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Navigating a "New Normal" During the COVID-19 Pandemic: College Student Perspectives of the Shift to Remote Learning

Retrouver des « nouvelles normalités » pendant la pandémie de COVID-19 : le point de vue d'étudiants universitaires sur le passage à l'apprentissage à distance

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Abstract

The current COVID-19 pandemic has rapidly shifted institutions of higher education to remote learning environments, which has impacted student learning in unknown ways. The authors surveyed college students to determine how learning was impacted by the shift to remote learning during the COVID-19 pandemic, and to identify both the factors that created barriers and the factors that helped students succeed. Results indicate four primary factors — instructional design, instructor interactions, student autonomy and responsibility, and life/environmental factors — intersected to create the student learning environment. Implications for addressing barriers and increasing student success are discussed.

Keywords

Digital learning, remote learning, online learning, higher education, instructional design, instructor interactions, student autonomy and responsibility, life/environmental, COVD-19

Résumé

La pandémie de COVID-19 a rapidement mis les établissements d'enseignement supérieur face à des environnements d'apprentissage à distance, ce qui a eu un impact sur l'apprentissage des étudiants de manière jusque-là inconnue. Les auteurs ont réalisé un sondage après des étudiants pour déterminer comment leur apprentissage a été impacté par le passage à l'enseignement à distance pendant la pandémie COVID-19, et identifier les facteurs qui ont constitué des obstacles et ceux qui ont aidé les étudiants à réussir. Les résultats indiquent quatre facteurs principaux : la conception pédagogique, les interactions avec l'instructeur, l'autonomie et la responsabilité de

l'étudiant ainsi que des facteurs de vie/environnement ont contribué à créer l'environnement d'apprentissage des étudiants. Des implications pour faire face aux obstacles et augmenter la réussite des étudiants sont discutées.

Mots-clés

Apprentissage numérique, apprentissage à distance, apprentissage en ligne, enseignement supérieur, conception pédagogique, interactions avec l'instructeur, autonomie et responsabilité des étudiants, vie / environnement, COVD-19

Introduction

In the wake of the most significant pandemic of the 21st century — the coronavirus, or COVID-19 — institutions of higher education have had to shift rapidly to distance learning methods to control the spread of the virus. Normally, distance learning is planned in advance, with sufficient resources to integrate the necessary content, pedagogy, and technology to support student learning. In the case of COVID-19, time did not allow this. Furthermore, distance learning was not a choice, but an obligation, and would be better described as "emergency remote education" (Bozkurt et. al., 2020).

Engagement in remote learning heavily relies on technology to make the necessary connections among the instructor, students, peers, and content. This level of engagement is possible through Learning Management Systems, videoconferencing, and a variety of other digital or online tools that allow students to complete learning activities, assessments, or other tasks that are critical for the expected learning to take place or skills to be acquired. The sudden shift from the traditional face-to-face college classes to remote learning has brought new challenges, some expected and some still unknown. However, along with those challenges come opportunities to better understand the complex interactions that impact the student learning experience in a digital world. Education is rapidly evolving from being a place where students go to a process where students engage wherever they go, and the lessons we learn from the current rapid shift to remote learning can provide valuable insights.

Literature Review

Even before COVID-19, digital or online learning was popular and has shown continued growth for well over a decade (Allen & Seaman, 2011). Students are afforded more flexibility and convenience in online environments, but the trade-off is that the responsibility of accessing and learning the course content is shifted to the student, who must then take more responsibility and accountability for their own learning (Hoskins, 2011). The demands of online instruction differ from those present in face-to-face classes, which means that the skill sets students are used to applying in face-to-face learning may not readily transfer to the online environment. Students may not be prepared for the fluid nature of online courses, and often underestimate the volume of workload and level of involvement required (Bawa, 2016). Online learning also requires students to process a large amount of information before they can really begin to learn, and this cognitive load can be difficult to manage (McClendon et al., 2017). In the recent COVID-19 pandemic, students were rapidly moved to a remote learning environment with different levels of preparedness, which posed unique challenges to their learning.

It is easy to assume that today's students are digital natives and that moving to a technologically driven learning environment would be an easy transition for them. However, even though students may be familiar with a variety of technology options for personal use, they often lack the skills necessary to navigate and analyze online resources, employ self-regulation skills to manage their learning, and critically analyze the information they access (Greene et al., 2014). Most students are not able to access technology-based information and turn it into meaningful knowledge without the support of a teacher (Guri-Rosenblit, 2018). Therefore, they need to be made aware of how to apply various technologies to educational purposes (Ng, 2012) and be provided with support in developing their digital literacy learning, from authentic technology use to general application of what they need to learn (Ting, 2015).

Instructors, likewise, find that their roles in an online environment differ meaningfully from those they hold in a face-to-face classroom setting (Guri-Rosenblit, 2018). Instructors cannot simply convey knowledge and provide instructional supports for students to construct knowledge. Instead, they must redesign their curriculum to include the technological skills students need in order to access and apply knowledge and pedagogical content (Koehler & Mishra, 2009). Online learning requires instructors to actively learn about their students, match delivery modes to their needs, provide resources for learning that support student autonomy, make sure assignments are meaningful, offer students opportunities to improve and master learning, and provide clear feedback and positive interactions (Linder-VanBerschot & Summers, 2015). Furthermore, all relational connections— instructor-student, student-student, and student-information— now take place through technology rather than face to face. Consequently, instructors are required to alter the online learning environment to build these relationships virtually (Ladell-Thomas, 2012).

Instructors, then, need to be digitally competent, but most academic faculty are not prepared enough to support their students in developing the digital literacy they need (Wineburg et al., 2016). Institutions of higher education can help their faculty become digitally competent by creating environments that allow them to experiment with various technology tools and learn how to make the best use of these to maximize their students' engagement and learning (Alexander, 2017); however, the rapid shift to remote learning created by the COVID-19 pandemic did not afford this luxury. Consequently, faculty with varying levels of experience with online teaching had to move online, creating mixed levels of support for students. Students also varied in their experience with online learning environments and their abilities to regulate their learning. Both instructors and students also faced the traumatic challenge and uncertainty that the COVID-19 pandemic created as they navigated a "new normal," which also impacted student learning (Bozkurt et al., 2020).

To better understand the dynamics that impacted the student learning environment, the authors created a survey, which they sent to their students. The purpose of the survey was to determine how student learning has been impacted by the shift to remote learning during the COVID-19 pandemic and to identify both the factors that created barriers and those that helped students succeed.

Methodology

Participants

Participants in this study were $N = 94$ students enrolled in undergraduate Teacher Education classes at a Midwestern University. From the total, $n = 58$ responded to the survey, which is

about a 61.7% return rate. Of the 58 respondents, 91.4% were female, 25.9% identified as beginning-level students (freshmen or sophomores), and 79.3% indicated that they had previously taken at least one online course. Upper-level students (juniors, seniors, and post-baccalaureate students) were more likely to have taken an online course than beginning-level students.

Instrument and Data Collection Analysis

The researchers created a Qualtrics online survey, which included eleven questions using a 5-point rating scale (1 = strongly disagree; 5 = strongly agree) and five open-ended questions. Due to the time constraints caused by the pandemic, the researchers were unable to pilot-test the survey questions to determine content validity, so they used information from courses they taught and anecdotal information from student interactions. The five open-ended questions were created to supplement the rating scale questions to further capture the student experience, which the researchers would not otherwise have been able to ascertain.

To analyze the quantitative data, the researchers processed the rating scale questions through SPSS and analyzed the descriptive statistics. To analyze the qualitative data, the researchers downloaded the open-ended responses, looked for patterns, and then used the patterns they found to code the responses. The qualitative data set was obtained as statements or responses provided by the participants and were stored in a Microsoft Word file for analysis, which was conducted according to the general strategies proposed by Creswell (1998). The researchers reviewed participants' written responses to get a sense of their overall content. After studying the recorded data, the researchers started the coding process. According to Stake (1995) and Creswell (1998), coding can be defined as the process of making a categorical aggregation of themes. An in vivo coding strategy was used. In vivo coding implies each code comes from the exact words of the participants. Coding implies the process of grouping the evidence and labeling ideas. After coding was completed, the ideas were transformed into themes and sub-themes. The qualitative data were presented in the form of visual graphs, and the findings were presented, as much as possible, as an integral part of the results and discussion.

Data Analysis Results

The rating scale questions are displayed in Table 1 and show student responses to three categories of influencing factors: (1) instructional design, which related to anything that involved manipulating the course or instruction (2) instructor interaction, which addressed relational factors related to communication and a sense of support, (3) Life/environmental factors, which included home environment and competing factors that occurred during remote learning, as well as technology access.

The majority of students were generally positive about the instructional design changes, with 97% believing that the adjusted course assignments and deadlines were reasonable for the remote learning environment. Students were less sure that they were well informed enough about how to finish out the course, but a little over 80% believed that the instructor made appropriate course adjustments, gave reasonable deadlines, and offered a sufficient variety of learning materials to promote their learning engagement. Students were also positive about their interactions with instructors, indicating that were able to communicate and receive support, and 93% also had the necessary technology to learn remotely. Students were more mixed in their responses that concerned life/environmental factors. Only 35% believed that their learning was not compromised and, although 58% indicated that the transition to remote learning was smooth,

over half found the move to remote learning disruptive. Balancing home/personal life activities such as family, childcare, or work was a challenge for nearly half of the students.

Table 1

The Frequency and Percentage of College Students who Agreed or Strongly Agreed With Statements About Influencing Factors During the Shift to Remote Learning

Instructional Design factors	***N***	**Freq.**	**%**
– I was well informed about what I needed to do to successfully complete the course.	55	43	78
– The instructor adjusted the course (deadlines, assignments, lecture, etc.) to maximize remote learning).	56	48	86
– The adjusted course assignments and deadlines were reasonable for the purpose of completing them via remote learning.	53	48	91
– I had a variety of learning materials available, such as videos, writing journals or case studies, online reading, discussion boards, quizzes, etc. to keep me engaged during my remote learning experience.	56	46	82
Instructor Interaction factors	***N***	**Freq.**	**%**
– I was able to communicate (Zoom, email, phone, etc.) with my instructor when I needed to.	56	51	92
– I received the support I needed from the instructor in order to be successful in this class.	55	45	82
Life/Environmental factors	***N***	**Freq.**	**%**
– Moving to remote learning was disruptive to my learning.	56	31	55
– My learning was not compromised during COVID-19.	56	20	36
– The transition to remote learning was smooth.	55	32	58
– I was able to keep a balanced schedule between learning remotely and other important activities (family, childcare, work, etc.).	55	29	53
– I had or was able to access the necessary technology, such as a device (laptop, desktop, tablet, etc.), and I had Internet access, which allowed me to be successful during remote learning.	55	51	93

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Student responses to the five open-ended questions are displayed in Table 2.

Table 2

The Frequency and Percentage of Student Responses to Open-Ended Questions About their COVID-19 Remote Learning Experience

Q1. Did you feel prepared to move to remote learning? (*n* = 48)	**Freq.**	**%**
Yes	28	58
No	20	42
Explain (*n* = 28)		
Instructional Design Factors	5	18
Instructor Interactions	7	25
Life/Environmental Factors	5	18
Student Autonomy and Responsibility (*n* = 11)	11	39
Easily distracted	5	45
Harder to self-teach	4	36
Reduced communication	2	18
Q2. How did COVID-19 impact your learning? (*n* = 49)	**Freq.**	**%**
Instructional Design Factors (Missed opportunities)	15	31
Life/Environmental Factors (*n* = 16)	16	33
Family, job, and workload related responsibilities	6	38
Internet access issues/lack of quiet study space	4	25
Mental Health/Stress	6	38
Student Autonomy and Responsibility	10	20
Not Affected	8	16
Q3. What instructional strategies, learning activities or materials did you benefit the most from during remote learning? (*n* = 47)	**Freq.**	**%**
Instructional Design Factors (*n* = 35)	35	75
Assignment choices	5	14
Case studies/scenarios	5	14
Multiple forms of instruction/engaging activities	3	9
Professor flexibility	1	3
Synchronous learning	7	20
Videos and instructions	14	40
Instructor Interactions	6	13
Other (Everything/Nothing, Student Autonomy and Responsibility)	6	13
Q4. What did the instructor do particularly well in transitioning to remote learning? (*N* = 56)	**Freq.**	**%**
Instructional Design and Supports (*n* = 34)	34	61
Flexible due dates	9	27
Video recordings and video recorded lectures	2	6
Less busy work	1	3
Assignments related to COVID-19	1	3
Consistency	7	21
Adjusted assignments	14	41
Instructor Interactions (*n* = 22)	22	39
Communication	11	50
Personal check-ins	10	46
Synchronous feedback	1	5

Q5. If the university decides to continue with remote learning in the fall, what benefits and challenges do you anticipate and what can we do to maximize your learning and overall experience? (*n* = 46)	**Freq.**	**%**
Instructional Design	17	37
Instructor Interactions	10	22
Life/environmental Factors	4	9
Student Autonomy and Responsibility	9	20
No challenges or suggestions	6	13

Q1. Did you feel prepared to move to remote learning? Explain.

In Question One, regarding how prepared students felt in the move to remote learning, 48 students responded with 28 (58%) feeling prepared; however, 16 of the 19 beginning-level students (84%) said they were unprepared. Of the 28 students who provided explanations, 5 (18%) mentioned instructional design factors such as having assignments added to the class, which increased their workload but seemed like busywork or missed opportunities for hands-on activities. As one student commented:

> I had a lot of professors add more assignments and quizzes once we were switched to online, and I do not think we would have had these with in-person. With now being a stressful time, I do not think this was beneficial at all. Especially, since being online students are basically left to figure a lot out on their own.

Five students (18%) brought up life/environmental factors such as having more responsibilities at home or family issues. Seven (25%) mentioned instructor communication and support importance, and 11 (39%) mentioned student autonomy and responsibility factors, with 5 (46%) saying that they were easily distracted, 4 (36%) finding it harder to self-teach, and 2 (18%) concerned that they did not have as much communication with their instructor as they did when in face-to-face classes. As one student indicated:

> Having to work from home and being at home changed the way I worked. It made me lazier than I usually am. Having access to television and unlimited use of my iPad made me want to do everything BUT what I needed to do. I'm not a lazy student who puts off assignments. This way of life has made me so.

Q2. How did COVID-19 impact your learning?

When students were asked in Question Two how COVID-19 impacted their learning, 49 students responded with 15 (31%), citing instructional design factors primarily as opportunities lost because they could not complete field experiences in the schools or conduct hands-on activities in class. Life/environmental factors affected 16 (33%), with 6 of those students (38%) trying to balance family and job-related responsibilities, 4 (25%) struggling as a result of not having a quiet place to study or lacking Internet access, and 6 (38%) citing mental health and stress issues. Another 10 (20%) also cited student autonomy and responsibility factors such as distractibility and having competing distractors at home. One student shared the following:

> I felt moving home and having to create a new routine at home was challenging due to the amount of action around my home. There was no place to study in a peaceful environment unless I stayed up late to complete my work. Staying up late resulted in an unhealthy and inverted sleep schedule while also providing a problem when attending zoom classes and emailing professors for questions.

Only 8 (16%) did not feel that their learning had not been impacted.

Q3. What instructional strategies, learning activities or materials did you benefit the most from during remote learning?

Of the 47 students who shared in Question Three the instructional strategies, learning activities or materials that benefited them most, 35 cited instructional design factors, with videos used for assignments or instructions mentioned most often (14, or 40%). Seven (20%) of the students enjoyed synchronous learning with classes held via Zoom videoconferencing, 5 (14%) appreciated assignment choices, while another 5 (14%) valued case studies or scenarios used for problem-based learning, and 3 (9%) mentioned multiple forms of instruction (e.g. video, Zoom, discussions, online peer activities) and engaging activities. One (3%) student mentioned professor flexibility. Regarding the quality of the instructor-student interactions, 6 (13%) of the students thought this made a difference, with 4 (67%) stating the importance of communication via email or Zoom, 1 (17%) appreciating the consistency of a similar class schedule, and 1 (17%) mentioning the importance of human interaction. A few students were not specific: three of the 47 (6%) thought everything was wonderful, 2 (4%) did not believe anything benefited them, and one enjoyed the autonomy and responsibility that online learning provided. One student stated:

> I enjoyed a mix-up from what regular class looked like. I had a professor use a mixture of lecture videos, online videos, and presentations in short increments. Rather than a 50-minute boring presentation lecture. I like the shorter videos that are straight to the point and concise. I also enjoyed being able to go back and view those videos again.

Q4. What did the instructor do particularly well in transitioning to remote learning?

When students were asked in Question Four what they thought instructors did particularly well, 34 (61%) of the 56 student responses mentioned specific instructional design elements and supports. Fourteen (41%) of the 34 cited adjusted assignments, 9 (27%) appreciated flexible due dates, 7 (21%) benefited from the course consistency that instructors maintained to help make the shift less disruptive, 2 (6%) found value in the videos for assignments/tutorials or recorded lectures, 1 (3%) suggested less busywork, and 1 (3%) student liked the assignments that related to the COVID-19 pandemic. According to one student:

> I had a professor record her lectures and post them on Canvas, and she held weekly zoom meetings just to check in on her students (school-wise and personal-wise as well). This really made me feel seen and not alone in this situation.

In addition to the instructional design and supports, 22 (39%) of the students mentioned the importance of interacting with the instructor, with 11 (50%) appreciating frequent communication about the course assignments and expectations and 10 (46%) mentioning the benefits of instructor check-ins and other ways to actively connect with students and show concern. In the words of one student: "Keep communicating with the students, encouraging us, reaching out to check in on us and to help us feel like we will get through this." One student (5%) specifically commented on the use of synchronous feedback through class meetings via Zoom.

Q5. If the university decides to continue with remote learning in the fall, what benefits and challenges do you anticipate and what can we do to maximize your learning and overall experience?

Of the 46 students who responded to the final question regarding benefits, challenges, and suggestions for the fall, 17 (37%) mentioned specific instructional design factors, with 5(29%) citing the loss of missed opportunities such as field experiences or hands-on activities as a challenge. Students suggested that instructors: (1) make sure students have technology access for remote learning, (2) not overload class assignments or impose too great a workload, (3) be flexible, (4) provide assignment modifications or alternate options that accommodate remote learning situations, and (5) be generally prepared for the unexpected. Ten of the 46 students (22%) indicated that student-instructor interactions were important, with 3 (30%) of the ten showing concern about the lack of communication and limited relationship building when online. Seven of the 10 students (70%) mentioned the effectiveness of instructor "check-ins" to see how they were doing and showing compassion for students' situations. Regarding life/environmental factors, two students believed that remote learning could help them financially while one thought this would negatively affect personal finances. One thought that remote learning could allow more time with family and saw this as a benefit. Nine of the 46 students (20%) saw the need to improve their self-management strategies, although 3 of them saw this as a positive opportunity. Another six students (13%) cited no challenges or suggestions. One student provided the following advice to instructors:

> Don't overdo it. Don't just add on a bunch of stuff since we don't have to sit in class. We have our lives, work, watching siblings, and whatnot, and yes, we do have more time on our hands, but it generally gets filled doing other things.

Discussion

The purpose of the survey was to determine how student learning was impacted by the shift to remote learning during the COVID-19 pandemic and to identify both the factors that created barriers and those that helped students succeed. Several key themes emerged from the survey; they are summarized in Figure 1.

Four primary factors intersect to provide an optimal learning environment for students in digital learning environments; two are factors that instructors can control, and two are factors that students must address. Instructor factors include both design and interactions. In face-to-face classes, instructors develop the course design and meet directly with students to provide instruction. Instructors can adjust teaching in real time to meet student learning needs, and classes can be highly engaging and social. Instructor-student interactions are both planned and spontaneous, and take place either in the learning environment or during scheduled office hours. When course delivery moves online, the instructional design must take into account the asynchronous nature of all or part of the course and provide supporting elements to help engage students actively in the learning process and become more independent learners. This means that design must go beyond what students need to learn; it must also include ways of showing students how to learn (Koehler & Mishra, 2009).

Regarding instructional design factors, students surveyed particularly appreciated assignments that were modified or adjusted to be successfully completed in a digital environment so that they could complete the coursework and do well in their courses. Students also liked having assignment options so that if their personal and family needs changed, they could select

assignments that allowed them to work around those life factors. Students felt more engaged when a variety of activities were included in the instruction, such as watching videos or doing a virtual group project rather than just reading the textbook and answering questions.

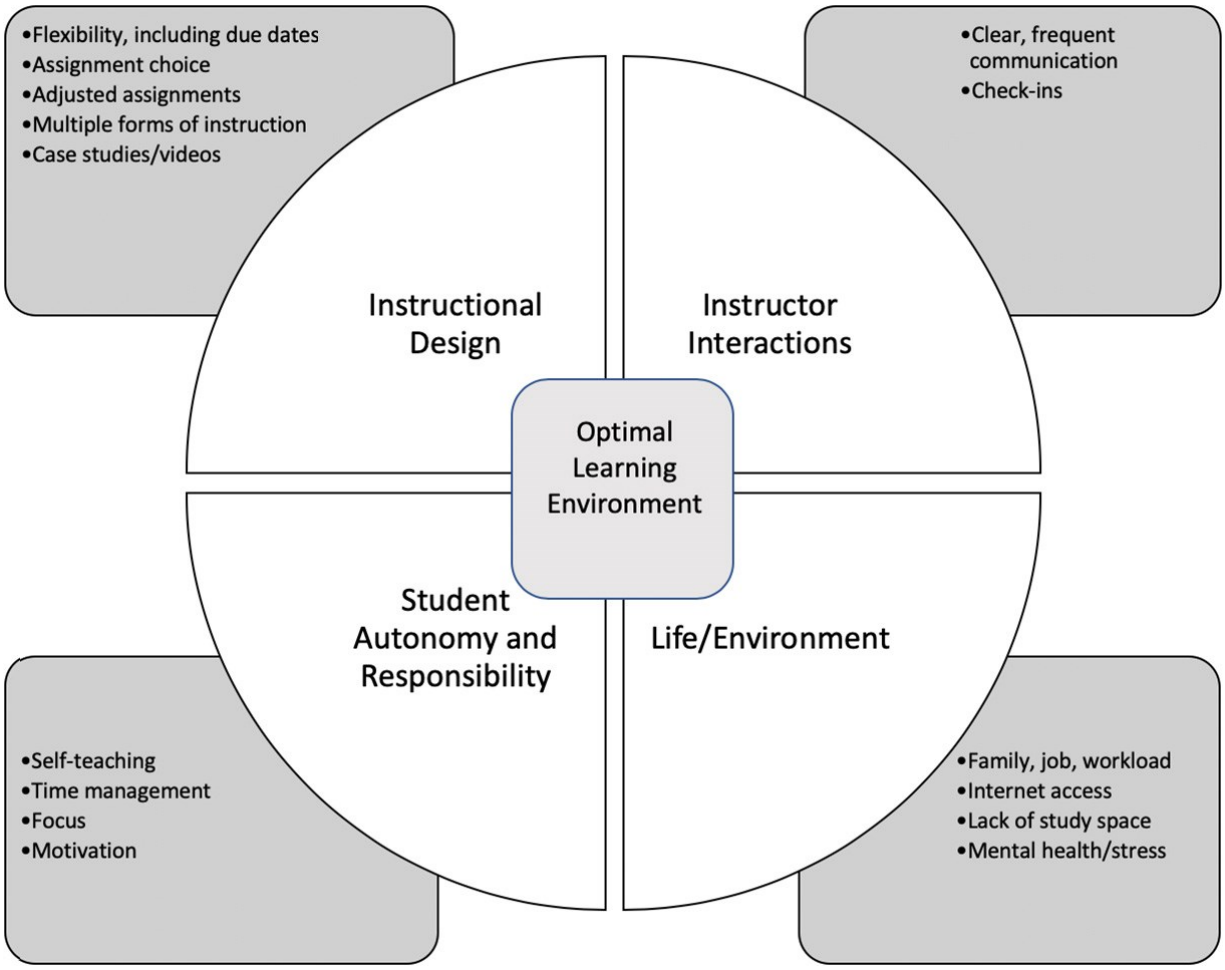

Figure 1
Conceptual Framework for Mitigating Digital Learning Barriers

Students also cited case studies or other forms of problem-based learning as useful and wanted to see more video used in both instruction and in tutorials on how to do assignments. Finally, students found their lives more complicated by personal and life/environmental factors during the COVID-19 pandemic and benefited from having adjusted deadlines and due dates. They also appreciated it when instructors were flexible while they learned to navigate their learning in a fully digital world. All of the instructional design elements that students cited as helpful are reflective of best practices for distance learning (Linder-VanBerschot & Summers, 2015). The one instructional design factor students did not appreciate was additional assignments instructors created to make up for the absence of physical class time. Students stated that they did not benefit from the busywork and needed the extra time to learn what the course already required because of personal and life/environmental factors.

Given the number of students that commented on instructor interactions, it is clear that this continues to be an important element of learning, but instructors will need to be more intentional in their communication when in an online environment. Communicating clearly and frequently about the course content and expectations, and periodically checking in to see how students are

doing are effective measures to keep students connected and build the student-instructor relationships. Although a pedagogy of care has always been important in learning and will remain so after the pandemic, it is particularly crucial in remote learning situations in which students experience trauma (Bali, 2020). Integrating social interactions into the course can build some of the connections, and having the option to Zoom with an instructor if they wanted help was reassuring to students who needed this. For many students, the most difficult aspect of going online, which was particularly hard on them, was the missed opportunities for in-class interactions, hands-on projects, and field experiences in the schools and community, all of which are difficult to replicate in remote learning environments (Mollenkopf & Gaskill, 2020). Instructors, however, can create alternate assignments with videos, case studies, or interactions via Zoom to help create similar experiences.

Regarding student autonomy and responsibility and life/environmental factors, many students found these more challenging when they moved to a remote learning environment. Beginning-level students felt much less prepared and cited more challenges with distractibility, time management, motivation, and independent learning than did upper level students. This underscores the need for instructors to go beyond ensuring digital and Internet access and to make sure students have the self-directed learning skills they need to benefit from remote learning (Adam, 2020). Also, students who now had to work from home found home environments less conducive to learning. Some students found themselves taking care of family or having to home-school their own children while taking classes online. Finding a quiet place to study could be problematic, and, while most students had sufficient technology, some had Internet access issues. Other students had their employment impacted so they expressed financial concerns. It was not surprising to see students feeling stressed and struggling with mental health issues.

Clearly, instructors, students, and families alike have been affected both emotionally and psychologically by COVID-19 (Miller, 2020). While instructors do not have control over these factors, keeping communication lines open, checking in with students, providing more guided support for assignments, and being flexible can make a difference. Universities should also provide online resources for students to help with time management and independent learning skills. Tutors, mental health practitioners, and success coaches can provide services via videoconferencing. Technology support services should also consider making computers or electronic devices available for check-out to students without sufficient technology as well as providing support for students who do not know how to use and apply certain technologies to education.

Conclusions

The COVID-19 pandemic has had a profound impact on digital learning and education that will continue to be felt for years to come. While there are many challenges for both instructors and students, the opportunities to better understand and utilize digital technologies to maximize student learning should not be overlooked. The instructor can utilize instructional design elements and personal interactions that help optimize the learning environment for students. On the other hand, students bring complex life experiences to the learning environment and some of these may involve equity and access issues that create less than ideal learning opportunities. Instructors cannot change these, but they can communicate understanding and flexibility as part of their pedagogy of care. Students do have control over their autonomy and responsibility factors but will need instruction and supports to do this. Universities can provide more focus in

these self-management and independent learning skills through learning success coaches and tutors through similar venues as they use now for academic tutoring. Instructors can also provide supports in the instructional design process to build digital literacy skills. In summary, the COVID-19 pandemic can be an important learning opportunity to help us through the current crisis, but it can also inform our greater understanding of the student learning experience in the digital world. Education is rapidly moving from being a place where students go to a process where students engage wherever they go, and the lessons we learn from the current rapid shift to remote learning can help prepare us for a brighter, stronger future.

Limitations of the Research

This survey captured the perspectives of Teacher Education program college students on their remote learning experience during the COVID-19 pandemic. The check-in survey was developed quickly to find out how students were doing and was not pilot-tested or vetted prior to its administration. Consequently, the questions may not fully measure what was intended. Although a reasonable number of students responded to the survey, a larger sample would give a greater quantity of responses, which would validate the representativeness of the student experience. Also, insufficient information was collected to determine whether students from various backgrounds (e.g. racial, ethnic, low-income, etc.) were affected differently. Some students filled out the survey for one or two specific courses. Others filled it out to provide a summary of all their courses. A more detailed survey would allow more in-depth analysis of the instructional design features. It was also not possible to survey the students' instructors to gather data on their level of preparedness for and perspectives on the shift to remote learning and their experience with educational technology. Given the challenges of developing course instruction with the necessary student supports for remote learning, universities should provide sufficient technology supports and resources on best practices with digital technology to help instructors successfully design and teach their courses.

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