

# Knowledge and Awareness of PWD's Facilities: A Case Study at Universiti Teknologi Malaysia

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## ABSTRACT

Person with Disability (PWD) is a group of people who face long-term physical, mental, intellectual, sensory impairment and any other factors which prevent their full effectiveness of participation in the community. This is because they need extensive care and required a specialize facilities to aid their daily task. However, among the PWD, higher education student is one of the portions of the group which required extra care and attention from the institutional. This group of PWD require facilities which can aid them during educational activities, PWD-friendly college amenities and recreational activity. However, these facilities are not well informed and signed as PWD students usually do not aware that their educational institution provides them with sufficient PWD-friendly facilities. This also affects other non-PWD students as they used these facilities unknowingly that the facility is built to aid PWD students. Therefore, a study is conducted to measure the awareness of the students, both PWD and non-PWD, about the PWD-friendly facilities provided by their educational institution. The study is focussed in Universiti Teknologi Malaysia (UTM). The method used online questionnaire which the target audience is both groups of PWD and non-PWD student. The questionnaire was constructed to cover three elements which are to test the knowledge regarding the PWD in UTM, the type of PWD-friendly facilities provides by UTM and awareness of the respondent to the PWD-friendly facilities. The study found that most of the respondents are aware of basic facilities provided by UTM specialized to PWD students in several commonplaces such as lift, parking space and toilet. However, neutral result is obtained for overall knowledge in PWD-friendly among the respondents as they are not sure if the facilities are provided to PWD students or not. The reason is that the lack of effort from UTM to instil awareness regarding the existence of various PWD-friendly facilities, which can be improved more in the future.

**Keywords:** Person with Disability, PWD-friendly facilities, awareness, higher education student

## 1. INTRODUCTION

Not everyone is born perfect, physically and mentally. However, some of us are not as lucky as the rest where their shortcoming prevents them from doing their daily task immaculately. We can refer to this group of people as a Person with Disability (PWD). Persons with Disabilities Act 2008 (Act 685) has defined a person with PWD as who have long term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in

the community [1]. Globally, PWD is a recognized group and treated with more care and equal with normal person. PWD also globally celebrated as 3<sup>rd</sup> December set to International Day of Persons with Disabilities which introduced by United Nation (UN). This celebration objective is to encourage people to take care of and recognized PWD as an equal member of their community. According to the UN, PWD is much on a higher risk of violence which children with disabilities are four more times to experience violence than normal children [2]. This violence committed toward PWD, physically or mentally, usually leads to more vital effects even it also can lead to suicide. However, the shortcoming faced by PWD usually

makes them more independent and stronger than a normal person. This is shown by several people which despite having disabilities, physically or mentally, can archive greater success and managed to forge their name as one of the successful people. Prominent examples are the late Stephen Hawking, Nick Vujicic and Andrea Boccelli. These people have more significant inspiration and impact to other people because PWD is well known to have a very hard phase especially at the early age of their life. This phase is hard because PWD faced discrimination, lack of friendly facilities and depression. Hence, we must take care of PWD people as each of them has their potential which in future can benefits humanity themselves.

To achieve a global level of greatness, everything must start with the community and local government itself. Local government should census their PWD community as accurate as they can. With the data obtained, they can know how many the percent of current folks is PWD. We focus our PWD census analysis in Malaysia as Malaysia is one of the developed countries in Asia. According to a statistic released by the Social Welfare Department of Malaysia, in Malaysia, there are 45,236 newly registered PWD in 2018 while 30,144 is male and 15,092 is female [3]. There are estimated 513,519 registered PWD in Malaysia as on 31 December 2018. This number covers all types of disabilities. However, this number is low because it is estimated that in Malaysia there are 4.86 million people are PWD [4]. Regardless of these small number of registered PWD, they still have their right for the provision of access and facilities in and outside of the building. Lack of awareness and effectiveness in providing the right facilities for PWD can affect their productivity and can lead to negative physiological effects such as stress, low self-esteem and public discomfiture [5]. There are several types of categories of disabilities for PWD. In Malaysia, these disabilities are categorized into seven groups as summarized in Table 1.1

**Table 1.1:** Categories of Person with Disability [6]

Category	Explanation
Hearing Disability	Individuals who are unable to hear clearly without hearing aids or unable to hear even with hearing aids. There are four levels of hearing disability categorized as below: Mild - (20 - < 30 dB) (for adults) Moderate - (30 - < 60 dB) Severe - (60 - < 90 dB) Profound - (> 90 dB)
Visual Disability	Individuals who are visually impaired or have low vision in either one eye or both eyes even with visual aids such as spectacles and contact lenses. There are two categories of

	visual disabilities as below:  <i>Blind</i> Better eyesight, but vision less than 3/60 even with visual aids or visual field is less than 10 degrees from fixation.  <i>Low Vision/ Partially Sighted</i> Eyesight with vision is poorer than 6/18 but equal or better than 3/60 with visual aids or visual field is less than 20 degrees from fixation.
Physical Disability	An individual who is suffering from the inability of the body to function normally either caused by bodily defect or injury. Disabilities that fall under this category are stunted, crippled hands or legs or both, maimed thumb, paralysis, spina bifida, muscular dystrophy and cerebral palsy. For impairment which does not affect functions such as handicapped one finger, has six fingers or more and without or imperfect earpieces is not categorized as physical disabilities.
Learning Disorder	Individuals whose intelligence are unbalanced with his or her biological age. People with Down syndrome, inert, intellectual disabilities, autism, Attention Deficit Hyperactive Disorder (ADHD), specific learning disabilities (dyslexia, dyscalculia, dysgraphia) and global development delay fall under this category.
Speech Disorder	An Individual who can hear but with speech problems.
Mental Disorder	An individual who has a severe/chronic mental disorder and undergone treatment or was given diagnosis by a psychiatrist for at least 2 years. As a result of the illness, they are still unable to function either partially or fully concerning himself or herself or with the community even after undergoing psychiatric treatment. Schizophrenia, mood disorder and chronic Organic Mental Disorder are among the mental illness categories.

Various Disabilities	An individual who has more than one type of disability and not suitable to be classified under any of the five existing categories. For example, an individual who has two types of disabilities such as vision and hearing disabilities will be registered under the category of various disabilities.
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## 2. LITERATURE REVIEW

PWD often feel neglected and discriminant although they should be treated like the rest of the community members. Sometime PWD can become more distant from the community but in reality, PWD also has similar potential level with other normal people. This potential also can open various opportunities for them. One of the opportunities is to further study to a higher level of education where PWD can pursue their dream which could open more chance for them to find more comfortable job in the future. Besides that, education is one of the important elements which compulsory for every individual life. However, when in the higher education level, the learning culture is more emphasis on the ability of the student to carry out task that related to their study with minimum supervision by their instructor. In another word, the student should be more independent and more resourceful when needed. For PWD, without proper provision provided for them, they cannot be as much independent as a normal student. Hence, making PWD students in higher education faced a very hard time during their study session.

This statement can refer back to other study carried out previously where PWD always face difficulties during their study resulting they got an unsatisfactory result, although they have a similar level of qualification with another student during the university entrance process [7]. According to [8], the university should provide facilities for PWD that can aid them to overcome any physical environment barrier and facilities to help them to access information related to their study. The former usually refers to residential college where the residential college is one of the most important buildings that need to provide the students with the best comfortability. Hence, the institution is responsible to provide enough facilities for both normal and PWD students [9].

The lack of PWD facilities also affects their non-academic matter, for example, they have a hard time to engage in any outdoor activity because of the lack of PWD facilities in university recreation park [10]. As a result, they stay in their room engaging activities such as listening to music, reading novels and other passive activities. This also can lead to mental depression as well as physical related problem. On the other hand, if the institution can provide enough facilities for PWD, it can boost the institutional status as 'PWD friendly' institution. It is shown by

University Malaya (UM) where they emphasize the need for PWD student by providing them various facilities which cover special study room equipment in college, interior walk-by for visually impaired and providing a transportation service to ease their daily task. As a result, the PWD student intake for UM drastically improves by 19% in during 2017/2018 session [11]. Besides that, most of their PWD students seem more confident to pursue their studies, although they must apart from their family. However, not all higher education institutions can implement proper PWD facilities for various reasons. Hence, they need to listen more to PWD students demand and act on it promptly. PWD people should not be treated as a financial burden because they also have their 'economic value' that can contribute to the country or to the institution itself. Proper facilities can make them more confident and more motivated to reach their true potential [8]. The institution also should do a regular check-up for the facilities provided to ensure that it can be used properly by PWD. As there are many types of disabilities, it is understandable that certain institutions cannot provide enough facilities to cover each of them. However, they should able to provide most of the facilities that commonly provided by other institutions, not exclusively for the educational institution only.

### 2.1. PWD Facilities

The scope of this literature will cover some of the facilities that provided for PWD to help them carrying various tasks. Facilities for PWD should at least provide them access to a different place or to help them carry out their task easier. Hence, some guidelines need to be followed. The guidelines are listed as follows [12]:

- I. All facilities should be inspected to make sure it follows the safety standard set by the authority,
- II. PWD should be able to access, enter and exit, the building without any hindrance,
- III. PWD also should be able to access rooms and facilities for various PWD users,
- IV. Facilities should take account for basic activities for PWD such as sit, moving and others,
- V. Facilities should emphasis also on safety, comforts and suitability toward PWD,
- VI. Facilities for PWD should be 'user-friendly' and,
- VII. Extensive planning should be done when dealing with PWD facilities so that the facilities can be used efficiently and effectively.

There are some facilities provided by building that can help PWD to carry out the different task. According to the regulations stated in [12], there are many types of different PWD facilities that cover the different needs of the PWD category. For example, there is a facility that can help those who have a physical disability to move from one place to one another and others that can help the visually impaired person to help with their awareness of their

surroundings. Although these facilities have different target user, a building should provide as much as their can because certainly their visitor or occupant has different needs, especially from PWD. Table 2.1 summarized the PWD facilities requirement and characteristic according to [12], regardless of the building purpose. There are three components of PWD facilities which are accessibility, space and support facilities.

**Table 2.1:** Characteristics of PWD facility

Components	Characteristics	Elements
Accessibility	A direct route without barrier and connecting each element in accessibility and space to a building or other facility and; Connecting exterior and internal area in a building without any barrier.	<ul style="list-style-type: none"> <li>• Ramp</li> <li>• Handrail and Grab bar</li> <li>• Special pedestrian route</li> <li>• Entering porch of the building</li> <li>• Textured track surface</li> <li>• Stairs</li> <li>• Pedestrian crossing</li> </ul>
Space	Type of space provided must depend on the building category and requirement. The area and location for the provided space should take account for PWD safety and comfortability.	<ul style="list-style-type: none"> <li>• Special Parking Space</li> <li>• Toilet</li> <li>• Dressing/feeding room</li> <li>• Allocation of residential units</li> <li>• “Corner Shop” grocery store</li> <li>• Bus stops</li> </ul>
Support facilities	Vital elements that significantly help PWD movement. The placement of a barrier element in the exterior surrounding needs to be replaced and customized for convenient.	<ul style="list-style-type: none"> <li>• Information signboard, direction signboard, written information, warning sign etc.</li> <li>• Special PWD signboard</li> <li>• Bench /seat that is fixed or built-in and a table</li> <li>• Paid telephone booth and other related facilities</li> <li>• Mailbox/ rubbish bin</li> <li>• Drain/ trench</li> <li>• Fences</li> <li>• Hindrances (tree, pot, lamp post, signboard and</li> </ul>

		kerb) <ul style="list-style-type: none"> <li>• Signalized pedestrian crossing</li> </ul>
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From Table 2.1, it can be said that there are various types of PWD facilities. However, some of us still does not quite aware of the existence of these facilities in the building. Some people cannot tell if the facilities are built for PWD needs or public used. Hence, this could lead to the misuse of PWD facilities by other people. The lack of awareness could also affect PWD where they cannot distinguish which part of the building serves related facilities that suitable for their specific disabilities and needs. However, society needs firstly need to know what is PWD and their right before knowing special facilities provided only for them. Hence, in this paper, we carried out survey research to know about the awareness of the community about the PWD and facilities provided to them. We focus the audience for respondents in a residential college of a university in Malaysia which is Universiti Teknologi Malaysia (UTM).

**3. METHODOLOGY AND MATERIALS**

PWD is a part of the community and the fact that they can freely exercise their right should not be overlooked. Similarly, PWD students of UTM should not be discriminated and they should feel that they are part of the community without any lacking. Thus, this study is conducted to identify the knowledge and acceptance of the campus community toward the people with disability as well as to their awareness of the facilities provided by the university for this group of people. In order to do that, a well-constructed questionnaire is made available into Google Form and the sample was collected among normal and PWD students to answer the survey online. For PWD respondents, we approach UTM Office of Student Affairs (Student Sponsorship, Welfare and Discipline Division) to distribute the questionnaire toward PWD registered in UTM via email. As it will take some time to find sufficient of PWD respondents, approaching the office can save some time as they already have all the student’s data at their disposal. As the addition of PWD students, this will help more as the questionnaire extends to encompass wider categories of respondents.

The questionnaires distributed are designed to cover several matters relating to the research topic. To make the questionnaire more detailed, PWD respondents will have an extra section of questions related to their disabilities. The key points for the research are ‘awareness’, ‘knowledge’ and ‘PWD facilities’ which are used to construct our questionnaire. Hence, the questions can be categorised into three types of the purpose of inquiries which are:

- a) To identify the knowledge about disabilities and engagement of UTM students towards PWD
- b) To identify facilities for disabled people at UTM
- c) To identify students' awareness of the "PWD-friendly" facilities at UTM.

#### **4. RESULTS AND DISCUSSION**

Among 80 respondent, the distribution is made of from 16 (20%) PWD student and 64 (80%) normal student and comprise of 77.5% undergraduate students and the rest are 22.5% postgraduate students from all different background of studies in which 75% of them are from Faculty of Engineering. More than half of the respondents are female and in overall, this survey covers responses from both Malaysian and non-Malaysian, taken part by students from all ages above 18 years old and all major religions in Malaysia. This survey is successfully answered inclusively. To make the data from this study more reliable, the questionnaires have also been distributed among the PWD students themselves which make up 20% of the total respondents and above all that, more than 81% of the total responses are from those who are aware that there are students at this university who suffer from any form of disability.

##### ***4.1. Identifying the knowledge about disabilities and engagement of UTM students towards PWD***

Based on the results, 37.5% of the PWD respondents suffer from sensory impairment and the rest are by physical disabilities, intelligence and mental health difficulty and various medical conditions. Though 81.3% of them realize that there is University Disability Advisor who is always there to help them, there are still very few of them who are missing this vital information. This issue can be overcome if only both parties are proactive enough to approach and help each other. From the survey, it is also found out that most of the students taking part in this study understand what people with disabilities is despite very few of them are unsure about it. This data proves that UTM students at random, have at least basic knowledge and some exposure on the matters regarding PWD. This claim is enforced by supporting data that almost 90% of the respondents have at least known any disabled person outside of the university, be it their friends, relatives, neighbours, etc. For sure those respondents know that the disabled are not the ones with physical disabilities only since most of them often read or watch news about PWD matters in printed or electronic media. Besides, it is shown that more than 60% of the respondents agree and strongly agree that they have seen PWD in the university and 45% of them then know that there are students with disabilities in their faculty. These findings suggest once again that UTM students understand there are PWD around them and most importantly that most of them believe that PWD

students are entitled to the same educational right as others. Similarly, the disabled people in Malaysia to have the same basic rights as other people as stated in the Disabilities Act 2008, [13]. For a majority group of respondents who do not know about the Disability Act 2008, the students of UTM surely have the wit and healthy thoughts of the basic principle of human right as portrayed from the survey.

However, the statistic also shows that majority of the respondents do not have the opportunity to be in the same class with any PWD students or even interact through co-curricular activities on campus. This situation can simply be explained by the fact that the number of PWD students enrolled in public universities in Malaysia is still very little. As shown in a case study in Universiti Malaya [14], from a total enrolment of 4163 new students into the university for the 2017/2018 session, 18 of them are PWD-students that make up less than 0.5% of the PWD students get to study in higher learning institution if it is applied to all. In fact, according to the statistic shared by UTM's official, only 14 PWD students were registered as an active student for semester II of 2018/2019 session.

##### ***4.2. Identifying facilities for disabled people at UTM***

The number of PWD students enrolled in the public and private universities in Malaysia is increasing year by year. From 2009 to 2010 itself, the number increased from 979 to 1115, about 13% increment was observed [15]. This statistic shows that access to higher education is entitled to all citizens including the PWD as aligning with the Policies and Action Plan of the Disability Act 2008 [16]. Following that matter, more facilities that are user-friendly to the PWD's need should be made available in all higher learning institutions across Malaysia.

Based on Figure 4.1, an average of 66% of the students is aware that some major PWD's facilities are provided by UTM management for the ease of the users. For instance, the most obvious attention is given to the toilet and parking space since both of these PWD facilities are available and given the handicapped signage at many places around the university's buildings. Then, the lifts followed by ramp routes in which according to data released by the UTM management, lifts are always available at every faculty and residential buildings that have more than one floor while ramp routes are there at most of the major important buildings in UTM. Aside from the data, based on field observation, it is proven that most of the facilities for PWD are provided at those major buildings in UTM. Unfortunately, most of those facilities are not properly labelled with handicapped signage especially the ramp routes. That is why from the graph, many respondents are unsure whether the ramp routes are provided or not. This study also reveals that though some of the respondents answered "no" and "maybe" for those four facilities, it is probably due to the reasons that they are unaware or never come across such facilities or they

might feel that the facilities provided are not “PWD-friendly”. Therefore, it is the university’s responsibility to show it to the students and outsiders that the university is on its track of providing unhindered access to educations for students regardless of their backgrounds. By installing

the handicapped-signage, it is one-step forward for UTM to present its commitments in becoming “PWD-friendly” university.

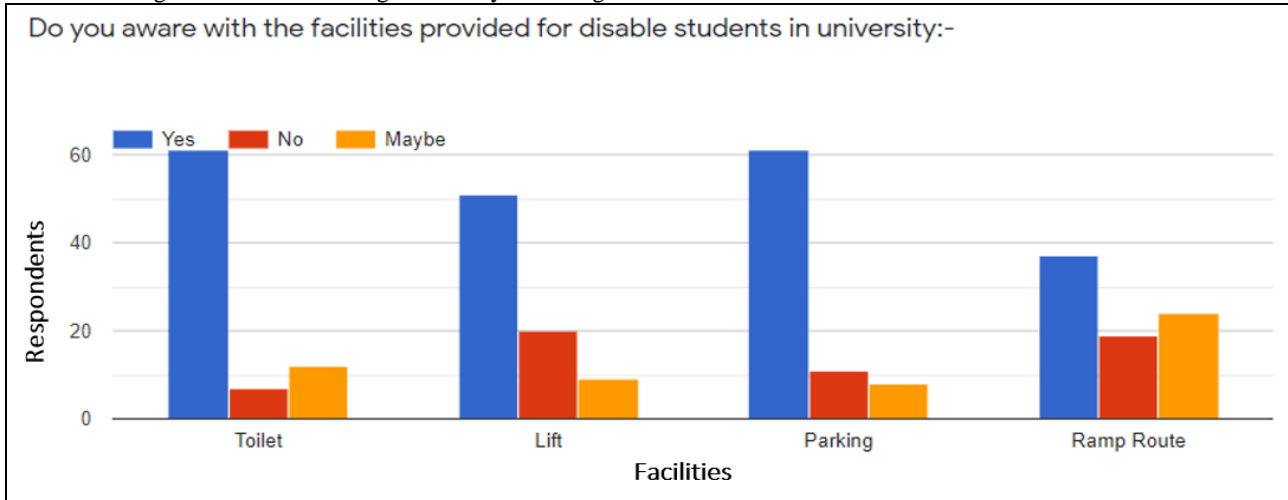


Figure 4.1 Awareness of students of UTM on the facilities provided for the PWD students

### 4.3. Identifying students' awareness of the “PWD-friendly” facilities at UTM

Being a PWD person always means that the person must bear an extra burden for all his or her life. It will only be fair if the person is entitled with extra special treatment and care to loosen things up for them. Even though only 10% of the total Malaysian’s population are PWD [17], it is inhumane to deny their right and freedom to be part of the community and be benefited from the infrastructures and facilities that have been offered by the government for the people. Therefore, by administering “PWD-friendly” facilities wherever it should, be it inside the university or outside, this act can be like an instrument or effort to show that equality is guaranteed for all people and there is no place for discrimination in this country. Hence, in this section, the matters regarding the “PWD-friendly” facilities in UTM is further discussed.

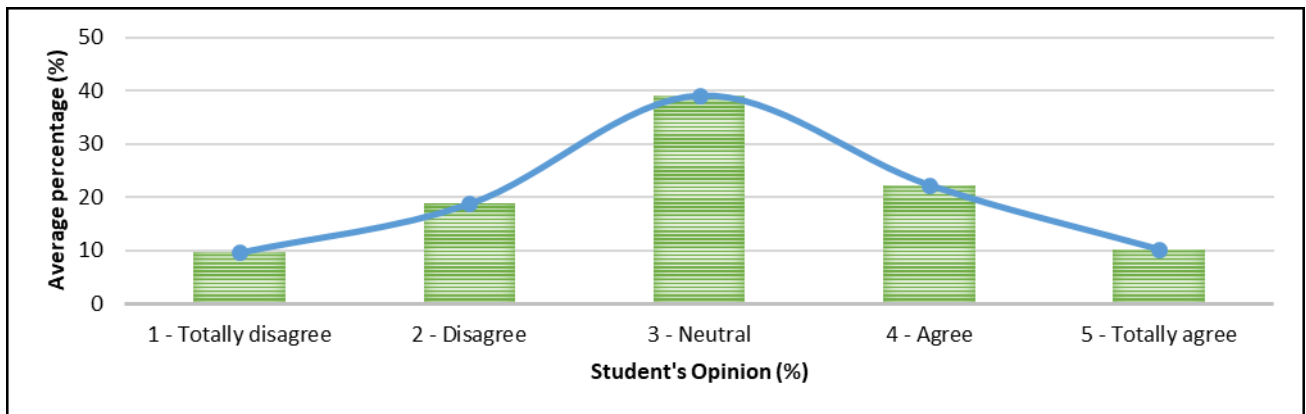
Based on the responses from the questionnaires, Table 4.1 is produced to identify the awareness of the students on specified “PWD-friendly” facilities at UTM. Furthermore, based on the score for each opinion, the average percentage is obtained to calculate the overall score for each matter regarding “PWD-friendliness” of the facilities. Then, from the scores, a bell graph is constructed as shown in Figure 4.2. It is important to see the thoughts of the majorities pertaining the facilities provided for the PWD students in UTM as this will determine the level of attention given by UTM toward the needs for the “PWD-friendly” facilities. From the bell graph, it is shown that most of the answers given are neutral to the question of whether or not the facilities in UTM are “PWD-friendly”. Nevertheless, an irregularity was observed based on the

opinions upon the toilets and the parking space as most of the responses positively shift to the right showing that these two types of facilities are properly installed by the university management.

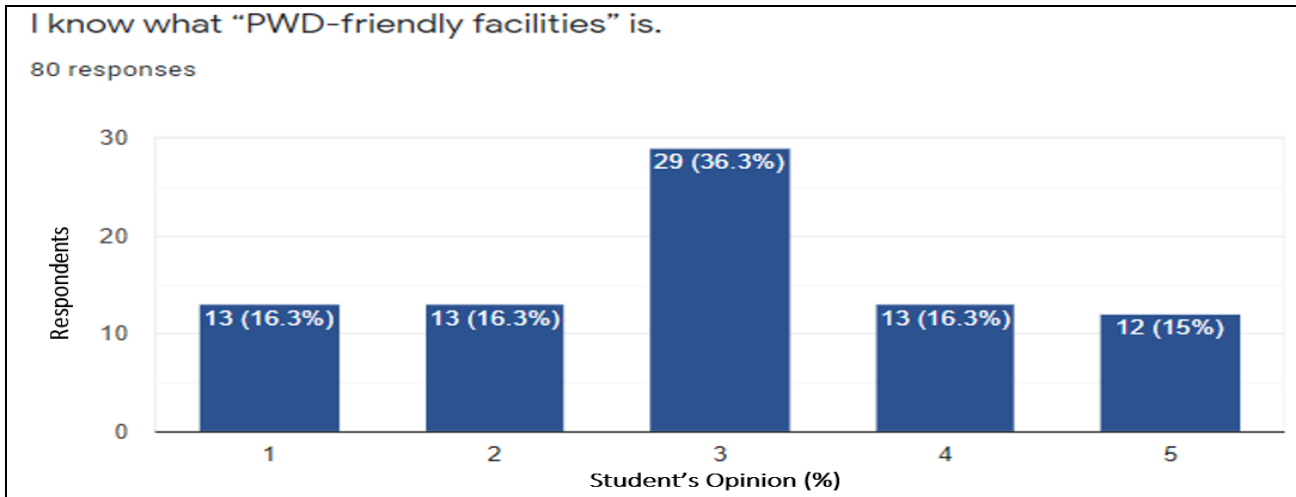
This study also tells us that most of the students neither agree nor disagree with the motion. This is most probably since the majority of the students are either unsure or have no idea of what a “PWD-friendly” facilities are as depicted in Figure 4.3. When looking closely, it can be seen that the bell graph imitates the graph in Figure 4.3 thus proving the lack of understanding of UTM student on those “PWD-friendly” facilities.

**Table 4.1:** Students' opinions on the “PWD-friendly” facilities provided in UTM.

MATTERS	STUDENTS' OPINIONS (%)				
	Totally disagree	Disagree	Neutral	Agree	Totally agree
All these facilities are “PWD-friendly” facilities:					
The campus infrastructure	7.5	18.8	52.5	16.3	5.0
Parking space	5.0	11.3	25.0	32.5	26.3
Cafeterias	8.8	21.3	37.5	22.5	10.0
Prayer rooms	3.8	20.0	41.3	25.0	10.0
Residential colleges	8.8	17.5	48.8	20.0	5.0
Escalators	6.3	25.3	36.7	24.1	7.6
Transportation facility/ shuttle bus	15.0	25.0	40.0	16.3	3.8
Toilets	5.0	7.5	27.5	41.3	18.8
Television screens and subtitles	25.0	25.0	38.8	10.0	13.0
Classrooms	11.3	16.3	42.5	15.0	15.0
<b>Average percentage (%)</b>	<b>9.7</b>	<b>18.8</b>	<b>39.1</b>	<b>22.3</b>	<b>10.3</b>



**Figure 4.2** Students' opinions on whether or not the facilities in UTM are "PWD-friendly".



**Figure 4.3** Knowledge of respondents on what “PWD-friendly” facilities is.

Even though most of the respondents which are 36.3% gave neutral answers that many facilities are available at UTM, it does not mean that the students are unaware of the needs of the PWD students neither the university provides lack of facilities. More efforts need to be implemented by both students and university to instill awareness about the basic rights for PWD and improve user-friendly facilities for them. In a nutshell, this study may provide some insights into the level of knowledge and awareness of the campus community towards their fellow PWD friends. Additionally, this study also uncovers that the students are against the idea of institutions of higher education are only for capable and healthy people. Besides, average 33% of the responses stated that the university people and the institution itself are friendly and supportive toward the disabled. Thus, it is a good, healthy and harmonious environment for everyone to live in and this quality needs to be nurtured and flourished continuously for a better future.

## 5. CONCLUSION

A case study based in UTM about the matter of perceptions and acceptance of the campus community towards PWD has been constructively conducted. Based on the finding from all the questionnaires, the objectives of this study have been successfully achieved. It is worth to note that most of the campus residents are aware of the co-existence of PWD students inside the university and the acceptance toward the PWD are positively viewed by the respondents. It is also discovered that most of the significant facilities for the disabled are provided by the university and in strong agreement based on the responses from the survey. This implicates that the basic right of the PWD students has not been neglected by the university. It is however observed that the knowledge of students regarding “PWD-friendly” facilities and the condition of the facilities itself still have rooms for improvement. Conclusively, this study represents a pioneering step

toward a breakthrough on the matters regarding the PWD’s rights in Malaysia, especially in public institutions. In other words, these findings show an inclination of views and thoughts of other people towards the issues of PWD and less in the opposite way. Future works should consider more parameters and responses from PWD students on their views and think toward the community around them as well as the functionality and usability of the facilities provided for them.

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