

College Board AP Technology Access Readout

Purpose

The purpose of this document is to inform partners of the impact of technology access supports College Board assisted with in spring 2020. It details steps taken by College Board and its partners, lessons learned about the digital divide, and the associated outcomes for students.

Background

In March 2020, the covid-19 pandemic exploded across the United States, causing businesses to shutter, schools to close, and thousands to fall ill. At College Board, we encountered new challenges, such as how to administer Advanced Placement[®] (AP[®]) Exams to 3.1 million registered students no longer attending in-person classes. Within two weeks, the decision was made to administer exams online. These exams required a laptop or mobile device, and in some cases a tablet, in addition to a reliable Wi-Fi connection.

Although many institutions arranged online learning for their students, not all schools were able to provide these resources. College Board was concerned that the existing digital divide would stop many students, especially low-income and rural students, from participating in online learning and having the chance to earn college credit and placement by taking their AP Exams in May. A team from across the organization convened to connect students with the devices and connectivity needed for a chance to earn college credit after a year of hard work.

We received 28,000 requests from parents, students, and educators. College Board staff completed outreach to all those requests and provided nearly 7,600 devices to students in need.

Lessons Learned

Students who took AP Exams in spring 2020 using a device that College Board sent to them earned approximately 5,450 scores of 3 or higher, translating into \$5.7 million in potential college savings (Table 1). AP Exam participation and performance in 2020 was higher among students who received device support than among similar students—based on socio-demographics and prior academic preparation—who didn't receive device support.

OUTREACH STRATEGY

Students, parents, and educators requested support from College Board via an online intake form. Over 100 staff members from across the organization galvanized to respond to nearly 28,000 requests. E-mails generally resulted in a higher rate of response than a phone call, and this was particularly true for students. However, for those customers reached by phone, the chance to converse with another person provided greater peace of mind to students, parents, and educators. The support team ended up spending much of their calls telling students, parents, and educators about the AP Exam and how to complete/submit their responses. College Board directed about 10% of students to services provided by internet providers in their area or through their district. Only 18% of students needed a laptop or hotspot.

PARTNERSHIPS

Partnerships were critical to meet the needs of students. In a 6-week timeframe, College Board purchased over 1,000 hotspots from T-Mobile, thanks to a donation from the Walton Family Foundation. Amazon donated 4,000 Chromebooks for computer science students and helped distribute these devices using their fulfillment company. College Board directly purchased Chromebooks and

tablets from Staples to loan to students and partnered with Pearson to distribute them to students and educators. College Board also partnered with DonorsChoose to distribute nearly 1,000 laptops or tablets directly to AP educators to give to their students.

DEVICE STRATEGY

Hardware

Through the outreach effort, it became clear mobile device compatibility for testing was key. When the customer support team reached out to students, parents, or educators, they began each conversation by asking if they had a mobile phone. As much as possible, guiding students, parents, or educators this way and providing information helped increase access and limit the number of devices needed. The term “device” was not a catch-all, especially where certain AP Exams needed different types of technology (usually phone/tablet or laptop/Chromebook).

Internet Connectivity

Reliable internet proved to be the tougher problem to address. Though many broadband providers offered 60-day “free” internet access promotions, many students were turned away from these offers. The reasoning varied case by case. What College Board staff usually heard was that criteria for each offer was stringent, such as requiring no past payment issues. For many households, reliable internet became more of a need than initially anticipated. Indeed, agents heard from some families in rural areas that the cost to have wired high-speed connections or satellite internet reach their homes was astronomically high (usually about \$10,000) and thus not feasible.

Device Fulfillment

Two strategies were used throughout this process: providing devices as a gift, free of charge, and loaning devices with an expectation of return. Response rates increased when customers were told the device did not need to be returned. Gifted devices were claimed at a higher rate than loaner devices. When messaging from the customer support team shifted to a gift, customer behavior changed. We received a little over half of our loaned devices back.

SUPPLY CHAIN

Supply chains were heavily impacted because of the covid-19 pandemic. Inventory of hardware was acquired rapidly, and the lead time to receive ordered devices was extensive. To secure devices for students, parents, and educators, we had to make decisions fast.

Student Outcomes

College Board assessed how students who were sent devices performed on their exams. It’s not possible to estimate the causal effect of a device on student outcomes. However, when comparing students who received devices to students with similar characteristics, there’s promising evidence that device and hotspot access supported student achievement.

In total, nearly 7,600 devices were sent out. Some students received multiple devices, (e.g., a Chromebook and a hotspot). Of these devices, 5,500 were direct-to-student devices. More than 2,000 devices were sent directly to educators, who in turn provided them to students. College Board staff were able to analyze the results of the students who we know received devices directly.

The majority of the students who received direct-to-student devices belonged to underrepresented minority groups—34% were Hispanic, and 17% were Black. By contrast, in the general population of AP Exam takers, 22% were Hispanic, and 6% were Black. A total of 58% of device recipients received AP fee reductions, compared to 23% of all 2020 AP Exam takers. Exam takers who received direct-to-student devices were more likely to be first generation college attendees (defined as students whose parents have no college degree) than the broader population of AP Exam takers (Figure 2). About three-quarters of students were high school juniors or seniors.

RESULTS

- Students who took AP Exams in spring 2020 using direct-to-student devices provided by College Board earned approximately 5,450 scores of 3 or higher, translating into \$5.7 million in potential college savings. (Table 1)
- AP Exam participation rates in 2020 were higher among students who received device support than among similar students—based on socio-demographics and prior academic preparation—who didn’t receive device support. (Figure 1)
- Students who took AP Exams with direct-to-student device support in 2020 performed slightly better than similar students who took AP Exams without a device from College Board. (Figure 1)
- Students who received a hotspot significantly outperformed similar students who took AP Exams without a hotspot. (Figure 1)

Table 1:
Descriptive Statistics on AP Exam Taking and Potential Savings Among Students Receiving Device Support

Device Support	Number of AP Exam Registrations	AP Exams Started	AP Exam Participation Rates	Scored AP Exams	Exams with Scores of 3, 4, 5	Percent of Exams Earning 3, 4, 5	Total Potential College Tuition+Fee Savings
Chromebook*	7,679	6,692	87.1%	6,403	3,735	58.3%	\$3,899,340
Hotspot**	1,354	1,237	91.4%	1,168	669	57.3%	\$698,436
Chromebook + Hotspot	122	112	91.8%	104	59	56.7%	\$61,596
Other Device Support	2,216	2,006	90.5%	1,891	994	52.6%	\$1,037,736
Overall	11,371	10,047	88.4%	9,566	5,457	57.0%	\$5,697,108

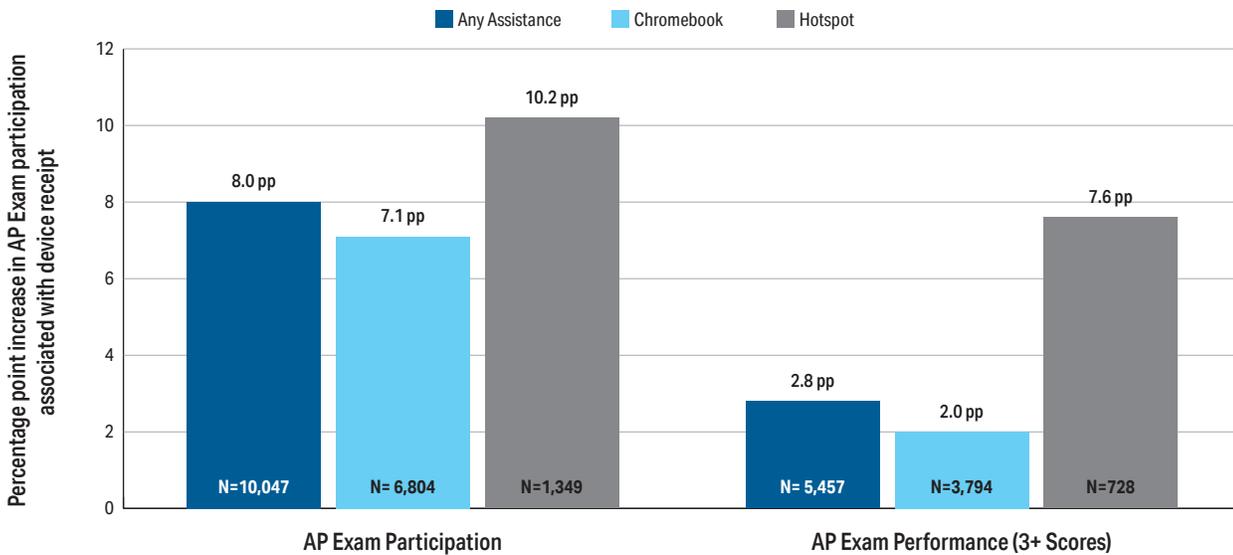
Notes: Savings are based on annual tuition and fees of \$10,440 for the typical student attending a public 4-year college at 30 credits per year (Trends in College Pricing). Each score of 3 is worth 3 college credits, or \$1,044. Some exams were started and have not yet been scored.

*Chromebooks donated by Amazon.

**Hotspots donated by Walton Family Foundation.

Other Device Support = received Chromebook or tablet from College Board

Figure 1: Adjusted Differences in AP Exam Participation and Performance



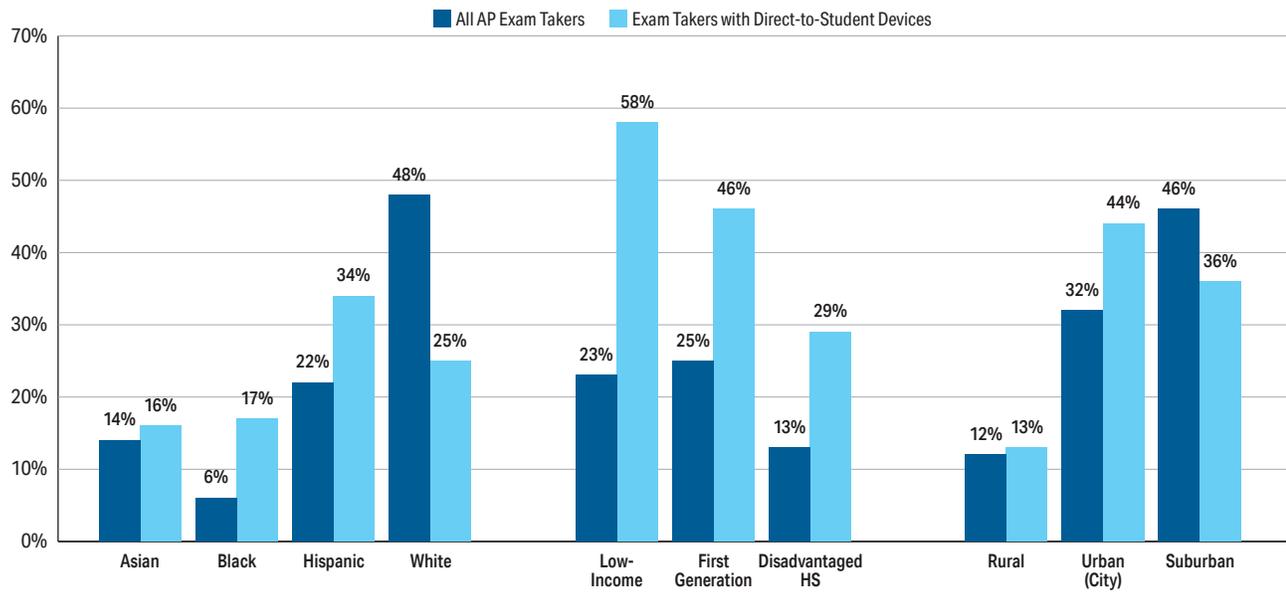
Note: Estimates control for differences in PSAT/NMSQT®, urbanicity, race, parental education, sex, Landscape neighborhood challenge, cohort, fee reduction status. The sample sizes in Figure 1 reflect the number of AP Exams started and the number with scores of 3 or higher among students who received direct-to-student devices.

*Chromebooks donated by Amazon.

**Hotspots donated by Walton Family Foundation.

Any Assistance = Received Chromebook, tablet, and/or hotspot.

Figure 2: Demographics of AP Exam Takers, All Exam Takers and Device Recipients



Note: Disadvantaged High School is a measure based on a rich set of data on college attendance, household structure, median family income, housing stability, education levels, and crime in the neighborhoods that comprise a high school's student body.

Thank you to our partners: Walton Family Foundation, Amazon, T-Mobile, DonorsChoose, Staples, Pearson, and Connection (Amazon's fulfillment partner).