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Research Article

Hammill Institute on Disabilities

Journal of Disability Policy Studies
1–9
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DOI: 10.1177/10442073231185264
jdps.sagepub.com


The Impact of COVID-19 and Remote Learning on Education: Perspectives From University Students With Disabilities

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Abstract

The purpose of this study was to examine the impact of COVID-19 and remote learning on education for college students with disabilities. A qualitative research method, interpretative phenomenological analysis (IPA), was used to investigate participants' learning experiences during the pandemic. A total of 10 participants were divided into three focus groups for data collection. Data were analyzed using the standard IPA process, and four themes were identified. Discussion of and implications for online instruction and related policies are presented.

Keywords

COVID-19, interpretative phenomenological analysis, remote learning, online instruction, students with disabilities, postsecondary education

Students with disabilities in higher education experience more hardship and challenges than do students without disabilities; this is especially true for those who are reluctant to disclose their disabilities and apply for accommodations (Francis & Chiu, 2020; Hsiao et al., 2019). Unlike students in secondary education, in order to achieve academic success, students with disabilities in postsecondary education need to take the initiative in seeking on-campus resources such as tutoring, supplemental instruction, academic coaching, and accommodations from disability services. Students with disabilities seek opportunities to be engaged and included in on-campus activities similar to those afforded students who do not experience disabilities (Gilson et al., 2020; Wilke et al., 2019). They strive to have school–life balance and, ultimately, to successfully graduate from their institution of higher education. However, the COVID-19 pandemic changed both learning and university life in an unexpected way. One of the tremendous changes is the abrupt shift to remote learning, which negatively affected students in different ways.

Remote, or distance, learning is not a new concept. Before the COVID-19 pandemic, previous studies have looked at practical strategies for organizing online courses and making online classrooms accessible for students with disabilities. For example, Hashey and Stahl (2014) discussed the growth of online learning. They also discussed accessibility issues in a learning-management system and how to create accessible curriculum content by using different resources, such as guides for creating accessible learning materials by using Word and PowerPoint. Case and Davidson (2011) described online learning in postsecondary education for students with disabilities. They discussed the importance of proactive design at the time of course creation. They also suggested that online educators should review and revise course structures and materials on a regular basis to add accessibility features. Other studies have explored perceptions of online learning with students with disabilities in higher education. Muwanguzi and Lin (2010) examined the challenges of using Blackboard, a learning-management system, for online learning. In their study, blind college students indicated that the poor accessibility of Blackboard negatively affected their learning achievements. Muwanguzi and Lin argued that failing to address accessibility issues can increase educational inequities for students with disabilities. Madaus et al. (2011) interviewed

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10 college students with disabilities to explore advantages and disadvantages of online learning. Interestingly, communication issues were identified as both advantages and disadvantages, depending on how professors managed communications with students. Some professors effectively used tools to communicate with students, while others did not. Another disadvantage identified by students with disabilities was poor course organization. These students expressed that they had a hard time finding course assignments and other material in the online learning-management system.

Although remote learning had existed for some time, the abrupt shift to wholesale remote learning in spring 2020 constituted a crisis for instruction and learning (Schuck & Lambert, 2020). Hodges et al. (2020) described the sudden shift to remote learning as "a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances," using the term *emergency remote teaching* (ERT) to describe this sudden change. ERT is different from the online learning/distance learning in general. Some studies have explored the impact of ERT on university students. For example, Hegler et al. (2022) surveyed university students to investigate their learning experiences under ERT. Their results revealed challenges related to ERT, such as inadequate internet service and inadequate electronic devices for the usage of online learning materials. Tecce DeCarlo et al. (2022) explored the sudden transition to online learning with faculty and students. They found that students had concerns about the impact of the transition on their learning but could also point to certain positive aspects of remote learning. For example, students could rewatch recorded lectures and interact with instructors through Zoom conferencing tools. Tecce DeCarlo and colleagues also found that participants preferred to use technologies that replicated in-person learning experiences. These types of technology can facilitate interactions between students and instructors. Although several studies have focused on the ERT experiences of students without disabilities in higher education, it is important to note that the process of creating an equitable learning environment for students *with* disabilities has also concerned educators during the pandemic (Smith, 2020). Meleo-Erwin et al. (2021) found that support information regarding disability/accessibility services on college websites was not universal. Faculty and students with disabilities may find it difficult to locate information regarding supports for remote learning, and a lack of such information could create particular challenges for faculty attempting to continue accommodating students with disabilities in remote-learning classrooms. Madaus et al. (2021) used a survey to investigate the remote-learning experiences of students with disabilities during the COVID-19 pandemic. Participants reported challenges such as not feeling connected to other students and instructors; however, participants also reported that they felt supported by disability services and by faculty. The immediate shift to remote learning clearly impacted students and faculty in higher education (Schafer et al., 2021).

The pandemic has also changed the ways researchers include individuals with disabilities in research. The slogan "nothing about us without us" has been embraced by disability communities and advocates. Individuals with disabilities should be invited to actively participate in the research process and make their voices heard. Burks-Abbott et al. (2020) described an experience of communicating and advocating for disability policy in a virtual space during the pandemic. The virtual advocacy experience emphasized the voices of self-advocates and their family members. They argued that virtual advocacy can reduce burdens related to traveling and that a greater number of people from different backgrounds can work together. Ahlers et al. (2021) suggested several strategies for the inclusion of individuals with disabilities in research using virtual modalities, such as providing multiple methods for conversation, asking about communication preferences, and using small-group discussions to promote meaningful involvement. Virtual methods to include individuals with disabilities can reduce the disadvantages caused by physical challenges and mobility issues, although other challenges may remain, such as providing accommodations to create an accessible virtual environment and assuring reliable internet connectivity. The COVID-19 pandemic has resulted in the development of a new normal procedural protocol for the engagement of individuals with disabilities in research.

A limited number of studies have explored the remote-learning experiences of university students with disabilities under COVID-19 (Madaus et al., 2021). Some of these studies were conducted overseas. The present study sought to explore the impact of the COVID-19 pandemic on the remote-learning experiences of students with disabilities in the U.S. higher education system. As this study was conducted during fall 2020, restrictions on social distancing were still in effect; due to these restrictions, the researchers used online focus groups to collect data. The researchers used small-group online discussions. One benefit of using small-group discussions is the capacity, they create for the building of trusting relationships between the participants as a group and the researchers. The researchers assumed participants were more likely to share their thoughts and perspectives in a small-group environment. In this study, participants described diverse experiences related to the interaction of COVID-19 and remote learning and spoke to how they adapted to the novel circumstances of the pandemic by using self-directed strategies. Their perspectives and successful experiences may provide practical and helpful suggestions for educators. The following is the research question: How do students with disabilities describe their remote-learning experiences under COVID-19?

Method

The data for this study, strictly focused on the impact of COVID-19 on remote-learning experiences, were derived from those of a more wide-ranging qualitative study of students with disabilities' experiences of higher education (hereafter, *parent study*). The parent study was conducted by using three online focus groups, with an overall total of 10 participants, to collect data. The main purpose of the parent study was to investigate students with disabilities' attitudes toward and perceptions of universal design for learning (UDL) strategies. UDL is an inclusive teaching framework with the purpose of ensuring all students have equal educational opportunities and access to learning (CAST, 2022). The three principles of UDL (representation, action and expression, and engagement) help educators to address accessibility issues when developing curriculum and instruction (CAST, 2018). The UDL teaching framework can also serve as a guide for educators to address issues associated with remote learning or online learning (e.g., Nave, 2021). Thus, the researchers not only explored participants' experiences with UDL teaching strategies but also investigated how remote learning reshaped participants' learning experiences. The present study focused mainly on participants' remote-learning experiences under the COVID-19 pandemic.

Research Design

The research team adopted an *interpretive ontology* position, which Hesse-Biber (2017) has defined as a "position [that] assumes the social world is constantly being constructed through group interactions, and thus [that] social reality can be understood via the perspectives of social actors enmeshed in meaning-making activities" (p. 35). This position allowed the researchers to establish meaning through human interaction and individual experiences. On the basis of the position, the researchers adopted *interpretative phenomenological analysis* (IPA) as their research methodology. Smith et al. (2009) have defined IPA as "a qualitative research approach committed to the examination of how people make sense of their major life experiences" (p. 1). The researchers considered participants' lived learning experiences to be the focus of the study. By using IPA, the researchers were able to engage with and listen to participants while they shared their learning experiences related to the pandemic. The researchers also strived to make sense of participants' major experiences on the basis of their languages, descriptions, and expressions. The adoption of IPA ensured that both researchers and participants engaged in an interactive knowledge-building process.

Setting and Participants

As mentioned, data for the present study were collected as part of a more wide-ranging qualitative study. Once this parent study was approved by the university's institutional review board (IRB), the researchers began to recruit participants. The parent study was conducted at a public university in Texas with a Carnegie classification of R1 (Doctoral University—High research activity). The researchers sent out two emails inviting students to participate in the study. The participant pool was derived from a prior survey study, meaning that these participants had taken part in the earlier study and were interested in participating in a focus group to share their learning experiences. Before participating in the study, participants completed a consent form and read a focus-group protocol. The study was conducted in the fall of 2020. Participants had been exposed remote learning—suddenly shifted to with the advent of COVID-19—for about two semesters. During the period of data collection, participants were enrolled as full-time students, and the majority of courses in the university were delivered by means of synchronous or asynchronous online learning.

The researchers conducted three focus groups, with an overall total of 10 participants. Each participant joined one focus group on the basis of their schedule. Each focus group consisted of two, three, or four participants engaged in an approximately 90-min discussion; thereby, each participant was able to share an in-depth story regarding their learning experiences at the university. Most of the participants were female ($n = 7$), white ($n = 7$), and enrolled as undergraduate students ($n = 7$; see Li et al., under review, for a detailed summary of participant demographic information).

Since it is important to select a homogeneous group of participants for an IPA study, the participants who were interested in taking part in the present study met the following criteria for participation: (a) they self-identified as students with disabilities and had participated in the prior online survey, either as graduate or undergraduate students; (b) they were willing to share their perspectives and/or learning experiences related to the COVID-19 pandemic; (c) they were available for the duration of the 60- to 90-min period of the focus-group session; and (d) they met the technology requirements, such as having a laptop, a speaker, a microphone, a stable internet or Wi-Fi connection, and a webcam (optional). Participants' common learning experiences related to the pandemic were the main focus of the study.

Ethical Considerations

Participants completed an informed-consent form, on which they were informed that the focus-group discussion would be recorded and what procedure or strategies the researchers would use to keep participant information confidential in the focus groups. The procedure used to keep participants' information confidential was as follows: (a) Upon logging in, participants waited in a virtual waiting room, and the researchers admitted one participant at a time. (b) After a participant was admitted into the online discussion

room, they needed to change their name to a pseudonym. The researchers then moved the renamed participant to another discussion room and admitted the next participant. (c) After all participants had picked a pseudonym and been admitted to the discussion room, the discussion and recording began. By using this procedure, the researchers ensured that all participants' information was kept confidential.

Data-Collection Method

As the study was conducted during the COVID-19 pandemic, the researchers used online focus groups to collect data. Online focus groups were safer and more reasonable under the special circumstances that obtained; participants could stay where they were and contribute to the discussion. Hesse-Biber (2017) noted that online focus groups have become a popular method for the collection of data. To facilitate the online synchronous focus groups, the researchers used Zoom video conferencing. The first author and the third author worked together to moderate the focus groups, using a focus-group protocol. The protocol included the purpose of the focus group and ground rules for the discussion. Some of the questions on the protocol related to the present study were the following: "How were your overall experiences studying at the university?"; "Has your disability affected your learning at the university?"; "How were your online learning experiences under COVID-19?"; and "Do you prefer online learning or face-to-face learning?"

Data Analysis

The research team followed the standard IPA analysis steps to analyze the data. Smith et al. (2009) and Sullivan and Forrester (2019) have outlined the following steps for the analysis of data:

1. Transcribing the data and reading through the data before analysis,
2. Phenomenological coding or summary coding,
3. Interpretative coding and identifying initial themes,
4. Clustering themes,
5. Naming and defining themes,
6. Adding data extracts to themes,
7. Finalizing themes for the first transcript,
8. Repeating the steps for the second transcript,
9. Comparing themes across transcripts,
10. Clustering themes across transcripts, and
11. Finalizing all themes across all transcripts.

The data-analysis team used Dedoose (2020) software to analyze the qualitative data. The team first completed summary coding to familiarize themselves with the data for the first transcript. After summary coding, each team member independently coded the first transcript to identify initial themes. The team then discussed theme consensus together through weekly or biweekly meetings to cluster, name, and define the themes. The process was repeated for the next two transcripts until all the initial themes created from all transcripts were regrouped and clustered; this was a gradual, ongoing process.

After finalizing the clustered themes across the three focus groups, the team added the excerpts under the themes. The researchers selected excerpts on the basis of two considerations: (1) equal representation from all participants for each theme and (2) excerpts being representative of the definition or the essence of the themes. Finally, the researchers were able to document the individual- and group-level analyses (Smith et al., 2009), meaning that the themes were spread within a group or across groups (see Table 1).

Results

Four themes emerged describing how the COVID-19 pandemic exerted an influence on participants' learning experiences: *impact of the pandemic on learning experience* ($n = 8$), *figured out how to navigate the two systems: online and face-to-face learning* ($n = 3$), *online learning was challenging* ($n = 6$), and *preferred in-person learning to see peers around them* ($n = 6$). Related to each of these themes, participants described how the pandemic changed their learning experiences specifically. They also made comparisons, detailing pros and cons, between in-person and online learning. Finally, some challenges related to online learning were discussed.

Impact of the Pandemic on Learning Experience

Eight participants shared the impact of the pandemic on their learning experiences. These participants spoke to the advantages and disadvantages of online courses. As advantages, some participants pointed to the fact that online courses offer flexibility and accessibility. As Alias shared:

> One thing that has helped me a lot is just making sure I'm in a quiet place to study without distractions. And so ironically, with the pandemic and our transition to virtual learning, it really helped me because there was not a lot of chatter and noise. That's one thing that has helped, and having a very consistent and steady routine. (Alias, Focus Group 3, November 4, 2020)

Alias was able to find a distraction-free studying environment through virtual learning. It seemed the consistent and steady routine helped her gain a sense of security and control over her studying. Another student, Cassie, also shared that virtual learning provided time flexibility in assessment that helped her complete exams successfully:

> We've seen a lot more of that with COVID, it's been nice we have a class, for instance, that class opens the exams for 2

Table 1. Result Comparison Table Within a Group and Across Groups.

	Group 1				Group 2		Group 3			
Theme	Mary	Aggies	Rob	Rachel	Cassie	Ann	Toby	Jessica	Matt	Alias
Impact of the pandemic on learning experience		•	•	•	•	•		•	•	•
Figured out how to navigate the two systems: online and face-to-face learning		•		•			•			
Online learning was challenging			•	•		•	•	•	•	
Preferred in-person learning to see peers around them	•		•	•		•	•	•		

> weeks at a time and you just go and take it so then, who's actually been going to class or who's actually been preparing for, that alter can take it, instead of sometimes we get stuck in. (Cassie, Focus Group 2, October 27, 2020)

By "alter" Cassie meant one of her alternate personalities. She had different alters. What she said, essentially, was that her different alters could take turns participating in a class or preparing for an exam if they were given time and flexibility to adjust. So if an exam was available for 2 weeks, different alters were able to decide who would go and take the exam within the given time frame. Before COVID-19, they did not have that flexibility, so they got stuck in situations in which they could not switch off to the appropriate alter to complete a certain task.

In addition to this flexibility in assessment, Cassie shared that she was able to catch up with classes because instructors chose to record the sessions while teaching remotely:

> With the online learning that's been happening more recently, for instance, our online classes have been recorded. This semester we've had a lot of professors which have been nice to have recorded in-person lectures that way we can watch them back later. That's been really helpful, but in past semesters, aside from COVID, we haven't really had that. There was no way to go and re-watch the lecture. (Cassie, Focus Group 2, October 27, 2020)

Conversely, other participants shared that timely feedback from professors was lacking during the pandemic. As Rob stated, "I've seen the least, especially with us going to online only, feedback has basically disappeared" (Rob, Focus Group 1, October 21, 2020). Matt shared a similar issue:

> Basically, office hours have been somewhat a lot harder to get into, at least for me. It can be very crowded, and sometimes you just can't get your questions in. That's very unfortunate because that can be a matter of entire another grade if I don't understand a single concept. It's like, if you don't know the answer to the question, your whole GPA is hanging in the balance. (Matt, Focus Group 3, November 4, 2020)

Jessica agreed with what Matt shared and highlighted the issue again:

> Matt brought up a great point with online office hours. It's so much harder to get in contact with your professors. While email is a great tool, there's so many emails going out these days that I think perhaps instructors are just feeling a bit overwhelmed, and they may not take as much time as they would like to really respond to students' inquiries. (Jessica, Focus Group 3, November 4, 2020)

Participants' feedback experiences suggested that the pandemic had made communication and interaction between students and instructors more important than ever, because students were experiencing rising stress without being fully engaged in classes.

Figured Out How to Navigate the Two Systems: Online and Face-to-Face Learning

Three participants shared how they struck a balance between online and face-to-face learning. They mentioned benefits of both systems or that they figured out how to learn through both systems. For example, Aggie said, "I like being in the classroom with my peers learning that way. But I love having my YouTube videos to refer to, to go over it" (Aggie, Focus Group 1, October 21, 2020). She went on, saying, "For me personally, online learning hasn't been too much of a difference for health majors; we have a lot of online health class options we can do before the pandemic. So, I was kind of already doing that" (Aggie, Focus Group 1, October 21, 2020). Aggie shared the advantages of both systems. She adapted to online learning and became a successful learner in both.

Similarly, Toby shared how to optimize online learning experiences through the keeping of a steady routine. He said, "I think it's a routine just to get used to learning online. You got to stick to your routine. You got to stick to a certain way so you can learn better online. It's very different in person" (Toby, Focus Group 3, November 4, 2020).

Online Learning Was Challenging

In contrast, six students stated that the online learning environment led to more challenges in learning. One of the challenges illustrated the difficulty of taking part in a virtual classroom. As Jessica shared,

> I had a really hard time just engaging, even if I was sitting at my office, because I was the only person on the campus. It wasn't like I was sitting with a cohort of other students. It was just me. (Jessica, Focus Group 3, November 4, 2020)

Jessica said that she had difficulty adjusting to online learning because of the solitary nature of online courses. Rob also stated that "the online format, it's not working well for me with that unfortunately" (Rob, Focus Group 1, October 21, 2020).

Similarly, Toby emphasized how his surroundings had impacted his studying and why online learning was not working for him:

> I can do online [learning]. It's just I get distracted at home. Just me being at home is distracting. You can focus more at school. That is just the type of environment that you are around in. So, you expect to be at school and then you are more focused. At home, you are expected to relax, and it is hard to change the mindset at home. (Toby, Focus Group 3, November 4, 2020)

Another challenge showed that the nature of accommodations changed because of the online modality. As Ann shared,

> I really think testing online is really hard for me. That's been difficult during this COVID thing. In the past, you can schedule your exam. A lot of my professors are demanding taking the test during the class time. And that's a hard thing. (Ann, Focus Group 2, October 27, 2020)

Ann identified a challenge resulting from online testing that totally changed the nature of her accommodations. She was not able to utilize her accommodations strategically; instead, she relied only on following instruction from her professors.

Preferred In-Person Learning to See Peers Around Them

Not only did some students say online learning was challenging, participants also expressed that they preferred in-person to online learning. As Jessica shared,

> I personally struggle with online lectures. I lacked that community that I really enjoy from classes. I like to associate my learning with a time and a place. I do like having the recorded lectures if the professors are okay with it. But I think overall, I prefer face-to-face lectures. (Jessica, Focus Group 3, November 4, 2020)

Jessica expressed that face-to-face lectures provide a sense of community; conversely, online lectures lend themselves to social isolation from classmates and instructors. Rachel mentioned that she could be more productive while studying with others. She said, "I prefer in-person over Zoom. I have to be around an environment which promotes productivity so I would normally go to a library and see everybody working, and that's where I can get things done" (Rachel, Focus Group 1, October 21, 2020).

Mary also said she preferred in-person learning: "I personally prefer in-person learning. I think that's because I'm a competitive person. And I think that's what has driven me to overcome my disability. I need that competitiveness to see my peers" (Mary, Focus Group 1, October 21, 2020). A competitive learning environment activated Mary's intrinsic desire to overcome the issues caused by her disabilities, targeting success. Rob responded to Mary:

> I have a similar thing to what Mary said about, but to me, it's always been more of a cooperative idea. Because one of the things for me is I recognize that I'm turning 33 next week, so I'm probably a good bit older than most of my peers in the classroom. So, I feel like I'm supposed to set kind of an example and be able to help them. So, that feeling of responsibility spurred me on to actually try and focus better, pay more attention, and learn the material better. (Rob, Focus Group 1, October 21, 2020)

A cooperative learning environment motivated Rob to support his peers by being a good example. Although Mary and Rob exemplified two different learning styles, they both pointed to the importance of learning with peers, which motivated them to study harder. Nevertheless, the rise of online learning has led to the diminution of community feeling.

Discussion

The purpose of the present study was to examine how the COVID-19 pandemic impacted participants' remote-learning experiences. Although, because of the pandemic, this study used online focus groups to collect data, the small size of each focus group facilitated interaction among group members. Palmer et al. (2010) demonstrated that group dynamics can provide additional information to qualitative researchers, making data more robust. Participants were able to share their own experiences, and they used examples to explain how the pandemic had affected their learning.

The results demonstrate commonality and individuality within and across groups. Most participants said that they preferred in-person or face-to-face learning to online

learning. However, some participants felt that online learning was more appropriate for them. Most important, participants pointed to the benefits of the two systems. For instance, face-to-face learning provides a learning-community context. Participants were able to study with their peers, or they could reach out to their instructors easily. This result supports prior literature describing students with disabilities felt that social connection with peers and instructors changed or declined with remote learning (Madaus et al., 2021). On campus, students can feel like they have a community through face-to-face interactions. Conversely, online learning allowed for flexibility and self-paced learning. Participants could also choose their preferred learning context (e.g., choosing a good study area, wearing a headset at the computer to limit noise). This result contrasts with Hegler et al.'s (2022) finding that students had concerns about finding a quiet place to study. In addition, the present study found that instructors were more likely to record course videos for online learning, allowing participants to revisit past course material. College students in Tecce DeCarlo et al.'s (2022) study identified one of the benefits of learning during the pandemic as being that instructors developed their capacity for using technology in teaching. More instructors recorded lectures, so students were able to rewatch the videos to master their course material. In sharing the benefits of the two learning systems, participants demonstrated that they knew their own learning preferences and strengths.

Similar to the present study, Ives (2021) used UDL as a framework to survey university students about the abrupt COVID transition to online instruction. Ives was interested in comparing student online learning experiences before and after the transition. One of the results indicated that instructor availability was a factor for students in choosing a preference for online or traditional face-to-face learning, which is a consistent with the results of the present study. Based on the three principles of UDL (representation, action and expression, and engagement), Ives also revealed that the transition to online education led to poor engagement but improved representation. As the participants in the present study described, their online learning experiences provided limited opportunities to connect with other students and instructors; however, instructors were more creative in presenting course materials in online instruction (e.g., recording videos, using online resources to share materials). Therefore, the shift to online instruction does not have to reduce the quality of instruction; instead, online instruction can provide additional advantages to students. Participants in the present study also described how they could revisit recorded class sessions, which was helpful if they had missed something important in class. Sheppard-Jones et al. (2021) stated that although the COVID-19 pandemic was exacerbating existing inequities for underrepresented groups, including students with disabilities, there were some unexpected adjustments that made education accessible. For example, through the use of technology, remote learning has become a choice for diverse learners. Since the need for transportation is obviated by the use of online education modalities, issues related to traffic can be removed. In light of this, students may discover the advantages of both learning systems by themselves and navigate how to cope with different learning modes.

In addition, participants in the present study observed that the ways to receive accommodations changed, indicating one of the difficulties students with disabilities continued to face during the pandemic. Accommodation issues made the accessibility of online learning even worse for students with disabilities (Chugani & Houtrow, 2020). In response to this challenge, Bishop-Monroe (2020) shared personal experiences and strategies, suggesting that faculty should be more flexible with timing and use different engagement and communication methods to reach out to students. Collaboration with disability services or colleagues with experience teaching students with disabilities can help faculty to better serve underrepresented groups. Additional strategies to support students with disabilities include monitoring students' weekly grades and using technology tools for online instruction. Furthermore, Meleo-Erwin et al. (2021) suggested that support information about remote learning should be available on university websites. Faculty and students with disabilities are able to reach the resources more easily if support information can be found on the websites.

To conclude, participants in this study shared their valuable experiences regarding online learning and how they have navigated its challenges. Their experiences should be considered to constitute valuable feedback for instructors. For instructors, the COVID-inspired abrupt shift to online instruction has also presented challenges—especially for those who need to demonstrate experiments or other hands-on work in classrooms, using online instruction can seem an impossible task. This complexity shows that more research needs to be done to exhibit how a difficult topic can be taught through online instruction.

Implications

The results of the present study have implications related to policies on accommodations and instruction in college settings. Accessibility issues should be addressed in policy changes to better serve students with disabilities in post-secondary education. As the COVID-19 pandemic has established a new normal for education, Madaus et al. (2021) suggested that stakeholders—including educators, researchers, service providers, and policymakers—should examine what pre-COVID accommodations are available to continue to support students with disabilities in online learning environments. Accommodation policies should add services to support remote options as alternatives. For

example, for in-person classes, students with disabilities may be provided preferential seating in the front of the classroom; however, for online classes, students with disabilities should be supported to have digital accessibility. Digital-accessibility services help students with disabilities to access digital tools and technologies. As the pandemic has reshaped education—leading to the rise of online, or remote, learning—the accommodations policies governing disability services in postsecondary education should reflect the corresponding needed adjustments in digital accessibility.

Similarly, the makers of instruction policies should consider different ways to deliver instruction. During the pandemic, in-person classes were switched to online classes, and the habits of many learners also changed. More learners may consider distance learning to be flexible and convenient. The need for online classes and distance learning has been made abundantly clear. Institutions of higher education may use synchronous learning, asynchronous learning, or hybrid approaches to deliver instruction. Different instruction-delivery methods offer flexible options for class participation. In addition, in consideration of building technology competency in students, instruction delivery should incorporate learning-management systems, or other technology tools to improve students' technology skills.

Limitations

The present study had some limitations. First, for an IPA study, in-depth interviews would ideally be the main data-collection method. Due to time constraints, the researchers used focus groups to collect data. Although a growing number of IPA studies have been using focus groups to collect data (Palmer et al., 2010), in-depth interviews can be used to gather more detailed personal experiences. In addition, as this study was conducted under the restrictions of social distancing, the researchers could only use online conferencing tools, such as Zoom, to collect data. Future researchers may consider using face-to-face interviews as the data-collection method to investigate the issues explored here. Second, the number of participants was too limited to facilitate comparisons. This study was guided by Smith et al. (2009), who stated that IPA studies are usually conducted with small sample sizes. Smith and colleagues suggested that if researchers plan to conduct a comparison study, they need to have more participants in the study. Thus, future researchers could include more participants in an IPA study in order to facilitate comparisons and explore the differences between groups of participants. Third, the present study focused strictly on the impact of COVID-19 on remote learning. COVID-19 affects many other issues that can and do impact experiences, such as health-based concerns and limitations on access to community networks or resources. Future researchers could focus on various other long-term effects of COVID-19. Fourth, the present researchers used the standard IPA data-analysis process, which was mainly developed to analyze data from in-depth interviews. Although the researchers referred to prior studies (e.g., Palmer et al., 2010) to analyze IPA data from focus groups, future researchers may explore a different IPA data-analysis process for focus groups by adding the factor of interactional dynamics among focus group members. Fifth, although this study had a data-analysis team to provide multiple observations and perspectives, the team did not use member-checking or invite an outside auditor to validate the study conclusions. In order to further establish credibility and trustworthiness, future researchers should extend invitations for member-checking and have an auditor review and oversee the data-collection and data-analysis process.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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