ACADEMIX Upshot

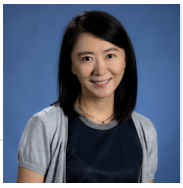
COVID-19 AND THE SHIFT TO ONLINE INSTRUCTION: CAN QUALITY EDUCATION BE EQUITABLY PROVIDED TO ALL?

THE UPSHOT

In response to the COVID-19 pandemic, higher education shifted to remote instruction abruptly in Spring 2020. This transition has raised two critically important questions: Can quality education be achieved in these circumstances, and can it be equitably provided to all? This policy brief provides an overview of current research on the effectiveness of online teaching and learning, the equity gap in online education compared with that in a traditional face-to-face setting, and the unique challenges associated with teaching and learning in an online environment. It also discusses ways that institutions and instructors can offset the risks to equity posed by remote instruction, and highlights federal policy implications for supporting online teaching and learning in both the short and long term, including:

- Ensuring broadband internet access during this period of crisis and beyond;
- Strengthening federal data collection to inform our understanding of the impact of COVID-19 on online course offerings and student outcomes; and
- Providing sufficient funding and support to allow for the design and implementation of high-quality online learning experiences for instructors and students.

THIRD WAY



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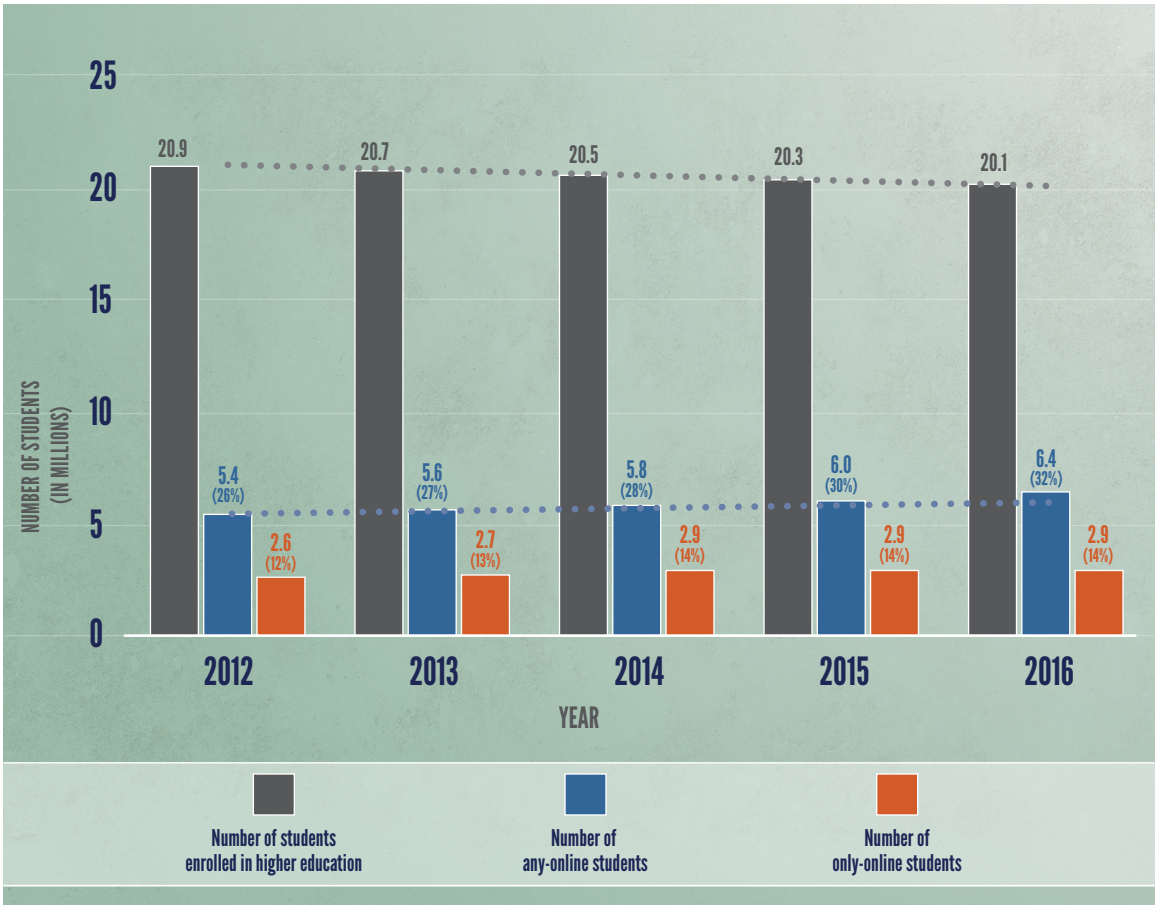
NARRATIVE

The Landscape of Online Higher Education

The use of online learning in higher education had been increasing steadily long before the COVID-19 pandemic. Figure 1 shows the overall changes in student enrollment in fully online courses between 2012 and 2016 across all degree-granting postsecondary institutions based on data from the Integrated Postsecondary Education Data System (IPEDS). The data indicate that both the number of students who took *any* online courses and the number of students who *exclusively* took online courses, represented by blue and orange respectively, increased steadily, even while overall enrollment in higher education declined during the same period of time.

Figure 1. *Growth of Online Learning in the US, 2012-2016*



Note: This figure originally appeared in Xu & Xu (2019). The numbers reported in the figure were calculated based on data from active degree-granting institutions in each year. The numbers in parentheses represent the percentage of any-online or only-online students among those enrolled in higher education in a given year.

Source: National Center for Education Statistics, Integrated Postsecondary Education Data System, 2012, 2013, 2014, 2015, and 2016, nces.ed.gov/ipeds/use-the-data.

What Do We Know About the Effectiveness of Online Instruction?

Given its increasing prevalence, there have been a growing number of studies that examine the effectiveness of online learning across various college settings. The main takeaway from this line of research is that the effectiveness of online learning varies substantially by college setting and by subgroups of students. Among studies conducted at four-year universities, especially selective institutions, the dominant finding is that online and face-to-face instruction are comparable in terms of student course outcomes.[1] In contrast, among studies conducted at open-access or non-selective institutions, such as community colleges or for-profit institutions, online courses are associated with substantially lower course persistence and completion rates after taking into account students' self-selection into online versus face-to-face classes.[2] Negative impacts of online education on student learning outcomes are identified consistently across several state community college systems. This is a finding of particular interest for policy on online learning given the largely non-traditional student population enrolled in these institutions, including a disproportionate number of students who are older than 25 years of age and who balance coursework with other job and family commitments. These students may be more likely to consider online education options, making it important to understand how institutions can provide a quality learning experience and the academic and personal supports they need to succeed in an online learning environment.

For example, studies conducted at community colleges find that students in online courses are between 3 and 15 percentage points more likely to withdraw from the course compared to similar students taking face-to-face classes, depending on the state examined and the statistical method used. It is worth noting that students who withdraw during the add/drop period were not included in the analysis. As a result, the findings specifically highlight mid-semester course withdrawal, which not only penalizes students academically—students do not obtain any credit from the course and a grade of "W" appears on their permanent record—but also economically, since students that withdraw after the add/drop period pay full tuition for the course and do not receive any refunds.

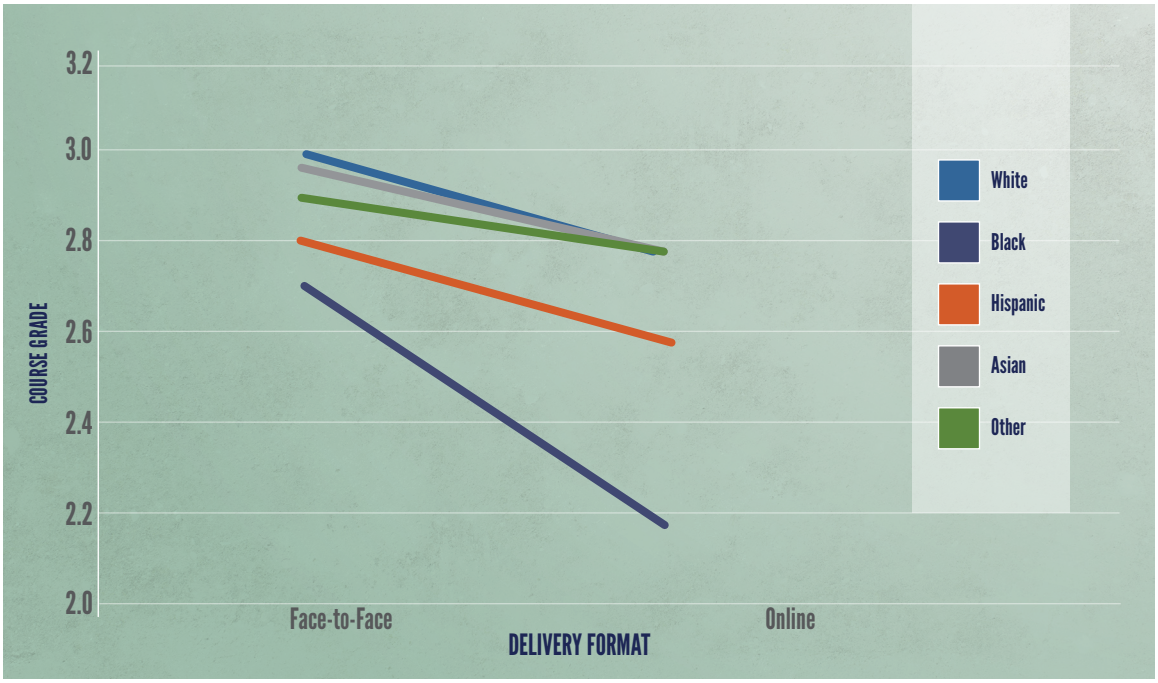
The Online Equity Gap

Does online education affect the learning outcomes of all students in a similar way? To answer this question, a number of studies have compared the average course performance between face-to-face and online delivery by several student characteristics and found strikingly consistent patterns: the online performance gap is particularly strong among Black and Hispanic students, younger students (those less than 25 years old), and students with lower levels of academic preparation.[3] Since most of these subgroups tend to experience overall equity gaps, the gaps they typically experienced in face-to-face courses became even more pronounced in online courses.

Figure 2 illustrates findings from a study of how racial gaps in average course grade are impacted by course delivery formats at community colleges.[4] More specifically, for each racial group, the study predicted average grades (on a 1.0 to 4.0 grading scale) for face-to-face courses and online

courses respectively, controlling for student self-selection into different delivery formats and for variations among courses in content and level of difficulty. One striking pattern from Figure 2 is that taking an online course contributed to equity gaps for every racial group, though the size of those gaps varied across different subsets of students. For example, the gap between White and Black students is wider in online courses than in face-to-face courses. In other words, online learning exacerbated existing educational inequality among all racial groups.

Figure 2. *Average Course Grade by Course Delivery Format and Race*



Source: Author's calculations based on data and key findings from Xu & Jaggars (2014).

Why does this online equity gap exist? Why does online instruction produce worse outcomes for students—and impact some students more than others? The existing literature has identified a number of key challenges associated with online learning:

Unequal access to computers and broadband internet. Researchers have pointed out that unequal access to computers and internet is one factor contributing to the equity gap in online course outcomes between different subgroups of students. According to a recent survey administered to college students in August 2020, 57% of college students reported that access to a high-speed, stable internet connection posed a challenge in the transition to online learning in Spring 2020, including 62% of Latinx college students and 50% of Black college students. In addition, 44% of college students had to purchase a computer or laptop and 17% had to purchase internet in order to continue their education online. These percentages are noticeably higher among Latinx (52% and 19% respectively) and Black students (55% and 32% respectively).[5] Having limited access to high-speed internet may influence students' timely access to learning materials and their participation in online interactions. And the gaps between different demographic groups' access to strong broadband connection or other learning resources could be further exacerbated as a

result of COVID-19. With campuses closed or limiting operations due to the pandemic, students will have limited access to campus resources (such as a quiet space for coursework, stable internet connection, or tutoring services), which is likely to influence different groups to varied extents.

Increased reliance on self-directed learning skills. Unlike face-to-face courses where students attend lectures at a fixed time, the flexibility of online learning requires stronger self-directed learning skills, such as the ability to learn course materials independently, to manage time effectively, to keep track of progress on course assignments, to overcome technical difficulties and feelings of isolation, and to take the initiative to communicate with instructors and peers to ask questions and complete group assignments. These skills are critical to success in any type of learning but even more so in online and distance education. Yet due to different backgrounds and differential access to resources, not every college student has been equipped with strong self-directed learning skills upon college entry. For example, females, older students, and individuals with better academic preparation are often found to be more self-directed on average.[6] This implies that some students, most often those from disadvantaged groups, may encounter additional challenges succeeding in the online context. As a result, existing equity gaps between demographic groups already observed in face-to-face classrooms are likely to be exacerbated in online courses if these pre-existing gaps between students in self-directed learning skills are not addressed effectively and intentionally.

Student misconceptions about online courses. Existing research based on surveys or in-depth interviews with online instructors and students at community colleges indicates that many students are unaware of what is expected of them in an online course.[7] For example, many students expected that online courses would be easier than face-to-face courses prior to involvement in an online course. But after their initial experience they often felt that online courses were in fact more difficult and time-consuming than traditional face-to-face courses.

Misalignment between instructors and students in expectations. Current research through interviews also identifies fundamental misalignment between instructors and students in their expectations of each other. Students often want more from instructors than instructors think they should provide, such as instructors playing a greater role in motivating and guiding students throughout the course; and instructors feel that students are less prepared than they expected them to be upon enrollment, including in the self-directed learning skills and readiness to take complete responsibility for their online learning.[8]

Greater challenges in achieving effective interactions. During in-depth interviews with online instructors and students at two community colleges, ineffective interactions were the one thing that students complained about the most. Almost all students interviewed noted that the instructor-student interactions were more "distant," less "personal," less "immediate," less "detailed," or less "solid" online. In particular, they missed the direct synchronized instruction that they received in face-to-face courses, and many alluded to the notion that without that component, they felt as though they were "teaching themselves." This shows that online students

often feel socially isolated and may have a harder time connecting with the instructor and their peers online. Without these connections, it is easier for them to feel disengaged, confused, and discouraged, which increases their chances of dropping out of the course. Students from underrepresented groups may suffer disproportionately from the reduced level of interpersonal interactions and connections, and research has shown they are less likely to reach out to the course instructor and peers due to apprehension that doing so might confirm negative stereotypes about them and their feelings that they don't belong.[9]

Collectively, these findings illustrate that without intentional support, the current shift to online instruction as a response to COVID-19 is likely to exacerbate educational inequality. Online delivery of teaching and learning poses unique challenges. To offset some of the associated risks, it is important for colleges to support students both academically and socially, as well as to provide support for faculty to help them learn how to guide and connect with students and design online courses more effectively. Without intentional supports tailored to address the unique challenges of online learning, we risk increasing equity gaps and harming the educational attainment and economic opportunity of individuals who need the mobility of higher education the most.

POLICY IMPLICATIONS

Recommendations for Institutional Policy

- **Offer student orientation and resources for online learning.** Considering that many students may not have had any online course experiences before COVID-19, colleges should consider offering and requiring students to complete a distance learning orientation that would focus on how being an online student is different from being a face-to-face student, skills to succeed in the online classroom, and what to expect from online instructors. This type of orientation would explicitly communicate expectations and appropriate role-related behavior to students. In addition, given that successful online learning requires high levels of self-regulation and self-discipline, colleges and instructors may consider embedding the teaching of self-directed learning skills into the course and developing materials, assignments, and other pedagogical processes to cultivate self-directed learning skills.

- **Deliver online counseling and support services.** When students struggle academically, they may benefit from institutional resources and supports, such as counseling and tutoring services. However, since campuses have been closed as a response to COVID-19, students may face challenges accessing these supports that were delivered exclusively on campus prior to the pandemic. To better address student needs, it is important for colleges to provide comprehensive counseling and tutoring services online. Of course, providing additional resources alone will do little

to improve online course performance if students do not utilize them. For resources to be most effective, colleges should ensure that services are clear, easy to use, and accessible to all students.

- **Provide faculty training and support.** Most faculty may never have had experiences designing and delivering an online course prior to COVID-19 and may struggle to adapt to the challenges of online education. Thus, colleges will also need to provide professional development opportunities and accompanying support for faculty to help them learn how to guide, support, and connect with students and how to design courses in ways to better address the challenges associated with online learning. It is important to note that designing and delivering activities to support online learning often requires strong time commitment from the instructor, as well as comprehensive support from the institution. As a result, colleges that contemplate benchmarking online course quality will need to consider the workload on instructors in delivering a high-touch online class, as well as the cost of supporting instructors in using sophisticated technology infrastructure and instructional platforms.

- **Be strategic about resuming face-to-face or hybrid instruction.** Finally, current research suggests that the challenge of online learning is likely to be greater in courses where many students are academically underprepared. This can inform colleges' strategies in deciding which courses receive priority in the gradual transition back to a face-to-face or hybrid delivery format. In addition, college leaders must be cognizant that academically underprepared students are also more likely to be low-income students and students of color whose communities may be more likely to be impacted by COVID-19. As a result, in courses where a large number of students are academically underprepared, colleges may consider offering options of face-to-face or hybrid instruction for those classes first, as well as taking additional steps to address other challenges these students are facing outside the classroom.

Policymakers should ensure that federal funding is provided to institutions to enable them to provide sufficient levels of support to both online instructors and students.

Recommendations for Federal Policy

Federal policymakers in Congress and the Department of Education should be cognizant that as more colleges experience a fully or partly online fall term, there is a risk of compromised student performance and exacerbated equity gaps across the higher education system. Here are a few steps policymakers can take to ameliorate these gaps:

- **Ensure broadband internet access.** As higher education remains largely online in the fall, policymakers should ensure greater access to computers and broadband to support students with limited access to these resources.

- **Provide funding to support high-quality online education.** Policymakers should ensure that federal funding is provided to institutions to enable them to provide sufficient levels of support to both online instructors and students. Many states were already allocating funding to support online teaching and learning prior to COVID-19. For example, the 2018 state budget in California committed $20 million to expanding online offerings and improving their quality in the system's 114 brick-and mortar campuses, and the state has established a dedicated body, the California Virtual Campus-Online Education Initiative, that offers resources to help address the challenges associated with online teaching and learning.

- **Strengthen federal data collection.** Data collection in IPEDS, the National Student Loan Data System (NSLDS) and other federal sources should be strengthened and expanded to adequately account for the shifts to online education that are happening as a result of COVID-19 and allow for long-term monitoring of its impact on students.

- **Establish guidance on best practices for online learning.** Policymakers should identify systematic ways to collect and share evidence-based strategies for delivering high-quality online courses or online programs. The effectiveness of online learning depends on how an online course is designed and delivered, yet the precise course design features and pedagogy that have substantial impacts on successful online learning remain largely unknown. Accordingly, systematic efforts to identify strategies and practices to improve the outcomes of online learning across a variety of institutional contexts will be a fundamental part of reducing racial inequality in higher education and improving online learning outcomes for all students.

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