

Barriers and Perceptions of Disabled University Students on Online Learning Methods during the Covid-19 Pandemic

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Abstract: The purpose of this study is to find out in more detail about the obstacles faced by students with OKU UKM while following online learning as well as their views in particular on effective online learning methods during this pandemic season. Next, the study was conducted quantitatively using survey method. An online questionnaire (google form) was used in this study as a research instrument which in total contains 18 items. The study sample was randomly selected in groups according to the rate for each category. It consists of 30 OKU students from 47 OKU students who are active in the 2021/2022 study session at UKM. Data collection was through a questionnaire and the findings were analyzed by descriptive analysis using Statistical Package for Social Sciences for Windows Version 26 (SPSS) software. The statistics used for data analysis in the study were mean score, standard deviation, frequency and percentage. The findings of the study have shown that the majority of barriers faced by students with disabilities during online PdP during the Covid-19 pandemic season were barriers in completing group assignments with a high level. Furthermore, the level of the overall barriers faced by students with disabilities is at a moderate level. As for the views of OKU students, the majority of OKU students are very affected by the Covid-19 pandemic. While the effective PdP method for students with disabilities during the pandemic season varies. In conclusion, the effective mode of learning and teaching for OKU UKM students during the pandemic season depends on the type of disability of the OKU students.

Keywords: Barriers, perceptions, special needs students, online learning.

INTRODUCTION

In March 2020, the implementation of the Movement Control Order (PKP) in Malaysia began. This has caused most sectors including the education sector to be affected and should not be as active as before. The order that has been carried out has caused educational institutions in Malaysia to be closed such as schools, colleges and universities so that the spread of Coronavirus (COVID-19) can be curbed from continuing to spread among the community in Malaysia. Therefore, the Ministry of Higher Education (MOHE) has decided that learning and teaching (PdP) is conducted online and face-to-face PdP activities must be stopped temporarily.

After that, it has caused a change in the mode of learning and teaching (PdP) in Malaysia from PdP in full face to face to PdP online. This is to ensure the safety of students and educators from being infected with the Covid-19 pandemic. Furthermore, online learning does not require students to go to school directly to attend PdP sessions.

Many studies report that the epidemic has a negative impact on children and their education (Cao et al., 2020; Mustafa, 2020; Onyema et al., 2020; Sahu, 2020; Zhou et al., 2020). Meanwhile, several other studies have put forward recommendations to minimize this

effect (Berger et al., 2020; Van Lancker & Parolin, 2020). However, a review of the literature indicates that studies focusing on students in disadvantaged groups are relatively limited.

Internationally, several studies have investigated how the psychological effects of pandemics can be reduced to students with special needs and their families (Asbury et al., 2020). In addition, few others are looking for the type of family support of children with special needs needed for their children's education and mental health (Toseeb et al., 2020).

The study of Mukhtar K, Javed K, Arooj M, Sethi A. (2020) has examined the perspectives of medical/dental students and faculty members related to online PdP. The findings indicate that the online learning modality is a flexible and effective PdP teaching resource. Most students and teachers agree that online PdP is a flexible and resourceful PdP. This is so because, online PdP helps students in distance learning with easy administration. Students can access teaching materials easily regardless of time limit, students can access easily

According to Faridah and Afham (2019) Online learning uses active and effective learning methods. This view is in line with a study by Herman and Surjono (2015), who explained that online PdP can give birth to a flexible learning system that is variable and extensive. Therefore, it makes it easier for students to arrange the time according to the class schedule. This is because, students do not have to go anywhere to attend PdP sessions no matter when and where they are.

Online PdP also has various drawbacks. Among them, in the study of R. Gowda & G. K. Ayush (2020) stated that most of the respondents think that online PdP method is not suitable especially for classes that are practical or direct experience and physical observation such as classes for science streams/majors that require going to laboratory for practicals.

In addition, internet problems and connectivity issues are also major weaknesses of online PdP especially to students living in remote areas of the country. The traditional teaching method (face -to -face PdP method) is more effective than the online mode. it can be observed that psychologically, most students opt for traditional methods, rather than online teaching. This happens because online PdP puts pressure on students both emotionally and so on. The study also stated that there are students who think that online PdP has no two -way communication, which lacks a good atmosphere of interaction between students and educators especially during presentations or question and answer sessions in lecture sessions. Finally, students living in rural or rural areas or from low economic status, they do not have the appropriate electronic devices to follow online PdP sessions is also another major weakness and barrier in online classes.

In the study of Inayatullah et al. (2021) stated that the barrier faced by students while attending online PdP sessions was poor internet access. The slow internet speed caused students to be unable to access the digital platform used during the PdP session and eventually caused them to miss important content in the lecture session as well as not being able to properly understand the teaching content. Studies from Rafiq, Hussain, & Abbas 2020 state that poor internet coverage is a major issue in e-learning. Supported by the Waqar study, 2020 students are unable to attend online sessions due to poor internet access. This issue is a major issue of online learning for students living in rural areas.

Another study noted that students with disabilities in Ireland had difficulty attending online PdP sessions due to accessibility issues such as lack of equipment or compatibility of their assistive technology with VLE /assessment software, especially for students with visual impairment, hearing impairment and dyspraxia according to AHEAD 2020. Less students UK efforts have difficulty in performing various skills during online PdP sessions which follow class sessions through different platforms, at the same time having to focus on teaching materials such as powerpoint slides. However, when instructional materials are inaccessible it

can affect the concentration of neurodiverse students, and students with mental health problems have increased anxiety that impairs concentration abilities (NADP 2020).

In Mahyoob's study, M (2020) also stated the barriers or challenges of online PdP in Saudi Arabia, the first issue is internet speed, which in 48% of students face the problem of poor internet access. who did not face any problems during e-learning was only 18%. Moreover, the barrier in taking online exams is in 13%. This is because, some students cannot access the exams online or have internet connection problems.

Online PdP cannot produce good results in developing countries like Pakistan, where the majority of students cannot access good internet facilities due to technical as well as financial problems according to the study of Ullah, A., Ashraf, M., Ashraf, S., & Ahmed, S (2021). All students face the same problem whether at school or university level. According to this study, 88% of students do not have proper internet facilities and they face many internet issues. Next 65% of students expressed dissatisfaction with online learning and 85% of students complained about them experiencing eye vision problems when attending online classes.

METHOD

This study is conducted in the form of a survey in which it uses quantitative methods. This is because, in order to obtain a lot of information in a short period of time, the survey method is appropriate. The researcher used a questionnaire as an instrument of this study to answer questions related to the obstacles faced, the perception of OKU UKM students on the online PdP method during the pandemic season.

A set of online questionnaires was constructed for this study using Google Form as a research instrument. Then, it was distributed to respondents to get feedback on the barriers and perceptions of students with disabilities on online learning methods during the pandemic season. The questionnaire contains 4 sections, namely section A: Student demographics, section B: barriers to online learning and teaching, section C: perceptions of students with disabilities on online learning methods and effective learning methods for students with disabilities during the pandemic season. .

The two parts of the questionnaire, namely parts B and C, use the Likert scale method. Respondents are required to mark their answers using one scale only based on the statements given and the questions provided Respondents are required to mark the level of agreement they for each question i.e. a score of 1 represents strongly disagree, 2 = disagree, 3 = not sure, 4 = agree and 5 = strongly agree.

RESULT AND DISCUSSION

Result(s)

Overall, the descriptive analysis of the questionnaire items can be described through the following tables:

Table 1. Student demographics

Respondent Demographics	Item	Frequency	Percentage
Gender	Male	17	56.7%
	Female	13	43.3%
OKU category	Learning Disabilities	1	3.3%
	Hearing Impairment		
	Blind	7	23.3%
	Fizical	10	33.3%
	Multihandicapped	12	40%
	Others	-	
Level of study	Undergraduated	17	56.7%

Years of study	Graduated	13	43.3%
	1 years	7	23.3%
	2 years	10	33.3%
	3 years	5	16.7%
	4 years	7	23.3%
	Others (5)	1	3.3%

In this study, 30 OKU UKM students were selected as a sample. The population for this study is OKU UKM students who have been randomly selected in groups according to the OKU category. For this study, the first method used by the researcher for the collection of quantitative data is to contact the administration of the Service and Support Unit for the Disabled, Universiti Kebangsaan Malaysia (UPSOKU UKM). This is to ask for permission by the administration to use some respondents from OKU UKM students. Apart from that, it is also to obtain information on OKU students who are active in UKM for the 2021/2022 learning session such as telephone numbers and so on.

After that, the google form that has been built is distributed to OKU UKM students. Then, the data were obtained, collected and analyzed using Statistical Package for Social Sciences for Windows Version 26 (SPSS) software descriptively. Finally, descriptive statistics will be used to discuss all the findings obtained

Table 2. Obstacles faced by OKU UKM students

Item	Construct	Frequency and Percentage		
		STS-TS	TP	S-SS
B1	Low internet/wifi access	13 (43.3%)	2 (6.7%)	15 (50.0%)
B2	Device tools for participating in PdP sessions	17 (56.7%)	5 (16.7%)	8 (26.7%)
B3	Unconducive environment	11 (36.7%)	1 (3.3%)	18 (60.0%)
B4	There is no self -motivation to join PdP online	11 (36.7%)	4 (13.3%)	15 (50.0%)
B5	Unable to give full commitment when PdP is online	12 (40.0%)	1 (3.3%)	17 (56.7%)
B6	Understand instructions from the lecturer	8 (26.7%)	7 (23.3%)	15 (50.0%)
B7	Understand the content of PdP in the classroom	8 (26.7%)	7 (23.3%)	15 (50.0%)
B8	Complete group assignments	5 (16.7%)	4 (13.3%)	21 (70.0%)

Table 3. Mean score, standard deviation and level for Barriers faced by students with OKU UKM

Construct	Min score	Standard deviation	Interpretation stage
Low internet/wifi coverage source	3.00	1.259	Sederhana
Device tools for joining PdP	2.70	1.264	Sederhana
Unconducive environment	3.37	1.299	moderate
No self -motivation to follow	3.33	1.348	moderate

PdP			
Unable to give full commitment when PdP is online	3.20	1.375	moderate
Understand the lecturer's instructions	3.27	1.112	moderate
Understand the content of teaching	3.23	1.073	moderate
Complete group assignments	3.73	1.081	high
The whole obstacle	3.23	0.84	moderate

Table 4. Perceptions of OKU UKM students on online learning methods

Item	Construct	Frequency and Percentage		
		STS-TS	TP	S-SS
C1	Do you feel stressed when joining PdP online?	13 (43.3%)	2 (6.7%)	15 (50.0%)
C2	Are you impressed with the change of PdP mode from face to face to online?	12 (40.0%)	1 (3.3%)	7 (23.3%)
C3	Does online learning influence your academic results?	12 (40.0%)	4 (13.3%)	14 (46.7%)
C4	Do you easily understand online learning content?	11 (36.7%)	7 (23.3%)	12 (40.0%)
C5	Do you agree that learning is held entirely online ?.	17 (56.7%)	7 (23.3%)	6 (20.0%)

Table 5. Mean score, standard deviation and level of perception of OKU UKM students on online learning methods

OKU UKM Student Perception	Min Score	Standard Division	Interpretation
Stressed while attending an online PdP session	3.13	1.332	Sederhana
Impressed by the change of PdP method mode during pandemic season	3.40	1.404	Sederhana
Online PdP influences academic results	3.23	1.331	moderate
Able to understand online PdP content easily	3.10	1.185	moderate
Consent to PdP is conducted entirely online	2.47	1.279	low
The overall perception of OKU UKM students	3.07	0.85	moderate

Table 6. Effective methods for OKU UKM students during pandemic season

Effective learning methods	Frekuensi	Percentage
Fully face to face	8	26.7%
Completely online	9	30%
Hybrid (mixed)	13	43.3%

Discussion(s)

Student demographics

The results of the analysis showed that 30 respondents were successfully selected from 47 population of students with disabilities at Universiti Kebangsaan Malaysia whose study status is active for the 2021/2022 session. Respondents were randomly selected in groups and randomly by rate based on category. The findings of the study showed that the majority of male students involved in the study compared to female students. The OKU category for the students involved with the study was only visual problems, hearing problems, learning problems and physical problems. The results showed that the total number of students from the OKU (physical) category were the most involved in the study compared to vision problems, hearing problems and learning problems.

Obstacles faced by OKU UKM students during the Covid-19 pandemic season

Based on table 2, the analysis found that respondents expressed the highest agreement for the barriers encountered during PdP online during the covid-19 pandemic season which is the barrier in completing group assignments which is 21 people (70.0%). Followed by the barriers of an uncondusive environment of 18 people (60.0%) and 17 students (56.7%) who could not give full commitment when learning online.

Table 3 shows the mean score, standard deviation and level of barriers faced by students. The findings show that the barriers in completing the group assignments are at a high level with a mean score value of 3.73 and a standard deviation of 1.081. Obstacles - other obstacles are at a moderate level. Among them are for non -conductive environmental barriers showing a mean score of 3.37 and a standard deviation of 1.299

Overall, it was found that the obstacles faced by OKU UKM students are varied. The results show that the main obstacle faced by students with OKU UKM in UKM is the obstacle in completing group assignments and followed by the second most obstacle which is the obstacle of an environment that is not conducive.

Therefore, it can be seen that many students with disabilities have obstacles to complete group assignments. This may be because they have difficulty communicating with groupmates directly due to all learning in their respective homes, in contrast to learning physically or face-to-face.

Supported by the study of Fazley et al. (2020), showed most students have barriers to completing group assignments. This is due to the current situation requiring social imprisonment, and physical social interaction is limited. As a result, students have difficulty conducting group discussions. While virtual discussions are still possible, there are a few kekangan dan masalah yang berlaku dalam interaksi tersebut. Sebagai contoh, kekangan masalah internet. Tidak semua pelajar mempunyai capaian internet yang tinggi di tempat kediaman masing-masing

Perceptions of OKU UKM students on online learning methods during the Covid-19 pandemic season

Based on table 4, the analysis found that 50% of respondents (15 students) felt depressed during online PdP during pandemic season. In addition, a total of 14 students (46.7%) agreed that online PdP during the pandemic season influenced their academic results and 12 students (40.0%) expressed agreement that they easily understood online teaching content.

Table 5 shows the mean score, standard deviation and level of the views of OKU UKM students on the online PdP method during the pandemic season. Findings show that the highest mean score value is that students feel affected by the change of PdP method mode during the covid-19 pandemic season which is 3.40 and standard deviation 1.404. This indicates that

most of the OKU students in UKM were very impressed with the change of PdP method mode during the Covid-19 pandemic season.

Most OKU students at UKM agreed that they were very impressed with the change in the mode of the PdP method. This is because, to follow an online PdP session they have experienced or have unavoidable obstacles and constraints. Furthermore, they are not accustomed to the PdP atmosphere where lecturers and students cannot meet face to face. While face -to -face PdP makes it easier for them to communicate and get guidance from lecturers.

In addition, they also stated that they were not able to understand the teaching content well during the online PdP sessions. This online PdP makes it difficult for them to get teaching materials directly from lecturers. This is because, when unable to meet with the lecturer face to face, the lecturer easily forgets to upload teaching materials because the lecturer has many PdP sessions as well as subjects that need to be taught. As a result, they find it difficult to understand the content of teaching well. Students with disabilities also feel stressed when attending PdP online during pandemic season. This is due to the constraints or obstacles they face. For example, while they were focusing in the PdP session in listening to the explanation from the lecturer, however, they suddenly dropped out of the classroom platform due to poor or disconnected internet access. As a result, they missed the important explanations presented by the lecturers and caused them to not be able to understand the topic of teaching as well as their other classmates.

Next, students with disabilities agreed that online learning influenced their academic results. This is closely related to the barriers they face such as barriers to completing group assignments. Because online PdP limits direct (face-to-face) communication with classmates which is difficult to identify a classmate's situation or sometimes difficult to get respon those which have resulted in a given group assignment not being completed in the allotted time. As a result, it can affect the marks or results of the group's assignments.

Finally, the majority of OKU students do not agree that PdP is conducted entirely online. This is related to issues or barriers or constraints that exist from online PdP. For example, this online PdP causes some lecturers not to know about the existence of students with disabilities in a class if not informed by students.

Furthermore, not all students open the camera during the PdP session or if they open the camera, the lecturer can only see the face. As a result, the teaching techniques used during PdP are according to the level of typical students or too fast. That is one of the reasons why students with disabilities do not agree that PdP sessions are conducted completely online.

Effective learning methods for OKU UKM students during the Covid-19 pandemic season

Effective methods for students with disabilities depend on the disability category of the student and based on the barriers they face. The researcher will discuss one by one the effective learning methods that have been selected by OKU students according to the OKU category.

Physical

For students with physical disabilities, some choose online learning as an effective learning method. This is because, there are those who state that online learning facilitates students with physical disabilities because they do not have to move somewhere frequently. Also, being fully online is effective because most students with disabilities find it difficult to stand out because of embarrassment. Therefore, through online learning, students will feel closer to the lecturer. This is because, they without feeling shy and embarrassed can give an opinion and it is easier to ask the lecturer.

There are also physically disabled students who state that the effective learning method for UKM disabled students during the pandemic season is face -to -face. This is because, for them, the face-to-face learning method makes it easier for them to concentrate because the learning environment is good in contrast to the online learning environment in their homes. In addition, students can ask the lecturer directly if they do not understand the content of the lesson or assignment given.

Furthermore, the hybrid method is an effective method for students with physical disabilities at UKM. This is so because, online learning has many barriers and distractions that can cause students to be unable to concentrate on learning.

Hearing problem

As for students with hearing impairments, most choose the full face -to -face method for a method that is effective for them during the pandemic season. This is because, there are many shortcomings or weaknesses in online learning for them. For example, when learning online there are students who forget to turn off the microphone where the sounds heard are various such as the sound of people talking, the sound of motorcycle or car horns and so on causing students with hearing impairment can not concentrate in class due to noise disturbance. Furthermore, they are very sensitive to sounds.

Furthermore, students with hearing impairments also stated that effective learning methods during the pandemic season are hybrid. This is because for students who need a face-to-face meeting with the lecturer, they can follow the learning face to face, but if students do not need to meet with the lecturer face to face, and for safety, the student can follow the learning session online at their respective places.

Vision problems and learning problems

An effective learning method for students with visual impairments and learning disabilities is hybrid. For students with learning disabilities, it has been stated that hybrid is an effective method. This is because, as we know, students with special learning needs have difficulty focusing in class especially over long periods of time and without direct monitoring from the lecturer. However, to conduct PdP sessions in full face -to -face for now is not recommended. Therefore, the students with learning disabilities stated that the effective method during the pandemic season is hybrid. In addition, for visually impaired students, most of them prefer hybrid learning, this is because online learning requires students to attend classes using devices such as laptops or smartphones. As a result, it causes visually impaired students to quickly feel eye pain due to having to be in front of a smartphone or laptop for a long period of time especially to complete assignments given by lecturers or follow online PdP sessions.

Therefore, for visually impaired students who have barriers to follow PdP sessions online as the situation, the students can follow it face to face, while for those who do not have barriers can follow PdP classes online. However, there are also some visually impaired students who state that the effective PdP method is completely online. This is because, they have no significant barriers or constraints to attend online PdP sessions.

Overall, the researcher can conclude that the effective PdP method for students with disabilities in UKM during the pandemic season it depends on the category of disability of the student. In addition, the obstacles faced by students with OKU UKM also affect the effective PdP methods for them.

CONCLUSION

Overall, this study can identify the barriers faced by students with OKU UKM in particular as well as can know the level of the barriers. The results of the study have shown that every student has different and varied barriers. Students' views on online PdP methods are also very

important for the improvement of future PdP sessions. Therefore, to ensure the effectiveness of PdP, the parties involved need to carry out continuous evaluation of PdP methods and cooperate with each other in achieving better quality and effective PdP in Malaysia in general and at Universiti Kebangsaan Malaysia in particular. Since this study only involves OKU UKM students, the researcher suggested that the next study be conducted to several universities so that certain parties can take input for future improvements. The researcher also suggested that a study from the perceptions of lecturers and parents was also conducted to find out the input from the point of view of lecturers and parents in particular. This is because lecturers and parents are important parties in the success of online learning. This is to determine the suitability of processes/activities that need to be improved in launching more effective learning methods.

Furthermore, the purpose of this study was conducted only to focus on identifying the barriers and views of OKU UKM students on online learning methods as well as effective methods for them during the covid-19 pandemic season. Therefore, the researcher suggested that the study be detailed up to the impact dimension. The impact study will help the parties involved to know the effectiveness of the learning methods used as a whole. The results of the effectiveness of the learning methods used will be able to help find improvement measures and the need for good learning smoothness.

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