

An Exploratory Investigation of Comparisons of Student Evaluations of Learning Pre and Post COVID-19 at Private and Public Universities

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Although universities attempted to provide as little disruption to student learning as possible, problems arose with their responses to the COVID-19 pandemic. The current literature is rich with studies reporting experiences with the transition to the virtual learning of the pandemic era. In pursuit of the most effective learning and instructional modes to transition to in times of crisis, university administrators and faculty members need to know more regarding what worked and did not work in the initial response to the COVID-19 crisis. Questions remain. Given the pre-COVID-19 dominance of face-to-face instruction did student opinion of online learning change based on their experiences with the mandated transitions to virtual learning? Are the perceptions different for students at private versus public and small versus large institutions? This paper reports the results of an exploratory study of these bifurcations based on an online survey of student opinion conducted in Spring 2021. The findings provide some insight to student perceptions of the efficacy of the changed learning environment experienced by the subject populations.

Keywords: private and public university response to COVID-19 pandemic, undergraduate student survey, pre and post COVID-19 learning experiences, survey analysis, comparison analysis

INTRODUCTION

During the past century, few U. S. disasters have disrupted American institutes of higher education as the COVID-19 pandemic. The 1963 assassination of John F. Kennedy as well as the September 11, 2001 attack were followed with the closing of many U.S. schools for a short period of time. These responses are in sharp contrast to the reactions to the COVID-19 pandemic, which required the closing of some universities for as long as eighteen months.

COVID-19 was initially detected in Wuhan, China in December of 2019 (Day, et al., 2021) and the first laboratory confirmed case of COVID-19 in the U.S. was reported on January 20, 2020 (Centers for Disease Control and Prevention, 2022). By August 2021, over 34 million U.S. cases were identified with 600,000 deaths in the U.S. alone and over 195 million cases worldwide (World Health Organization, 2021).

According to Ross and DiSalvo (2020, p.5), COVID-19 put the U.S. education system in the “midst of an unprecedented crisis”. Basset (2020, p.5) commented that global higher education “has experienced impact not seen since World War II.”

The COVID-19 pandemic presented major challenges to universities, see Bryson and Andres (2020) and Crawford et al. (2020). Many responded with a wholesale migration from primarily face-to-face instruction to all virtual course deliveries. Use of Zoom and other teleconferencing software as the only delivery medium came quickly and caused faculty and students to restyle instruction and learning. For many institutions, the adaptation was mandatory. Prior to the COVID-19 era, it could be said that face-to-face instruction was the university’s core business. After one and half years of operating under the altered mode of delivery, concerns arose regarding the suitability and efficacy of student learning experienced as a consequence of the migration.

In this paper, the results of a survey of student opinion of the effectiveness of traditional instructional/learning modalities in the COVID-19 era using a questionnaire are reported. The questionnaire was designed and distributed as a convenience sampling among business undergraduate students at a large public university and a small private university. The focus on business students and the two universities was a matter of convenience explained by the authors’ university affiliations and the facility of obtaining permission from local institutional review boards to sample student opinion in the COVID-19 era. The survey was intended to reveal differences, if any, in student opinion of the learning experiences.

The questionnaire addressed basic aspects of instruction and learning believed to be relevant to university instructors and policymakers. They included student opinion of the efficacy of textbooks, conference software, access to course instructors and fellow students, group work and projects, examinations, and assignments as experienced in each era at each university. Analysis of respondent opinion of learning efficacy/suitability was directed to differences if any under each bifurcation (pre-COVID-19 vs. COVID-19, public vs. private). Differences were central to the investigation. Respondent opinions of eleven learning/instructional modalities were solicited using Likert-like items, i.e. strongly disagree (SD), disagree (D), neutral (N), agree (A), and strongly agree (SA).

The study was motivated by the literature of online learning and what the research indicated regarding its effectiveness. The value of the study lies in what it reveals about student learning and where improvements among the addressed learning aspects should be sought. This is important for several reasons. With the rise of variants of COVID-19 such as delta, lambda, mu, and Omicron, universities maybe faced with return to all virtual learning and the concern it prompts relating to important processes such as the assurance of learning (AoL) outcomes. Demonstration of the latter is a major requirement of accrediting bodies such as the Association to Advance Collegiate Schools of Business (AACSB) and the Accreditation Council for Business Schools and Programs (ACBSP). As such, the findings of this study should be useful to administration at private and public universities in assessing assurance of student learning in the COVID-19 era.

LITERATURE REVIEW

The following review of COVID-19 related literature helped to frame the study.

The Reaction of Higher Education to the COVID-19 Pandemic

The initial closures of university campuses due to COVID-19 was swift, primarily occurring in March of 2020. Moving all courses to online teaching, whether synchronous or asynchronous, found little impact upon students already enrolled in online courses, see Filinova et al. (2020) and Kamarianos et al. (2020). The opposite was true for students new to online learning. The migration was complicated by the back and forth switching between face-to-face and online learning. At times, students were in a face-to-face class setting for one meeting and online for the next. This prompted changes in pedagogy and course delivery and what is styled as a “rapid learning curve” for faculty and students (Bryson and Andres, 2020, p.609). According to Mseleku (2020, p.588), it remains to be seen if the transformation to online teaching during COVID-19 will result in “positive teaching and learning outcomes”. Because the COVID-19 regulations

put in place made traditional face-to-face classroom meetings impossible, universities were forced to change to online pedagogy (Ratten, 2020). According to Duong et al. (2020, p.7), COVID-19-related disruptions to campus learning were globally widespread, but the U.S. educational system “took the biggest hits”.

The effects of the migration were significant for all concerned. Students living on some campuses were forced to relocate causing great stress. The emotional and real costs experienced by faculty and students were great. Universities experienced big increases in financial costs. For example, Harvard University incurred a reported \$35 million cost to relocate students from university housing (Ross and DiSalvo, 2020). Duong, et al. (2020, p.1) reported that one month after the forced closures of universities, an excess of 124,000 global private and public schools were closed, “affecting at least 55.1 million students”. According to Murphy et al. (2020), more than 4,200 American institutions of higher education closed that impacted 25.7 million students across the country. Because COVID-19 was rapidly changing in nature, quick decision making was required Astrovnik et al. (2020, p.3). Murphy et al. (2020) framed the responses as extreme changes in the everyday lives of students. Although they confirmed that the spread of the virus was lessened by the campus closures, the latter posed numerous challenges to faculty and students alike. Murphy et al. (2020, p.19) also noted that the implemented changes in education due to COVID-19 “are likely to result in drastic changes to the way in which the future workforce is educated”. On the other hand, because the closures were looked upon as extremely successful, they were heralded (Day et al., 2021). Moving to all-online learning and instruction lessened experiential learning opportunities such as student teaching, field trips, study abroad and service learning (Day et al., 2021).

Student Reaction to Switch to Online Learning

To date, many studies have been published that reported the experiences of students in countries outside the U.S. They include Pakistan (Abbasi et al., 2020; Cheema et al., 2020), India (Radka et al., 2020), the Philippines (Parentela and Vargas, 2021), Canada (Audet et al., 2021; Banki, 2021), Greece (Aristovnik et al., 2020; Kamarianos et al., 2020; Raikou et al., 2020), Japan (Sugino, 2021), Finland (Juntunen, 2021), New Zealand (Cameron et al., 2021), Ecuador (Sevy-Biloon, 2021), Oman (Al-Maskari et al., 2021), and China and South Korea (Lee et al., 2021).

The research studies that have addressed the impact of COVID-19 on American students include Son et al. (2020), Imhoff (2021), Parker et al. (2021), Aristovnik et al. (2020), Duong et al. (2020) and Browning et al. (2021). However, none compared student experiences at public universities compared to those at private institutions pre-COVID-19 versus COVID-19 eras. Many of the reported studies appeared in 2020 at the onset of the COVID-19 experience. In this regard, Parker et al. (2021, p.16) noted that more current research is needed since “the examination of students’ attitudes and perceptions may be different from the initial transition in March of 2020”.

Among the studies, many reported negative COVID-19 learning and teaching experiences. Students commented that they found online courses to be impersonal, too task oriented, required more self-discipline, and lacked or presented difficult to observe non-verbal instructional cues such as body language and tonal variation in voice. Interestingly, similar comments were reported in pre-COVID-19 studies of online teaching and learning (Kuong, 2009; Kuong, 2015; Walther, 1994; Panigrahi et al., 2018; Desai and Shinde, 2009; and Hetsevich, 2017). Over 77% of the subjects in the Alturise (2020, p.74) study of Saudi Arabian students indicated that online courses changed the nature of group discussions and diminished their “problem-solving capabilities.” The Venkatesh and Edirappuli (2020, p.1) study of university students found that social distancing had an effect on the students’ “ability to cope with change”.

Abbasi et al. (2020) studied Pakistani graduate students at a private university regarding their experiences during the COVID-19 campus shutdowns. The student indicated that they preferred the face-to-face classroom experience and that online teaching had drawbacks including social isolation, lack of student-faculty interaction and connectivity issues. Over 77% of the subjects indicated a negative perception of online learning. The Banki (2021) study of British Columbia students found agreement with the Abbasi et al. (2020) findings. Their subjects also reported disengagement. A majority (69%) of the students in the Banki (2021, p.59) study indicated that their interest and engagement with course materials

was “negatively impacted by the emergency remote teaching” imposed by the institutional COVID-19 response. In one of the few studies conducted on an American campus, Duong et al. (2020) reported that 81.3% of the surveyed students responded negatively regarding their experiences with remote learning in the COVID-19 era.

Other recent studies have also reported negative student reactions to remote learning. The Lee et al. (2021, p.166) study of Chinese and Korean university students found that “student-student relationships and interactions seemed to suffer” and that the “lack of face-to-face contact came to significantly and negatively affect students’ sense of community and overall satisfaction”. The same issues were echoed in Raikou et al. (2020, p.135) study of Greek university where students were reported to have experienced difficulty in handling “the lack of everyday campus life and interaction” with fellow students and faculty. Syahrin and Salih (2020, p. 52) reported in their study of Oman university students that remote learning during COVID-19 era caused worry and in turn health issues and problems related to the absence of social interaction. Some commented that they were “leading a lonely life”.

The recent studies have broadened understanding of the scope of the emotional problems university students faced with the transition to online learning. The Aristovnik et al. (2020) study found that a majority of North American students experienced high anxiety due to the COVID-19 closures and adjustments. This and other studies reported student worry about ability to stay in school, lack of social interaction caused by isolation as well as issues related to at home online learning such as lack of computers for connection, noisy study environments, conflict with domestic chores, distractions due to family member Internet activities, and inability to concentrate in available at home space. Students also reported lack of support and guidance from faculty, need for childcare, limited access to technical support, lack of reliable at home internet connections, complicated connectivity tools, boredom, and loss of income due to loss of jobs. They reportedly lead to mental health issues such as stress, anxiety, depression, loss of sleep, and lack of motivation. See the studies of Tasso et al. (2021), Murphy et al. (2020), Imhoff (2021), Day et al. (2021), Elsamanoudy et. al. (2020), Mamun et al. (2020), Mamun and Griffiths (2020), and Browning et al. (2021). Interestingly, the Browning et al. (2021, p.85) study of students enrolled at seven public American universities reported “mounting evidence that excessive screen time” may have a negative impact upon mental health. Wang et al. (2020) reported that the largest contributor to student stress in the COVID-19 learning era was the transition from the face-to-face classroom setting to the online environment. With regard to the seriousness of what students are experiencing, Wang et al. (2020, pp.1-5) found that only 48% of the student they surveyed indicated that they had the ability “to cope adequately with the stress related to the current situation” and 20% “reported suicidal thoughts”.

Assessment of overall student psychological well-being in the COVID-19 era also appears in the literature. Imhoff (2021, p.8) stated that a “sense of well-being plays a significant role in students’ ability to succeed in their college careers” persists. However, Dorn et al. (2020, p.592) cautions that “it’s expected that the COVID-19 outbreak will not only cause poor performance among students, but it will also increase the dropout rate”.

The outcomes of the studies reported in the literature are not all bad. Filanova et al. (2020) surveyed student opinion regarding the motivation to learn during the COVID-19 pandemic transition. They found that most students were appreciative of the efforts made by their university and faculty, but they would prefer to learn in a traditional face-to-face classroom setting. This sentiment was echoed in Imhoff’s (2021) study of students at The Ohio State University. The Imhoff (2021, p.3) study reported that students did express concerns regarding their grades in the pandemic learning setting but they did credit “a variety of supportive measures taken by faculty and the university”. The majority of university students surveyed in the Aristovnik et al. (2020) study also indicated a high level of satisfaction with the manner in which their universities responded to the pandemic. The Mseleku (2020, p.590) study echoed similar student sentiment. The study also reported that students preferred face-to-face instruction because it affords the “opportunity to debate, deliberate and discuss” with instructors and classmates. In the Raikou et al. (2020, p.140) study, Greek university students commented that changing to online learning, caused by the pandemic, aided them in “understanding of course content, development of new [learning] skills, and the convenience of attending courses”. The Radha et al. (2020) study of 175 Indian university students found that 80% indicated that

online learning was useful during the quarantine. However, only 22.29% of the subjects preferred online learning compared to 77.71% who preferred in-classroom learning. In their study, Day et al. (2021) found that working at home was appealing to students because it was comfortable in that they didn't have to commute and they were able to sleep longer. Elsamanoudy et al. (2020) cited the benefits of online learning during COVID-19 included the ability of students to access classes anywhere, lower course delivery costs for the university, and ease of using commonly and broadly owned devices such as laptop computer, phone, tablets, etc. to connect to the loci of learning and instruction. In their study, Engelhardt et al. (2021, p.14) found "students during the COVID-19-affected semester performed equivalently as well on post-tests and earned higher grades as students in the previous [pre-COVID-19] semester". According to Parker et al. (2021), university students did not completely give up on themselves during the academic changes driven by COVID-19. Parker et al. (2021, p.3) stated that an "analysis of Census Bureau data showed that college enrollment among 18-24 year olds dropped only slightly during the first year of COVID-19."

Faculty Reactions to COVID-19-Related Switch to Online Learning

It may be easy to lose sight of the fact that students were not the only individuals in higher education who experienced problems with the switch to all-online courses necessitated by COVID-19. Faculty also suffered. According to Bryson and Andres (2020, p.608), campus closures during COVID-19 forced "rapid improvisation and adoption of online teaching" by faculty who were also required to facilitate and blend "extensive and intense online learning experiences at the last minute." Although most campuses gave faculty the choice to teach online in a synchronous or asynchronous format, faculty were often forced to rapidly substitute face-to-face teaching with online delivery. Crawford et al. (2020, p.25) framed the difficulty in direct terms "university staff is not ready for emergencies".

Prior to the onset of the pandemic, many faculty members had not taught online. Consequently, the rapid changes to accommodate COVID-19 in academe most certainly contributed to faculty stress and anxiety. Whilst some campuses were quick to come to the aid of struggling faculty, others were quite slow. Day et al. (2021, p.3) stated the "timing of the transition was inconsistent across institutes. On some campuses, there was up to a two-week break prior to the launch of all online instruction. However, in others there was only three days' given to the transition." According to Bryson and Andres (2020, p.615), faculty have witnessed their role switching from "teacher to learning facilitator". Day et al.(2021, p.4) remarked that "one of the biggest challenges was the need to revise course assignments and develop evaluation and assessment strategies ... to a socially distanced setting ...". The authors also stated that many faculty found a need to substitute group projects with assignments that were more conducive to the online courses.

In order to adjust to their new online teaching roles, it was necessary for faculty to learn how to adapt to new forms of course delivery in response to the abruptly changed classroom setting. The adaptations included but were not limited to adopting Zoom, Canvas, BlackBoard, Moodle, Googlemeet, Microsoft Teams, Skype for group teleconferencing and for some faculty to change the manner in which examinations were to be administered. In regard to the latter, video surveillance of students during online test taking to curtail cheating was new to many instructors, see Lee et al. (2020). Parker et al. (2020, p.14) reported that the students they surveyed "knew they cheated on homework". The changes also extended to grading where some universities allowed students to elect the Pass/Fail grading option while some disallowed letter grades during the COVID-19 transition.

Comparisons of Private University Students and Public University Students

Current literature includes comparative studies of the COVID-19 learning experiences of students at private versus public universities. For the former, see Dey et al. (2018), Forquer et al. (2008), Traiser and Eighmy (2011), and Karim et al. (2012). However, the comparisons do not extend to pre-COVID-19 versus COVID-19 era experiences of public and private university students.

COVID-19 Related Reports of Business School Accrediting Bodies

The accrediting body The Association to Advance Collegiate and Schools of Business (AACSB) recently published the report titled “Schools Assess Success in Shift to Online Delivery | AACSB” in which the following appears.

“Among respondents who do report a change in the content of the curriculum, the most common adaptations have been modified assignments (79%), flexible deadlines (68%), pass/fail grading systems (55%), and changes to the format of instructional materials, such as the creation of more asynchronous assignments (53%). Eighty-eight percent of the respondents in this group also report making changes to student assessments, such as adjusting time limits and adding online proctoring.” (AACSB, 2021a, p.3).

This report drew upon the AACSB document titled “The Current and Future Impact of COVID-19 on the Business School Curriculum”, see AACSB (2021b). Therein, the following is reported. About 98 percent of the business programs that delivered in-person business school programs before the pandemic indicated that their schools changed their delivery mode in the Spring of 2020. Of those, 59% stated they shifted to a hybrid environment and 39% moved to virtual mode. Also, 43% of respondents who delivered a hybrid program in 2019 went fully virtual as a result of COVID-19, see AACSBb (2019, p.3). The business programs that participated in the study indicated that they do not anticipate that the situation will change any time soon. Nearly three-quarters (74 %) expect to be in a hybrid environment in the Spring of 2021, 23% expect to be entirely virtual, and only 3% predict they will be back fully in-person, see AACSBb (2021, p.3). In addition, the switch to mostly virtual education has caused business schools to rely more heavily on flipped classrooms. Administrators state they have lessened the use of lectures by 38% (AACSBb 2021, p.4). Some of these changes may be permanent. The report is based on survey in which more than half (54%) of the respondents were at public institutions and 45% of the respondents attended private institutions.

NEED FOR THE STUDY

As shown in the preceding section, the current literature includes the outcomes of many studies related to the impact of the COVID-19 pandemic on university campuses both domestic and worldwide. The literature is rich with studies reporting student well-being in the COVID-19 era and student perceptions of the efficacy of the university’s response to the pandemic. Some of the studies were published in 2020 and as such reflected student sentiment and opinion formed in the early transition period. None investigated student opinion and sentiment regarding learning in the pre-COVID-19 period versus the virtual (in part or whole) learning environments fashioned in the COVID-19 era. Studies of those differences experienced by students at private universities versus public institutions have not been reported. Imhoff (2021) commented that finding answers to questions regarding student experiences in the COVID-19 era could aid universities in learning how to better respond to and support their students in times of future crises. This is particularly true when the university’s response centers on transitioning to online learning in any form. Al-Maskari et al. (2021, p.3) remarked that there is a “need for further studies on students’ responses towards online learning and their concerns”. According to Day et al. (2021, pp. 1-2), “an early examination of evidence relating to the impact of COVID-19 on teaching and learning is critical to well-informed policy decisions by university administrators.” This also applies to the manner in which universities will frame their responses to future crises such as those prompted by the emergence of COVID-19 variants. If differences exist, knowing so may help instructors and administrators to appropriately search for best practices in framing their response to future crises. Although the pre-COVID-19 study of Jaschik and Lederman (2019, p.5) found that “online courses can achieve student learning outcomes at least equivalent to in-person courses at any institution ...”, it remains to be seen if that indeed has resulted with the scale and mandate to implement virtual instruction.

METHOD

The manner in which the study reported here was conducted was influenced by the response of universities to the COVID-19 crisis. Much of the business of administrating, teaching, learning as well as university committee work became virtual. On the campuses where we intended to sample student opinion, it was difficult or impossible to convene in a timely manner institutional review boards (IRB) to review and hopefully approve our questionnaire. Consequently, as noted in the Introduction section, approval and distribution of the questionnaire was limited to one private and one public university and accordingly referred to as a sampling of convenience and an exploratory study.

Student opinion of the comparative efficacy of learning in the COVID-19 era vis-à-vis the pre-COVID-19 period was solicited through a questionnaire that was distributed in Spring 2021 to undergraduates at a large West Coast public university and a medium size private Eastern university both in the U.S.A. Participation was voluntary and ninety students completed the questionnaire. Cleaning the data resulted in eighty-seven questionnaires that were the basis for the analysis reported here.

The questionnaire consisted of three parts. The first solicited nominal information about the respondent such as class standing, major, and grade point average (GPA). Additionally, each respondent was asked about his/her COVID-19 experience, i.e. if they had contracted COVID-19, were tested, and if they intended to be vaccinated. Respondents also indicated their current and pre-COVID-19 (prior to March 2020) employment status, marital status, and internship experience. The second part of the questionnaire addressed respondent opinion of the learning impact of their university's response to the pandemic. Specific aspects of pre-COVID-19 and COVID-19 era learning were examined such as the suitability of textbooks, course assignments, examinations, group projects, course support technology such as Zoom, and interactions with classmates and instructors. Eleven learning features were addressed using questions Q1-Q11. The five-point Likert scale was used to solicit student agreement or otherwise with the era effectiveness of each learning feature articulated in each Q. Given the comparative organization of the questionnaire, era-to-era differences in responses to each Q were considered revealing and consequently framed the manner in which the results are reported. Era-to-era migrations among the five response options for each question are insightful and are addressed in the analysis. The third part of the questionnaire solicited written remarks that allowed students to express opinions that were not accommodated in the survey instruments.

For each question (Q), respondents were asked to agree, disagree, or indicate neutrality of era-specific opinion regarding the suitability of the addressed learning feature. The results are reported in percentage responses in strong disagreement (SD), disagreement (D), neutrality (N), agreement (A), and strong agreement (SA) with the statement articulated in each Q. The percentage responses are reported for all respondents denoted by the label 'All', those of the private university referenced as 'PRV', and responses of the public university students by the 'PUB' label.

Era differences in each response (SD, D, N, A, SA) for each Q were central to the analysis. For some Q, the differences were small and as such understood to indicate that respondents felt the addressed learning aspect was suitable/effective in either era. Large differences were the most attention getting. Era differences greater than absolute ten percent were considered conspicuous and are noted in italics in the reporting. An instance so noted may draw attention to a large percentage change in the SD or SA response(s) indicating a shift to or from strong opinion regarding the suitability or lack thereof of a certain learning feature in the COVID-19 learning environment. Or the italics may draw attention to a shift to the neutral (N) response from any combination of agreement or disagreement (SA, A, D, SD) suggestive of respondent reservation regarding the era suitability of the associated learning feature. Both the magnitude of the flagged responses and how they resulted from era-to-era migrations/shifts among the response possibilities were analyzed in discerning respondent opinion of the COVID-19 era suitability or otherwise of the associated learning features.

RESPONDENTS

A majority (99%) of the respondents were undergraduate business students, 75% were in their third or fourth years of study, over 95% indicated a GPA of 2.50 or higher. Thirty percent were not employed in either the pre- or COVID-19 eras. Nearly 58% worked ten hours or more per week pre-COVID-19 and 54% in the COVID-19 era. With regard to COVID-19 experience, 19.5% indicated that they had COVID-19; 6.9% tested positive but were asymptomatic; 50.6% tested negative; 35.6% responded to 'Not had COVID-19, not been tested, not had COVID-19 symptoms'; 39.1% declared 'I intend to be vaccinated'; and 14.9% responded to 'I do not intend to be vaccinated'. Nearly one out of five respondents indicated they had COVID-19 and 60% had been tested. At the time of the survey, more than half of the respondents had formed intentions regarding future vaccination. The two universities did not require testing at the time the survey was conducted. Tables 1-3 relate to the above discussion.

TABLE 1
RESPONDENT EXPERIENCE WITH COVID-19 AND EMPLOYMENT

Experience with COVID-19		Student employment		
Response	Percent	Response	Pre-COVID-19 Percent	COVID-19 Percent
Had COVID-19	19.54	Not employed	32.18	29.89
Tested positive but no symptoms	6.90	Part-time: fewer than 10 hours per week	8.05	14.94
Tested negative	50.57	Part-time: 10-20 hours per week	26.44	21.84
Not had Covid, not been tested, not had COVID-19 symptoms	35.63	Part time: more than 20 hours per week but not full-time	18.39	17.24
I intend to be vaccinated for COVID-19	39.08	Not employed	13.79	14.94
I do not intend to be vaccinated for COVID-19	14.94			

**TABLE 2
RESPONDENT UNIVERSITY AND MAJOR**

College/University			Major		
Response	Pre-COVID-19 Percent	COVID-19 Percent	Response	Pre-COVID-19 Percent	COVID-19 Percent
Attended a <u>private</u> college/university	28.74	28.74	Business general	10.34	8.05
Attended a <u>public</u> university	71.26	71.26	Business accounting	9.20	10.34
			Business finance	5.75	5.75
			Business management	6.90	6.90
			Business marketing	39.08	41.38
			Business entrepreneurship	5.75	5.75
			Business other, specify	6.90	8.05
			Non-business	16.09	13.79

**TABLE 3
RESPONDENT MARITAL STATUS, GPA, AND INTERNSHIP EXPERIENCE**

Marital Status			GPA		Internship Experience	
Response	Pre-COVID-19 Percent	COVID-19 Percent	Response	Percent	Response	Percent
Single	91.95	91.95	2.00 – 2.49	5.75	Yes	19.59
Single parent	1.15	1.15	2.50 – 2.99	24.14	No	80.41
Married	6.90	6.90	3.00 – 3.49	27.59		
			Above 3.5	37.92		
			Do not know my GPA	4.60		

RESULTS

The results of the survey are presented in three forms. The first is the summary of the opinions of all respondents regarding the eleven aspects of learning experienced in each era. The second is a comparative analysis of the results based on the respondent’s university type. The third form is an organization and discussion of the written remarks of the respondents. The survey results are available from the authors.

Overall Results

Early in the survey, students were asked to indicate their overall opinion regarding the COVID-19 era learning they experienced. Among ‘All’ respondents, 12.64% indicated that their learning had ‘not suffered’; 33.3% that it ‘somewhat suffered’; 33.3% ‘yes, it did suffer’; and 20.7% indicated ‘no opinion’.

Two-thirds of the responses indicated that the learning had suffered to some degree. Cronbach's Alpha value is 0.849.

The analysis addressed the percentage responses (SD, D, N, A, SA) to each question (Q1-Q11) by respondent category (All, PRV, PUB) in each era (Pre-COVID-19, COVID-19). It began with the opinions of 'All' respondents. Era specific aggregate percentage responses in agreement (SA + A) and aggregate disagreement (SD + D) along with percentages in neutrality (N) of opinion with each Q1-Q11 are summarized in Table 4. Conspicuous era differences are italicized and in bold there.

TABLE 4
SUMMARY OF ERA RESPONSES FOR ALL RESPONDENTS

Suitability/effectiveness of	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
	% in Aggregate Disagreement (SD+D)		% Neutral in Opinion		% in Aggregate Agreement (SA+A)	
	Pre-Covid	Covid	Pre-Covid	Covid	Pre-Covid	Covid
Textbooks (Q1)	14.94	21.84	39.08	33.33	45.97	44.82
Course assignments (Q2)	12.64	22.99	16.09	27.59	71.26	49.42
Examinations (Q3)	4.60	19.54	24.14	28.74	71.26	51.73
Course projects (Q4)	9.20	36.79	21.84	29.89	68.96	33.34
Course support software (Q5)	4.60	6.90	31.03	14.94	64.37	78.16
Interactions with instructors (6)	8.05	22.99	20.69	32.18	71.26	44.83
Interactions with fellow students (Q7)	4.60	50.57	21.84	26.44	73.56	22.99
Instructors (Q8)	5.75	14.94	31.03	37.93	63.22	47.13
Learning in virtual courses is as effective as face-to-face instruction (Q9)	52.87	55.18	32.18	19.54	14.95	25.28
Virtual exams are as fair as face-to-face exams (Q10)	26.44	26.44	25.29	22.99	48.27	50.57
My participation in virtual class settings is same as face-to-face class settings (Q11)	47.12	48.28	24.14	20.69	28.73	31.03

The following analysis applies to the responses to Q1-Q8 except for Q5 as presented in Table 4. The pre-COVID-19 percentages (Col. 6) in agreement dominate the results. They vary between 45.97% and 73.56% in aggregate agreement with the suitability/effectiveness of the learning features addressed in Q1-Q8. For the same era, the percent (Col. 2) in aggregate disagreement varies between 4.60% and 14.94% and for the neutral response the percentages (Col. 4) fall between 16.09% and 39.08%. Note too that percentages for the neutral response dominate the percentages for aggregate disagreement. The percentages for the neutral response are attention getting. They are understood to reflect respondent reservation concerning the suitability of the learning articulated in each Q. The average pre-COVID-19 neutral response is 25%.

The percentages for the COVID-19 era are demonstrably different. For each Q1-Q8, the percent in agreement (Col. 7) are smaller the pre-COVID-19 counterpart. Excluding Q1, Q2, and Q5, each percent in disagreement (Col. 3) is at least twice the pre-COVID-19 percentage. Except for Q1 and Q5, the percent neutral (Col. 5) increased with an average percentage response of 30.87. The italicized entries of Table 4 highlight the conspicuous migrations. The COVID-19 percentages in aggregate agreement do not dominate all percentages in aggregate disagreement or neutrality. Respondent opinion of the suitability of the specified learning features changed with the experiences of the COVID-19 era.

Table 5 is a summary of era percentage differences among the responses (SD, D, N, A, SA) for Q1-Q11. The conspicuous differences are in bold and italicized in Table 5. Cell entries in column 7 display aggregate percent era differences in agreement and disagreement along with percent differences in the neutral (N) response in that order for each Q1-Q11. Differences greater than 10% absolute are italicized and in bold.

TABLE 5
SUMMARY OF ERA CHANGES IN PERCENTAGE VALUES FOR ALL RESPONDENTS

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Survey Question	Differences ^{1,2} in Era Percentage Point Responses					Aggregate Percent Differences	Migration
	SD	D	N	A	SA		
Textbooks (Q1)	1.15	5.75	-5.75	-1.15	0.01	6.90 (D+SD) -5.75 (N) -1.14 (A+SA)	From A+SA and N to mostly D+SD
Course assignments (Q2)	1.15	9.20	<i>11.50</i>	<i>-18.39</i>	-3.45	<i>10.35</i> (D+SD) <i>11.50</i> (N) <i>-21.84</i> (A+SA)	From A+SA to D+SD and N
Examinations (Q3)	2.30	<i>12.64</i>	4.60	<i>-11.49</i>	-8.04	<i>14.94</i> (D+SD) 4.60 (N) <i>-19.53</i> (A+SA)	From A+SA to mostly D+SD
Course projects (Q4)	6.90	<i>20.69</i>	8.05	<i>-24.13</i>	<i>-11.49</i>	<i>27.59</i> (D+SD) 8.05 (N) <i>-19.53</i> (A+SA)	From A+SA to mostly D+SD
Course support software (Q5)	-1.15	3.45	<i>-16.09</i>	8.04	5.75	2.30 (D+SD) <i>-16.09</i> (N) <i>13.79</i> (A+SA)	From N to mostly A+SA
Interactions with Instructors (Q6)	3.45	<i>11.49</i>	<i>11.49</i>	<i>-11.49</i>	<i>-14.94</i>	<i>14.94</i> (D+SD) <i>11.49</i> (N) <i>-26.43</i> (A+SA)	From A+SA to split between N and D+SD
Interactions with fellow students (Q7)	<i>14.94</i>	<i>31.03</i>	4.60	<i>-16.09</i>	<i>-34.48</i>	<i>45.97</i> (D+SD) 4.60 (N) <i>-50.57</i> (A+SA)	From A+SA to mostly D+SD
Instructors (Q8)	1.15	8.04	6.90	<i>-10.35</i>	-5.74	9.19 (D+SD) 6.90 (N) <i>-16.09</i> (A+SA)	From A+SA to split between D+SD and N

Learning in virtual courses is as effective as face-to-face instruction (Q9)	6.90	-4.59	-12.64	3.44	6.89	2.31 (D+SD) -12.64 (N) 10.33 (A+SA)	From N to mostly A+SA
Virtual exams are as fair as face-to-face exams (Q10)	4.60	-4.60	-2.30	-4.60	6.90	0. (D+SD) -2.30 (N) 2.30 (A+SA)	From N to A+SA
My participation in virtual class settings is same as face-to-face class settings (Q11)	-2.29	3.45	-3.45	1.15	1.15	1.16 (D+SD) -3.45 (N) 2.30 (A+SA)	From N to split between A+SA and D+SD

Again, the following analysis relates to the results displayed in Table 5 for Q1-Q8 except for Q5. The negativity of every era difference in aggregate agreement (first entry of each cell in column 7) and the positivity of every difference in aggregate disagreement (second entry of each cell in column 7) stand out. This is consistent with the negativity of every cell entry in columns 5 and 6 and the positivity of every cell entry in columns 2 and 3. Except for Q1, the percentage differences (third entry of each cell in column 7) for the neutral response are all positive. Clearly, the migration is from agreement of either kind (A, SA). Except for Q1, note that the first entry of each value of column 7 for aggregate era difference in agreement is flagged as conspicuous. They range between 19.53 and 50.57 in absolute percentage points. The conspicuous values for aggregate era differences in disagreement vary between 14.85 and 45.97 percentage points. Two of the era differences for the neutral response qualify as conspicuous. They are the 11.50 era difference for Q2 and the 11.49 value for Q6. By magnitudes of era difference, more of the migration from aggregate agreement went to aggregate disagreement but clearly not the totality of such. Inspection of the era differences for the SD and D responses of columns 2 and 3 show an increase in each for each Q. Note that each entry in column 3 is at least twice the corresponding value in column 2. Four of the differences reported in column 3 are conspicuous. If the migrations from agreement with the suitability of the pre-COVID-19 learning are looked upon as respondent discontent with the manner of that learning in the COVID-19 era, the discontent is clear. However, it did not show itself as a wholesale migration to the strongly disagree (SD) response.

The magnitudes and loci of the conspicuous declines in aggregate agreement are: -50.57 for Q7 (interacting with fellow students); -35.62 for Q4 (suitability of group project work); -26.43 for Q6 (interacting with instructors); -21.84 for Q2 (suitability of course assignments); -19.53 for Q3 (suitability of examinations); and -16.09 for Q8 (instructor suitability). The conspicuous increases in aggregate disagreement percentages are: +10.35 for Q2 (course assignments), +14.94 for Q3 (examinations), +27.59 for Q4 (course projects), +14.85 for Q6 (interactions with instructors), and +45.97 for Q7 (interactions with fellow students). The magnitude era changes for Q4 and Q7 jump out. For the neutral responses except for Q1, the percent changes (col. 4) increased between 4.60 and 11.50 percentage points. The conspicuous differences are: +11.49 for Q2 (suitability of course assignments) and +11.49 for Q6 (interactions with instructors). By percentages differences, the majority of the declines in the aggregate agreement migrated to increases in the aggregate disagreement. Respondents were quite pointed in what did not work well. It is most conspicuous with the suitability of course projects (Q4) and interactions with fellow students (Q7).

With regard to the suitability of course support software (Q5), the migration in opinion was primarily from pre-COVID-19 neutral response of magnitude -16.09 percentage point difference to +13.79 percentage points in aggregate agreement. Respondent opinion regarding instructor suitability (Q8) shows migration from aggregate agreement of magnitude -16.09 percentage points to aggregate disagreement (+9.19) and neutrality (+6.90). Differences in the perceived adequacy of instructors (Q8) and software (Q5) in the COVID-19 era are notable. One can reasonably argue that they are functionally complementary, i.e. in the COVID-19 era one could not function without the other. Yet student opinion regarding their

suitability/effectiveness is quite different. Note too that the percentage point differences for Q5 and Q8 are not the largest in absolute magnitude among the entries of column 8.

Questions Q9-Q11 solicited a few summative opinions of the experienced virtual learning environment of the COVID-19 era relative to the face-to-face setting of the pre-COVID-19 period. For Q9, over fifty percent of the responses in either era is in disagreement with the efficacy of the virtual learning environment, see the results for Q9 in Table 4. However, conspicuous migration of magnitude -12.64 percentage points from the neutral opinion is concurrent with the +10.33 percent point increase in aggregate agreement and the small +2.31 increase in aggregate disagreement, see results for Q9 in Table 5. From the experience of virtual learning, some respondents became more agreeable (+10.33%) to its suitability and efficacy. Note the migration is primarily from neutrality (-12.64%) while some became more adamant in disagreement migrating from D (-4.59%) to +6.90% for SD. For Q10 regarding the fairness of virtual exams vis-à-vis face-to-face exams, nearly fifty percent of the responses in either era is in agreement with this statement. From Table 4, era percentages (26.44%) in aggregate disagreement, aggregate agreement (48.27% vs. 50.57%), and neutrality (25.20% vs. 22.99%) of opinion are nearly the same. The inquiry did not provoke conspicuous era differences regarding the fairness of virtual exams. The Q11 asked respondents to assess their participation in the virtual setting vis-à-vis the face-to-face setting. Nearly half of the responses for either era is in aggregate disagreement with this statement. A small migration (-3.45%) moved from the neutral opinion to mostly (+2.3%) aggregate agreement. None of the era differences for Q11 are conspicuous.

Results for Q3 (suitability of era exams) provoked a response that did not in magnitude show in the results for Q10 (fairness of virtual exams vis-à-vis face-to-face). For Q3, era opinions in aggregate agreement with the suitability of exams fell (71.26% vs. 51.73%, -19.53%) with the majority (+14.94%) migrating to aggregate disagreement. For Q10, none of the response differences were conspicuous. The era differences are +/- 2.3%. The initial (Q3) solicitation of opinion moved student dramatically. The manner of exam administration may account for the variance in opinions. Scheduled exam times, time-to-completion restrictions, inability to ask for clarification regarding a test question, complication of instructor/student interaction regarding grading, or form (electronic vs. hardcopy) of the exams may account for the differences. Given the responses to Q10, it is not the fairness of virtual exams. The Q3 inquiry provoked a conspicuous increase (+12.64) in the D response and -11.49% and -8.04% reductions in the A and SA responses respectively.

Results by University Type

Table 6 is a display of the percentage differences in era responses for the private (PRV) university and the public (PUB) university respondents. The differences in era responses were calculated as (COVID-19% - Pre-COVID-19%). In Table 6, differences greater than 10% are italicized. Among them, most appear under the N, A, and SA headings for Q1-Q8. The italicized era percentage differences among the A and SA responses for both groups are generally negative but are quite varied in absolute magnitude. Only two of the conspicuous era differences for the two populations are of like sign and magnitude, see the D responses for Q6 and the SA responses for Q7. Note the relatively small era differences in the SD values for either group. With the exception of the +21.31 era difference for the PUB D response to Q7 (interactions with fellow students), none is conspicuous. They stand in sharp contrast to the era differences in the SA response.

With respect to Q5 (course support software), both groups moved conspicuously from the N response. The entirety (-11.54) of the migration for the PRV was to the SA response (+11.54). For the PUB, the majority (+11.48) of the migration (-18.04) moved to the A response with small like amounts (+3.28) to the D and SA responses. For the PRV and Q8 (instructor suitability), the majority (+11.54) of the migration to the N response came from the reductions (-7.69 and -7.69) in the A and SA responses. For the PUB, the reductions (-11.48 and -4.92) moved mostly to the D response in magnitude +9.83 with +4.91 percent to the N response. Much like the responses to Q5 and Q8 for all respondents, the PRV and PUB responses are divided in their opinion of the software and instructor suitability/effectiveness in the COVID-19 era.

Among the results for Q9-Q11 except for the N response to Q9 for the PUB, none of the era differences are conspicuous. In each case, the migrations in era percentages are primarily from the N and D responses.

For Q9 (efficacy of virtual learning), the era percentage differences for the PRV migrated from the D and N responses to the A and SA responses in like magnitude (+/-7.69). For the PUB, the migration (-3.28 D and -14.76 N) was mostly split between SD (+9.84) and SA (+6.55) responses. For Q10 (fairness of exams), none of the era differences are conspicuous for either population. For the PRV, the migration (-7.69) from the N response went to the SD and D responses in nearly equal amounts (+3.84). For the PUB, the migration from the D (-8.20) and the A (-6.56) responses went to SA in the amount +9.83 and to the SD by +4.92 percentage points. The migrations were to the extremes of opinions with the move to SA dominant by a factor of two. For Q11 (class participation), none of the era differences for either group are conspicuous. For the PRV, the migrations are modest, i.e. -3.85 from SD and -3.84 from D to +7.69. i.e. exclusively to the A response. For the PUB, the migrations -1.64 from SD, -4.92 from N, and -1.64 from A went mostly to the D response in magnitude +6.55.

Clearly, the era responses of the two populations of respondents differ.

TABLE 6
PERCENTAGE DIFFERENCES IN PRIVATE (PRV) AND PUBLIC (PUB) RESPONSES

Response ¹	SD	D	N	A	SA
Survey Question (Q)	Difference ^{2,3} in percentage point responses				
	PRV				
	PUB				
Textbooks (Q1)	3.84 0.	-3.85 9.83	7.60 11.47	0. -1.64	-7.69 3.28
Course assignments (Q2)	0. 1.64	-3.85 14.75	19.23 8.20	-11.54 -21.31	-3.85 -3.27
Examinations (Q3)	0. 3.28	-3.85 19.67	11.54 1.64	3.85 -18.04	-11.49 -6.56
Course projects (Q4)	0. 9.83	19.23 21.31	15.39 4.92	-15.38 -27.87	-9.23 -8.19
Course support software (Q5)	-3.84 0.	3.85 3.28	-11.54 -18.04	0. 11.48	11.54 3.28
Interactions with instructors (Q6)	0. 4.92	11.53 11.47	15.39 9.84	-23.07 -6.55	-3.85 -19.68
Interactions with fellow students (Q7)	0. 21.31	38.46 27.87	7.70 3.28	-11.54 -18.04	-34.61 -34.42
Instructors (Q8)	0. 1.64	3.85 9.83	11.54 4.91	-7.69 -11.48	-7.70 -4.92
Learning in virtual courses is effective as face-to-face instruction (Q9)	0. 9.84	-7.69 -3.28	-7.69 -14.76	7.69 1.63	7.69 6.55
Virtual exams are as fair as face-to-face exams (Q10)	3.85 4.92	3.84 -8.20	-7.70 0.	0. -6.56	0. 9.83
My participation in virtual class settings is same as face-to-face class settings (Q11)	-3.85 -1.64	-3.84 6.55	0. -4.92	7.69 -1.64	0. 1.64

Analysis of Written Respondent Comments

Abridged written remarks of the respondents are displayed in Table A.1 that appear in the Appendix. They were intended to complement the Q1-Q11 inquires. Given that the survey reported here is an exploratory investigation, the written comments section allowed students to remark on learning aspects that were not addressed in questions Q1-Q11.

Twenty-seven students provided remarks that varied between twenty-five and three-hundred twenty-three words. Ten respondents used eighty-eight or more words. The average is eight-three. The remarks in Table A.1 are organized in seven categories labelled Adjustment experience, Group work, Emotional issues, Suggestions for improvement, Compliments, and Miscellaneous remarks.

The following is a summary of the remarks. The university's response to the COVID-19 pandemic presented emotional issues for some students. Some found the at-home learning environment difficult. It was away from campus friends, instructors, and study spaces; it was confounded with family demands such as child and other family member care; it was crowded due to school closings of siblings and workplace shutdowns of parent(s); it was not conducive to quiet study; and it complicated outreach to classmates, group project members, and faculty that e-mail, Zoom, and other electronic communications could not overcome. Many remarks acknowledged that the transition to an all-virtual learning environment was an adjustment that at first was difficult but in time worked. Few remarked that online learning did not work well for them. One remarked that it accounted for her/his withdrawal from the university. Some stated that they would like the option of virtual course delivery in the post-COVID-19 university. Some found faculty support was lacking. They cited syllabi that were not updated for COVID-19 era learning; group work that did not work well in the virtual environment; workloads that seemed greater than what would be required with face-to-face instruction; slow response of some instructors to what respondents considered important questions/inquiries regarding the content of e-lectures, requirements of assignments, and requests for variance from assignment due dates. The remarks did include expressions of appreciation for how some faculty facilitated the transition to mandatory virtual online learning. Suggestions for improvement in learning delivery were offered. They included recording and archiving electronically live e-lectures; availability of on-campus quiet study space in conformance with social distancing and masking requirements; dropping mandatory attendance for virtual class meetings; and consideration for the burdens students face in managing coursework, employer and family demands, remote learning in the COVID-19 era, and abrupt back-and-forth changes between face-to-face and virtual learning modalities.

Some of the remarks are stunning in what some students deal with in pursuing their studies. The remarks note the difficulties and complications of the demands of student employment, financing semester enrollments, family care responsibilities, and the lack of adequate home study space. From the remarks, face-to-face interactions with fellow students and faculty members are important to their learning. The lack thereof in the COVID-19 era may adversely impact desired learning outcomes. If quarantining to home returns with the rise of new variants of COVID-19, exploratory surveys such as this may identify the impediments to learning that arise with back-and-forth transitions between virtual and face-to-face learning environments.

SUMMARY AND CONCLUSIONS

Five results of the investigation stand out. They are: i) group work did not work well in the COVID-19 experiences of the respondents; ii) opinions of the suitability of the learning aspects addressed in Q1-Q11 varied conspicuously between the two populations of respondents, i.e. those at the sampled private and the public universities; iii) some respondents did not find their home environments to be conducive to virtual learning and accordingly requested campus facilities to be made available for individual study and individual access to virtual classroom sessions; iv) respondents were favorable to use of Zoom and like conferencing software for mandated virtual class meetings but were reserved in their opinion of instructor efficacy in that setting; and v) respondents missed interactions with classmates. Given the differences in the responses of students at the public and the private universities, this feature of student opinion should be addressed in the design and sampling of subjects in future related studies.

The central role of student interactions in knowledge acquisition is pronounced both in the responses to the survey's questions and in the spontaneous written remarks of students. The impediments that virtual instruction of the scale implemented with the university's response to the COVID-19 pandemic need further investigation. Students learn from one another in ways to be more fully understood. Certainly, virtual learning has conflicted this aspect of student learning. Although the university's response to the pandemic

did not prevent group and project work and student interactions, it may have interfered with the manner in which it could effectively proceed.

If the migrations in student opinion regarding the suitability and effectiveness of virtual learning pre-COVID-19 vis-a-vis COVID-19 era from agreement thereto to opinion of neutrality and disagreement are looked upon as respondent discontent, the discontent is manifest. However, it did not show itself as a wholesale migration to strongly disagree (SD) with all-virtual or hybrid course deliveries. Perhaps as educators and administrators, we should engage in ongoing monitoring of student opinion of the efficacy of mandatory and broad virtual instruction and learning. Monitoring should also apply to assurance of learning outcomes (AoL) at both the course and program levels.

With the rise of COVID-19 variants, the university's response to the pandemic may not be over and may call for new approaches to the delivery of instruction and assurance of learning. Issues relating to the suitability of group work, exams, student interactions, availability of on-campus quiet study places, effectiveness and complementarity of instructor and course delivery software may continue and unknowingly affect student learning and AoL. When the grip of COVID-19 on university campuses and IRBs lessens, broader studies addressing the issues found in the narrow convenience sampling reported here may help in formulating the university's response to the current and future crises.

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APPENDIX

TABLE A1
ORGANIZATION OF SELECTED REMARKS OF RESPONDENTS

Aspect	Ref.	Respondent remark
Adjustment experience	1	I was worried that I would have to teach myself all the subject material to but I was wrong.
	2	My experience has been difficult, mostly due to having my son at home while I do homework. It makes it hard to find time away.
	3	It was not bad and not that good also. Attending classes from home does not allow you to be fully attentive in the classes. There are so many distractions and the motivation level is very low.
	4	I feel like learning online was a bit more relaxed than learning in person, but I miss the social aspect of in-person classes.
	5	It was difficult in the beginning, but I have adjusted well. Getting used to being on Zoom was not as hard as I thought it was going to be.
	6	At first, I saw that virtual learning had some difficulties, but later everything seemed easier because everyone adapted well. Course material and assignments were made more suitable online learning.
	7	It was tough in the beginning, but I have adjusted well. Getting used to Zoom was not as difficult as I thought.
	8	Personally, I could never learn online. I've never taken online courses prior to COVID and the adjustment has been very difficult. I know the same is true for others as well.
	9	I prefer the online experience overall now. I appreciate viewing lectures of the day when I have time. This is extremely helpful for people working full time.

Group work	10	Contacting people was challenging, working together efficiently was challenging, and executing our designated group project responsibilities was challenging because so many procrastinated, more so during the Covid period.
	11	Group projects have been very difficult to navigate because we all have varying work hours, Zoom time availability, and other obligations due to the pandemic. For me, it was difficult to have separate school time at home. At home I have to take care of my family members and do not have a quiet place to get work done.
	12	Any work group, especially in marketing, was difficult to complete. You did not choose your teammates. Some slacked on their work significantly. It was harder to hold them accountable because there was no face-to-face contact.
Emotional issues	13	I think the biggest downfall of learning in this COVID-19 era is that I am not learning. I am finding ways to work around the system because I don't have the accountability that I had with in-person classes. My motivation, mental health, encouragement, outlook, and support, is so low. I'm just trying to make it to the end.
	14	My biggest fear was failing classes and to have to repeat them. COVID has affected me financially and emotionally. I had trouble trying to connect with school and life. I was to the point where I wasn't able to focus on school.
	15	Last semester, Fall 2020, was extremely hard for me being home for so long and mental health issues arose. I completed three weeks of the semester on campus, then transitioned to all online at home. This was such a different experience compared to my freshman year. I felt I missed out on so many things, some were small but I looked forward to them. I changed my major because I realized when I went all online I just didn't like it anymore.
Volume of required coursework	16	For me, it was difficult to separate school and have home time. At home, I have to take care of my family members and do not have a quiet place to work. It also feels like teachers assign more busy work and give less instruction on what they want.
	17	It seemed to me and many others who expressed their feelings on our university social media that there was significantly more work given after COVID-19 began. It was very hard for us to keep up with all of the assignments.
	18	The only problem I see with virtual learning is that many professors assign large amounts of work because the class is virtual. When numerous courses are doing this, the required work becomes troubling. It is more work than a in the face-to face-class.
	19	Online classes are much harder because professors are treating semesters and coursework in the COVID-19 era as they did before COVID-19. This is not the case because we don't have breaks in our semesters.
Suggestions for improvement	20	Overall, if there was anything that the staff could adjust for the upcoming semester, allow students to study on campus. Classrooms could be made available specifically for studying. It could comply with social distancing guidelines. Mask could be kept on the entire time and sanitizing wipes could be used prior and after using a workspace. The library could be divided for quiet spaces, small group work, and individual workspaces.
	21	Just one thing, I hope professor would check email more frequently just in case students have questions that require quick answers. Then, after the COVID era, I would like the choice of virtual study or face-to-face would continue.
	22	Stop grading attendance. It just adds more stress to people's already stressful lives. Add more fully online options that don't have Zoom requirements for

		people that don't have access at work. Keep hybrid classes post-Covid. For fully online classes, a professor could upload recordings of lectures. Some already do.
	23	It would help if teachers would record all lectures and make them available to students. It is not students' fault that they have to work and may miss some lectures. We are in a pandemic, and many have lost their jobs and have to cope with new employment and a new work schedule.
	24	All Fall 2021 classes offerings should have the choice of a digital version for students who do not want to go back to face-to-face classes or be vaccinated.
	25	I suggest professors be considerate with their students. By that I mean they understand that each student has financial responsibilities and other Covid related issues. So consider extending due dates for assignments for students that need it for good reasons.
Compliments	26	I thought it was unnecessary that I was expected to do loads of group work given the circumstances. However I had one professor that actually taught me a lot from their lectures and made the experience somewhat delightful unlike others that made it quite clear they didn't want do online teaching.
	27	Some of my teachers' lectures were really good and they made the hard topics easier to understand.
	28	Professors who make adjustments to their syllabus because of the pandemic and arrange their classroom for student success are the true professors.
	29	The University did the best it could during Covid. I feel online learning was more relaxed than learning in-person. But I missed the social aspect of in-person classes. Professors seem understanding of student needs during Covid.
	30	At first, virtual study had some difficulties for me, but later everything became easier. Everyone adapted. Coursework and assignments were made more suitable to online study.
	31	I like the flexibility of online classes and prefer to not return to the inflexibility of face-to-face only courses. COVID was not good for many reasons, however, it caused businesses and universities to develop new ways to interact with customers and students.
Miscellaneous remarks	32	Many of my professors failed to update their syllabus from pre-COVID to COVID era instruction which caused confusion. Many questions were asked about the conflicts with the syllabus. Failure to update the syllabus for COVID such as societal restrictions gave me the impression that faculty members do not care about students let alone the contract that is supposed to bind our interactions and responsibilities within the class.
	33	Some professors required the camera-on function which in my experience was high pressure and I did worse in such situations.
	34	It was difficult to know from PowerPoint presentations what information was significant enough to study in depth and focus on. Because we were given so many PowerPoints, it led to many pages of notes that didn't really help. We didn't know what information was most important.
	35	Attending classes from home does not allow you to be fully attentive. Often while a lecture is going on, I am putting my son to sleep. There are so many distractions causing my motivation level to be very low.
	36	I would not have been able to pass any math or statistics class with virtual instruction.