 150 questionnaires distributed, 103 responses were obtained and analysed using SPSS. The research aimed to identify the level of knowledge about accessible design and the awareness of accessible design in higher learning institutional buildings. The analysis revealed that respondents showed a certain level of knowledge about accessible design and specific facilities, although there were mixed opinions about the suitability of institutions for individuals with disabilities. Regarding awareness, the respondents displayed an average level of awareness, with uncertainty about the provision of a barrier-free environment and the condition of accessible design at their institutions. However, they demonstrated awareness of the regulations governing accessible design compliance.

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