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# The Development of Students with Disabilities' Experiences Concerning Distance Learning in the Emirati Universities during the COVID-19 Pandemic

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## Abstract

This study investigates the developments in the experiences of students with disabilities during the COVID-19 pandemic, focusing on distance learning at three Emirati universities. It explores the students' experiences during the first semester of distance learning and analyses how these experiences evolved one year into the pandemic. The research adopts a qualitative approach, using semi-structured interviews to collect data from 21 participants,

including 12 students with disabilities and 9 disability support staff. The study's findings highlight that during the initial months of online learning, the students encountered various technical challenges, such as difficulties with technology access, Wi-Fi availability, and lack of training in using assistive technologies. However, as the pandemic progressed, the students faced different challenges in the second year of online learning. These challenges included navigating online classes and exams, communication issues with instructors and peers, assignment difficulties, and feelings of social isolation. The results indicate significant developments in the students' experiences in the second year of distance learning compared to the first year.

**Keywords:** college students with disabilities, online learning, challenges, advantages.

## 1. Introduction

COVID-19 brought human activity and productivity to a standstill worldwide as most countries implemented stay-at-home orders to contain the spread of infection and save lives (UNESCO, 2020). This policy had far-reaching effects, disrupting industries, social interactions, and economic activities. Among the most impacted sectors was education, with educational institutions worldwide compelled to suspend face-to-face instruction and transition to remote learning (Onyema et al., 2020).

The shift to remote education affected all stakeholders involved, including students, teachers, and educational institutions (Owusu-Fordjour et al., 2020; Daniel, 2020). However, the initial focus on remote learning did not adequately address the challenges faced by students with various disabilities, particularly at the university level (Aquino & Scott, 2022). These students often faced significant barriers that required special consideration and accommodation to ensure inclusive and accessible education during the pandemic.

Studies conducted in 2020, following the outbreak of the pandemic, have shed light on the unique challenges faced by students with disabilities during the transition to remote learning (Scott & Issroff, 2004; Aquino & Scott, 2022; Mustafa, 2020; Ro'fah et al., 2020; Akyıldız, 2020). These students encountered difficulties in four main areas: acquiring the necessary devices, accessing technology support and training, utilizing learning management systems (e.g., Blackboard, Moodle, etc.), and obtaining educational resources.

Moreover, these studies highlight additional hurdles, including issues with exam accommodations, participation in class activities, communication with instructors, collaboration with other students, and the loss of support previously received from disability support staff. Additionally, the pandemic's impact on mental health has been a concern for university students, both with and without disabilities (Saddik et al., 2020). It has been reported that during the pandemic, students with disabilities experienced higher rates of depression, anxiety, and feelings of social isolation compared to their peers without disabilities (Zhang et al., 2020; Madaus et al., 2022).

However, numerous studies have demonstrated the multitude of benefits that distance learning offers to students with disabilities. These advantages include the convenience of attending classes from the comfort of their homes, eliminating the need to commute to campus, which can be particularly challenging for some students with mobility issues. Additionally, distance learning has been shown to enhance students' focus and attention, resulting in a more conducive learning experience (Madaus et al., 2022; Meda & Waghid, 2022).

Furthermore, Juma (2020) identified several additional benefits of online learning for students with disabilities. The flexibility of remote study allows students to save time and allocate it more efficiently towards their academic pursuits. Moreover, it offers an opportunity for better management of health issues; students can recover from surgeries or cope with health conditions while continuing their studies from the safety and comfort of

their homes.

The United Arab Emirates (UAE) has shown a strong commitment to empowering individuals with disabilities and ensuring their access to equal opportunities. This dedication is manifested through key legislation, such as the Federal Law Concerning the Rights of Persons with Disabilities (No. 29 of 2006). Furthermore, in 2009, the UAE became a signatory to the UN Convention on the Rights of Persons with Disabilities, solidifying its commitment on an international level (Alhammadi, 2016; Morgan, 2021).

One of the UAE's recent and notable initiatives to empower people with disabilities is the National Strategy for Empowering People with Disabilities, launched in April 2017. This strategy encompasses six pillars, namely health, education, employment, social protection, family empowerment, and public life and sports, reflecting a comprehensive approach to address various aspects of disability rights and inclusion (Morgan, 2021; Emirates News Agency, 2018).

In the domain of education, the UAE has demonstrated proactive efforts towards inclusion. The country has implemented active educational policies that aim to provide students with disabilities equal opportunities in both government and private educational institutions. Additionally, these policies ensure that students receive reasonable academic accommodations to support their educational journey (Alborno, 2017; Morgan, 2021).

With the outbreak of the COVID-19 pandemic in 2020, the UAE swiftly implemented strict measures to curb the spread of the virus, even though there were only 30 registered cases in the country by 6 March 2020 (Emirates News Agency-WAM, 2020). As a precautionary step, the government made the decision to close schools and universities on 8 March 2020. Subsequently, on 5 April 2020, the Ministry of Education announced the transition to distance learning for all educational institutions in the country (The UAE Government Portal, 2022).

However, due to the urgency of the situation, the government's rapid response left little time for universities and schools to adequately prepare students with disabilities for the shift to distance learning. Consequently, there was insufficient time to ensure that the special needs of these students would be adequately addressed during the period of distance learning.

Published studies on distance education in Emirati universities reveal diverse experiences among students in the UAE. In a quantitative study spanning five different UAE universities, Ali (2021) found that the majority of college students expressed highly positive attitudes towards online learning. They appreciated its flexibility, enabling them to manage their studies effectively and save time and money. Interestingly, most students in the study perceived no difference in the quality of education between online learning and face-to-face instruction.

However, in contrast, a qualitative study conducted by Lottin et al. (2021) at the Higher Colleges of Technologies shed light on concerns related to students with disabilities. According to this study, many instructors at the university level lacked sufficient experience and knowledge to adequately accommodate the special needs of students with disabilities in

online learning environments. Additionally, the study revealed that special needs were not fully considered in online assessments, potentially creating barriers to the academic success of these students.

The current study aims to assess the evolution of Emirati university students' distance-learning experiences during the pandemic. It analyses the challenges they encountered during the initial months of distance learning and compares them with the obstacles they faced in the second year. Existing literature, such as Meda and Waghid (2022), Lottin et al. (2021), and Juma (2020), has shed light on these challenges in the UAE. However, these studies were limited to a single university and did not explore the experiences of students with disabilities across different universities. Morgan (2021) and Alhammadi (2017) have highlighted the varying levels of support and experience in the disability services field among UAE universities.

The study is driven by three main research questions:

- 1) What were the experiences of college students with disabilities during the first semester of distance learning (Spring 2020)?
- 2) How did these students' experiences evolve one year after the transition to distance learning (Spring 2021)?
- 3) To what extent did the experiences of these students change as they developed their skills with the technology and online systems necessary for distance learning?

## **2. Method**

Data for this study were collected from three UAE universities, each with specialized disability departments. For anonymity, the universities are referred to as University A, University B, and University C. Each university had students with different disabilities, contributing to a diverse range of experiences and perspectives on the challenges faced by students with disabilities.

The study adopted a qualitative research approach with an interpretive paradigm. Semi-structured interviews served as the primary data collection method. Twenty-one participants took part in the research, consisting of 9 disability support staff and 12 students with disabilities. Most interviews were conducted in Arabic, with a few conducted in English. Arabic interviews were translated into English by the principal investigator. All interviews were conducted online using Zoom, after obtaining participants' approval. The duration of each interview ranged from 30 to 60 minutes. The interview questions focused on exploring the advantages and challenges of distance learning based on students' experiences and the support services they required during the distance-learning period. Interviews were conducted during the Spring and Summer semesters of 2021, over a year after the transition to distance learning and before the students returned to face-to-face learning on campus. This allowed for an examination of students' experiences after adapting to the new system but still studying online.

Ethical approval for the study was obtained from the Research Ethics Committee at Zayed University in Dubai (Ethics Application Number ZU21\_037\_F). Participation in the study was voluntary, and participants were provided with a clear explanation of the study's aim, benefits, and research methods. They were also given an interview consent form. Participants were informed of their right to withdraw from the study at any time. To ensure confidentiality, participants were kept anonymous, and any information that could reveal their identities was removed. Data from the interviews were stored on the principal researcher's password-protected laptop to maintain data confidentiality.

The research data underwent thematic analysis. Transcriptions of the interview recordings were made verbatim and then summarized and prepared for citation. From the participants' responses, three major themes emerged, which included: the students' experiences during the initial semester of the COVID-19 pandemic, their experiences in the second year of the pandemic, and the advantages of online learning for students with disabilities. Each of these major themes also had several sub-themes that were identified.

As the primary objective of this study was to explore the experiences of students with disabilities concerning online learning, the study outcomes were presented descriptively. This allowed for an expression of the students' personal experiences, emotions, and perspectives regarding their journey with online learning.

### **3. Results**

The study outcomes were organized to address the first two research questions, which focused on the experiences of college students with disabilities in the initial semester of distance education and their experiences one year after transitioning to online learning. The third research question is discussed in detail in the dedicated Discussion section.

#### *3.1 Online Learning Experiences of College Students with Disabilities in the First Semester of Distance Learning*

Interview responses from both students and disability support staff at the three universities unanimously indicated that the abrupt shift from face-to-face learning to online learning caused significant confusion and tension among the students. The decision to transition to distance learning was announced in the UAE just two weeks after the closure of educational institutions (The UAE Government Portal, 2022), leaving limited time for universities and schools to prepare their students for online learning. Consequently, university students with disabilities encountered numerous challenges during the initial semester of distance learning. These challenges are summarized in the following sections.

##### **3.1.1. Learning How to Use the Relevant Online Platforms**

Interview responses from the disability support staff at the three universities indicated that University A took proactive measures to prepare its students with disabilities for distance learning by starting the preparations one week before the closure of schools. However, the short period of preparation was not sufficient to ensure comprehensive training for the

students. In contrast, Universities B and C initiated training for their students with disabilities on how to use the relevant online platforms after the shift to distance learning through online workshops.

Analysis of the interviews revealed that students with vision impairment, technophobia, and specific learning difficulties faced challenges in learning how to use the online platforms. All students with vision impairment expressed difficulties in benefiting from the online workshops as they were primarily offered in a visual format. University A was the only institution that anticipated this issue and offered home visits to their blind students to train them on using the online platform before the lockdown. On the other hand, visually impaired students at the other two universities had to seek assistance from family members or other visually impaired users to learn how to navigate the platform. One blind student at University B shared their experience:

The first semester was very difficult and stressful. I had to do everything on the computer. I had to download the online platform by myself and use it myself as well. Using technology generally is not easy for me.

Similarly, a student with learning difficulties at University A commented:

I was really shocked when the decision was announced that we were shifting to online learning. I did not know how to use the online platform. I was fortunate as I could get on campus a few times before the lockdown and collaborate with the IT staff. They installed the platform on my laptop and showed me how to use it.

### 3.1.2. Using a Learning Management System (Blackboard)

Some students with disabilities reported that prior to the pandemic, their universities did not provide them with any training on how to use Blackboard, leaving them to rely on assistance from friends and family members to navigate the platform. However, after the transition to online learning, Blackboard became the primary platform for accessing study materials, submitting assignments, attending online classes, and even completing exams. This shift posed challenges for some students in accessing the platform regularly and independently.

Students who had prior experience using assistive technologies, particularly those from Universities A and B, found it easier to adapt to using Blackboard. On the other hand, students with disabilities from University C, who lacked prior exposure to assistive technologies, relied on the support of volunteers from their university to navigate Blackboard effectively. This reliance on volunteers sometimes posed additional challenges, as the availability of volunteers might not always align with the students' schedules, leading to delays in accessing crucial course materials and information.

### 3.1.3. Having Access to the Necessary Devices

The interview findings revealed that at University B, some students did not have personal laptops at home due to financial constraints. In families with multiple children attending school, it was challenging to afford a laptop for each student. To address this issue, University



B provided several students with laptops as non-refundable grants, allowing them to continue their studies during the pandemic.

However, students at all three universities faced challenges in borrowing the assistive devices they needed from the disability department due to the strict preventive measures implemented during the initial year of the pandemic. These measures restricted access to shared equipment and facilities, making it difficult for students to obtain the necessary assistive devices to support their studies.

#### 3.1.4. Having a Good Wi-Fi Connection at Home

During the transition to online learning, not all students' homes were equipped with high-quality Wi-Fi. Even at the university level, IT systems faced challenges in handling a large number of simultaneous users, resulting in constant disconnections for students during their online classes and exams. A student from University C commented:

When the pandemic started, I did not have a very good Wi-Fi connection at home. I had to attend my classes from the living room while sitting with my other family members, which was very noisy.

#### 3.1.5. Logging into Online Classes

This issue posed a significant challenge for students with vision impairment and technophobia during the initial weeks of online learning. Many students with vision impairment mentioned that they required assistance from a family member to log into their online classes and set up their microphone during the first month of the pandemic. However, all the students reported that they gradually became more independent in performing these tasks after a few weeks of online learning. Even those who initially struggled with using a computer found alternative solutions, such as using smartphones or tablets, to log into their classes independently.

#### 3.1.6. Managing Course Workload

The sudden transition to distance learning occurred at a time when many universities in the UAE were not fully prepared to offer online examinations to their students. As a result, many instructors replaced course exams with other assignments, leading to an increased workload for students with disabilities during the first semester of online learning. Meeting assignment deadlines became a significant challenge for many students, and some, especially those with learning difficulties, required academic support to complete their assignments. However, obtaining timely academic support was difficult due to the high demand during online learning. A disability specialist at University A stated:

Many of the students were overwhelmed. They were disorganized and struggled to find the necessary information. The students' biggest obstacles were the deadlines. It was challenging for them to keep up with what was due for each professor and on what day. I had to make many requests for submission delays.

### 3.1.7. Coping with Anxiety

The sudden transition to distance learning caused a significant level of anxiety among students with disabilities, especially during the first semester of online learning. Analysis of the students' interviews revealed specific fears they experienced after the shift to online education. These fears included concerns about losing the support they were accustomed to receiving from disability support staff and professors, being punctual for online classes, using new technologies, and navigating unfamiliar apps and online programs. However, what caused the most anxiety for students was taking exams online for the first time. The disability support staff at the three universities observed that the students' exam anxiety was very high during the initial semester of online learning, as the experience was new for them.

Some students worried about losing internet connection during exams, others were stressed about needing more time than they had requested, and some were uncertain about the challenges they might face during online exams. However, as the first semester concluded, this exam anxiety gradually diminished. A disability support staffer at University B stated:

Students with disabilities are naturally anxious learners. They need to feel that a constant source of support is available for them. If they perceive this support as unavailable, their anxiety levels can increase dramatically.

### 3.1.8. Detecting New Disability Cases among Students

The sudden transition to distance learning revealed that many students had undisclosed academic challenges or specific disabilities that they had managed without support before the pandemic. However, when they shifted to online learning, they encountered new challenges, prompting them to reach out to their universities' disability departments for assistance. For instance, a student with physical impairment at University B reported:

I could manage my studies without any support before the pandemic. But when we moved to online learning, all my midterm exams were replaced with other assignments, and I had to work on too many tasks simultaneously. As I usually type using only two fingers on my left hand, I experienced serious physical pain. So before we started doing our exams online, I contacted the disability department at my university and asked for extra time.

Due to the sudden transition and the stressful situation students with disabilities faced during the first semester of the pandemic, they did not fully recognize the benefits of online learning at that time, except for providing them with a safe environment to learn away from the risk of COVID-19 infection.

## 3.2. *Experiences with Online Learning One Year after the Transition*

While the first semester of distance learning posed mainly technical challenges for students with disabilities, as they adapted to online learning, several other challenges emerged. These challenges are outlined in the following sections.

### 3.2.1. Challenges during Online Classes

Many students who participated in this study expressed that engaging in online class activities was challenging. Students with vision or physical impairments, as well as those with learning difficulties, required additional time to read and comprehend activity materials and type their responses in the chat box. Some students sought permission from instructors to use the microphone for participation, while others opted not to participate in such activities. Staying focused during online classes also proved difficult for some students in comparison to face-to-face classes. Students with ADHD, for example, often needed more attention from instructors to keep them engaged, such as asking them questions or providing class activities. However, instructors sometimes overlooked accommodating the special needs of these students during online classes. Other students cited different challenges. A student with learning difficulties stated:

Most students do not actively participate in online class discussions. Only a few students engage in these discussions, and I used to benefit a lot from them. In face-to-face classes, students often repeated or added new information, which helped me understand the content better. However, with distance learning, I find myself relying solely on my instructors to grasp the class material.

A blind student also shared:

During online classes, I felt like I was simply listening to an audio recording. There was no real interaction with the professors compared to face-to-face classes, and this affected my learning experience.

### 3.2.2. Absence of Direct Interaction with the Instructors

During distance learning, students could only communicate with their instructors through online classes and emails, which limited the instructors' ability to observe students' behaviours and understand whether they comprehended the class content. As a result, referrals for disability cases from instructors decreased at both Universities A and B, as they no longer had direct contact with students in classrooms.

Furthermore, all students and disability support staff reported that instructors often forgot about the presence of students with additional needs in their classes, despite receiving email notifications at the beginning of each semester. This led to some students not receiving the necessary support during their classes. In fact, many instructors were surprised when asked about exam accommodations before the midterm exams, highlighting the oversight of students with additional needs. Additionally, the transition to online learning caused an increase in the number of students in each class as universities offered classes across different campuses and allowed more students to enrol. This further complicated the instructors' ability to pay attention and support students with special educational needs. A student with learning difficulties at University A shared:

When I was studying face-to-face, it was much easier for me to meet with the instructors

and discuss my challenges. They used to provide explanations in class and clarify assignments. However, when we shifted to online learning, I didn't receive the same level of support.

Lastly, most of the interviewed students reported that communicating with their instructors through email became more challenging. The increased number of emails during distance learning, both from university notifications and individual student inquiries, put instructors under pressure to respond quickly to all the messages. This likely influenced the quality and timeliness of communication between instructors and students.

### 3.2.3. Challenges in Completing Online Exams

Due to the strict measures implemented during the first year of the pandemic, students were required to complete their exams online via Respondus LockDown Browser, a custom browser that restricts access to other applications and websites during the exam. Analysis of the interview responses revealed that students with disabilities encountered various challenges in taking their exams online. The first challenge was difficulty using accessibility features, such as speech-to-text, keyboard focus, screen reader, and braille devices, within the lockdown browser (Cleveland State University, 2022). A student with blindness shared:

I faced serious struggles during my exams on Blackboard. I couldn't type my answers in the answer text box using my Braille Note Touch. The cursor would move out of my control, and I might find myself answering question 1 instead of question 5.

Many students with vision impairment also found it challenging to use a camera during the exam, as they had difficulty facing the camera while taking the test. Moreover, some students lacked the necessary skills to use computers and assistive technology devices independently, further complicating the exam process. Additionally, certain students, particularly those with specific learning difficulties, preferred completing tests on paper rather than on a computer. In response to these challenges, the disability departments of the three universities devised creative solutions. They offered different online exam formats, including online via the lockdown browser (with extra time), online via Blackboard without using the lockdown browser, in Microsoft Office Word monitored via Zoom or Teams, and read orally by their instructors or test writers on Zoom or Teams.

Despite the solutions provided, some students expressed stress and discomfort while completing exams orally with their instructors online using Zoom or Teams. Additionally, students faced other difficulties when taking exams at home. A student with physical impairment shared:

My house is usually noisy, which affected my concentration level during online exams. Moreover, the internet disconnected a few times while I was taking my exams, and I had to contact the IT department at my university and wait for permission to continue, causing me additional stress.

#### 3.2.4. Participating in Group Assignments

Analysis of the interviews with both the students and disability support staff revealed that completing group assignments became more challenging for students with disabilities in the online learning environment. With the absence of direct communication and face-to-face interactions in the classrooms, students had to rely on indirect communication through social media apps such as WhatsApp, Zoom, and Microsoft Teams. However, this indirect communication made it difficult for students to fully understand the special needs of their peers with disabilities.

Some students with disabilities reported that understanding their tasks in group assignments became challenging because interactive discussions were less prevalent in online learning compared to face-to-face learning. Additionally, some students needed extra time to complete their assignments, which required them to finish their work ahead of the due date and send it to the group. However, coordinating early work submission became challenging during online learning, as most students in the groups tended to begin working on the assignment only a few days before the deadline. As a result, students with disabilities faced added pressure to complete their tasks within a short timeframe.

Furthermore, when discussing group assignments, some students preferred to send messages as screenshots via WhatsApp, which created difficulties for those using screen readers, with low vision, and reading difficulties. This hindered effective collaboration and information exchange among group members. A disability specialist at University A highlighted:

Students with disabilities faced more challenges with group assignments after transitioning to distance learning. Some students with disabilities preferred to complete the entire assignment by themselves, while others requested alternative tasks from their instructors. Other students attempted to collaborate with their groups, but they provided low-quality work due to the challenges in communication and coordination.

#### 3.2.5. Social Isolation

Another common challenge reported by the disability support staff at the three universities was that many students with disabilities missed the social interactions with others during the distance-learning period. For these students, the universities were not only academic institutions where they studied and attended lectures but also social environments where they could meet their friends and engage in various social activities outside their homes. With the spread of COVID-19, these students' social lives were restricted to their families, leading to frustration for some of them.

### *3.3. Advantages of Online Learning Based on the Students' Experiences*

As the second year of distance learning began and students adapted to online learning, students with disabilities started to experience the benefits of distance learning, which are summarized below.

### 3.3.1. Having Access to the Online Class Recordings

Access to class recordings during distance learning was reported as the most significant advantage of online learning by students with different disabilities. Prior to the pandemic, disability support staff faced challenges obtaining approval from some faculties to allow students to record their classes. However, during the online learning period, this obstacle was eliminated. Having access to class recordings proved highly beneficial for students, especially those who faced difficulties taking lecture notes during regular classes, such as students with hearing loss, vision impairment, learning difficulties, and physical impairment. Students appreciated the convenience of being able to listen to class recordings at any time they needed. For those who felt uncomfortable asking professors to clarify or repeat information during online classes, the availability of class recordings allowed them to replay unclear sections until they fully understood the material.

### 3.3.2. Developing Students' Skills in Technology Use

During online learning, students found themselves having to use various technologies independently. Before the pandemic, some technophobic students across different disability groups avoided using technology and relied on the support of others to complete their schoolwork. However, with the sudden transition to distance learning, all education shifted online, leaving these students with limited options for accessing their classes and completing their assignments. They had no choice but to learn to use the technology themselves. Although it was initially challenging and out of their comfort zones for some, they pushed themselves to learn. A disability specialist at University A remarked:

We used to receive many complaints from our technophobes. They would come to us and say 'Oh! I cannot use this or that'. You should see them now: they have become very computer literate. They did not want to use the technology, but [now] they are used to using it and are really good at it.

### 3.3.3. Improving Students' Independence

During the online learning period, students with disabilities faced new challenges, but they also experienced an improvement in their independence. Some students mentioned that, prior to the pandemic, they heavily relied on the disability support centres at their universities to complete their assignments. However, with the increased demand for these services during distance learning, they were motivated to develop their computer and research skills. They tried various methods to learn how to use specific apps and programs, such as watching YouTube videos or seeking help from other users. Overall, the students became more proactive in seeking solutions independently, without always relying on others for support.

### 3.3.4. Home-Based Learning: Attending Classes without the Need to Commute to Campus

One of the advantages of online learning, as highlighted by students with visual and physical impairments, was the elimination of the need to attend classes on campus. Participating in lectures online alleviated the stress of arranging transportation from home to school,

especially considering the limited availability of an extensive public transport system in the UAE.

### 3.3.5. Option for Non-disclosure of Disability

Some students expressed feeling more comfortable participating in class activities and working on group assignments during online learning because they did not have to disclose their disability to other students. They mentioned that when their disability was not known, they were treated like any other student, and the workload was assigned to them with impartiality.

### 3.3.6. Navigating Social Anxiety through Class Activities

Some students with disabilities and social anxiety reported feeling more comfortable participating in class activities, completing group assignments, and giving presentations in online classes compared to face-to-face classes.

## 4. Discussion

This study explored the experiences of students with disabilities during the COVID-19 pandemic in three UAE universities with special education departments. It compared their experiences in the first semester and second year of online learning, identifying challenges and advantages in their reported experiences. The results indicated notable development in their experiences. Initially, most challenges were technical, including learning how to use online platforms, relevant technology, and learning management systems, as well as managing their university work. However, most of these challenges disappeared after a year of distance learning, while new challenges emerged in the second year, such as communicating with instructors, participating in online classes, completing group assignments, online exams, and adjusting to social isolation. Similar findings were reported in other studies, like Mustafa (2020), Madaus et al. (2022), and Meda and Waghid (2022).

An important factor that played a significant role in preparing students for online learning was their previous familiarity with technology and the training received from the disability departments at their universities. Both Universities A and B had an assistive technology specialist who helped improve the students' skills in using assistive technology as part of their individual educational plan. Thus, most of their students knew how to use the necessary technology even before the outbreak of the pandemic and the subsequent transition to online learning. Therefore, the majority of the students at these two universities managed to use the platforms independently during the first two months of the pandemic. In contrast, University C lacked an assistive technology specialist, and many students—especially those with vision impairment—did not develop the needed skills to use assistive technology before the pandemic. Thus, many of them relied on the assistance of their families or the university's volunteers to complete their schoolwork. Alhammedi (2017) stated that mainstream schools in the UAE do not train students with disabilities on how to use assistive technology. Consequently, those students face different barriers in managing their university studies independently.

During the first semester, the students did not fully perceive the benefits of distance learning, except for providing a safe learning environment. However, in the second year, they reported various advantages, including access to class recordings, time saving, reduced social anxiety, and improved assistive technology skills. Notably, online learning pushed some students out of their comfort zone, encouraging them to embrace technology and find solutions to their challenges (Juma, 2020).

## **5. Conclusion and recommendations**

This study highlights a positive development in the experiences of university students with disabilities regarding distance learning. As they learned how to use online systems and overcome challenges, they began to experience more benefits from distance learning.

The study underscores the importance of providing training to students with disabilities on how to use online platforms and learning management systems before they start distance learning. Additionally, faculty members need professional development training to better accommodate the additional needs of students with different types of disabilities in online learning.

To further support students with disabilities, campuses should offer various types of physical support, such as face-to-face training and research assistant support. Moreover, it is recommended to provide training to some family members of students with disabilities on how to use relevant online platform(s) and how to troubleshoot minor technical issues at home, especially for blind students. This additional support can enhance the overall distance learning experience for students with disabilities and help them thrive in their academic journey.

## **6. Limitations of the study**

This study was conducted at three universities that have disability departments; however, it is important to note that not all universities in the UAE have specialized departments for students with disabilities. As a result, the generalizability of the study's results may be limited, as the experiences of students at universities without such specialized support may differ significantly in overcoming challenges related to distance learning.

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