



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i9/14928>

DOI:10.6007/IJARBSS/v12-i9/14928

Received: 11 July 2022, **Revised:** 19 August 2022, **Accepted:** 01 September 2022

Published Online: 13 September 2022

In-Text Citation: (Ma'mor et al., 2022)

To Cite this Article: Ma'mor, M. S. H. @, Arumugam, N., Mello, G. De, Ibrahim, M. N. A., & Sathiyasenan, S. D. (2022). Challenges faced by Higher Education Students with Special Needs in Online Distance Learning (ODL). *International Journal of Academic Research in Business and Social Sciences*, 12(9), 981 – 994.

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Vol. 12, No. 9, 2022, Pg. 981 – 994

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Challenges faced by Higher Education Students with Special Needs in Online Distance Learning (ODL)

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Abstract

The Covid-19 pandemic has forced higher education institutions to use online distance learning (ODL) approach for teaching and learning activities. ODL is challenging for many students and instructors, but it can be even more challenging to students with special needs. Nevertheless, their predicaments have been rarely documented. Thus, this study investigates the challenges experienced by students with special needs studying through ODL at higher education institutions in Malaysia. A set of questionnaires were distributed to 113 students with special needs at several higher education institutions in Malaysia and the data were analyzed using descriptive and inferential statistics. Results show that ODL modes of delivery were exclusionary in nature and lacked suitable facilities catering for students with special needs. Majority of the students faced difficulties in comprehending the lesson; and getting adequate academic support from their instructors and parents. Their issues with ODL were compounded by inconducive home environment; and their parents' and instructors' lack of knowledge and skills in technology to assist them in their studies. This study makes a significant contribution to the academic literature and provides a new direction for supportive and quality ODL education for students with special needs.

Keywords: Covid-19, Higher Education Institutions, Online Distance Learning, Students with Special Needs, Challenges

Introduction

The Covid-19 pandemic caused education organization closures in at least 188 countries resulting in more than 91 percent of the world's students out of school (Karsan, 2020). There is also a global change in the education landscape from physical learning to Online Distance Learning (ODL). Today, it is impossible to discuss teaching and learning process without mentioning e-learning platforms like Zoom, Google Meet, Cisco Webex, Microsoft Teams and

others (Zainuddin et al., 2016). Though blended learning of face-to-face and e-learning has been incorporated into student instruction and classroom setting in Malaysia over the last decade and throughout the world, it is strenuous to have full ODL due to the uncertainty access of the internet and technology (Li, 2020). The scenario is more challenging for students with special needs who need special applications and gadgets (Krishnan et al., 2020). As highlighted by Kagan (2021), a student with special needs requires special attention and specific necessities otherwise they would be at disadvantage. The term students with special needs encompasses quite a variety of characteristics such as some of these students have total loss of eyesight or hearing, require help with movement, communication, decision-making and self-care (Chapel, 2020). In their study, Duraku and Nagavci (2020) found the level of inclusion of students with special needs within the educational system during the pandemic was extremely low as most of the learning materials used are tailor made for the mainstream form of education. They also found parents of students with special needs were often afraid that their children would regress during this period which might affect their emotional states. After all, ODL has made learning challenging to normal students and what more to students with special needs.

Due to the rise of Covid-19 cases, the government of Malaysia has enforced the Movement Control Order (MCO) to curb the spread of Covid-19 in the country which led to the cease of physical teaching and learning activities at all education institutions including universities. To ensure the continuity of education, the Ministry of Higher Education decreed that all public and private universities in Malaysia to conduct teaching and learning activities via ODL approach. ODL is a learning approach that separates the learners and instructors physically while offering flexible learning opportunities via online platforms like Microsoft Teams, Google Meet, Cisco Webex and others. However, it poses numerous challenges including internet, equipment, facility, and technical assistance to students (Sutton, 2021). Among those who are affected with the ODL approach are students with special needs who are learners with physical, developmental, behavioral, emotional, and communication disorders; and learning deficiencies (Kryszewska, 2017). These students may require special assistance or arrangements meeting their needs. As reported by Duraku and Nagavci (2020), the level of inclusion of students with special needs within the educational system during the pandemic was extremely low to the effect that these students would regress during this period. They also highlighted that the challenges experienced during the pandemic heightened parental stress, influenced parental practices, and deteriorated parent-child relationship. Among their findings were the mothers of children with autism reported physical fatigue, fear, revulsion, and embarrassment, while the characteristics and behavior of children were reported to be associated with high levels of stress. Musingafi et al (2015) found that a variety of problems in obtaining education through ODL were attributed to the high costs associated with establishing assistive infrastructure for students with special needs. In Malaysian context however, students with special needs' learning experiences in ODL has been rarely documented, thus suggests the lack of understanding about the effectiveness of such teaching and learning approach in responding to the learning needs of students with special needs. One of the common difficulties among students with special needs is to be constantly remain motivated. They may confront a range of learning difficulties and various hurdles in their ODL learning. Thus, it is important to carry out a survey on their perspectives on ODL experiences as they are part of the primary stakeholder and beneficiary of higher education.

This paper intends to investigate the challenges faced by these students with special needs to help them achieve academic success despite the obstacles in ODL. The following research questions guided this study:

1. What are the factors that influence students with special needs learning process in ODL?
2. What are the impacts of ODL on students with special needs' well-being and daily activities?
3. Do the instructors possess the knowledge and skills to give services that adequately serve the needs of students with special needs in ODL?
4. What are the actions to be taken to assist students with special needs and their families in ODL?

In the next section, we provide a brief review of literature followed by the methodology used in the study. Then, we discuss the results and concluding remarks of the study.

Literature Review

Despite the increasing number of students with special needs enrolment at higher education institutions, they continue to fall behind compared to their non-disabled peers. Some recent studies that have focused on students with special needs' online learning experiences revealed that students face considerable challenges in conducting their online learning activities. Among the challenges faced by the visually impaired students were incompatible software used for the program JAWS, difficulty in reading math or equation correctly, inability to access graphic learning material, and inflexible pedagogical practices (Mokiwa & Phasha, 2012; Majoni & Mashatise, 2017).

In other studies involving hearing impaired or deaf students, it was found that instructional related challenges affected them that include inadequate or delayed academic support from course instructors, shortage of ODL skilled instructors in the higher education institutions who know sign language, and in terms of interactions in study groups the deaf students failed to freely discuss with hearing students (Mpofu et al., 2013; Musingafi et al., 2015), thus making assignments become difficult for the hearing impaired and deaf students to answer on their own.

Literature shows a relationship between students with special needs and internalizing (depressive and anxiety disorders) and externalizing disorders (conduct disorders) (Frith, 2013; Bonifacci et al., 2016; Panicker and Chelliah, 2016; Visser et al., 2020). Regarding the use of ODL, only a small number of studies have addressed these psychological factors and consequences, and there are few studies which have directly examined the quality of life of students with special needs, or the quality of interpersonal relationships with parents, instructors, and peers. Earlier studies that assessed adolescents with impairments show that they possess lower levels of coherence, hope and academic self-efficacy and suffer higher levels of social distress and loneliness than their non-disabled peers (Sharabi & Margalit, 2016).

ODL also present new challenges to the parents of the students with special needs. Only a small number of studies have considered the role of parents. Smith et al (2016) investigated parents' perceptions and experiences regarding exclusive online learning for their children with disabilities. The results showed that this experience altered parents' previous roles and that many parents were not equipped to take a teaching role due to lack of training, time,

and other constraints. A parent-as-teacher role can negatively affect parent-child dynamics, leading to frustration for parent and child. Coherently, Basham et al (2015) found although parents were hopeful that ODL has made higher education studies accessible to their children, the full-time virtual settings posed new challenges to them. Many parents reported the most challenging aspects they faced supporting their children in ODL were not knowing how to accommodate for their children's disability in an online setting, issues with timing or scheduling, and issues with access to course instructors.

The problems encountered by instructors in offering ODL are lack of knowledge and skills required in delivering distance learning education classes for students with special needs, problems on establishing a network of communication with parents for at home, and availability of suitable and appropriate teaching materials (Alea et al., 2020). As pointed out by Kebritchi (2017), the sudden transition from face-to-face to online teaching did not give instructors sufficient time to have proper training on e-content delivery and e-student-instructor interaction methods.

These studies have looked at the experience of students with impairments. It is evident that different individuals with different impairments face unique challenges and experiences. Evidence also highlights both the variability of students with disabilities' experience as well as some connections with other non-disabled students. In the literature, the experiences of students with special needs were highlighted, but in order to obtain a richer picture of the complexities in the academic obstacles of students with special needs with ODL in Malaysia, further studies are necessary. Focusing on higher education, this empirical research addresses the existing research gaps by tapping further into the challenges faced by students with special needs in the online classroom context.

Methodology

This study adopted a quantitative research design that used online questionnaires distributed to 113 respondents consisting of higher education students with varied special needs including students with visual impairments, physical challenges, hearing impairments, fine motor challenges, and learning challenges. The questionnaire was distributed through the URL link in online applications such as WhatsApp, Instagram and Facebook. The data obtained through the online survey were analyzed using descriptive analysis and presented in the form of tables. The SPSS software was used to find out the mean and standard deviation.

As mentioned before, the instrument of data collection is an online survey. Creation of appropriate survey items stems from previous literature. The questionnaire consists of four sections: Section A gathers demographic information, Section B that was adapted from Fichten et al (2009); Krishnan et al (2020) gathers factors that influence students with special needs' learning in ODL while Section C that was adapted from Duraku and Nagavci (2020) gathers influence of pandemic-related circumstances in ODL on the students' and parents' well-being and daily activities. Section D that was adapted from Crouse, Rice and Mellard (2018) gathers information about the course instructors who teach the students with special needs in ODL. Section E that was adapted from Pacheco et al (2020) elicits data on actions to be taken for students with special needs and their families in ODL. A simple random sampling

technique was used to distribute the online survey questionnaires, involving a sample of 113 students with varied special needs from public and private universities in Malaysia.

From the demographic profile, 51% of the respondents were female and 49% were male. There were all students with different special needs who were doing their first degree and post graduate degrees. Majority of the respondents were aged between 19-24 (74%), followed with 25-29 (18%) and 30-35 (8%).

Results and Discussion

Factors that Influence Students with Special Needs' Learning Process

Among the major benefits of ODL are related to its flexibility, accessibility, and affordability. ODL helps students be able to continue their studies so they do not fall behind during the pandemic. Despite the benefits of ODL, higher education students were found to face many challenges related to individual, institutional and instructional (Ilonga, Opotamutale, & Tomas, 2020; Barrot, 2021). From the collected data, there were several factors that contribute to the challenges faced by students with special needs in ODL. Table 1 presents the mean scores and SD for the extent of challenges that students experienced during online learning.

Table 1
Factors that influence learning process

Item	Mean	Standard Deviation
Disruption to comprehend lesson	1.88	0.330
Lack of instructor's engagement and support	1.87	0.340
Emotionally affected	1.83	0.377
Difficulty in hearing (hearing impairment) (Inability to follow audio/video of recorded lesson)	1.82	0.385
Difficulty in being focused (students with autism)	1.82	0.385
Difficulty in completing academic tasks (devices not for physically disable)	1.78	0.414
Difficulty in accessing learning materials (visual impairment, inability to follow tutorial video on calculation etc.)	1.70	0.461
Lack of knowledge of eLearning devices (like laptops and smartphones)	1.66	0.476

Based on the data, the greatest challenge that students experienced was related to learning environment, particularly “disruption to comprehend lesson” ($M = 1.88$, $SD = 0.330$) due to distractions at home. Students were most likely distracted by noises and family members’ activities which made it difficult for them to follow the lesson and discussion with their course mates and instructors. It is hard to create a comfortable learning environment at home due to lack of conducive learning space, and privacy. Autistic people are very sensitive to noise which could easily distract them from concentrating on their studies. A mean score of 1.82 and 0.385 standard deviation were recorded for autistic students who reported they got easily distracted during online instruction and could not effectively complete their assignment due their home environments.

The second most challenging aspect of ODL gathered from the data was the “lack of instructor’s engagement and support” ($M = 1.87$, $SD = 0.340$) in academic aspect. Majority of the students perceived ODL to have a negative impact on their communication with the instructors. Delayed feedback from instructors after they posted questions or topics for discussion online along with other problems such as lack of non-verbal clues were a major concern to these students. These problems were particularly off-putting to the students. As a result, the students can feel alone in the learning process, lose their motivation, and eventually fail (Genc & Kocdar, 2020).

Results also show constant disruption of students’ focus in class and low instructors’ engagement have made these students became “emotionally affected” ($M = 1.83$, $SD = 0.377$). They developed high levels of stress, anxiety, and emotional distress. Some even suffered from low levels of well-being, self-esteem, and self-efficacy that put them at a disadvantage. This echoes Rayyan (2020) findings that the disrupt change from physical class to online class at local public and private higher education institutions had negative impacts on students with special needs’ emotion.

On another note, students with hearing impairment faced tremendous challenges in adapting to online learning and rated difficulty in hearing or inability to follow the audio as the third most challenging aspect ($M=1.82$) in ODL. They faced obstacles in following the lecture during synchronous session because their hearing aids could not capture what was delivered by the course instructor. This finding corroborates Krishnan et al.’s (2020) finding that hearing-impaired students had problem in catching up what was said by the course instructors because their devices were unable to pick up speech completely and accurately during online lessons. Another issue faced by the hearing-impaired students was difficulty in accessing video and webinar contents in ODL. Due to the sudden shift from face-to-face to full ODL mode, many course instructors did not have enough time to develop their own online teaching materials, thus had to resort to readily available teaching materials from YouTube. However, these internet sourced materials were not hearing impaired friendly due to the absence of sign-language interpreter or closed caption which further contributed to the students’ emotional stress.

Apart from that, students with motor impairments had technical difficulties in completing academic tasks ($M = 1.78$, $SD = 0.414$) which heightened their anxiety about their education. In ODL, students were expected to type questions instead of verbally ask questions during synchronous session to minimize interruptions, but it was a challenge for students with

impaired fine motor skills to type quickly. Thus, they could not have engaging interaction with the instructors and other students. Besides, most instructors used applications such as Microsoft Teams, Zoom, and Skype which were difficult for blind students to adapt to as they were not equipped with a speech synthesizer which would read the texts on the computer screen for power point slides. As a result, they missed a lot of information. In conclusion, another major challenge faced by students with special needs in ODL stemmed from technical difficulties.

Findings from the study also show that students with visual impairment had difficulty of accessing the websites, PDF, and online notes ($M = 1.70$, $SD = 0.461$). Some of the notes contain tables and graphics to present essential concepts, but JAWS screen reader simply reads the text elements in the charts. So, students with visual impairment had great difficulty in interpreting the images. These findings resonate with Suey's (2019) who found visually impaired students faced problems navigating, accessing resources and information in ODL. They failed to access e-resources and had limited access to computers or software.

Meanwhile, "lack of knowledge of eLearning devices" was recorded the lowest mean score at $M = 1.66$ ($SD = 0.476$) indicating that most visually impaired students were familiar with laptops and smartphones as these devices are now an indispensable part of everyone's life. However, their challenges lied in the inaccessible updated applications that could read graphs and visuals for them and special gadgets that could accommodate their needs. Overall, feedbacks from the visually impaired learners to learning is designed in exclusionary approaches such as notes in braille format was often inaccessible, the software used was incompatible, and lack of proactive innovative teaching strategies.

From the study findings, it is apparent that students with different types of impairments have different types of challenges in ODL. It is therefore imperative for all stakeholders to understand their specific needs to help them cope with ODL. The next section will review the findings for research question 2.

Factors that Influence Students' Well-being and Daily Activities

ODL has different impacts on students' well-being and daily activities. Parental involvement and support are crucial to keep the students motivated.

Table 2
Effects of ODL on students' well-being and daily activities

Item	Mean	Standard Deviation
Parents' lack of skills in technology	1.95	0.229
Increased attention and commitment from parents	1.89	0.318
Difficulties in coping with ODL learning format	1.88	0.330
Parents' lack of support in learning process	1.85	0.360
Adequate time is required to be spent with students	1.85	0.360
Greater parental engagement in supporting and conducting activities	1.83	0.377
Parents' lack of competence in supporting students with lessons	1.82	0.385
Parents' greater involvement in family activities	1.81	0.393

In ODL, some parents had to be full-time virtual learning facilitators for their children. The descriptive statistics in Table 2 shows majority of the respondents ($M = 1.95$, $SD = 0.229$) felt their "parents' lack of skills in technology" which became the greatest disadvantage to them in ODL and deeply impacted their well-being and daily activities. On the bright side however, ODL "increased attention and commitment from parents" ($M = 1.89$, $SD = 0.318$) which improved their well-being and ease their daily activities. Meanwhile, "difficulties in coping with ODL learning format" ($M = 1.88$, $SD = 0.330$) caused students to suffer from lack of willingness to complete homework due to low motivation. Meanwhile, "parents' lack of support in learning process" ($M = 1.85$, $SD = 0.360$) could stem from the difficulties of managing their children's unstable emotion as they might throw tantrum when they were overwhelmed with ODL.

From the survey, most parents agreed they need to spend adequate time with their children ($M = 1.85$, $SD = 0.360$). Reason being their children need full attention to cope with ODL. They also agreed that they need to be more engaged in their children's activities ($M = 1.83$, $SD = 0.377$) to improve their children's well-being. On the other hand, "parents' lack of competence to support students with lessons" ($M = 1.82$, $SD = 0.385$) could be a stumbling

block in their greater involvement in their children's activities ($M = 1.81$, $SD = 0.393$). In summary, parents' familiarity with technology and capability to manage their children's emotion are crucial factors in their engagement in assisting their children in ODL.

Instructors' Knowledge and Skills in ODL

This section focuses on instructors' knowledge and skills in teaching students with special needs in ODL.

Table 3

Instructor's knowledge and skills in ODL

Item	Mean	Standard Deviation
o.		
Instructors need to perceive that they should become active participants in their own professional education to students with disabilities	2.00	0.000
Instructors need to help students become engaged with course content	2.00	0.000
Instructors should communicate with colleagues and other online instructors who would understand their unique struggles	2.00	0.000
Instructors should conduct one-to-one instructor-student session	1.88	0.354
Instructors should be innovative using the latest teaching methods to support the students and their families	1.75	0.463

Most respondents agreed course instructors need to be actively upgrading their knowledge and skills in managing students with special needs ($M = 2.0$, $SD = 0.000$). As highlighted by Rice et al (2018), the lack of information about students with special needs presents challenges for instructors' teaching practice, preservice preparation, and professional development. Thus, it is a necessity for instructors to be specifically trained in special needs.

The respondents also agreed that they needed more help from their course instructors ($M = 2.0$, $SD = 0.000$) to cope with ODL, but they did not have the opportunity to communicate with their instructors to help them with their unique struggles ($M = 2.0$, $SD = 0.000$). Although the students suggested one-to-one instructor-student session as a method to assist their online learning ($M = 1.88$, $SD = 0.354$), it was unattainable due to instructors' time constraint and heavy workload. As underscored by Duraku and Nagavci (2020), course instructors' attitudes, skills, knowledge, and willingness to cooperate, along with their encouragement of parents to be involved, especially regarding individualized educational plans correlate with parents' active involvement in their children's education in ODL. Without instructors' support,

parents were also lost as to how they could assist their children in ODL.

Another challenge faced by the instructors was to be innovative with teaching using the latest applications and technology to support the students and their families ($M = 1.75$, $SD = 0.463$). The instructors could not provide services such as Braille conversion of study material, assignments and examination papers for ODL and online examination for the visually impaired students. Additionally, the instructors knew they need to incorporate captioning or sign language in the online tutorial videos and webinars for students with hearing impairment, but they lacked the skills and knowledge to do so. In general, the instructors were ill-prepared to work with students with special needs who were already limited by lockdown. They were not well trained to design and execute strategies for online teaching and learning. In fact, there was a glaring gap in the training of instructors in relation to dealing with students with special needs. Consequently, the students with special needs had to bear the brunt of ODL. They could not access study and assessment materials and their already overwhelmed instructors were ill prepared for the added demands of preparing special materials. In conclusion, the instructors' challenges in ODL were more to lack of qualification and not skilled to deal with matters of the students with special needs learning.

Actions for Students with Special Needs and Their Families

Moving conventional teaching and learning online typically means the use of video or audio (live or recorded), presentations, online discussion forums, and virtual group projects as well as e-assessments. These present significant challenges for students with impairments. Thus, actions from teachers are important for students with special needs to perform well in ODL. The instructors need to have the knowledge and skills to teach students with special needs via online platforms.

Table 4

Actions for special needs students and their family during this transition to online learning

Items	Mean	Standard Deviation
Employ proper teaching technique	1.95	0.224
Provide technology support	1.91	0.284
Provide psychological counseling and guidance to parents	1.87	0.340

The descriptive statistics in Table 4 shows most instructors agreed they should employ proper teaching techniques that meet the students' needs ($M = 1.95$, $SD = 0.224$). Understanding the best practices for students with special needs could lay the foundation for the instructors to construct teaching styles that could help the students have better grasp of the lesson in ODL. Another important action to be taken was assisting students with special needs and their parents with technology support ($M = 1.91$, $SD = 0.284$). As underscored by Adams et al. (2019), context-appropriate usage of technologies and tools and lack of scaffolding for students about the best way to use those technologies may affect how

successfully students engage with their learning environments. Lastly, providing psychological counseling and guidance to parents ($M = 1.87$, $SD = 0.340$) was the action stressed by respondents. Most of the time parents received emotional support from support group members, but they could no longer meet because of the MCO. Hence, online counseling on parents will be able to recognize the needs of their special needs children, provide better care, emotionally and physically function better, strong relationships, and better family for the children (Edgar, 2015). All these actions are useful in supporting students with special needs to be more engaged in ODL.

Conclusion

The sudden shift from face-to-face learning to ODL has resulted in a completely different learning experience for higher education institution students particularly for those with special needs. Based on the study findings, it was found that ODL has further exacerbated the long prevalent challenges faced by this group of students with special needs even prior to the pandemic. In an ODL setting most students with special needs have a hard time in different aspects depending on their impairments. The findings also show there were significant factors that influence the special needs students in their academic activities such as home environment, instructors' and parents' academic support, and instructors' training. These students require pedagogical, social, counseling, and technology literacy support. If these students remain under supported, it can result in their poor academic outcomes.

The university should strategize in building good support systems and services that are more inclusive to students with special needs. Instructor-parent partnership should be established, when the parents are the primary source of support during ODL, that can help smooth out the ocean of challenges to provide an ideal learning experience to the students. It is also necessary to provide proper guidance and counselling to both students with special needs and their family members to enhance their ODL learning experiences. Lastly, taking into consideration the different needs of these students with special needs, it is imperative for the university to increase support for instructors' training and retraining to ensure the students with special needs feel connected, engaged, and supported in ODL.

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