

## **PRE-COVID-19 ON-GROUND AND DISTANCE LEARNERS' CHARACTERISTICS: A ROAD MAP FOR DISTANCE AND REMOTE LEARNING DURING A PANDEMIC**

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### **Abstract**

Students who enroll in distance education typically elect to participate in an online learning environment. Due to the COVID-19 pandemic, numerous higher education institutions in the United States moved classes to online or remote formats for spring 2020; many institutions continued to do so in fall 2020 (The Entangled Group, 2020). Knowing the characteristics of typical distance and on-ground learners before the pandemic may help faculty modify teaching practices to aid all learners. This study sought to address those concerns by considering the National Survey of Student Engagement (NSSE) data available from the Report Builder-Public on all distance and on-ground students surveyed in the United States in 2017 and 2018 (*NSSE Report Builder-Public 2017 & 2018*, 2018). An important finding was that traditional (24-years-old or younger) status learners rarely took all of their courses online. This paper offers timely recommendations for online and remote teaching based on various student characteristics.

**Keywords:** Distance learning, Remote Learning, Pandemic instruction, NSSE, Student characteristics

## Introduction

American students who enroll in distance education usually self-select an online learning environment. With the exception of classes that have no other options, a student must make the choice to take a class online instead of on-ground (also referred to as *face-to-face*). Each semester, instructors in higher education have grown accustomed to the student populations they will encounter in their classes, either via distance or on-ground. Numerous higher education institutions in the United States moved their classes to online or remote formats for the spring, summer, and fall 2020 semesters as a result of the COVID-19 pandemic (The Entangled Group, 2020). This knowledge can bolster academic planning at the course and the institution level. Truly, plans for the whole 2020-2021 academic year are tentative at best.

How can faculty who typically provide on-ground instruction plan for remote teaching when facing this uncertainty? This study addressed those concerns by analyzing the NSSE Report Builder Public data on distance and on-ground students in the United States who completed the NSSE survey in 2017 and 2018 (*NSSE Report Builder-Public 2017 & 2018*, 2018). Knowing the characteristics of typical distance and on-ground learners before the pandemic may help faculty teaching remotely or online during the pandemic to modify practices to address the needs of students who choose to be distance learners and those who do not.

## Background

On March 11, 2020, The World Health Organization (WHO) declared COVID-19 to be a pandemic (Branswell & Joseph, 2020). COVID-19 is a new coronavirus that was first identified in Wuhan, China (Centers for Disease Control and Prevention, 2020). According to the Centers for Disease Control and Prevention (CDC), “The new name of this disease is coronavirus disease 2019, abbreviated as COVID-19. In COVID-19, ‘CO’ stands for ‘corona,’ ‘VI’ for ‘virus,’ and ‘D’ for disease” (Centers for Disease Control and Prevention, 2020, question 3). COVID-19 cases climbed in the United States in early March, and institutions of higher education scrambled to address health and safety concerns as students returned from spring break. The first reported large college to move its classes online in response to the pandemic was The University of Washington on March 6, 2020; this institution has

campuses across the Seattle area (Baker, Hartocollis, & Weise, 2020). Days later, the virus was impacting higher education coast-to-coast as institutions such as Vanderbilt University announced a move to online coursework on March 9 (Cook, 2020). Thousands of other institutions quickly followed (The Entangled Group, 2020). In order to adhere to social distancing guidelines and to continue instruction without the risks of classroom contact, online courses and remote courses became popular solutions for finishing the spring 2020 semester.

### **Online Courses**

Online, or asynchronous, courses are classes for which students receive all lessons, activities, and discussions on a web platform provided by the institution. According to IDEA (2012), “online courses are revolutionizing formal education, and have opened a new genre of outreach on cultural and scientific topics” (para. 2). With online courses, students can asynchronously access their classwork anytime and in any location. Online courses provide students with more flexibility and time to complete their work. This is particularly helpful for students who are working and have families. Online courses are more than just lessons posted on a website; they support online discussions and feedback. Yeh et al. (2019) suggest that it is imperative to study “students’ online learning readiness and motivational factors so that they remain engaged with the material” and ensure that they are being successful in their online courses (p. 24).

### **Remote Courses**

Remote courses are similar to online courses, but they are synchronous (taught at specific times) and mimic being in the on-ground classroom. Because students are required to sign-in at assigned times, they are held more accountable than students in an online course (Geneva College, 2020).

### **The Challenges**

During the pandemic, instructors at all types of higher education institutions – large and small, public and private – struggled to adjust to remote learning, often without proper training, equipment, or technology. Students frequently had additional challenges to overcome as they moved out of their dormitories on short notice (Medina, 2020). Furthermore, many students struggled to transition to completing schoolwork on home

computers between work in essential jobs (Brown, 2020). Some students lacked the requisite technological resources. The COVID-19 impact on higher education was truly of immense proportions. According to the most current numbers from The Entangled Group (2020), 4,234 higher education institutions and 25,798,790 students in the United States have been impacted by the pandemic. As of September 2020, 554 institutions have indicated employment changes, such as furloughs, and 189 have modified admissions requirements (The Entangled Group, 2020). Seven institutions may close permanently (The Entangled Group, 2020). The 2020-2021 academic year is full of uncertainty for all stakeholders, such as students, instructors, and administrators.

### **Purpose of the Study**

What can we do in the face of such uncertainty? Using data from the National Survey of Student Engagement, we can explore characteristics of both on-ground learners and distance-only learners (*NSSE Report Builder-Public 2017 & 2018*, 2018). This research into pre-pandemic student populations presents a path forward with the increase in remote and online learning.

Two questions underpinned this study, “What do we know about the characteristics of pre-pandemic on-ground and distance-only students?” and “How can we modify our pandemic-response teaching to address these characteristics?” This study sought to address those questions by considering the most recent version (2017 & 2018) of the NSSE Report Builder-Public data for all surveyed distance and on-ground first year and senior college students at United States 4-year institutions (*NSSE Report Builder-Public 2017 & 2018*, 2018). Knowing the characteristics of typical pre-pandemic distance and on-ground learners may be beneficial to educators. Specifically, instructors teaching remotely or online during the pandemic may be able to modify teaching practices to address the emerging needs of students, both those who chose to be distance learners and those who did not.

### **Methods**

#### **National Survey of Student Engagement (NSSE)**

In this study, self-reported survey results from the National Survey of Student Engagement (NSSE) 2017 & 2018 were analyzed to understand the characteristics of first

year and senior students at four-year institutions who identified as distance or on-ground learners. Data from the NSSE was selected for this study because it is a national survey that includes distance and on-ground students from institutions across the country.

Approximately, 325,485 first year students and 373,372 senior students from 1,020 institutions across the United States and Canada participated in the survey with 8% of the institutions being Canadian (*NSSE Report Builder: Data File Summary*, 2018). Institutions paid to allow their students to participate in the survey. This study only uses the data from 4-year institutions in the United States. The National Survey of Student Engagement assesses the learning and personal growth of first year students and seniors at bachelor-granting institutions (NSSE, 2020a). The NSSE is administered at public and private institutions (Gonyea & Kinzie, 2015) and institutions across Carnegie classification levels from bachelor- to doctoral-granting institutions were considered (*NSSE Report Builder-Public 2017 & 2018*, 2018). Although the NSSE does not assess students' performance directly, the survey provides a snapshot of student perceptions of their institutions' strengths and weaknesses (NSSE, 2020a). Hence, the survey results should be generalizable to the broad topic of how instructors modify teaching in response to a pandemic.

### **NSSE Variables and Characteristics**

The authors generated a report from the NSSE Report Builder-Public 2017 & 2018 (2018) by selecting *Report Variables*, a *Grouping Variable*, *Institutions*, and *Students*.

#### ***Report Variables***

The Report Variables can be either the *NSSE Engagement Indicator Statistics* or the *Item Frequencies* from the survey. This study used the NSSE Engagement Indicator Statistics because NSSE developed them as the survey standard (*NSSE Report Builder-Public 2017 & 2018*, 2018). The engagement indicators that NSSE uses to present the data are provided for ease of data interpretation.

#### ***Grouping Variable***

This study used *Distance Education Status* as the Grouping Variable. Distance Education Status grouped results by two categories: "Distance learners (all courses entirely online)" or "All others" (one or more on-ground courses taken).

***Institutions Surveyed***

Only U.S. institutions were included in the report because Canadian institutions may differ systematically from institutions in the United States. Furthermore, the pandemic may affect higher education in Canada differently than in the United States.

***Students Selected***

The study examined *First-year students: Customize[d] by student characteristics* and *Seniors: Customize[d] by student characteristics*. Because “the NSSE Report Builder produces reports for one class level at a time,” reports were run separately for first year and senior students (*NSSE Report Builder: FYI*, 2018).

***Customized Student Characteristic Categories***

The Customize[d] Student Characteristics considered in the study included age (traditional, or younger than 24 years, versus non-traditional, or 24-years or older), enrollment status (Part-time versus Full-time), and first-generation status (“no parent with a baccalaureate degree” versus at least one parent with a baccalaureate degree) (*NSSE Report Builder-Public 2017 & 2018*, 2018). While 25-years-old or older is often used as the age measure for non-traditional student status (National Center for Educational Statistics, n.d.), the age measure of 24-years-old or older was used in this study. This modification from the more commonly used measure was required to align with the age bands used in the NSSE.

Reports were generated based on these selection criteria. As students could voluntarily refrain from answering each question, slightly different total values (n) were generated for each of the NSSE Engagement Indicator Statistics (*NSSE Report Builder-Public 2017 & 2018*, 2018). Therefore, the total number of distance learners for each NSSE Engagement Indicator and the total number of responses for each NSSE Engagement Indicator by student characteristic were averaged to give an approximate percentage of distance learners for each customized student characteristic category investigated (*NSSE Report Builder-Public 2017 & 2018*, 2018).

**Results**

The average number of first year student survey respondents was approximately 191,784. The average number of first year distance learners was approximately 7,563.

NSSE defines distance learners as students who took “all courses entirely online” (*NSSE Report Builder-Public 2017 & 2018*, 2018). The number of senior students responding to the survey was approximately 251,715. The average number of senior distance learners responding to the survey was 30,072. A selection bias may exist as senior students who successfully reached their final year may differ in their engagement from first year respondents.

**Table 1. Percentage of Distance Learners by Traditional and Non-traditional Status**

	<i>First year</i>	<i>Senior</i>
<i>Traditional</i>	1%	2%
<i>Non-traditional</i>	52%	29%
<i>All</i>	4%	12%

Table 1 indicated that traditional status learners rarely were distance learners. Only 1% of first year traditional learners were distance learners, and only 2% of senior traditional learners were distance learners. This contrasts sharply with non-traditional status learners who often began their academic careers completely online: 52% of first year non-traditional learners were distance learners. Non-traditional students tended to continue learning fully online as 29% of senior non-traditional students were distance learners. Regardless of age, the percentage of distance learners was small compared to on-ground learners. Because NSSE defines distance learners as students who took “all courses entirely online,” there may be lower percentages of distance learners than expected since students who took some, but not all, classes online were not counted in the average total number of distance learners (*NSSE Report Builder-Public 2017 & 2018*, 2018).

**Table 2. Percentage of Distance Learners by Part-time and Full-time Statues**

	<i>First year</i>	<i>Senior</i>
<i>Part-time</i>	36%	34%
<i>Full-time</i>	3%	8%

Table 2 illustrates whether part-time or full-time status impacted being a distance learner (*NSSE Report Builder-Public 2017 & 2018, 2018*). A much larger percentage of part-time students took all online classes – 36% of first year students and 34% of seniors – as compared to full-time students. Indeed, the percentages of full-time students who took all online coursework were very small, 3% of first year students and 8% of seniors. Being a first year or senior student did not seem to impact these outcomes significantly.

**Table 3. Percentage of Distance Learners by First-generation or Non-first-generation Status**

	<i>First year</i>	<i>Senior</i>
<i>First-generation</i>	7%	17%
<i>Non-first-generation</i>	2%	7%

Table 3 illustrates that first-generation first year students (7%) and seniors (17%) took more classes online than their non-first-generation counterparts (2% for first year students and 7% for seniors). Moreover, the senior students took all online classes at almost 3 times the percentage rate of first year students, regardless of first-generation status. Perhaps this was because senior students may work more or have family responsibilities which require the flexibility of online coursework.

### Discussion

Taken together, the percentages of fully online distance learners were much lower than on-ground students (*NSSE Report Builder-Public 2017 & 2018, 2018*). However, those students who were fully online included more non-traditional, part-time, and first-generation students. Part-time students were more likely to be distance learners than full-time students, and non-traditional learners were more likely to be distance learners than traditional learners. The study clearly illustrated that traditional students are not expected to be enrolled fully online. With the COVID-19 pandemic many traditional students were forced into remote or online courses. These results, then, have implications for teaching online and in remote environments for both students who select to be fully online and those who do not.



No matter the student characteristics, the goal for most students who enroll in college is to graduate. Most students in the study chose an on-ground experience for both first year and senior classes. Assuming that this trend of on-ground enrollment continued, most students would have been enrolled in on-ground courses during the 2020 spring, summer, and fall semesters. The COVID-19 pandemic, then, has caused significant disruption for these students. For first year students, the disruption may have been especially significant. Traditional first year students who enrolled in higher education seeking an on-ground, campus-life experience would have faced significant disruption when their first year college classes were changed to remote or online as a result of the pandemic. For this group, continuing retention interventions may be especially important. Some of these students had not experienced online classes before and may need a tremendous amount of support from their instructors and institutions.

Furthermore, students may not have the technological resources that they needed for an online or remote environment as they may have expected to utilize on-campus resources. Another important touchstone for teaching remotely or online is making sure that all students feel as if they belong. As noted by Won, Wolters, and Mueller (2018), a sense of belonging has emerged as an essential aspect of student success. Students are more successful and engaged when they feel a sense of belonging, which may even assist students' adjustment to college. (Gopalan & Brady, 2020, p. 134). Therefore, belongingness is a key that should be addressed at all institutions during the pandemic to help increase student academic success and degree completion (Won, Wolters, & Mueller, 2018, p. 402). This could be especially important for those first-time, full-time students who expected to take on-ground classes.

### **Instructional Suggestions: Road Map for Student Success during the Pandemic**

Students need access to quality instruction that can accommodate pandemic-related challenges and addresses social distancing. The physical and emotional distance of online learning make crafting an engaging social space for instruction a challenge, especially during a pandemic. Retention initiatives, academic support programs, physical resources, and emotional support must be considered for remote and online learning.

Suggestions for teaching remotely and online during the pandemic:

- Verify that students have necessary technological resources such as reliable internet access, an internet- and software-ready device, and necessary software.
- Reassure students that they can be successful in the face of unprecedented change.
- Stay in touch with students via e-mail and school-approved technologies.
- Connect with students using video technology. Whether by a video note hosted in a learning management system or via videoconferencing software, putting a face with distance content brings a personal touch to online and remote classes.
- Include at least one High Impact Practice in each course, such as an online service-learning or faculty-student research opportunity (*National Survey of Student Engagement, 2020b*)
- Assign a collaborative project that encourages students to interact and to stay connected.
- Use discussion boards to help build community (Alrushiedat and Olfman, 2013, p.133).
- Recognize that building community and a sense of belonging (Gopalan & Brady, 2020, p. 134) in an online or remote course is key.

### **Conclusion**

The COVID-19 pandemic has upended higher education across the United States. This study sought to better understand student populations affected by the pandemic by considering both distance and on-ground students surveyed with the National Survey of Student Engagement (*NSSE Report Builder-Public 2017 & 2018, 2018*). The study indicated that those students who were fully online were more likely to be non-traditional students, part-time students, and first-generation status students. Part-time students encompassed a greater percentage of distance learners than full-time students, and non-traditional learners were more likely to be distance learners as compared to traditional learners. Taken together, the study found that traditional students are not typically enrolled fully

online. Retention initiatives, academic support programs, physical resources, and emotional support must be adapted to remote and online learning.

While the 2020-2021 academic year will be impacted by COVID-19, other unforeseen challenges could continue to disrupt higher education. Indeed, how the global pandemic will impact higher education in the United States is unknown at this time. When the pandemic has ended, higher education may permanently have more online components incorporated into the learning management systems. Higher education institutions also need to adapt to the changing characteristics of student populations to support success and to survive. Future studies can explore these changes and address questions such as whether students postponed higher education until after the pandemic; whether students were forced into different class choices, distance versus on-ground, for the academic year 2020-2021; and whether students would have chosen classes differently for the 2020-2021 year if not for the pandemic.

Online learning is relatively new modality (Stachowiak, 2019). Traditional students have not been historically online. Therefore, students need support during the shift to online and remote learning. Indeed, institutions still have much to learn about how students transition to the various instructional modes required by the COVID-19 pandemic.

### **Limitations**

This study had several limitations. First, the NSSE Report Builder Public used data from 2017 and 2018. Since 2017-2018 was not the year of the COVID-19 crisis, characteristics of students as well as institutions may be different. While the NSSE Report Builder Public was an international survey with approximately 1,020 institutions participating (NSSE Report Builder: Data File Summary, 2018), the characteristics of the surveyed institutions may not be compatible with any one particular institution. Also, the definition of distance learner for the NSSE Report Builder-Public 2017 & 2018 was a student who took all classes online (*NSSE Report Builder-Public 2017 & 2018*, 2018). Students who took even one class on-ground were not considered distance learners because that individual chose to come to campus for at least one course (*NSSE Report Builder-Public 2017 & 2018*, 2018). Students who took some, but not all, of their classes via distance learning may have unique characteristics that skew the data. Furthermore, a

selection bias may have existed as senior students who successfully reached their final year may have differences in their engagement than the first year respondents.

Finally, other factors not directly considered in the survey during the COVID-19 crisis – such as technology access, family and work responsibilities, finances, illness, and other unknown factors – may have impacted the results. Taken together, while the study had several limitations, it clearly illustrated that traditional students are not historically expected to be enrolled fully online; with the COVID-19 pandemic, many of these traditional students were forced into remote or online courses.

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