First-Year Students' Perceptions of Learning and Connection to the University in the Coronavirus (COVID-19) Pandemic World

Dana J. Tribble[1], Amy Baldwin[2] & Louis S. Nadelson[3]

[1] College of Education, Arkansas Tech University, Russellville, Arkansas, United States

[2] Department of Student Transitions, University of Central Arkansas, Conway, Arkansas, United States

[3] College of Education, University of Central Arkansas, Conway, Arkansas, United States

Correspondence: Dana J. Tribble, College of Education, Arkansas Tech University, Russellville, Arkansas, United States. Email: dtribble3@atu.edu

Abstract

We explored the challenges with the unplanned change of abruptly shifting to online learning that the COVID-19 pandemic mitigation had on first-year students' perceptions of learning, their connection to the university, and the general college experience. We used a cross-sectional method to gather quantitative and qualitative data using an online survey. More than 200 participating first-year college students indicated concerns with making connections, feeling challenged and unfulfilled with their educational experience, and struggling to adjust to the pandemic-mandated changes. Additionally, we found that students experienced challenges accepting ownership of their learning and navigating ambiguous situations.

Keywords: first-year students, learning, connection, pandemic, unplanned change, resilience, grit, growth mindset

1. Introduction

As instructional approaches continue to evolve, the research on college students' perceptions of learning also develops (e.g., Lim & Morris, 2009). Events like the COVID-19 pandemic and the actions taken to mitigate the spread have provided new and unique conditions for research of college student learning. When the World Health Organization (WHO) declared COVID-19 a global pandemic (Cucinotta & Vanelli, 2020), teaching and learning on college campuses underwent a massive adjustment to control the spread of the virus. A student's college experience, learning, and opportunities to develop a connection with the university shifted dramatically, as all instruction and many services moved to a virtual approach, and campuses were shuttered. Higher education institutions had to pivot from face-to-face instruction to online learning and/or hybrid learning with little-to-no time to prepare. In addition, the students had to adjust to the changes simultaneously, often with little support (Raaper & Brown, 2020).

Prior to the response to the COVID-19 pandemic, institutions inherently created a sense of connection and belonging for students through classroom socialization and extracurricular experiences (Çivitc, 2015; Freeman et al., 2007). However, because of the COVID-19 pandemic and mitigation efforts taken to slow the spread of the virus, institutions have not been able to provide students with the same experiences, leaving a critical gap in the college experience. In addition, the sense of connection created through classroom socialization and extracurricular experiences is associated with student retention and completion (O'Keeffe, 2013). Thus, in responding to students' experiences associated with the COVID-19 campus changes, educators must learn more about the students' perceptions of learning and connecting to the university during the global pandemic. The understanding will help inform practitioners and researchers as we explore and implement appropriate processes and activities designed to promote student learning and their connection with the university.

1.1 Purpose of the Study

The purpose of our study was to determine the effects on first-year students' perceptions of learning, their connection to the university, and their adjustments to the changes in their academic experience from the COVID-19 pandemic-mandated changes to college campus experiences.

2. Review of Literature

2.1 First-Year Student Experiences

The first year of college is one of the most important for setting the tone and tenor of student success, and many researchers have identified vital milestones or developmental stages through which college students move (Blake et al., 2018; Braxton, 1999; Chickering & Reisser, 1993; Tinto, 1993; Upcraft et al., 1989; Willcoxson, Cotter, & Joy, 2011). One specific framework relevant to the stages of development and first-year students is Hazard and Carter's (2018) six key areas of adjustment: academic, cultural, intellectual, social, financial, and emotional. While individual first-year students' transitional experiences may differ over their time in college, these key domains provide a lens through which we can evaluate the progress and address areas of their experiences that prove problematic, jeopardizing students' persistence, retention, and ultimate degree completion.

In addition to the transitional domains, researchers have identified specific experiences that can improve the adjustment to college, such as first-year seminars, which often teach students how to be successful in college (Hyers & Joslin, 1998). In their study, students who took a first-year seminar course were "more likely to report feeling integrated into the campus community and more successful at various aspects of campus life" (Keup & Barefoot, 2005, p. 36). Additional crucial experiences that lay the foundation for academic success, persistence, and eventual graduation include the following: faculty-student interactions, especially those in which students are engaged and treated as individuals; student-student relationships, including the formation of friendships; and challenging classes that are nestled in a supportive college environment (Black et al., 2018; Enke, 2011; Longerbeam, 2016; Vetter et al., 2019).

Braxton and McClendon (2002) posit that "[s]ocial integration positively influences subsequent institutional commitment (commitment formed after enrollment), and institutional commitment, in turn, positively affects persistence in college" (p. 57). In addition to the necessity of forming social bonds for student retention and satisfaction, Tinto (2001) notes, "Simply put, students who learn and find value in their learning are students who stay" (p. 3). Two key areas, social and academic adjustment, lay the foundation for the first-year student experience and, if not met, can have consequences that last well beyond the first semester. Considering the changes that higher education institutions had to make to in-person learning in the fall of 2020 because of the COVID-19 pandemic, it was essential to explore what effect, if any, that the nearly ubiquitous shift to online or hybrid learning had on the social and academic adjustments of first-year college students.

2.2 Belonging and Campus Community

A crucial component influencing student college success is developing a sense of belonging in the classroom and within the campus community. Freeman et al. (2007) studied students' sense of belonging, academic motivation, and instructors' perceptions. They found a professor's encouragement of student participation and interaction, warmth, and organization were connected to both students' motivation and achievement, as well as a sense of belonging in the classroom; they did not find, though, that a positive experience of belonging in the classroom translated to belonging at the campus level. According to Nuñez (2005), the campus community is established through interactions and gaining knowledge and experience to understand better where a student fits in within the community. Therefore, even minimal social connections can influence students' motivation and persistence (Walton et al., 2012). However, the experiences promoting a sense of community were severely limited or eliminated due to COVID-19.

We speculated that the absence of traditional classroom interactions and opportunities for campus involvement because of the COVID-19 pandemic has most likely negatively affected first-year students' sense of belonging. Thus, one goal of our research was to empirically document first-year students' perceptions of and engagement with connecting to the institution.

2.3 Responding to Unplanned Change

When students decide they will attend college and are admitted to an institution, they are likely to begin formally and informally planning for the change. Students engage in planned change as they seek pathways to successfully navigate a range of anticipated goals, processes, and events (Heinisch, 2017). Students' efforts to develop and implement plans to adjust to the change of attending college were significantly disrupted by the response to mitigate the COVID-19 pandemic (Copeland et al., 2021; Potts, 2021; Talsma et al., 2021). In most situations of change, there are plans to help people adjust to the change and share expectations in the event of a disaster (Schouten et al., 2004). However, planning for pandemics, such as the COVID-19 pandemic, has not been a widespread practice (Osterholm, 2005). Thus, the rapid changes on college campuses (e.g., transition to online teaching and learning) due to efforts to mitigate the spread of COVID-19 were not anticipated and, therefore, were not planned for. The significant

disruption in the structure and activities on college campuses was similar to the unplanned change that occurs in response to a crisis, disaster, or trauma (Harmey & Moss, 2021; Seeger et al., 1998).

The global pandemic forced higher education institutions to adjust to new expectations rapidly, and the shift to online teaching and learning became a test of the ability of many faculty members and leadership to quickly transition their approaches to supporting student learning (Wu, 2020). According to Pace, Pettit, and Barker (2020), the transition was more accurately referred to as *crisis learning*, as there was no planning for the change, rather a rapid response due to a crisis. The new form of learning came with significant adjustments for students. Students were expected to explicitly guide their educational journeys to a greater extent than traditional first-year learning experiences. For a student to work towards their overall educational goals, attributes that promote internal motivation and drive become essential (Elliot & Harackiewicz, 1996; Simons et al., 2004).

The unplanned change that many students lamented was the transition from in-class experiences to online learning and campus closure. We were interested in how the unplanned changes influenced their perceptions of campus and the associated learning experiences.

2.4 Challenges with Abruptly Shifting to Online Learning

One ubiquitous change to the college experience that directly resulted from the pandemic was the shift to online or hybrid learning (Besser et al., 2020). The deployment of online learning in response to the pandemic took a variety of forms: Learning online can be a supplement to onground experiences, learning modules in many massively open online classes (MOOCs), or fully online courses in which students use learning management systems with different levels of synchronous and asynchronous engagement (Moore et al., 2011). Based on the structure of many online learning environments, students may have to engage in higher levels of self-motivated and self-directed learning (Artino, 2008). However, prior to the pandemic, many students may not have learned to regulate their learning in online environments effectively and, therefore, were not successful in achieving the intended (and desired) learning goals (Hughes, 2005; Lowes & Lin, 2015; Wang et al., 2019). Typically, first-year students expect to learn in structured environments with high student-teacher interaction and teacher guidance. Thus, students who enrolled in college during the pandemic may have been challenged with transitioning to learning online in which the direct interactions that students encounter are with a computer and text rather than direct contact with a teacher (Arbaugh, 2004). The challenge was even more significant for novice learners who are still developing the advanced skills (e.g., self-regulation, curiosity) required to be a successful, nearly-independent learner in online learning environments (Stein et al., 2009). While online learning environments can be structured for high levels of interaction, such as discussions, group projects, and synchronous meetings, there is also the possibility that the online environment becomes a communication platform for posting assignments with the student simply interacting with static text on a screen, which may leave students feeling isolated and unengaged (Gillett-Swan, 2017). The limited preparation time and the need to rapidly transition learning to be online due to the COVID-19 pandemic may have led many faculty members to create very basic online course portals. Thus, we posit there was a high likelihood of minimal student and faculty interaction and student and student interactions in these courses.

While there have been advances in structured, highly effective online learning environments, there is a need to prepare learners for understanding how to learn in these environments (Beaudoin, 2002). We maintain that the rapid shift to online learning necessitated building closures because COVID-19 was further complicated by students' lack of preparation for online learning and faculty members' lack of preparation for creating online learning structures and teaching in these environments. Thus, we wanted to understand the implications for student learning based on the unexpected and rapid shift to online learning.

We argue that the stress associated with coping with the unplanned shift to online learning and changes in campus functions required individuals to apply a range of personal skills and dispositions. Specifically, we argue that students' coping with the unplanned changes due to COVID-19 campus mitigation efforts required them to apply attributes of self-efficacy, self-determination, open-mindedness, resilience, grit, and growth mindset. Thus, part of our research was focused on first-year college students' communication of coping or not coping with the COVID-19 related unplanned as determined through the application of personal attributes.

2.5 Coping and Personal Attributes

Resilience and grit are critical in overcoming challenges (Hochanadel & Finamore, 2015; Kannangara et al., 2018). Students who remain healthy, recover and/or thrive when faced with and overcome adversity are documented as having resilience (Folke et al., 2010). Similarly, grit is considered personal perseverance and passion for long-term goals, regardless of the challenges (Duckworth et al., 2007). While related, Bashant (2014) argued, "[R]esilience is

related to grit because part of what it means to be gritty is to be resilient when challenges present themselves" (p.14). Duckworth and Seligman (2005) documented the predictive power of grit and resilience for college success. Further, resilience and grit are crucial for adapting to change, such as shifts in campus operations due to the COVID-19 mitigation efforts. Nevertheless, little is known about how students respond to systemic changes such as those associated with COVID-19. Thus, there is justification for determining if first-year students innately express indicators of grit and resilience or lack of the attributes as they share their feelings and actions associated with the campus changes.

Students who believe their cognitive capabilities can be developed exhibit a belief known as a growth mindset (Dweck, 2000). Students with a growth mindset embrace challenging situations (Mueller & Dweck, 1998; Romero et al., 2014) and look at those challenges as an opportunity to grow and develop (Blackwell et al., 2007). Therefore, a growth mindset is critical when students face challenging situations regarding a new learning format and instructional approach and experience a lack of connection to the university. We argue that students who have higher levels of resilience and grit and express a growth mindset are likely to successfully adjust to expectations due to the change brought to higher education institutions by events such as the COVID-19 pandemic. Thus, there is justification for examining the responses by the students to determine if they innately share perceptions reflective of a growth mindset or a fixed mindset.

3. Method

Using a cross-sectional methodology, we distributed an invitation to complete a survey to first-year students at two similar universities located in the south-central region of the United States. We designed our survey to gather a combination of qualitative and quantitative data to answer our research question: How did the campus changes due to COVID-19 influence first-year students' perceptions of learning and sense of connection to the university, and how did they adjust to the changes? We generated the following five guiding research questions to frame our investigation:

1. What was the first-year students' perception of learning through COVID-19?

2. How did first-year students feel about being connected to the university?

3. How did students react to changes in university life due to COVID-19?

4. How did students apply (or fail to apply) resilience, grit, and growth mindset in response to the changes in university function due to COVID-19?

5. What is the relationship between students' learning and building connections and their personal variables?

3.1 Participants

Our research participants were first-year, full-time, degree-seeking students and enrolled in the first-year student success courses at two similar sizes, regional and professional doctorate-ranked state universities located in the south-central region of the United States. In the fall of 2020, we distributed an email invitation to the students asking them to participate in our research. The email invitation included a link to our survey. Our sample was all students enrolled in a required first-year student success course at the two universities. Of the 1,548 first-year students we contacted, we had 214 fully complete our survey with a nearly equal number of students participating from each university.

Our participants had an average age of 18.61 years (SD = 2.38). Of the 214 participants, 148 identified as female, 64 identified as male, and two indicated they identified as a different gender. The majority of the participants identified as Caucasian (65%), followed by African American/Black (17%), with 6% indicating they were Hispanic, 5.5% indicating they were Asian, 1% identifying as Native American, and 3% indicating mixed or another ethnicity. Almost 80% relied on financial aid to fund their education. The majority of the students (78%) indicated that more than 50% of their classes were taught online. Almost two-thirds of the students (65%) lived on campus. Therefore, a large majority (86%) indicated reliable internet access. The participants had previously taken an average of 1.5 classes online (SD = 2.52, Med = 0), with the majority (58%) indicating they had never taken an online course before fall 2020.

3.2 Survey Design

Given the unique focus of our research, we determined that we needed to develop a survey tool to gather the data we needed to answer our research question. We started our survey development by generating multiple, selected-response item stems and free-response prompts aligned with our guiding research questions. Following the generation of our bank of survey items and prompts, we reviewed our list for redundancies, alignment with our

research focus, and pertinence to first-year student experiences. Our goal was to have about five selected-response items for each of our guiding research questions and no more than four free-response prompts.

Our working survey had 19 selected-response items and three free-response prompts. We had six selected-response items for the first two guiding research questions and seven for the third. In addition, our survey included one free-response item aligned with our primary research question foci--adjusting to the change, perceptions of learning, and connecting with the university. The selected-response items included stems such as "I prefer meeting in person," and "I feel connected to my instructors," and "College has been disappointing to me," which were answered using a standard five-point Likert scale. Our scale was coded such that "Strongly Agree" was coded as a "1" and the scale progressed to "Strongly Disagree," which we coded as "5." Our free-response items included prompts such as "How has your perception of learning changed due to COVID-19?" which the participants had unlimited space to respond to.

We established the construct validity of our instrument by sharing our survey with university faculty members working with first-year students and had transitioned their teaching to online formats due to COVID-19. Based on their feedback, we determined that our survey was reflective of the constructs that we were attempting to assess and that the survey would effectively gather the data we needed to answer our research questions.

Our internal consistency test revealed a Cronbach's alpha of .88, which is acceptable. The Cronbach's alpha of our learning preference subscale was .62, for our connecting with the campus subscale was .81, and for adjusting to the changes due to the COVID-19 pandemic, the subscale was .80. The reliability of two of our subscales is acceptable. However, the reliability of the third subscale is marginal, and, therefore, the outcome of the analysis using these data needs to be considered more tentatively.

3.3 Data Collection

All of our data collection and communication took place online. We recruited a subset of first-year students to participate in our research from two similar regional, professional doctorate-ranked state universities. We sent the students enrolled in first-year student success courses an email inviting them to participate in our research by completing our survey. The email included a link to our online survey. We sent emails to 883 students at one university and had 127 students fully complete the survey. At the same time, we sent an invitation email to 665 students at the other institution, of which 128 students fully completed the survey. We collected data for two weeks in fall 2020.

3.3.1 Institutional Data Consistency

We chose the two public regional universities for data collection because they were similar in size and classification, and both had college success programming for first-year students. However, we wanted to ensure the data were not statistically different. To determine data consistency, we compared the outcomes of the quantitative items with an independent sample t-test and frequency of the qualitative coding results using the chi-square test of independence. In all cases, we failed to detect a significant difference between the two institutions' responses, so we pooled the data for reporting results.

3.4 Data Analysis

3.4.1 Quantitative Data

Prior to analyzing our quantitative data, we conditioned our dataset by eliminating the responses from any participant who did not answer at least 90% of the selected response items. We found eight instances in which a participant did not respond to one item. The missed items seemed random occurrences; therefore, we assume the participants did not purposefully skip the items. Therefore, we determined justification for replacing the missing value with the series mean function in SPSS to fill in the single missing response left by eight of our participants. Next, we calculated the means, standard deviations, and medians of the responses to the items. We then reverse-coded the responses to our negatively stated items to create the composite scores for our three subscales, summing the responses to the subscale items and calculating the average. Finally, we evaluated the data for normality and equality of variances to ensure we met the assumptions for parametric analysis.

3.4.2 Qualitative Data

For our qualitative data analysis, we used a mixture of a priori and emergent codes (Huberman & Miles, 2002). We began the analysis of our qualitative data by creating a set of a priori codes aligned with the survey prompts. We developed the codes for the anticipated responses by the students based on our work with first-year students and our experience working through changes and teaching during shifts in campus functions due to the pandemic. We were

also open to emergent codes as we reviewed the responses. Our goal was to expose trends in the data using a content analysis methodology for examining the data.

4. Results

4.1 Perceptions of Learning

Our first guiding research question asked, "What were the first-year students' perceptions of learning through COVID-19?" We began answering this question by examining the participants' responses to the associated selected-response items (see Table 1). We found that the participants tended to agree that they preferred to meet in person and put forth more effort toward learning online. The participants agreed and were neutral toward their preference for using a Learning Management System. The students tended to be neutral toward liking to meet online, meeting their educational goals online, and not enjoying learning online. Finally, the participants tended to disagree that the quality of their education was *not* altered due to COVID-19.

Table 1. Means, standard deviations, and medians for responses to learning perceptions

Item	M (SD)	Med
I prefer meeting in person.	2.07 (1.03)	2
I have to put forth more effort to learn due to online learning.	2.33 (1.21)	2
I prefer video meetings over using just an LMS.	2.55 (1.19)	2.5
I like meeting online.	2.89 (1.12)	3
I am able to meet my educational goals even in online learning.	2.73 (1.20)	3
I do not enjoy online learning.	2.96 (1.21)	3
I feel the quality of my education has not been altered due to COVID-19.	3.31 (1.30)	4

We continued our analysis by examining the outcome of our free response item coding by asking the students, "How has your perception of learning changed due to COVID-19?" In Table 2, we have included our codes, the frequency of related responses, and representative responses from our participants. We found that many students felt that learning was more effortful, they had to teach themselves, and the work they were doing for class seemed useless. Similarly, some students noted that the change required more motivation from them. Many students indicated a preference for in-person, on-campus meetings and shared that they tended to learn better with face-to-face interactions, especially for specific subjects. Overall, the responses conveyed a negative perspective toward learning during the COVID-19 campus changes with few positive responses.

Table 2. Perceptions of learning codes, frequency, and representative of responses to learning perceptions

Code	N	Representative Response(s)
More effortful	69	I've found myself learning less. Online college is frustrating, it leaves me unmotivated, and it consistently stresses me out.
Prefer in person	26	I have learned that in-person learning is way better for me.
		I realized that only some subjects I can adequately learn online. Others, I need the class time to focus and learn.
Teach themselves online	25	It has become more of me teaching myself and using outside resources such as YouTube to teach me the material.
No change	22	Nothing has changed for me.
The role of the professor	18	It has been a lot more self-motivation as far as understanding material because you can't just ask your professor to come to look at something right then.
Adaptation	18	I have improved in using the tools and skills I have available and learning online instead of traditional in-class learning.
Did not learn/learned very little	15	My perception of learning has not changed, but I honestly feel like college students are not learning anything but to submit our assignments by 11:59.
Need interaction	13	It is repulsive. I absolutely despise online classes, and having to do most of my work without human contact makes me want to work at McDonald's for the rest of my existence.
Takes more motivation	13	It has been a lot more self-motivation as far as understanding material because you can't just ask your professor to come to look at something right then.
Hopeless/Useless	13	tremendously I feel like I'm filling out forms and not doing anything
Easier to learn	9	It is easier done when just given materials, maybe a lecture or two and due dates. I like that it is more efficient, and my quizzes are automatically graded so I can watch my grade go up as I complete work. Honestly, I forgot what it is like to have normal classes. This is normal now.
Liked flexibility	8	Learning online allows me to go at my own pace, to a point, which is somewhat helpful. Being online also leaves everything up to me. It is very difficult to go from high school to essentially have to teach yourself collegiate-level material.
Need for structure	7	I still prefer to meet in person more than anything. But if that is not possible, then classes NEED to continue over zoom just like a normal

		class.
Busy work	7	It is much more homework than actual learning.
What learning looks like	5	My perception of learning has shifted from a teacher-to-student connection to an almost self-taught type of learning. Professors are practically test proctors and assign readings.
Confusion - lack of communication	5	COVID-19 made everything so much harder. Different time zones really mess with my time management. It is harder to communicate with my professors and ask questions when needed. Learning new material is harder for me because there is more distraction.
Increased access to learning content	4	I realized that to get good grades in a lot of my classes, and I just need to study and complete the posted assignments. It is easier to only worry about doing assignments that have been given to us online. Now I rely on online classroom websites like Blackboard and Google Classroom for all the information about homework, due dates, test, and quizzes. It's like having a planner that I myself don't have to fill out.
Managing time/procrastination	4	I've learned that I need to keep up with checking on my classes and staying up to date. COVID-19 is super hard because I have to watch and have hands-on activities in order to understand.
Good online classes make a difference	2	I do not think that it has altered my perception of learning. The experience is similar to in-person education if classes are transitioned online effectively.

4.2 Connecting with the University

Our second guiding research question asked, "How did first-year students feel about being connected to the university?" We began answering this question by examining the participants' responses to the associated selected-response items (see Table 3). We found that the participants tended to agree that they struggled to make connections with other students, and they agreed that they felt comfortable reaching out to their instructors with questions/concerns. The participants provided neutral responses regarding feeling they are known by their instructors, connecting with their instructors, and experiencing regular check-ins by their instructors. The students disagreed that they were making new friends through their online courses.

Table 3. Means, standard deviations, and medians for responses to connecting to the university

Item	M (SD)	Med
I am struggling to make connections with other students.	2.21 (1.13)	2
I feel comfortable reaching out to my instructor with questions/concerns.	2.33 (1.11)	2
I feel I am known by my instructor.	3.23 (1.13)	3
I feel connected to my instructors.	3.34 (1.10)	3
My instructor regularly checks up on me.	3.31 (1.03)	3
I am making new friends through our online courses.	3.92 (1.00)	4

We continued our analysis by examining the outcome of our free response item coding by asking the students, "How are you making connections with others at the university?" In Table 4, we have included our codes, the frequency of related responses, and representative responses from our participants. Most students indicated that they are not making connections because of distance education. Those who shared that they could get to know others reported they used the institution's learning technology and social media to do so. On-campus communities such as residence halls, clubs, and organizations, intramural sports, and group projects provided additional opportunities for interaction. Nonetheless, students said they were struggling to make friends.

Table 4. Perceptions of learning codes, frequency, and representative of responses to connecting to the university

Code	N	Representative Response(s)
Not making connections	65	So far, I haven't been able to make any connections with other students, but in all honesty, I don't really mind, but I am concerned for when I come to campus next fall. I am not really meeting new people, so I'm not connecting with anyone.
Through learning technology	25	I'm making connections with others at the university through social media platforms.
In-class meetings	19	Through hybrid classes, online classes, and social media. By going on campus and meeting them in person.
Residential halls	17	When I stayed on campus, I made friends within my resident hall because that's the people you see almost every day...
Group projects	17	Through conversations during zoom classes, break out groups in the zoom, and group projects.
Struggling	17	I kind of find it harder to make friends at the university because of COVID-19. Also, with all of our work being online, a lot of us don't go out and walk around campus and more.

Greek	16	Other than joining a Fraternity, I'm not.
Clubs	9	I am making connections through groups and clubs.
Informal meetings	9	By getting out exploring the campus
On-campus	6	Mostly though the cafeteria
Go outside	5	By going outside and being active.
Social media	4	I used an introduction on the discussion board and exchanged SNS account with a couple of students. I also searched by some keywords like "[School] '24" and followed people.
Off-campus	4	Parties
Sports	3	I am involved in intramural sports….

4.3 Reacting to the Change

Our third guiding research question asked, "How did students react to changes in university life due to COVID-19?" We began answering this question by examining the participants' responses to the associated selected-response items (see Table 5). We found that the participants tended to agree that they have a quiet place to attend class virtually and are happy to be in college even with COVID-19 challenges. The participants tended to be neutral regarding their happiness with learning online due to COVID-19, their responses to being prepared to take classes online, and their feeling that college has been disappointing. Finally, the students tended to disagree with the thought of dropping out of school until they were able to meet in person.

Table 5. Means, standard deviations, and medians for responses to reacting to the change

Item	M (SD)	Med
I have a quiet place to attend class virtually.	1.93 (.86)	2
I am happy to be in college, even with COVID-19 challenges.	2.21 (1.02)	2
I am happy with learning online due to COVID-19.	3.19 (1.20)	3
I was prepared to take classes online.	2.69 (1.17)	3
The college has been disappointing to me.	2.93 (1.12)	3
I am thinking of dropping out of school until we can meet in person.	4.02 (1.11)	4

We continued our analysis by examining the outcome of our free response item coding by asking the students, "How do you feel about the changes made to university life due to COVID-19?" In Table 6, we have included our codes, the frequency of related responses, and representative responses from our participants. There was a high frequency of responses that indicated that students felt the precautions were necessary for the community's safety. However, many students indicated that the changes made learning and connecting with others harder. Some students were highly dissatisfied with the restrictions imposed by the university, while others indicated they did not mind or did not care that the changes were made. Students also pointed to the need for more social interaction and academic support during this time.

Table 6. Perceptions of learning codes, frequency, and representative of responses to reacting to the change

Code	N	Representative Response(s)
Necessary /Justified	68	I feel they are keeping us safe.
Has made it difficult /Harmful	47	I feel like it has made school harder.
Extremely dissatisfied	33	There is no point in attending a university with a campus if I cannot experience campus life. I should have gone to a university that was fully online.
Don't mind/Don't care/Neutral	22	I don't have any particular feelings about the changes that have been made.
Needs more social interaction	21	I feel there is not enough social interaction due to COVID-19. It is hard to enjoy the college experience.
Too extreme/Limiting	10	I don't really like them because I feel very restricted on what I can and cannot do.
Needs academic support	8	Not great. I learn much better in person, so it makes me anxious and sometimes annoyed online. I get scared that I have missed an assignment or something because I don't have someone telling me that something is due.

4.4 Applying Resilience, Grit, and Growth Mindset

Our fourth guiding research question asked, "How did students apply (or fail to apply) resilience, grit, and growth mindset in response to the changes in university function due to COVID-19?" We began answering this question by examining the participants' responses. In the responses to our free-response prompts, we found that some of the participants provided answers that were reflective of resilience, grit, and growth mindset, while other participants responded in ways that conveyed defeat, weariness, and fixed mindset. Table 7 provides representations of both positive and negative responses reflective of students applying or failing to apply resilience, grit, and growth mindset.

We found a combination of both positive and negative responses aligned with our constructs. For example, the positive responses for "adaptability" reflect the ability to adjust to the situation and make the best of the changes (Bessar, et al., 2020; Folke, et al., 2010). In contrast, the negative responses reflect a defeatist attitude and a lack of ability to adjust their expectations to adapt to the shift from on-ground to online course delivery. A similar trend can be found in the responses that we coded as representative of "flexibility," indicating some students approached the COVID-19 mandated changes with an open mind while others seemed frustrated with the changes and conveyed a lack of a mindset aligned with the ability to adjust to the change readily (Bashant, 2014; Dweck, 2000).

We coded the students' responses as "positivity" if they indicated an ability to keep a positive attitude and apply a growth mindset perspective to the changes (Hochanadel & Finamore, 2015). The positive responses reflected students' perceptions who accepted the change and indicated an ability to work within the new learning environment (Blackwell, et al., 2007). In contrast, the negative responses reflected a lack of the ability to let go of expectations for college and a focus on what they preferred and anticipated. We found a similar trend of applying and failing to apply indicators of "hardiness," which indicates some students found new ways to spend time and continue to grow, while others seem to wallow in their misery.

Table 7. Perceptions of learning codes, representative positive and negative responses to applying resilience, grit and growth mindset

Code	Representative Positive Response(s)	Representative Negative Response(s)
Adaptability	I have improved in using the tools and skills I have available and learning online instead of traditional in-class learning.	It is repulsive. I absolutely despise online classes, and having to do most of my work without human contact makes me want to work at McDonald's for the rest of my existence.
Flexibility	I like that it is more efficient, and my quizzes are automatically graded so I can watch my grade go up as I complete work. Honestly, I forgot what it is like to have normal classes. This is normal now.	Not great. I learn much better in person, so it makes me anxious and sometimes annoyed online. I get scared that I have missed an assignment or something because I don't have someone telling me that something is due.
Positivity	I feel they are keeping us safe.	I feel there is not enough social interaction due to COVID-19. It is hard to enjoy the college experience.
Hardiness	…going outside and being active.	There is no point in attending a university with a campus if I cannot experience campus life. I should've gone to a university that was fully online.

4.5 Relationship to Personal Variables

Our fifth guiding research question asked, "What is the relationship between students' learning and connection building and their personal variables?" We began answering this question by examining the relationship between our three subscale scores and found them all to be significantly correlated with each other (see Table 8). Our findings suggest that students' perceptions of learning, making connections on campus, and reaction to COVID-19-required changes were all related.

Table 8. Correlations between sub-scale measures

	M (SD)	Connecting with the University	Reacting to the COVID-19 induced changes
Learning Preferences and Practices	3.29 (.65)	.458**	.637**
Connecting with the University	3.32 (.77)		.598**
Reacting to the COVID-19 induced changes	2.51 (.76)		--

** $p < .01$

We continued our analysis by calculating a series of descriptive and inferential statistical analyses, using our composite scores as dependent variables and the students' personal variables (e.g., age, gender) as either independent variables or factors. We found a significant negative correlation with age and the three composite variables ($p < .01$), indicating that as the students' age increased, they tended to be more favorable toward the COVID-19 changes ($r = .224$), connecting with the university ($r = .293$), and their learning preferences ($r = .245$).

We found that as the number of online courses a student took increased, they became more positive toward learning in an online environment ($r = .17$, $p = .014$). We found a significant difference for the composite variables, between those who reside on campus and those who do *not,* and their learning preferences and practices [$t(211) = 2.49$, *p*

= .014] and their connection to the university [$t(211) = 3.19$, $p < .01$)] with those living off-campus holding more positive views than those living on campus. We failed to detect a significant difference in our measure of reacting to the COVID-19-induced changes between those who lived and did not live on campus. We found no significant difference in gender, ethnicity, or internet connection quality for the composite variables.

5. Discussion, Implications, and Future Research

Our research aimed to determine how first-year students reacted to the unplanned changes to college campuses and universities that were implemented due to the COVID-19 outbreak. While the COVID-19 pandemic was a relatively rare and extreme event, more common events, such as natural disasters, may require similar steps taken during the outbreak (Rashid & Yadav, 2020). University leaders may consider, too, offering more online or hybrid courses because of students' desire to have more flexibility in their schedules, which may have similar implications for first-year students (Sadeghi, 2019). Thus, our findings may help inform those making decisions necessary to effectively respond to comprehensive shifts in campus instructional and residential activities. Further, our research has also illuminated the challenges with online learning and students' connecting with others on college campuses. The following discussion of findings, the associated implications, and additional areas of needed research will be helpful for both practitioners and researchers.

5.1 Learning Perceptions and Practices

We found that the students preferred learning in on-ground, face-to-face situations. We speculate that very few first-year students have extensive experience with the self-motivated learning required from informal learning environments (such as online courses). Students are typically provided with much structure in their K-12 education with multiple extrinsic motivators to encourage learning (Reeve & Halusic, 2009). However, when students transition to postsecondary education, they lack experience with the how, why, and when to structure their learning based on intrinsic motivation (Sogunro, 2015). Thus, the on-ground, face-to-face learning situations at universities provide an extrinsically motivating framework for time structure and personal accountability that first-year students may rely on as they transition to becoming intrinsically-motivated learners.

When first-year students need to create the structure for their learning, they may be more likely to limit their accountability due to constrained self-regulating abilities and inexperience with applying intrinsic motivation to drive their learning in formal educational environments. Our data revealed first-year students' limited preparation to identify and apply intrinsic motivation for learning in the conditions when extrinsic motivators that may be in place in college instruction (e.g., attending physical class meetings at specific times and days) were reduced due to COVID-19.

The implications of our findings are the need to provide first-year students with experiences and support to teach them how to develop a sense of control and intrinsic motion to gain ownership of their learning. An exciting direction for future research would include examining how changes to campus instructional structures may hinder or catalyze first-year students' developing a sense of ownership of their learning. A similar line of research is how to help catalyze first-year students' transition from extrinsic to intrinsic motivation for their learning.

5.2 Connecting with Others on Campus

We found that due to the COVID-19-motivated changes, the students tended to communicate a reduced sense of belonging and feelings of losing the college experience they envisioned. We speculate that the students sought to engage in a college experience they envisioned based on images and messages from popular culture and other influential sources (e.g., siblings). However, the changes due to COVID-19 seem to result in a college experience that was far from their expectations. In addition to not achieving their vision of the college experience, our analysis revealed the first-year students also felt isolated in their learning.

A social-cultural perspective of learning (John-Steiner & Mahn, 1996) may be useful for explaining the first-year students' experiencing challenges in learning by themselves. Without the opportunity to connect with others during learning, students likely struggle to fill gaps in their learning, particularly if they have had success learning with and from other students in the past (Dumford & Miller, 2018). Thus, we posit that the COVID-19 changes that left students essentially working in isolation limited the ability to engage in social and cultural exchanges that are critical for learning.

An implication of our finding is that first-year students (or all students) taking classes online may need facilitated support to develop connections and engage in learning with other students. Further, first-year students are likely to benefit when faculty members structure their courses intending to support students in ways that lead them to develop connections with others on campus and to the institution.

In our future research, we are interested in exploring how popular culture influences students' perceptions and expectations for an ideal college experience. In addition, we are interested in investigating how faculty members facilitate opportunities for students to connect and the institution. Finally, we also intend to explore how a deficit of interaction among first-year students may influence their perceptions of their learning.

5.3 Adjusting to COVID-19 Necessitated Changes

We found that many students accepted and understood the changes made to college campus activities (e.g., housing, instructions, club functions) to mitigate the spread of COVID-19. However, many students also conveyed sadness, anger, or irritation about the changes. We posit that the students who conveyed sadness, anger, or irritation did so because of a lack of the college experience they anticipated as they applied to and transitioned to the university. The lack of control of the situation may have also led the students to express a fatalistic perspective in which they considered the situation hopeless (Aristovnik et al., 2020). We speculate that the students experienced a high level of predictability in their family life and their K-12 education. The transition to college and the unpredictability of the COVID-19 pandemic resulted in discomfort with the ambiguity of the campus changes due to COVID-19.

Further, because of the predictability of their family life and K-12 education, first-year students are unlikely experienced in working through an education-related crisis and, therefore, may not have had the opportunity to develop appropriate skills for responding to a crisis. The lack of skills may leave students feeling frustrated and powerless when faced with an educational crisis. We speculate that the frustration and feelings of being powerless increased student anxiety because of a lack of knowing what to expect but knowing it was different than they had anticipated. Our data indicate that the students struggled with self-responsibility and shifted blame and frustration to faculty members and the university. Again, we attribute this to their lack of experience with navigating situations of ambiguity.

The implications for our findings include a need for a deeper understanding of the complexity of transitioning on-ground classes to online, particularly after on-ground classes are well established. Another implication is the need to help first-year students develop a sense of control of their learning; as this may take time, they should also be cautioned about enrolling in online classes. Finally, a poor experience with online learning may leave the students feeling helpless, creating a negative feedback loop that leads to further decline in the online learning experiences.

Based on our findings, we assert potentially fruitful directions for future research, including an examination of how first-year college students adapt to unpredicted change. Further, it would be worthwhile to explore first-year students' experiences with situations of ambiguity and their level of comfort and processes for adjusting to the unknown.

6. Limitations

The first limitation of our study is the lack of an ability to determine why the students responded as they did because our data collection was anonymous. Thus, we did not know the identity of the participants, and therefore we could not directly contact them with additional questions about their responses. However, we found notable trends in the data, which suggest that the students answered consistently, and their responses were similar to the students we have had direct conversations with.

The second limitation of our research was that the data came from first-year students at just two higher education institutions in the south-central United States. It may be possible that first-year students from different universities or different regions, or different cultures may hold different perspectives. However, our data seem to align with our colleagues' experiences and perspectives working at institutions in different regions and at different classifications of institutions (e.g., highly competitive research extensive universities). Exploring first-year students' responses to and perceptions of campus changes, situations of ambiguity, and expectations of their first-year college experience at various institutions is an excellent direction for future research.

A third limitation of our research is the lack of an ability to confirm the accuracy of the participants' responses. Some students may have answered in socially desirable ways and not aligned with their true feelings or experiences. Other students may have used the opportunity to vent their frustrations, focusing on only their negative thoughts and experiences. However, the responses are consistent with the thoughts and feelings of students we have had conversations with and from the faculty sharing their conversations with students. Future research may focus on interviews and longitudinal studies to document change over time.

The fourth limitation is that our study is aligned with survey research--only those who choose to participate provided us with data. Thus, we may have gaps in our dataset regarding perceptions and experiences, particularly from non-traditional students and first-generation students. While we cannot ascertain the thoughts, experiences, and feelings of those we invited and did not participate, our data suggest that we could gather a diversity of perspectives.

Future research may need to specifically focus on subsets of first-year students to determine consistency between and among different groups of first-year students.

7. Conclusion

Our research aimed to explore how first-year students responded to and perceived campus changes that were implemented to mitigate the potential spread of COVID-19. We found issues of making connections, feeling satisfied and fulfilled with their education experience, and adjusting to the changes. While the COVID-19 pandemic was an infrequent event, it offered a unique opportunity to explore how first-year students struggle with adjusting to the transition from a highly structured K-12 environment to the more openly structured environment of higher education. There is a high likelihood that other situations (although not as extreme as the response to COVID-19) may influence campus function those students may need to be effectively prepared to negotiate. Our research also revealed first-year students' challenges with accepting ownership of their learning and navigating ambiguous situations. We hope others find our research of value as they consider the needs and perspectives of their first-year students.

Acknowledgments

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