Student Perceptions of Their Online Learning Experiences

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Abstract

When the World Health Organization declared a global pandemic in March 2020, educational institutions abruptly moved course instruction to online in synchronous or asynchronous formats. As a result, students were forced to adapt to the new learning method and change the way they had previously thought of courses. A study was conducted of 135 undergraduate students in agriculture enrolled in four different courses at the University of Tennessee at Martin. The study examined traditional, on-campus students' perceptions about their experiences with online learning as a result of the COVID-19 pandemic, and how these perceptions related to their learning styles and personalities. Also assessed was how different online teaching methods impacted students' perceptions on how connected they felt with professors and classmates. Results indicated that students who are extroverted and classified as kinesthetic or visual learners had more positive perceptions about online instruction. In addition, the more semesters of college a student had completed, the more positive their perceptions of the online experience.

Keywords: online learning, student perceptions, COVID-19

The World Health Organization (WHO) officially declared a global pandemic after the outbreak of COVID-19 in March 2020 (WHO, 2021). The declaration prompted many higher education institutions to abruptly move all course instructions to either online or hybrid (classroom and online) settings. Academic institutions experienced the greatest educational disruption thus far in the history of higher education (Almahasees, et. al, 2021). Instructors relied heavily on technologies to support online teaching environments. As a result, one had to be assured that these technologies were accessible, reliable, and user-friendly to make online teaching and learning successful. Therefore, this transition into online settings created numerous challenges across faculty, students, and academic institutions. Online teaching has generally incorporated both synchronous and asynchronous learning opportunities that necessitated precise planning and intentional course design (Brown & Krzic, 2020; Harris et al., 2020). This must be accompanied by incorporation of mechanisms by which students could interact, communicate, and provide timely feedback to help students feel engaged with the course. The level at which students feel engaged has been critical for a perceived sense of connectedness and achievement in an online course (Dixson, 2010).

A global study focusing on students' satisfaction during the COVID-19 pandemic found that highest satisfaction from distance education methods was exhibited by students from North America, Oceana, and Europe (Aristovnik et al., 2020) compared to other regions. The students also perceived having "larger workloads" in online education as compared to face-to-face course delivery. Also, students of Agronomy, Soil, and Environmental Sciences (SASES) perceived that their amount of effort put forth during the online course delivery was far more than their instructors (Moorberg et al., 2021). Yet, students also felt more confident navigating online classes and using virtual interface software than they were during the in-person classes. However, a study by Unger and Meriran (2020) revealed that 75.6% of the students surveyed in an animal behavior course during the study experienced a certain level of anxiety due to abrupt transitioning of courses to an online environment.

The overall objective of this study was to examine traditional, on-campus students' perceptions about their experiences with online learning as a result of the COVID-19 pandemic, and how these perceptions related to students' learning styles and personalities. Also assessed was how different techniques used in the online learning environment impacted students' perceptions of how connected they felt with their professors and fellow classmates. Understanding the students' perception is key to student retention and success in future online learning environments.

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Methods

Undergraduate students studying agriculture at the University of Tennessee at Martin were surveyed in the fall of 2020 (completed responses (n)=135). These students were traditional, on-campus students who were abruptly shifted to online learning as a result of the COVID-19 pandemic. They were enrolled in three agriculture courses that were primarily taught using experiential learning prior to the pandemic and one agribusiness course, which follows a more traditional classroom instruction method. The students completed an initial survey early in the semester and a survey at the end of the semester to measure their change in attitudes and perceptions. This research was approved by UTM Institutional Review Board (IRB#2021-845-E05-4025).

Initial Survey

The initial survey was given approximately 3 weeks after the start of the semester. The survey asked the students to complete an online learning skills evaluation (LearningStylesQuiz.com, 2020), as well as answer other questions as shown in Table 1. The quiz grouped students into three general learning styles: kinesthetic, auditory, and visual. Within these general categories, the student's general attitude was measured and classified as extrovert (E) or introvert (I) based on their quiz responses. There was also an assignment of learning preferences: intuition (N) or sensing (S), feeling (F) or thinking (T), judging (J) or perceiving (P). These quiz results are based on Jung's theory of psychological types, most people associate with the popular Briggs Myers personality test, which is based on Jung's theory (Humanmetrics.com).

Semester-end Survey

The second survey was given at the end of the semester during the week of final exams. Responses from

Table 1.

Description of Survey (s) Variables and Coded Responses for Analysis

Variable	Explanation of the variables (Survey question)	Coded Response
	Initial survey questions	
Semester	How many semesters have you attended college outside of high school dual enrollment?	I have not = 1, One semester = 2, Two semesters = 3, More than two semesters= 4
Online	If you had the choice to take a course online or in person, what would be your preference?	Online = 1, Other responses = 0
Inperson	If you had the choice to take a course online or in person, what would be your preference?	In person =1, Other responses = 0
Negeffect	Do you think taking courses online has negatively affected your grades?	Yes =1, Not sure = 2, No = 3
Connection	How connected do you feel with the course (instructor, classmates, etc.)?	1 = No connection at all, 5 = Very connected
Tech	Have you experienced any technological difficulties (internet connectivity, canvas navigation, computer issues) when taking online courses?	Yes =1, No =0
Time	How has the online format for courses affected your time management?	Positive = 1, Did not impact = 2, Negative = 3
	Semester ending survey questions	
Posneg	Now that the semester is coming to an end, do you think taking courses online has positively or negatively affected your grades?	Positive = 1, Negative = 0
CompleLS	Do the teaching techniques in this course complement your learning style?	Yes =1, Not sure = 2, No = 3
Stumethod	Based on your previous learning style evaluation, do you plan to change or modify your study methods for future courses?	Yes =1, Not sure = 2, No = 3
	Learning styles survey questions	
V	Learning Style (V= Visual)	V = 1, Others = 0
K	Learning Style (K= Kinesthetic)	K = 1, Others = 0
EI	Extrovert (E), Introvert (I)	E = 0, I =1
NS	Sensing (S), Intuition (N)	S = 0, N =1
TF	Feeling (F), Thinking (T)	F = 0, T = 1
JP	Perceiving (P), Judging (J)	P = 0, J =1

Table 2.

Descriptive Statistics of Survey Data Used in the Analysis

Variable	N	Mean	Std Dev	Minimum	Maximum
Semester	135	3.126	1.236	1	4
Online	135	0.148	0.357	0	1
Inperson	135	0.726	0.448	0	1
Negeffect	135	1.844	0.871	1	3
Connection	135	2.578	1.054	1	5
Tech	135	0.696	0.462	0	1
Time	135	2.237	0.866	1	3
Posneg	135	0.452	0.500	0	1
CompleLS	135	1.452	0.643	1	3
Stumethod	135	1.570	0.797	1	3
V	135	0.363	0.483	0	1
K	135	0.600	0.492	0	1
EI	135	0.585	0.495	0	1
NS	135	0.193	0.396	0	1
TF	135	0.578	0.496	0	1
JP	135	0.630	0.485	0	1

the initial survey were compared with those from the second survey and incomplete responses were omitted from the final analysis. This was done so that the students' attitudes and perceptions over the course of the semester could be accurately measured.

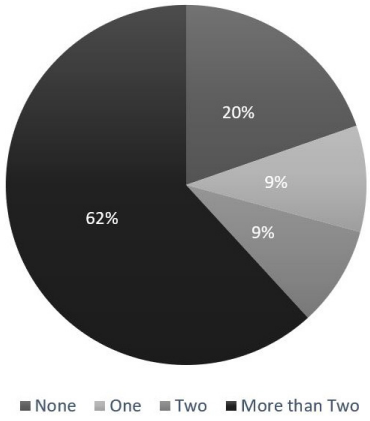
The information in Table 1 provides a description of survey variables from both surveys and the coded responses used in the analysis. A descriptive analysis is presented in Table 2.

Results and Discussion

A total of 135 undergraduate students completed both the initial and semester-end surveys. A majority of these students (62%) had previously attended more than two semesters of college courses that did not include any high school dual enrollment credit, so they were not new to college level coursework (Figure 1). Nearly 70% of these students prefer in-person learning formats, which they had enrolled in at the beginning of 2020. When these students completed the online learning styles evaluation, 57% were kinesthetic learners meaning they thrive on interactive learning techniques. Visual learners thrive when visual aids are used and 40% of the students fell into this category. The smallest category were auditory learners (3%) who learn best when overviews and recaps help them summarize information. These percentages are illustrated in Figure 2.

Figure 1.

Student responses to number of semesters of college they have completed



Initial Survey Results

As the fall semester began, 51% of students responded that they felt the online learning environment would negatively affect their grades. The initial survey revealed that 72% of students indicated they had already experienced technical issues with online learning formats, even though they were only 3 weeks into the semester.

Just over half of the students (52%) reported that their time management was negatively affected by the online format for courses. In talking with students, many admitted that they had poor time management skills but by having a

schedule in which they attended class, they were forced to keep up and set aside time to complete course requirements. These results are summarized in Figure 3.

Figure 2.

Results from learning styles evaluation

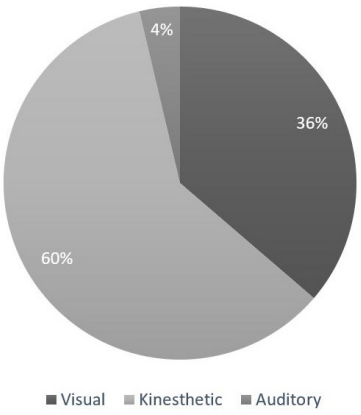
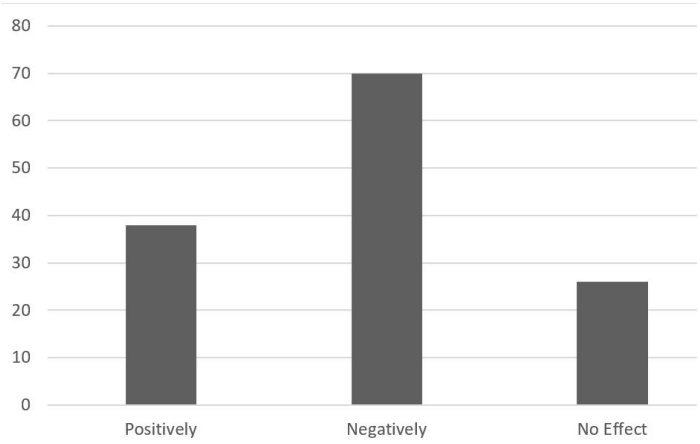


Figure 3.

Student responses to effect on time management



Semester-end Survey Results

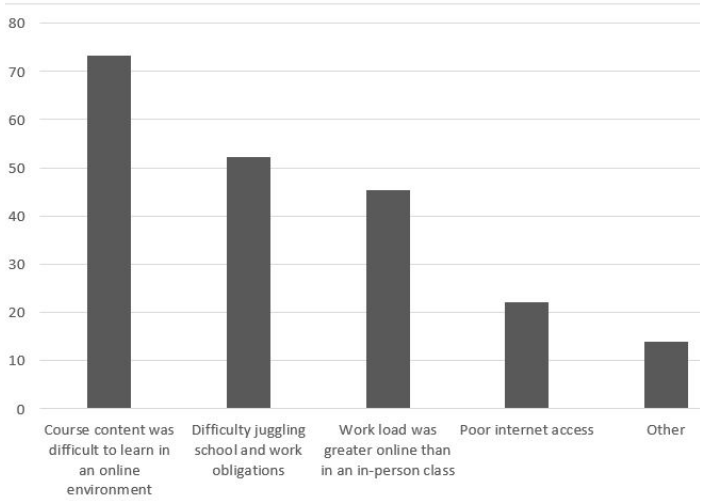
By the end of the semester, the number of students who felt their grades were negatively affected by the online learning environment had risen slightly to 56%. The most commonly reported reason for this was that the course content was difficult to learn in an online environment, followed by difficulty in juggling work and school obligations. Students could choose more than one reason. All reasons chosen on the survey are shown in Figure 4.

However, 44% of students reported that they felt their grades were positively affected. The most common reason given was that they had flexibility in juggling school and work responsibilities, closely followed by the ability to access materials at any time and a less stressful testing environment. Students were allowed to choose more than one reason. All reasons chosen on the survey are shown in Figure 5.

Connections between the professor and the students can be challenging in an online environment, especially when that type of environment is new to all parties. However, it is an important part of students' overall perception of the effectiveness of a course (Dixson, 2010). When asked what methods made students feel connected to their classmates, 50% reported they did not feel connected. Of those who did feel connected, 64% contributed external communication with classmates to that feeling. External communications included SnapChat, GroupMe, and other similar apps. The least reported method specifically listed was the use of Zoom breakout rooms at 18%. These and other responses are shown in Figure 6. Note that students could choose more than one response.

Figure 4.

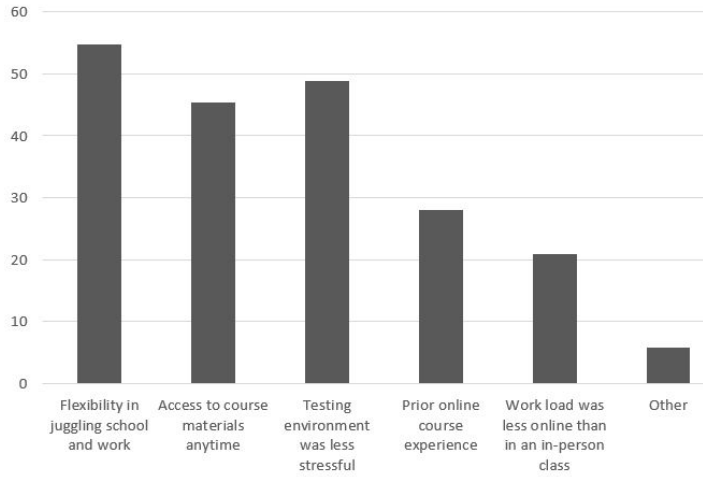
Student responses to why they felt their grades were negatively affected



Note. Students could choose more than one response

Figure 5.

Student responses to why they felt their grades were positively affected



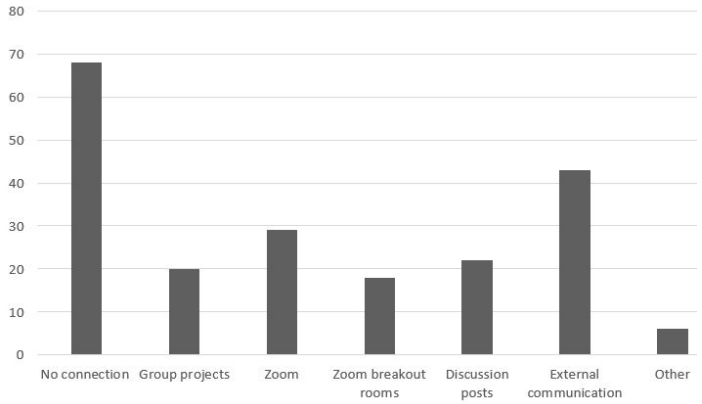
Note. Students could choose more than one response

Statistical Analysis

A logit analysis was employed to statistically examine

Figure 6.

Student responses to methods that created a feeling of connection within the course



Note. Students could choose more than one response

how the likert scale survey responses for students' response to certain variables of interest were impacted by their learning styles, personalities, and responses to other questions. Table 3 presents the results from a logit analysis to examine how students' response to the question 'Do the teaching techniques in this course complement your learning style?' is impacted by their learning styles, personalities, and responses to other questions asked in the surveys. According to the logit analysis, the more semesters of college outside of high school dual enrollment had a significantly positive impact on their perception about teaching techniques in the course complementing their learning style. Further, students' experience with any technological difficulties when taking online courses also had a positive relationship with their perception about teaching techniques in the course complementing their learning style. A plausible reason for this could be that the instructional techniques and communication with the instructor may have had a positive impact on how those technological issues were resolved for the student, especially if it was related to connectivity issues due to a remote location with poor internet connectivity. This could be further validated by poor internet access being ranked very low as a reason for grades being negatively affected. Student perceptions on taking courses online positively affecting their grades also had a positive impact on their perception about teaching techniques in the course complementing their learning style. Students who were classified as visual or kinesthetic learners positively perceived themselves to be able to adapt and succeed in the learning environments presented through Zoom or with external communication with their classmates. Lastly, their personality as an extrovert had a significantly positive impact on their perception about teaching techniques in the course complementing their learning style. This could possibly be explained in the fact that extroverts are more likely to speak up in a Zoom meeting and contact their professors with questions and comments.

Table 4 presents the results from a logit analysis to examine how students' response to the question

Table 3.

Parameter Estimates for Logistic Model (Dependent variable = CompleLS)

Parameter	DF	Estimate	Std. Error	Wald Chi-Square	P-value
Semester	1	0.3007	0.1589	3.5830	0.0584*
Online	1	0.3293	0.8498	0.1501	0.6984
Inperson	1	0.2052	0.6268	0.1071	0.7434
Negeffect	1	0.5001	0.3212	2.4238	0.1195
Connection	1	0.0330	0.1912	0.0297	0.8632
Tech	1	0.9659	0.4755	4.1267	0.0422**
Time	1	-0.0114	0.2863	0.0016	0.9684
Posneg	1	0.9781	0.4661	4.4035	0.0359**
Stumethod	1	0.0018	0.2497	0.0001	0.9941
V	1	-0.1271	1.0226	0.0154	0.9011
K	1	-0.1308	1.0051	0.0169	0.8965
EI	1	0.7496	0.3821	3.8489	0.0498**
NS	1	0.0666	0.5052	0.0174	0.8951
TF	1	-0.0079	0.4089	0.0004	0.9846
JP	1	0.5740	0.4195	1.8724	0.1712

Note. *Significant at P ≤ 0.10; **Significant at P ≤ 0.05; ***Significant at P ≤ 0.01

Table 4.

Parameter Estimates for Logistic Model (Dependent variable = Connection)

Parameter	DF	Estimate	Std. Error	Wald Chi-Square	P-value
Semester	1	-0.1434	0.1388	1.0674	0.3015
Online	1	0.9626	0.6587	2.1357	0.1439
Inperson	1	0.664	0.5435	1.4925	0.2218
Negeffect	1	0.0328	0.2574	0.0162	0.8986
Connection	1	0.5498	0.3915	1.9721	0.1602
Tech	1	0.3847	0.2431	2.5045	0.1135
Time	1	-0.5595	0.3967	1.9896	0.1584
Posneg	1	0.1418	0.2714	0.2728	0.6015
Stumethod	1	0.1601	0.2087	0.5888	0.4429
V	1	-2.2501	0.9528	5.5767	0.0182**
K	1	-2.1319	0.9382	5.163	0.0231**
EI	1	0.1993	0.3331	0.3579	0.5497
NS	1	0.0299	0.4274	0.0049	0.9442
TF	1	0.5212	0.3481	2.2426	0.1343
JP	1	0.2724	0.3595	0.5742	0.4486

Note. *Significant at P ≤ 0.10; **Significant at P ≤ 0.05; ***Significant at P ≤ 0.01

'How connected do you feel with the course (instructor, classmates, etc.)?' is impacted by their learning styles, personalities, and responses to other questions asked in the surveys. Results showed being a visual or kinesthetic learner had a significant positive impact on students' perception about their connection with the course, while none of the other variables had a significant impact. This alludes to the fact that student personalities clearly impacted their overall experience in the online course as it relates to their interaction and connection with the instructor and peers especially in the online learning environment provided in these courses.

It is to be noted that while the results from the logit analysis provide an initial insight into how students' response to the variables of interest were positively or negatively impacted by other variables, their perceptions could also have been potentially impacted by factors such as specific instruction style which were not examined in the current analysis. Ultimately, this sets the stage for furthering the study to include parameters involving teaching pedagogy that could also influence student perceptions of their own learning styles.

Summary

When the abrupt shift in teaching methods changed in 2020 from in-person to online, students' adaptability in learning methods was challenged. Students in four undergraduate agriculture courses were surveyed to determine their perceptions of how this online environment affected their grades and connectedness to classmates and professors. Two surveys, one at the beginning and one at the end of the semester, were posted inside the course management software as an assignment and, because of their familiarity with the program, a large number of completed surveys were returned. The survey instrument had its weaknesses in that many of the questions were open-ended or based on a students' "feelings". Many times student responses to perception questions are affected by their mood or situation at that particular time and may not be based on rational judgement. However, by surveying student perceptions, the faculty can begin to adapt and change the way course content is presented and received by students. In the future, the addition of a third survey that delves deeper into some of the responses could be helpful in getting more insight into the attitudes and perceptions of the students.

Overall, it seems that the more semesters students attend college, the more adaptable they become to changing learning environments. According to the survey results, the more completed college semesters a student had, the more positive their perceptions were about course outcomes and their ability to learn in an online environment. Even students who experienced technological issues generally had a positive perception about their ability to learn online and earn a good grade in a course. The other factor that positively affected perceptions of the online learning environment was being an extrovert in addition to being classified as a visual or kinesthetic learners.

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