CHRISTENSEN INSTITUTE

POTENTIAL UNFULFILLED:

COVID-19, the rapid adoption of online learning, and what could be unlocked this year

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ACKNOWLEDGMENTS

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Bay View Analytics

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Chan Zuckerberg Initiative

Stride

INTRODUCTION

After the COVID-19 pandemic forced school buildings to close, online learning became a lifeline for K–12 education. It let schools carry on in "the cloud" when they couldn't meet in person. But online learning's potential benefits for K–12 go well beyond providing stop-gap solutions during school closures. It offers an opportunity to transform school instruction to better serve the needs of all students.

The foundational tenets of conventional instruction hinge on uniformity and compliance. Schools and classrooms by-and-large need students to conform to a common set of requirements in order for cohort-based learning to work. Unfortunately, nearly all students struggle to one degree or another to fit conventional instruction's norms.

For example, conventional instruction requires students to show up to school ready to learn at times dictated by the school schedule, but for some students, life gets in the way. Conventional instruction moves all students through content at a uniform pace, but not all students master content in the time allotted. And conventional instruction often obliges students to sit and work or sit and listen for large portions of the day, yet some students struggle to sit quietly for extended periods of time. Fortunately, online learning offers the ability to replace many of these systemic rigidities with greater adaptability to students' needs.

To learn from the unparalleled mass adoption of online learning, the Christensen Institute is conducting a series of nationally-representative surveys during the 2020-2021 and 2021-2022 school years that document the programs, technologies, and instructional practices schools and educators turn to as they grapple with the effects of COVID-19. Our aim is to learn not just how educators use online learning, but whether online learning leads to the benefits we have long documented in our blended learning research.[1] Below we share some of our initial insights from 1,042 teacher responses collected in April and May of 2021.

TEACHERS' EXPERIENCES WITH ONLINE LEARNING

Blended learning, which predates the remote and hybrid learning during the COVID-19 pandemic, is any formal education program that integrates online learning into brick-and-mortar school settings.[2] Distance and hybrid learning arrangements are not inherently forms of blended learning, but most incorporate the types of online learning resources that make up a core part of blended-learning models. Our research on blended learning identifies a number of benefits that online learning resources can unlock in blended learning settings, such as flexibility in the time, pace, and path of learning for individual students, as well as enabling mastery-based learning and expanding teacher capacity. So how much have the potential benefits of online learning been realized during the 2020-2021 school year?

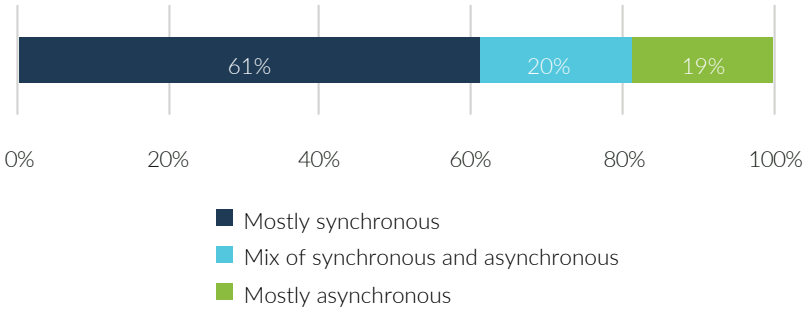
Potential benefit: Flexible timing

With online learning, students can learn content through online lessons anytime they have access to the internet rather than having to learn new content as a teacher presents it. If students are absent or late, they can catch up on their own; and as they learn online, they can slow down, speed up, or review lessons on-demand, according to their needs.

To gauge adaptability in timing, we asked teachers "How much of your students' learning has happened through synchronous vs. asynchronous instruction?" As Figure 1 shows, most teachers' (61%) instructional arrangements this past year were synchronous, which means students had to attend class at scheduled times to receive instruction. Nonetheless, a sizable portion (20%) did use a mix of synchronous and asynchronous instruction, suggesting that students could complete some learning activities on their own time while also receiving regular live support from teachers.

Blended Learning: Any formal education program that integrates online learning into brick-and-mortar school settings.

Figure 1. Percentage of students' learning that happened through synchronous vs. asynchronous instruction



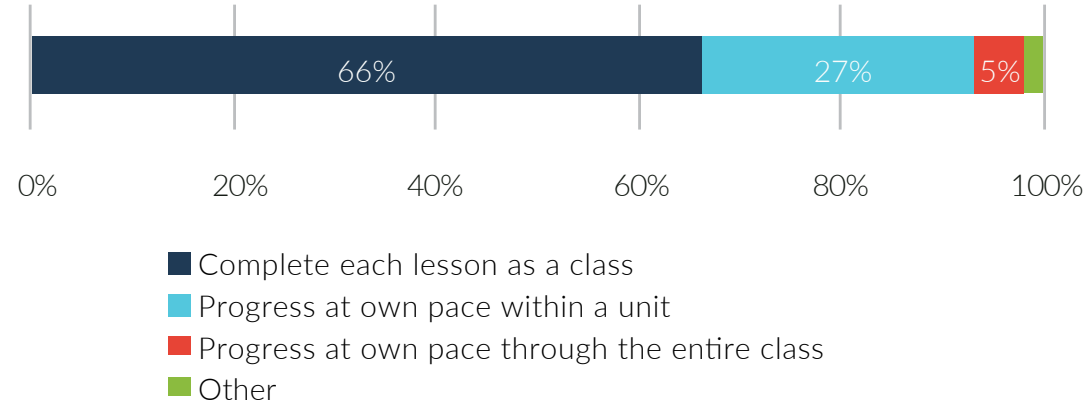
Potential benefit: Flexible pacing

Online learning can also be used to supplant rigid semester and school year calendars so that students can progress at whatever pace is appropriate for their needs. If they miss class or don't show up on time, they can pick up where they left off. If certain subjects or learning objectives come easily to them, they can move ahead without the need to wait for their classmates.

And on the flip side, if they need more time to work through a concept or assignment that they find particularly challenging, their time to learn doesn't have to run out at the end of a class period, unit, or semester.

To gauge adaptability in pacing, we asked teachers "How have your students progressed from one lesson to the next within your course/class?" As Figure 2 shows, most teachers (66%) stuck with the conventional arrangement of having their students complete all lessons together. However, a notable portion (27%) arranged for their students to progress at their own pace within a given unit of study, and a small fraction (5%) allowed students complete freedom to progress at their own pace throughout the entire class.

Figure 2. Percentage of teachers who offer their students various forms of flexible pacing



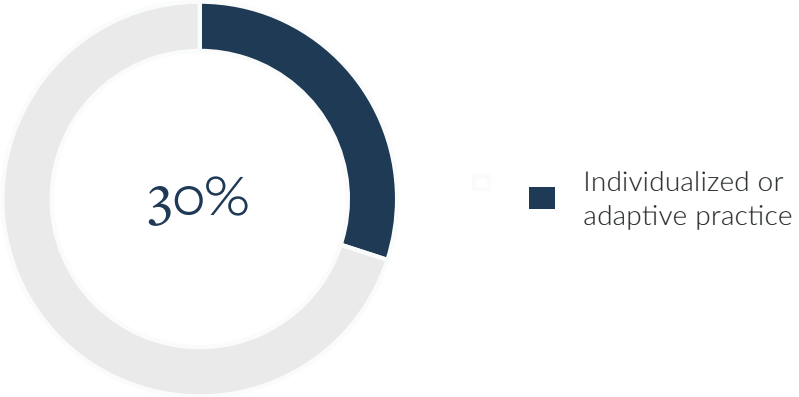
Potential benefit: Flexible learning pathways

With online learning, students aren't constrained to learn via the same practice problems and learning activities as the rest of their classmates. Instead, they can learn from lessons and activities best suited to their needs. For example, one student may learn best from watching online videos on YouTube, while another learns best from online practice problems on Khan Academy, and a third learns best discussing concepts with peers.

In some content areas, companies such as New Classrooms, Dreambox Learning, and Curriculum Associates have created platforms that can gauge students' achievement levels and learning preferences, and then supply lessons and activities tailored to students' learning needs. Additionally, online practice activities often provide students with immediate feedback so they can recognize and correct their misunderstandings in real time.

In order to assess the extent to which teachers are taking advantage of these innovative practices, we asked teachers to indicate their current use of a variety of online instructional resources. Figure 3 shows that only about a third of teachers (30%) indicated that they currently use online instructional resources that provide their students with individualized or adaptive practice—one clear method for providing a degree of flexibility in students' learning activities.

Figure 3. Current use of online learning resources to provide individualized or adaptive practice



Potential benefit: New metrics of progress

The A-F grading system schools commonly use has major flaws in how it gauges students' academic progress. Students' grades provide a rough sense of how well a student is doing in each grading period, but they give little indication of the specific knowledge and skills a student has mastered or still needs to master. Furthermore, they often discourage students who fall behind, because they aren't designed to be updated as students learn. In short, letter grades are permanent records of how well students jumped through hoops in the past, not of how well equipped they are to do work and solve problems in the future. Conventional grading holds the pace of instruction as fixed, and allows the quality of learning to vary.

In contrast, mastery-based grading measures students' cumulative progress in achieving clearly-defined learning objectives, thereby giving students a clear map of what they need to work on to make academic progress. If students fall short in demonstrating mastery of a given learning objective, that shortcoming does not become an indelible scar on the students' academic record—students simply try again until they reach mastery. In contrast to conventional grading, mastery-based grading holds a consistent bar on learning quality and then allows the pace and path of learning to vary to

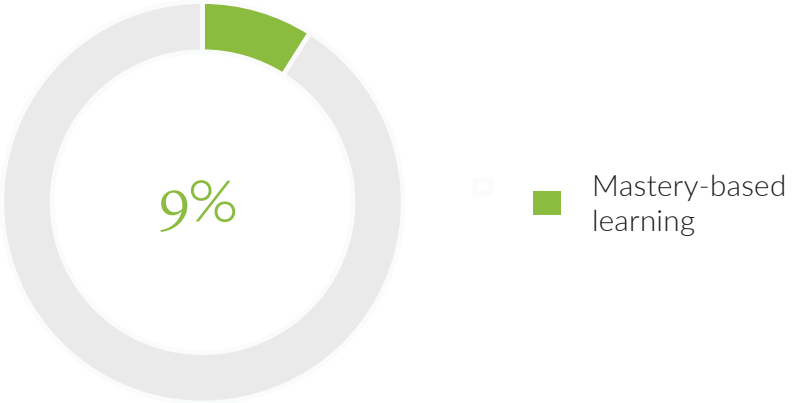
Mastery-based grading measures students' cumulative progress in achieving clearly-defined learning objectives.

accommodate students' needs. Such a system helps students see a clear connection between their effort and their progress. It also encourages students to see struggles and mistakes not as failures, but as valuable learning opportunities along the road to mastery.

The one major hurdle to mastery-based grading, however, is practical feasibility. This approach hits a significant friction point in schools and classrooms that operate on conventional instruction because conventional instruction requires conformity to uniform instruction and pacing, as noted above. Thus, online learning's ability to unlock flexibility in path and pace is key to making mastery-based grading and progression logistically feasible.

In the survey, we sought to gauge teachers' use of mastery-based grading by asking if they used online resources to facilitate mastery-based learning. Our results, shown in Figure 4, suggest that this practice still has very little uptake among K–12 teachers, with only 9% indicating that they currently use resources that help facilitate this approach.

Figure 4. Current use of online learning resources to facilitate mastery-based learning



Potential benefit: Expanded teacher capacity

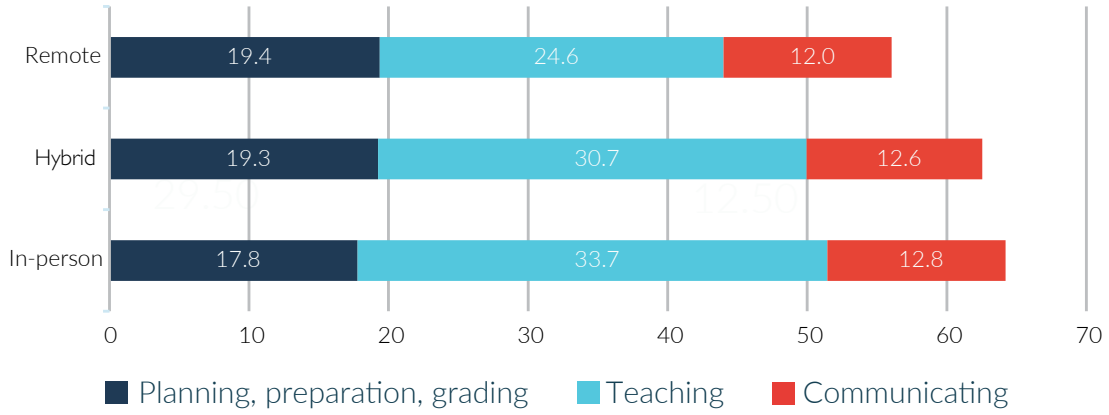
Arguably, the biggest potential benefit of online learning comes not from how technology supports students' learning, but from how technology can expand teachers' capacity. When teachers can rely on online learning resources to provide foundational coverage of course content and basic feedback on students work, they have more time and attention to devote to some of the most important aspects of their jobs: building relationships with students, orchestrating deeper learning experiences (e.g., discussions, projects, experiential learning, etc.), and providing students with individual coaching and feedback.

Teachers who taught primarily in remote and hybrid arrangements spent more time planning and less time teaching.

In the survey, we asked a few questions to gauge how teachers allocate their time across different work activities. Our aim was to compare the time allocations of teachers who use different technologies and instructional models to get a sense for how these innovations might affect their capacity. Unfortunately, our data only tells us how teachers allocated their time between planning, preparation and grading; teaching; and communicating with students and families. It doesn't tell us about the types of activities teachers spent their time on while teaching (e.g., whole-class direct instruction, small group instruction, tutoring, project-based learning, etc.). Thus, it's difficult to gauge how much online learning allows teachers to shift their capacity toward higher-value instructional activities.

As shown in Figure 5, across the board, teachers reported working long hours this year. Yet, teachers who taught primarily in remote or hybrid arrangements had lower workloads (56.1 and 62.5 total hours per week, respectively) than their colleagues who taught primarily in-person this year (64.2 total hours per week). We suspect that these differences in workload, however, are due less to efficiency gains from online learning in remote and hybrid arrangements and more to the fact that teachers in remote and hybrid arrangements had less scheduled instructional time with students because of the logistical challenges of remote instruction. Teachers who taught primarily in remote and hybrid arrangements spent more time planning (19.4 and 19.3 hours per week, respectively) and less time teaching (30.7 and 24.6 hours per week, respectively) compared to their colleagues who taught primarily in person (17.8 hours per week planning and 33.7 hours per week teaching).

Figure 5. Number of hours spent on activities across remote, hybrid and, and in-person settings



LOOKING AHEAD

The survey results suggest that pockets of teachers were able to take advantage of some of the benefits of online learning described above. But, overall, many of these benefits seem largely unrealized in classrooms across the US this past year. In fact, teachers' answers to the free response section of our survey suggest that most teachers saw this year not as an era of innovation, but as a time of frustration. Between gaps in student access to technology at home, difficulties forming relationships through class video calls, and the challenges of managing in-person and remote instruction simultaneously in many hybrid arrangements, this past year was extremely difficult for many teachers.

Given their trying experiences, many teachers may see online learning as a flawed mode of instruction. But in reality, last year's headaches were not the inherent product of online learning, but of the chaos of COVID-19 that led to poorly designed approaches to online learning. When we consider this past year through a lens of institutional change, it's perfectly understandable why the benefits of online learning were largely unrealized. Unlocking online learning's power to enable flexible instruction, mastery-based grading, and an expansion of teacher capacity requires more than just plugging technology into schools. It takes foresight, time, and strategic implementation to institute the shifts in practices that unlock the benefits of online learning.

As life returns to a degree of normalcy this coming school year, and as schools consider how to use the massive influx of federal funding headed their way, there's a new opportunity for schools to design instructional models that leverage the benefits of online learning. In our upcoming report due later this summer, we'll explore in greater detail how teachers and school system leaders can move forward with the practices they learned and the tools they adopted this past year to capture the benefits of online learning for their classrooms and students.

NOTES

1. See "Research," Blended Learning Universe, https://www.blendedlearning.org/research/.

2. See "What is Blended Learning?" Blended Learning Universe, https://www.blendedlearning.org/basics/.

About the Institute

The Clayton Christensen Institute for Disruptive Innovation is a nonprofit, nonpartisan think tank dedicated to improving the world through Disruptive Innovation. Founded on the theories of Harvard professor Clayton M. Christensen, the Institute offers a unique framework for understanding many of society's most pressing problems. Its mission is ambitious but clear: work to shape and elevate the conversation surrounding these issues through rigorous research and public outreach.

About the author

Thomas Arnett is a senior research fellow in education for the Christensen Institute. His work focuses on innovative instructional models enabled by online learning and the role of Disruptive Innovation in transforming K–12 education. He holds a BS in Economics from Brigham Young University and an MBA from the Tepper School of Business from Carnegie Mellon University, where he was a William G. McGowan Fellow. Earlier in his career, he taught middle school math for Kansas City Public Schools.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