On Moving Forward: Student Perspectives on Virtual Learning Frameworks Amid COVID-19 Pandemic

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Since early 2020 the world has been disrupted by COVID-19, and higher education has certainly not been exempt. While an initial widespread strategy was to move to remote teaching and learning, colleges and universities began to quickly develop alternative strategies that would allow students to have more of a traditional college experience. As the pandemic stretched into its second year, the toll began to show for students, faculty, and institutions. This quantitative study provides empirical data to highlight the impressions of students enrolled in a Midwestern university with a regional campus structure (n=447) regarding their collegiate experiences from spring 2021 until the end of fall 2021, a time span of a full calendar year during the second year of the global pandemic. Three populations of students are represented in the data: residential, regional commuter campus, and e-learning (fully online) students.

In a time of continued flux in higher education, it is critical to understand the needs and expectations of the student population while trying to navigate the decisions that a university must make regarding course formats, budget issues, and a "return to normal" plan. It is possible that in the haste to "return to normal," universities might overlook the fact that students have now experienced variations in their educational experiences that they would like to retain. Further, student perceptions of the fairness of an institution's policies and decisions presumably impact student persistence and success (Berger and Braxton,1998). Has taking a full

schedule of online course during the pandemic changed what students are looking for in their courses moving forward?

Our analyses revealed that students seem to appreciate the flexibility of online course offerings while expecting strong academic support systems. Many of the findings led to the conclusion that perhaps a "return-to-normal" university structure should not look like it did prior to the pandemic. More variation and flexibility in course offerings, more emphasis on academic and mental health support systems, and more recognition that students' needs are diverse should be at the core of university decisions moving forward.

Introduction

In the early months of 2020, the world was thrown off course when the World Health Organization (WHO) declared the COVID-19 outbreak as a global pandemic. With concern for members of the campus communities specifically and for the world at large generally, more than 1,300 colleges and universities in the United States canceled in-person classes and moved to online instruction in the spring semester of 2020 as a response to the threatening pandemic (Smalley, 2021). Students and faculty who had been engaged in in-person learning and instruction were forced to adapt quickly to remote instruction. For some this meant hours each day spent on TEAMS, ZOOM, Skype, or other platforms; for others it meant being isolated with little to no interaction with the other members of the class; and for many others, there were hybrid variations of levels of interaction, changes in structure, and mostly a disruption of the routine with which they had become familiar. There was much hope that the disruptions would be short-lived, and end at the conclusion of spring semester.

Decision-makers began to weigh the costs of continued remote instruction on students, faculty, and institutions, and opt for some return to normal with more in-person classes by fall 2020; however, most institutions still offered large numbers of courses remotely. Over the summer of 2020, The Chronicle of Higher Education tracked 1,260 colleges across the nation to determine the decisions regarding fall term schedules (Quintana, 2020). Early in the summer, nearly two-thirds of institutions planned for in-person instruction, a return to normal. As the semester neared, less than half remained with the fully in-person plan, about one third was putting hybrid course options into the schedule, and about 13% were planning for fully online. Many institutions decided to start remotely, return to in-person, but

if necessary resume remote learning during the semester. The College Crisis Initiative reported that, regardless of planning, by fall 2020 44% of institutions developed primarily or fully online instruction, 21% used a hybrid model, and 27% offered primarily or fully in-person instruction (Smalley, 2021). The 2020-2021 academic year reflected more uncertainty and changes in class structures for most institutions of higher education. Using the best information at the time, decisions changed frequently and rapidly by administration, by campus, and even within a single course. The point is not to rehash decisions that were made in the past, but to explain context as we look at how the situation affected residential, regional campus, and e-learning students at the time and perhaps shifted their view of higher education moving forward.

Literature Review

Effects of COVID-19 on higher education

As the world was dealing with another year of the pandemic, concerns heightened regarding health, lasting effects, and coping strategies. Similarly, the question surfaced regularly in institutions of higher education about how detrimental the effects of the online learning strategies that were implemented in response to COVID-19 have been on students, faculty, and institutions. In fact, multiple studies across the globe have investigated the effects of COVID-19 on education at all age levels, including the effect on the development of children (Gupta & Jawanda, 2020; Werner & Woessmann, 2021), high school students (Sintema, 2020; Spitzer & Musslick, 2021), and students in higher education (Gurung & Stone, 2020; Martel, 2020; Means & Neisler, 2020; Realyvasquez-Vargas, et al., 2020; Shahzad, et al., 2020). Contexts such as STEM education (Sintema, 2020), the travel and recruitment of international students (Martel, 2020), e-learning (Shahzad, et al., 2020), and student satisfaction (Malkawai & Bawanei, 2021) have been explored.

As expected, higher education was quickly inundated with studies exploring the impact on students, faculty, and institutions of higher learning given this unexpected and rapid shift to primarily online instruction. A review of the literature, especially early into the pandemic, revealed a body of quantitative and qualitative studies suggesting often contradictory short- and long-term effects on student achievement, mental health, and their understanding of what it meant to play the role of a remote learner. In one

German study, while socio-emotional wellbeing declined only short term, children showed substantial losses in cognitive skills on achievement tests (Werner & Woessmann, 2021). However, another German study found that academic performance in K-12 mathematics increased during online learning, especially for low-achieving students (Spitzer & Musslick, 2021). One variable that seemed to remain consistent was the difficulty that students found in staying engaged (Fox, et al., 2020) and feeling motivated (Means & Neisler, 2020) in remote learning classes.

Mental health concerns have been well-documented, with many studies depicting the emotional toll that the pandemic has taken on people of all ages and from all backgrounds. (Babb, et al., 2021; Czeisler, et al., 2020; Giusti, et al., 2021; Wisnieski, et al., 2021). Early into the pandemic, the Centers for Disease Control and Prevention reported in June 2020 that one in four people aged 18 to 24 seriously contemplated suicide (Czeisler, et al., 2020). This disturbing trend continued into the following year, with many institutions providing wellness days, additional counseling services, and other support services. One noted example was the University of North Carolina at Chapel Hill. The institution declared a wellness day following a death and an attempted suicide on campus in September 2021 (Carrasco, 2021). A study at an Italian university found that nearly 70% of the enrolled students reported some level of depression (mild, moderate, or severe) during the early term of the 2020-2021 academic year (Guisti, et al., 2021). Another study highlighted that while students understood the need to shift to online learning, they felt there was too little time given to mentally make the transition to the role of an online student, often feeling they were teaching themselves rather than being taught. Specifically, students from residential campuses expressed that there was little consideration to the abrupt shifts in their living arrangements and stressors regarding room and board charges (Grether et al., 2020). Additionally, a study of 1400 students in UAE found that revised assessments in their courses alleviated stress, but still felt considerable psychological duress (Mosleh, et al., 2022)

The transition from in-person to online instruction was abrupt and often difficult for faculty also. Some of the factors that played a role might have been their own level of adjustment, their comfort level in teaching remotely, and the course content and its suitability for online instruction (Lee, et al., 2021). More specifically, faculty grappled with concerns of infrastructure, assessment of students in terms of administering exams

(Habib and Parthornratt, 2020) and how to conduct and evaluate practical lab based assignments (Lewandowski et al., 2021).

Certainly one noted effect of the pandemic on higher education has been financial. Many universities and colleges have experienced declining enrollments which affects state subsidies; increased costs related to cleaning, loss of room and board revenue, technology needs, and other unexpected expenses. Zach Koch, a data analyst at the National Center for Higher Education Management Systems (2021) likened the challenges faced by higher education post pandemic to the same types of challenges brought on by the recession of 2008 and Hurricane Katrina in 2005. He stated, "In each of these cases, public research universities tended to weather the storms by means of increasing net revenue from tuition and fees. Two-year institutions recovered more quickly than public comprehensive 4-year institutions, as students sought further education at a lower cost, leading to quicker enrollment expansions post-crises." (Koch, 2020, p. 16).

Although there has been some debate as to the long-term effects of remote learning, two effects pertaining to higher education seem clear: the emotional toll on students and faculty alike, as well as the financial toll on the institutions themselves. The uncertainties, disruptions, and abrupt changes have altered the expectations and experiences of students in environments of higher education. However, while everyone has experienced some change as a result of the pandemic, not all impacts are equal across all groups. Students tend to be impacted more harshly across mental, social, and financial indices than faculty or staff (Wisnieski, et al., 2021); students whose families fall at or near the poverty line tend to be impacted more than students of more affluence (Lakhani, 2020); students who live in Appalachian regions with less reliable Internet service were impacted very heavily by remote learning (Howley, 2020); and first-year students seemed to struggle more than those of upper class rank according to findings by ACT, the nonprofit organization that administers the college readiness exam (Carrasco, 2021). First-year students reported frustration regarding difficulties in maintaining access to technology and other resources that would help them to be successful (Carrasco, 2021).

Navigating a second year of the pandemic

Certainly, the effects of the pandemic on students, faculty, and institutions were weighty during the first year with many significant changes to higher education, but there was much optimism that the Emergency Use

Authorization of the U.S. Food and Drug Administration for COVID-19 vaccines in mid-December 2020 would be a game changer and help to set campuses back to "normal." Unfortunately, 2021 brought a higher death toll from COVID-19 (Crist, 2021), combined with variants such as Delta and Omicron (CDC, 2022), and a continuation of hybrid and online classes, factors which collectively seemed to bring about a feeling of fatigue and frustration that permeated institutions of higher education. In fact, in an *Inside Higher Ed* and College Pulse survey, approximately 60% of students were still reporting their mental health as fair or poor (Ezarik, 2021).

Shifting student expectations

The pandemic has affected the way in which many of us think about the trajectory of our lives and the importance of our goals, and students are no exception. Recently, National Public Radio (NPR) reported that more than one million fewer students are enrolled in college now than before the pandemic began (Nadworny, 2022). In the NPR *Morning Edition* broadcast, Doug Shapriro from the National Student Clearinghouse research center, provided commentary on the data as "very frightening," and reported that the current enrollments represent the largest two-year decrease in more than fifty years. Shapiro theorized that a whole generation of students might be rethinking the value of higher education. Students who were interviewed for the program supported Shapiro's theory by suggesting that it was difficult to stop earning a paycheck in order to return to the classroom.

Anecdotally, the authors noticed that enrolled students tended to opt for online classes even after traditional face-to-face options were available, while at the same time there were complaints that students wanted a "return to normal." In an *Inside Higher Ed* and College Pulse survey, approximately 60% of students reported feeling some stress about the uncertainty of returning to the traditional classroom (Ezarik, 2021).

To provide a slightly more comprehensive view of student expectations, it is imperative to look at some of the trends that preceded the COVID-19 disruptions and changes. A decade ago, there was discussion in The Chronicle of Higher Education that a "new traditional" college student who was working, living at home, slightly older, and possibly married with a family was quickly becoming a large percentage of the student population (Jenkins, 2012). The National Center for Education Statistics at that time reported that of the 17.6 million people enrolled in

college, only 15 percent were attending a four-year college and living on campus. Jenkins (2012) went on to describe these "new traditionals" as having unique needs: anxiety about returning to school, more personal circumstances that infringe on their ability to meet deadlines and class meeting times, and a struggle to see the relevance of the coursework to their work experiences and career goals. While it complicates matters that the terms used to describe student populations are not always consistent, Hittepole (2016) confirmed that "nontraditional" college student populations were growing almost twice as fast as the traditional student population and were on their way to becoming the new majority. The obstacles for nontraditionals included, much like with the "new traditionals," interrole conflicts, social isolation, lack of flexibility, and more difficulty in completing degrees due to personal, family, and work circumstances (Hittepole, 2016). Recommendations for institutions to better accommodate this growing population of students was to provide flexibility in times and locations of classes, online offerings, sensitivity from professors that their circumstances might vary from traditional residential students, and valuing the life and work experiences of these students in classroom discussions (Hittepole, 2016). In 2021, again with new terminologies, Leggins discussed the "neotraditional" students as being 71% of American college students and growing (Leggins, 2021; Strempel & Handel, 2021). Similar recommendations were given as in years prior, the need for online courses, flexibility, as the recognition of varying circumstances among others.

While the terms used for the student population and the exact percentages of how many students fall into these categories may vary, it remains clear that over the past decade there has been an emergence of a student population that needs and expects a more flexible classroom environment to meet the many demands on their busy lives. When a global pandemic was added to those demands, these needs intensified. It would seem that some of the changes that were made by institutions of higher education in relation to the pandemic (such as more online offerings and flexible schedules) would benefit and be perceived positively by these more nontraditional students.

Competition for student enrollment

The National Clearinghouse Research Center showed that the average college enrollment in the United States has been continuing on a

downward trajectory (Nietzel, 2021). When looking at the number of higher education institutions within a given state, Ohio ranks sixth behind California, New York, Texas, Pennsylvania, and Florida with 107 four-year and 48 two-year institutions (Duffin, 2022). Ohio also ranks seventh in overall population, following the aforementioned states as well as Illinois. Yet Ohio has experienced greater drops in enrollment in private institutions (2.7%) than each of these states except for California, a greater drop in enrollment for four-year degrees at a public institution (3.3%) than every state except Florida, and a lesser drop in enrollment for two-year degrees at a public institution than every state except Texas although Ohio still reported a 9.1% drop in that area as well (Bouchrika, 2022). With a large number of institutions in the state and higher rates of decline in enrollment, Ohio is rife with the possibility for competition between institutions, thus it is imperative to pay attention to student perceptions and needs.

University structure

The institution in which the authors work underwent a fairly recent structural change that will be referred to as a "One University" structure. Essentially, the institution integrated three unique populations within the university into one integrated system. The main campus with a primarily traditional residential student population, multiple regional campuses with commuter and primarily nontraditional or "new traditional" students, and an e-campus with students who complete their coursework solely online were integrated into one shared vision with common academic and administrative leadership. Presumably these student populations were being treated differently in terms of the approach to classroom learning, scheduling, and administrative oversight until this structural change was implemented in January, 2020, at which time the goals of a shared vision and student experience came about. Very shortly after the institutional change, a global pandemic created an even greater feeling of "being in the same boat," but did these populations experience the changes similarly? The authors concluded a quantitative study was necessary to provide empirical support and guidance for administrators, faculty, and staff for the mutual benefit of our students.

Methods

Research Questions and Hypotheses

Understanding the expectations and perceptions of students who are currently in college, especially those who are also working, can lead to better strategies to retain the students that are currently attending, recruit students who took a gap year at the beginning of the pandemic and lengthened that gap to two years, students who fit into a nontraditional category, and traditional students who want a traditional residential campus life. The significance of this research is to provide empirical data on student perceptions to inform institutional policy makers, faculty, and staff as well as contribute to a perceived gap in this emerging body of research literature. Stated differently, this study has practical significance for those informed higher education practitioners with administrative responsibility as well as pedagogical implications for faculty. Based on the literature review and the anecdotal experiences of the authors, the following research questions related to student perceptions were developed:

1. Is there a single dimension or multiple dimensions underlying student perceptions of their educational experiences on underlying virtual learning frameworks during a COVID-19 pandemic?

2. Did perceptions of virtual learning frameworks during COVID-19 differ between main campus, regional campus and e-campus students?

3. Did perceptions of virtual learning frameworks during COVID-19 differ between students who work and those who do not?

4. Did perceptions of virtual learning frameworks during COVID-19 differ between traditional and non-traditional students?

5. Did perceptions of virtual learning differ between students by term of enrollment during the COVID-19 pandemic?

The findings from these research questions on student perceptions serve to inform institutional decision making on instructional modalities and student success moving forward.

Research Design

Based on the research questions and the post-pandemic environment, the authors selected a survey design as the methodology for this study. This design enabled the authors to collect data using an Internet survey and to delimit the population sample to currently enrolled students at the authors' campuses. Additionally, this methodology lends itself to quantitative data analysis consistent with the identified research questions. Further, this research design enabled the authors to insure the informed consent of target population participants protecting the autonomy of students electing to participate in the study and satisfying ethical considerations consistent with contemporary ethical research guidelines. The survey contained four primary content areas to answer the research questions. First, students were asked a series of demographic questions including sex, age, disability status, academic rank, academic major, marital status, parental status, race, employment status, military service, enrollment status, and primary campus of enrollment. Second, students were given three questions asking about the impact of COVID-19 on non-academic areas of their lives. Third, students evaluated the response to COVID-19 by the nation, local community, and university. Finally, the students were asked a series of questions on their educational experiences during the COVID-19 pandemic. Student research participants did not receive any compensation for their participation in this study. The authors used descriptive statistics, factor analysis, and multivariate and univariate inferential tests to analyze the data.

Results

Participant Demographics

The target population for the survey data consisted of a convenience sample of public higher education students from a Midwest university during the spring 2021, summer 2021, and fall 2021 semesters. At the time of enrollment, students were asked to participate in the study by the authors. The overall sample consisted of 447 students. Of those respondents, 62% were female and 85.5% white. By age, 60.2% of the sample were age 23 or younger, while 51% were seniors by academic rank. Among the respondents, 68% self-identified as single, and 70.2% indicated they were not parents. 78.1% (n=346) identified as employed (either paid or self-employed) compared with those not working (n=90). Only 6.7% of the

respondents reported military service and none reported a disability status. Finally, by campus of enrollment, 50.8% indicated they their campus of enrollment at one of the university's regional campuses, 25.7% were main campus students, and 23.5% were e-learning students. The respondents' major area of study can be seen below in Table 1.

Table 1: *Percentage Distribution by Academic Major*

	N	%
What group BEST describes your major?		
Accounting, Business	86	19.2%
Communication	125	28.0%
Technology, Engineering, Arts	15	3.4%
Criminal Justice	96	21.5%
African American Studies, WGSS	10	2.2%
Nursing, Education	43	9.6%
Biological Sciences	7	1.6%
Health Services Administration	10	2.2%
Other, Please specify	55	12.3%

NOTE: Percentages may not round to 100 due to a qualitative option provided to the respondent.

Non-Academic Impacts and Response Evaluations

Two questions in this section of the survey asked students to rate the degree of non-academic disruption in their lives, how much anxiety they experienced about the health of themselves and others. The third asked students to rate the degree to which their social lives and everyday activities "didn't change much." After reverse-scoring the third item, exploratory factor analysis (EFA) showed a single strong factor. Internal consistency for these items was acceptable (Cronbach's $\alpha = .67$), so they were summed into a scale total.

Similarly, the three questions evaluating national, community, and university response also revealed a single strong factor when analyzed. The internal consistency for these items was very good (Cronbach's $\alpha = .82$), so they were also summed into a scale total.

Analysis of Educational Experiences during the COVID-19 Pandemic

Overall, student respondents reported the two main educational obstacles during the COVID-19 pandemic were *non-academic stressors* (41.2%) and *personal behavior issues* (32.9%). Initial EFA of these items revealed four factors with eigenvalues greater than one, and that four factors explained over 60% of the variability in the ratings, showing that solutions up to four factors should be examined. The final factor solution was extracted using principal components analysis and equamax rotation (see Table 2). These four factors were interpreted as representing *preference for asynchronous classes*, *anxiety about virtual learning*, *support for virtual learning*, and *preference for synchronous online classes*

Table 2: *Rotated Component Matrix*[a]

	Component			
	1	2	3	4
After the pandemic, given a choice, I would like more asynchronous online classes.	.725	-.344	.110	
After a year of virtual learning, I see more benefits than drawbacks to online formats.	.714	-.430	.179	.113
I learn better in asynchronous online classes when I can set my own schedule and do the work at my own pace.	.697	-.286	.189	-.209
Prior to COVID-19, I chose to take at least part of my classes online.	.675		.142	
After the pandemic when I have more of a choice, I would prefer my schedule to be mostly traditional, in the classroom.	-.653	.537		.152
I feel like I am experiencing burnout which is keeping me from doing my best no matter how my classes are structured.	-.137	.691	-.270	
Face-to-face contact with an instructor is necessary for learning to take place.	-.486	.648		.171
The format of the courses is not really a concern; mostly it's just that I want things to go back to normal.	.297	.616	.354	-.264
I lack the motivation to do well in online classes.	-.382	.607	-.291	.155
I was often confused about expectations such as assignments and deadlines in my online classes.	-.251	.577	-.431	.133
My instructors seemed to understand and care that students were struggling during this past year.			.814	

My instructors were responsive in answering emails, and being willing to meet via TEAMS or a phone call.		-.138	.785	
I feel confident and knowledgeable about navigating the technology used in online classes (such as Blackboard).	.312	-.121	.552	
I had adequate technology and Internet services available to me during the past year.	.334		.464	.226
I feel like online classes required more work than face-to face traditional classes.		.286	-.308	.250
After the pandemic, given a choice, I would like more synchronous classes that use technology (TEAMS, ZOOM, etc.) rather than in the classroom.	.256	-.112		.832
I learn better in a structured environment where there are synchronous meetings (either TEAMS, ZOOM, etc. or in the classroom).	-.361	.230	.123	.723

According to the results, it is interesting to note that student experiences on virtual learning platforms during the pandemic indicate a positive for items related to choosing a *preference for asynchronous classes,* along with a negative loading for the item on *choosing traditional classes.* The second component of interest is *anxiety about virtual learning* as it includes the *burnout item* and the *confusion about assignments* item. The third component could be labeled *support* as it includes the *understanding instructor* item and the *adequate services* item. The fourth component includes only the *synchronous online* items.

Group Comparisons

To answer the remaining research questions, the authors conducted a series of group comparisons, using the *non-academic concerns scale total*, *response scale total*, and *four component scores* as dependent variables. The results of these analyses can be seen in table 3.[1]

[1] To enhance readability for a broader audience, some details of the statistical analysis have been left out. For a more thorough statistical analysis, please contact the authors.

Table 3

Multivariate Group Comparisons

	Result	Sig
Working (n=346) vs Not Working (n=90)	$F (6, 429) = 0.689, p = .658, \eta^2 = .010$	No
Athens (n=115) vs eCampus (n=102) vs Regional Campus (n=225)	$F (12, 868) = 8.633, p < .001, \eta^2 = .107$	Yes
Traditional (age ≤ 23, n=268) vs Non-traditional (age >23, n=174)	$F (6, 435) = 21.399, p < .001, \eta^2 = .228$	Yes
Spring (n=214) vs Summer (n=81) vs Fall (n=148)	$F (12, 872) = 2.043, p = .018, \eta^2 = .027$	Yes

According to the multivariate analyses, there were no statistically significant differences in educational experiences on virtual learning platforms among students working or not working during the COVID-19 pandemic. Conversely, the results indicate statistically significant differences among students by campus, age, and term of enrollment, results which might be of particular interest to the diverse members represented by the AURCO audience.

Univariate comparisons of the three campus groups showed that main-campus and regional students more strongly preferred asynchronous classes than e-campus students did ($p < .001$). Main-campus students reported lower anxiety over virtual learning than e-campus students, with regional students not differing from the other two groups ($p = .023$). Main-campus students reported higher perceived support than did either regional or e-campus students ($p = .004$). Finally, main-campus students reported lower non-academic concerns than either regional or e-campus students ($p = .001$).

Compared to non-traditional students, traditional-age students were more likely to prefer asynchronous classes, were less anxious about virtual learning, believed they had more instructor and institutional support, and had lower non-academic concerns (for all comparisons, $p < .001$).

When comparing the spring, summer, and fall semesters, preference for asynchronous classes was higher in the summer than the other two terms ($p = .036$). Non-academic concerns were higher in the fall than in either spring or summer ($p = .048$).

Discussion and Implications

Prior to the pandemic, scholars were interested in investigating the factors which impacted student achievement in online learning environments, and then as with now the results were a complicated array of personal and structural factors. Test-anxiety, self-regulation, achievement goal orientation, self-efficacy, and the structure of the online environment were some of the variables that had a significant impact (Im & Kang, 2019). Another study found that interactions resulting in enhancing critical thinking skills was another significant element (Hussin, et al., 2019). Similarly, this study found that multiple factors with intervening variables influenced student preferences for modality and structure of their courses across each student population.

One significant and interesting finding of this study of significance to the AURCO audience was the unexpected response of students who were enrolled in e-learning programs prior to the pandemic. At this particular university, e-learning programs offer completely online Bachelor degrees and Bachelor completion degrees. Out of the sample set, 102 students identified as enrolled in e-learning programs. Prior to the pandemic, one study explored the reasons that students might prefer distance learning programs for both undergraduate and graduate degrees. Common themes for both undergraduate and graduate students included having a full-time job, accessibility and flexibility, individual responsibility, effective time management, physical distance, institutional prestige, and disability (Ilgaz, H.& Gulbahar, Y. 2017). Given that these students self-selected into online programs, it would stand to reason that these students would express the least concern about online classes. However, in comparing main campus, regional campus and e-learning students, the results revealed that e-learning students were *lower in preference for online learning* and expressed the highest levels of anxiety, a finding that seems counterintuitive. Still, e-learning students also reported the highest level of non-academic concerns, followed by regional students, and then traditional students which might reflect the difficulty that e-learning students have in juggling life's demands with an academic load. It is noteworthy that e-learning students were primarily of nontraditional age (82.9%), were parents (54.3%), and were employed (89.6%) suggesting that their struggle to balance life and academics could be consequential.

Perhaps moreso than ever given the isolating elements of the pandemic for many people, the student-faculty connection seemed to be

very important (Lee, et al., 2020). Traditional-aged students reported a higher need for support than nontraditional students, and typically pre-pandemic they would have had the structure of a class schedule and face-to-face interactions. Ironically, in another finding that seems counterintuitive, traditional-aged students were also more likely to prefer asynchronous courses than nontraditional students were. In parsing out the differences for future use, perhaps the desire is for a more flexible structure, but with plenty of accessible support if needed. As noted in the literature review, following a crisis many students have chosen two-year institutions with lower costs as the route to obtaining their degrees (Koch, 2020). If a university can provide that option on their regional campuses with flexible scheduling alternatives and increased support networks, it could result in increased enrollments and levels of student satisfaction.

The data were collected during the second year of the ongoing pandemic, and the continued stress and uncertainties seemed to play a role as data were collected from one term to the next. Asynchronous courses were most preferred over the summer term, but from anecdotal evidence through years of teaching this seems to be the norm. While anxieties were not higher in the fall 2021, reported non-academic concerns were higher which might be a reflection of the impact of the COVID variants, a return to worklife, a fluctuating schedule, or fatigue in general.

It should be noted that when students responded to the question asking what the biggest obstacle with academics this past year was, 41.2 % stated that non-academic stressors (personal concerns, Covid-19 issues, etc.) were the biggest obstacle, and 32.9% reported that their personal level or motivation, study habits or organization were the most problematic. Professor expectations and level of communication as the biggest obstacle was conveyed by approximately 15% of the respondents, the structure of the class was the biggest obstacle for approximately 8% of the respondents, and issues with internet access or technology as the biggest obstacle accounted for approximately 4% of the participants. One might expect that the biggest obstacle with academics would be just that, academic. Given these findings coupled with e-learning students expressing high anxiety and lack of preference for online learning, perhaps the effects on the mental health and well-being of students is even more profound than expected. Presumably, prior to the pandemic, students who were in online programs maintained normal social interactions either at work or with family and friends. Shutdowns, quarantines, and canceled events and family gatherings

greatly lessened if not eliminated those social interactions. While online learning is an individualized and even isolating experience in many ways, it was just one part of the expected routine of life. Conceivably the possibility of being able to connect with others in any way, and in this case, a more traditional classroom, was indicative of the impact the isolating elements of the pandemic were having on students' mental health and emotional well-being. Moreover, did the prospect of having to continue in an online learning environment given the other restrictions on social interactions seem more punitive than the convenience of e-learning programs? As is often the case, this research raises more questions that might be addressed with further investigations. Future studies might delve deeper into the e-learning population to compare their perceptions of online learning pre- and post-pandemic. Additionally, further research into the mental health and stress students experienced due to the pandemic might provide more insight as to what to expect in terms of trends in higher education.

Conclusion

In summary, we consider our original question: *Has taking a full schedule of online courses during the pandemic changed what students are looking for in their courses moving forward?* While the answers might be complex and counterintuitive to a certain degree, it does appear that students generally want flexibility in their course offerings in order to fit their personal lifestyle demands, support in the form of academic services and understanding instructors, and perhaps motivational and positive mental health elements built into the system. Regional students in particular often were the "in the middle" between residential and e-learning with regard to most preferences. Anecdotally, this makes sense in that prior to the pandemic regional students had often had mixed schedules, with some classes face-to-face and others online in order to meet their program needs. This variation might have contributed to more adaptability during the stress of the pandemic, and could be a model for structuring future schedules. In addition, variations suggesting intervening variables in student preferences seem to indicate that future research exploring synchronous online course offerings could provide insights for how institutions, especially those with a regional campus structure, can provide the balance between structure, support, and flexibility for all student populations.

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APPENDIX

Student Perspectives on Virtual Learning Frameworks amid COVID-19 Pandemic

Thank you for agreeing to participate in the following survey looking at perceptions of virtual learning during the COVID-19 pandemic. Completing the survey implies your consent for the data collected from your survey to be used for analysis. Your responses will be confidential, and you may choose to end your participation at any point and for any reason. The 44-question survey should take no longer than 10-20 minutes to complete, and no risks or discomforts on your part are anticipated. If you do feel any anxiety about answering questions related to experiences during the pandemic, feel free to skip those questions, end your participation, and/or visit the CDC website for resources and advice on dealing with the effects of the pandemic. Participants must be 18 years or older. Please complete the survey as accurately and completely as possible. *We appreciate having you take the time to assist us with this research.*

What is your sex?

- ○ Male
- ○ Female
- ○ Non-binary
- ○ Prefer not to answer

What is your major?

Have you ever served on active duty in the US Armed Forces?

- ○ Yes
- ○ No

What is your age?

- ○ 18-23
- ○ 24-29
- ○ 30-34
- ○ 35-39
- ○ 40-44
- ○ 45-older

During the academic year, did you have a permanent, partial disability or temporary physical impairment lasting longer than six-months?

- ○ Yes
- ○ No
- ○ Prefer not to answer

What is your ACADEMIC RANK?

- ○ Freshman
- ○ Sopomore
- ○ Junior
- ○ Senior
- ○ Graduate
- ○ Other, Please specify

What is your marital status?

- ○ Married
- ○ Widowed
- ○ Divorced
- ○ Separated
- ○ Single/ never married
- ○ Engaged
- ○ Other, please specify

What is your parental status?

- ○ Parent
- ○ Not a parent
- ○ Other, Please specify

My primary campus is _____.

What race do you consider yourself to be:

- ○ White
- ○ Black or African American
- ○ American Indian or Alaska Native
- ○ Asian
- ○ Native Hawaiian or Pacific Islander
- ○ Hispanic/ Latin-X
- ○ Bi-racial or multi-racial
- ○ I would prefer not to respond
- ○ Other

Which statement best describes your current employment status?

- ○ Working (paid employee)
- ○ Working (self-employed)
- ○ Not working (temporary layoff from a job)
- ○ Not working (looking for work)
- ○ Not working (retired)
- ○ Not working (disabled)
- ○ Not working (other)
- ○ Prefer not to answer

During summer 2020, what was your enrollment status?

- ○ Enrolled in classes
- ○ Not enrolled in classes
- ○ Started classes, but was unable to complete the coursework

During fall 2020, what was your enrollment status?

- ○ Enrolled full time (12 credits or more) (1)
- ○ Enrolled part-time (fewer than 12 credits) (2)
- ○ Started full time, but dropped to part-time status (3)
- ○ Not enrolled (4)

During spring 2021, what was your enrollment status?

- ○ Enrolled full time (12 credits or more)
- ○ Enrolled part-time (fewer than 12 credits)
- ○ Started full time, but dropped to part-time status
- ○ Not enrolled

The following questions deal with your educational experiences during the COVID-19 pandemic. Please indicate the answer that best represents your response to each statement:

The virtual format of the ***majority*** of my classes was _____.

- ○ A. Asynchronous online (course information was fully online with no regularly scheduled face-to-face time with instructors)
- ○ Synchronous online (course information was delivered by instructor during regularly scheduled online meetings (such as TEAMS, ZOOM, Skype, etc.)
- ○ Blended with some content online, but with some synchronous meetings as well (once a week or less)
- ○ Blended with some content online, but with in-person in the classroom instruction as well
- ○ E. Fully face-to-face instruction in the classroom or lab
- ○ F. No clear majority, but mostly A, B, and C
- ○ G. Other, please specify:

I feel confident and knowledgeable about navigating the technology used in online classes (such as Blackboard).

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I learn better in asynchronous online classes when I can set my own schedule and do the work at my own pace.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I learn better in a structured environment where there are synchronous meetings (either TEAMS, ZOOM, etc. or in the classroom).

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

After a year of virtual learning, I see more benefits than drawbacks to online formats.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

After the pandemic when I have more of a choice, I would prefer my schedule to be mostly traditional, in the classroom.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I had adequate technology and Internet services available to me during the past year.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I lack the motivation to do well in online classes.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I feel like online classes required more work than face-to face traditional classes.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I was often confused about expectations such as assignments and deadlines in my online classes.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

After the pandemic, given a choice, I would like more asynchronous online classes.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

After the pandemic, given a choice, I would like more synchronous classes that use technology (TEAMS, ZOOM, etc.) rather than in the classroom.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Face-to-face contact with an instructor is necessary for learning to take place.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

My instructors seemed to understand and care that students were struggling during this past year.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

My instructors were responsive in answering emails, and being willing to meet via TEAMS or a phone call.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Prior to COVID-19, I chose to take at least part of my classes online.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

The format of the courses is not really a concern; mostly it's just that I want things to go back to normal.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I feel like I am experiencing burnout which is keeping me from doing my best no matter how my classes are structured.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

How well did you do in your classes this past year?

- ○ Much better than before the pandemic
- ○ A little better than before the pandemic
- ○ About the same as before the pandemic
- ○ A little worse than before the pandemic
- ○ A lot worse than before the pandemic

How many times did you take the grade of "Satisfactory" in your classes rather than a letter grade?

- ○ Never
- ○ Once
- ○ Twice
- ○ Several times
- ○ Every class

What was your greatest obstacle with academics this past year?

- ○ Structure of the classes
- ○ Professor expectations and level of communication
- ○ My personal level of motivation, study habits, or organization
- ○ Issues with Internet access or technology
- ○ Stress, COVID-19, personal concerns that overshadowed academics

If you had to take a course where you might struggle with the course content, which format of class would you prefer?

- ○ Traditional, in the classroom
- ○ Synchronous, with TEAMS or ZOOM meetings but online
- ○ Asynchronous, fully online with no face-to-face meeting times
- ○ Blended format, with some online and some classroom instruction
- ○ No preference on format

The next section of questions asks about your attitudes and opinions connected with the COVID-19 pandemic.

COVID-19 disrupted my life in ways that went well beyond my academic studies (e.g., loss of job, illness, family concerns, etc.)

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I feel a lot of anxiety or concern about my health and the health of others around me related to COVID-19.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

My social life and everyday activities didn't change too much during the past year.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Given the nature of the pandemic, what is your opinion of the responses that the university, your community, and the country as a whole have made to it? The next few questions are related to your opinion of these responses.

Generally speaking, I would say that **our country's response** to COVID-19 has been a(n) ____.

- ○ Extreme over-reaction
- ○ Somewhat of an over-reaction
- ○ An adequate response
- ○ Somewhat of an under-reaction
- ○ Extreme under-reaction

Generally speaking, I would say that **my community's response** to COVID-19 has been a(n) ____.

- ○ Extreme over-reaction
- ○ Somewhat of an over-reaction
- ○ An adequate response
- ○ Somewhat of an under-reaction
- ○ Extreme under-reaction

Generally speaking, I would say that my **University's response** to COVID-19 has been a(n) ____.

- ○ Extreme over-reaction
- ○ Somewhat of an over-reaction
- ○ An adequate response
- ○ Somewhat of an under-reaction
- ○ Extreme under-reaction

What is your best advice to instructors who are teaching online classes?

What is your biggest complaint about how virtual classes were structured or taught over the past year?

Do you have any comments regarding virtual learning or this survey that you would like to add?

Thank you very much for taking the time to assist with this research study!