

Education Technology

September 2022

John Buck, Kyle Howard-Johnson & Max Mandell



EdTech at a Glance



Education Technology (or “EdTech”) refers to the use of hardware and software to support learning outcomes; when thinking about this topic, it is helpful to break it down into three distinct components: K-12, higher education, and corporate



K-12

- Schools and educational institutions for students in kindergarten through grade 12 (some also offer pre-K, although that is typically viewed as a separate category)
- Largest segment of the academic market and traditionally slow to adopt technology (most of spend is driven by public funding)
- Areas of focus: student performance / analytics, assessments, learning management systems, student information systems, student safety, tutoring, classroom resources, communication, college evaluation & preparation



Higher Education

- Schools and educational institutions for students beyond high school – colleges, universities, vocational programs, etc.
- Second-largest segment of the academic market (behind K-12) – also slow to implement technology historically (most of spend is driven by public funding)
- Areas of focus: student performance / analytics, assessments, learning management systems, student information systems, academic integrity, fundraising & alumni management, skills & vocational training, career readiness



Corporate

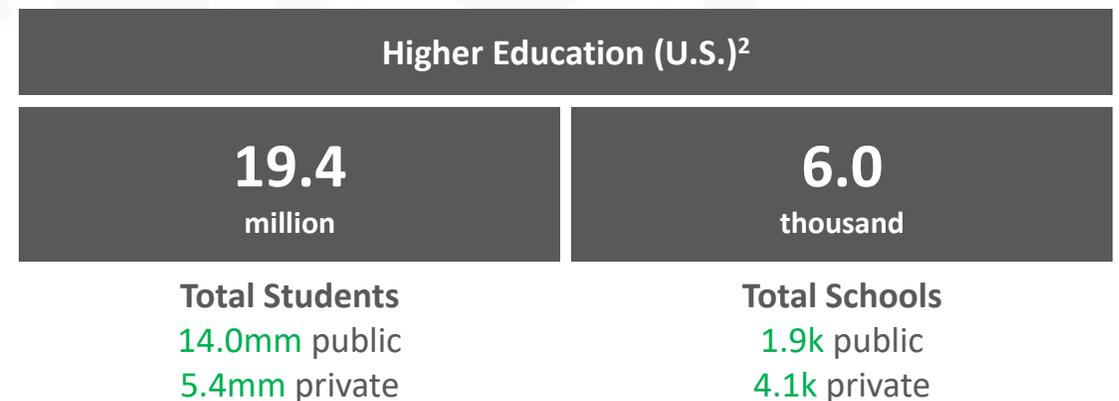
- Technology used by companies and corporations to promote training and education
- Driven by increased focus on continuous training / upskilling employees
- Areas of focus: continuing education, professional development, ethics & compliance training, leadership training
- Catalyst covered continuing education / ongoing learning in our [Tech Stack Training](#) brief – this report was focused on training for IT professionals, which would be a subset of the Corporate category as a whole

Market Overview



To properly understand the size of the education market, it is critical to think about it in terms of the total number of students, teachers, and schools – the breakdown between public and private also has a large impact on the market’s dynamics

- Estimates suggest that total global EdTech spending will grow from \$183bn in 2019 to \$404bn in 2025, while total education spend is expected to grow from \$6.1tn in 2019 to \$7.3tn in 2025¹
 - This shift illustrates a meaningful movement towards digital spend, from 3.1% of total spend in 2019 to 5.5% in 2025¹
 - K-12 represented \$3.2tn of total spend in 2019 (\$4.1tn expected in 2025), while higher education represented \$2.2tn in 2019 (\$2.4tn expected in 2025)¹
- In the U.S., budgets for K-12 and higher education institutions are largely driven by public funding
 - The regulation surrounding decision-making processes in these settings has contributed to a slower rate of technological adoption
- During the pandemic, relief packages allocated hundreds of billions towards schools
 - Much of this funding was used on technology, sparking a change in the way resources are allocated within education



Sources: (1) HolonIQ, *Sizing the Global EdTech Market. Mode vs Model* (2) National Center for Education Statistics (NCES)

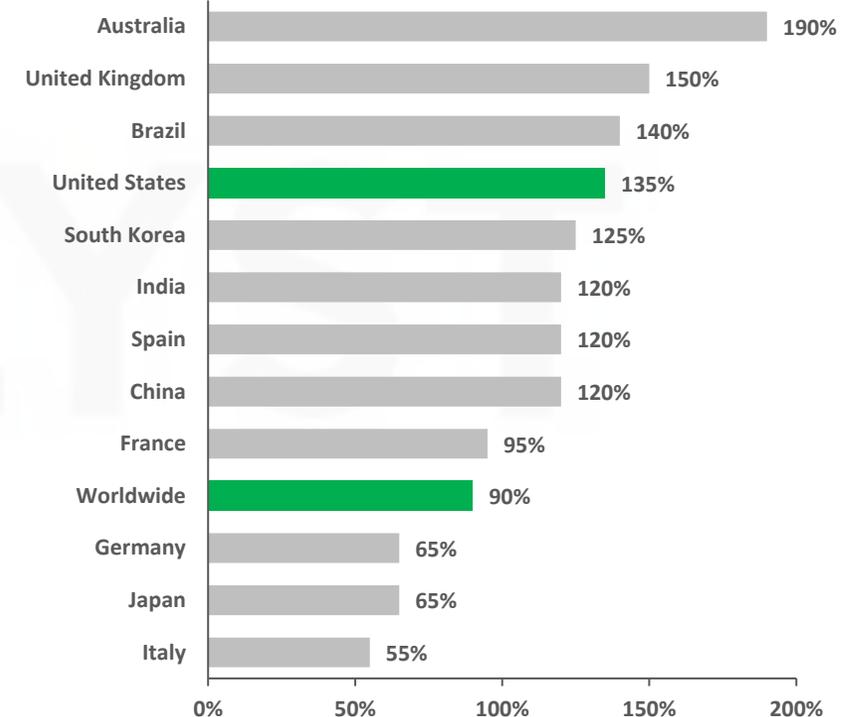
Education, Technology, and COVID-19



Educational institutions have traditionally been slow to adopt technology for classroom and administrative purposes, but COVID-19 forced schools to adapt quickly and leverage digital tools in order to exist in an entirely new learning environment

- Various types of software solutions have been available to K-12 and higher education for the last 20+ years, but they have been underutilized
 - From an educational perspective, some of these offerings supplemented in-person attendance (e.g., learning management systems), but were not viewed as essential
 - From an administrative perspective, these tools (e.g., student information systems) were more critical, but are largely outdated and seldom replaced
- When COVID-19 began, schools had to adopt remote learning, a reality many were not prepared for, in order to avoid closing entirely
 - Schools utilized technology to stand up virtual operations, but given the tight timeline did not have the ability to optimize their digital strategy
 - We expect there to be some reversion back to pre-pandemic operations since classes are no longer entirely remote (and given how quickly schools were forced to change their behaviors), but the last two years accelerated the conversation around digital tools and hybrid options in schools
- While the rate of technological adoption we saw during COVID-19 is not sustainable long-term, we have seen greater acceptance of digital solutions, making this an exciting time for tech companies that are changing the way schools are managed and students are educated

Growth in Education App Downloads During COVID-19¹



Note: data represents peak week in 2020 vs. weekly average in Q4 2019

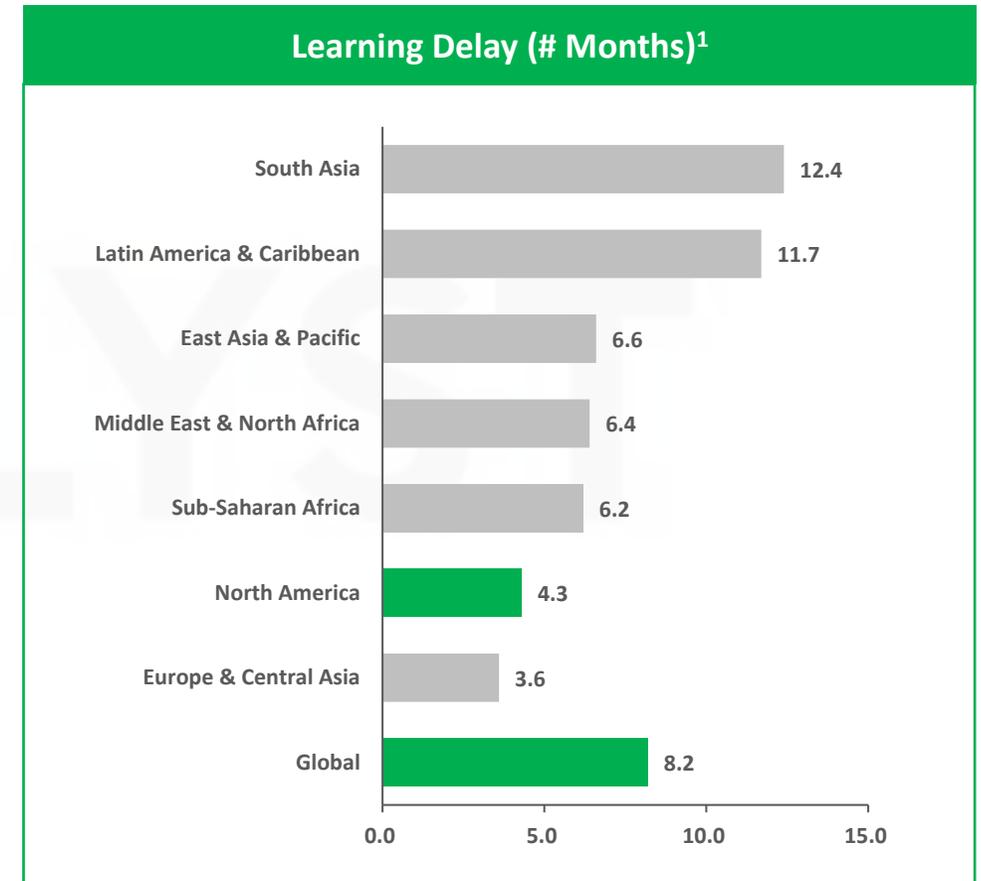
Source: (1) Data.ai, *Mobile Minute: Global Classrooms Rely on Education Apps As Remote Learning Accelerates*

Digital Adoption, Efficacy, and Equity



Research suggests that COVID-19 has had a material impact on students' progress and has exacerbated the existing learning gap, making technology (both hardware and software) even more crucial to the future of education

- According to a report by McKinsey, the average student's progress was set back ~8.2 months by the pandemic, although the effects varied widely by geography¹
 - Reasons for the differences include the amount of time schools were closed and the efficacy of the academic resources available
- According to a study by NWEA, COVID-19 inhibited historically marginalized and economically disadvantaged students' progress most acutely (grades 3-8)²
 - Students ended the '20-'21 school year lagging historical trends in math and reading by 8-12 and 3-6 percentile points, respectively²
 - While all students were impacted, there was a disproportionate effect on American Indian and Alaska Native (AIAN), Black, and Latinx students, in addition to students at high-poverty schools²
- These declining results have been further validated by a recent assessment of math and reading scores in age 9 students conducted by the NCES³
- Educators find themselves at a critical juncture where they must make up for lost time while also ensuring that opportunity is not indexed towards or away from specific segments of the population
 - These learning delays have massive economic repercussions and we believe technology will serve a pivotal role in closing the learning gap that existed before (and has been amplified by) COVID-19



Sources: (1) McKinsey, *How COVID-19 caused a global learning crisis* (2) NWEA, *Learning during COVID-19: Reading and math achievement in the 2020-21 school year* (3) NCES, *Reading and mathematics scores decline during COVID-19 pandemic*

Macro Trends & Growth Drivers



COVID-19

- COVID-19 forced students, teachers, and parents to reconsider how technology is used in conjunction with education – while technology already had a role in educational settings, this was the impetus for expanding its reach drastically
- The amount of focus and funding that went into EdTech, essentially overnight, brought us to an inflection point – even if there is a correction post-COVID-19, there has been a fundamental shift in the acceptance of technology



Hardware / Software

- Even before the pandemic, the U.S. was laying the groundwork for EdTech growth by investing in technology infrastructure including broadband access, laptops, tablets, etc.
- Software is now the fastest growing area of EdTech spend and there is an ongoing shift towards cloud offerings that will provide greater flexibility and efficiency at scale



Savvy Workforce

- Teachers that are now entering the workforce are more technologically savvy than those in prior generations – these individuals grew up with a smartphone in their hand and are more inclined to use digital methods of instruction
- As a result of this generational shift, we expect technology to take on more of a central role in both K-12 and higher education classrooms going forward



Federal Funding

- Given that many of the K-12 and higher education institutions are public / non-profit, purchasing decisions have historically been slow and highly regulated, delaying the rate of technological adoption
- During COVID-19, there was an increase in government funding for education and a need to make quicker decisions – while this resulted in more technology spend, there is still a lot of room for growth

Student-Specific Considerations



Personalization

- Technology can help personalize the curriculum – digital solutions allow instructors to keep better track of individual progress and provide online learning to supplement and strengthen the understanding of select topics
- There is a push to move away from a one-size-fits-all approach given the varying needs of students / different learning abilities
- Technology will enhance communication / collaboration between students, teachers, parents, administrators, etc.



Equity

- For years there has been a learning gap driven by a lack of equality in terms of access to educational resources
- This was exacerbated during COVID-19 as educational outcomes in lower income areas were disproportionately affected
- We believe that technology will have a large role to play in making education more accessible and leveling the playing field across economic and geographic segments



Efficacy

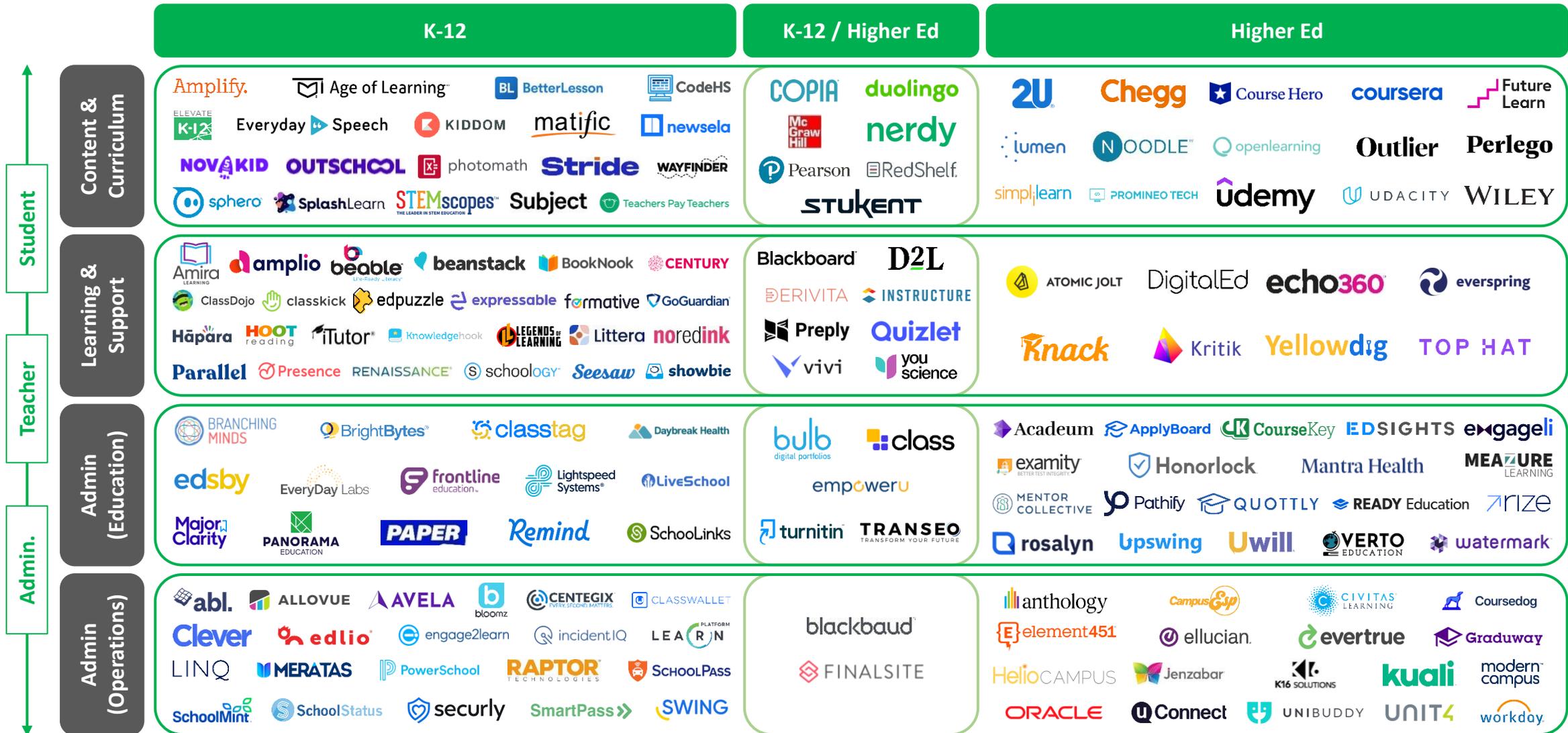
- Digital solutions provide instructors with more data and feedback on students, allowing them to take more immediate action to get ahead of issues
- These tools will also help streamline manual / administrative tasks, helping teachers to focus more on students
- Schools are still in the early stages of adoption – tangible results will drive increased usage



Other

- B2C and B2B2C EdTech businesses have been on the rise as parents seek to supplement their children's progress outside of a traditional classroom setting
- COVID-19 created a mental health crisis in K-12 as students were largely removed from social settings during the pandemic – behavioral and mental health solutions have become vital for schools as students reacclimate to in-person learning

EdTech Market Landscape



Catalyst's EdTech Experience



Telehealth software and services for K-12 students

- Led Presence's Series C in June 2015
- Initial expansion stage driven by organic growth in core services business
- Supported schools during COVID-19 by offering a free version of its software platform to facilitate remote delivery of services for traditionally in-person providers
- Acquired Global Teletherapy in November 2021 to augment offering and cement position as market leader
- Recapitalized by Spectrum Equity and TPG at the end of 2021, positioning Presence for its next phase of growth

SPECTRUM
EQUITY



Software and data science bootcamps, coworking space, and enterprise training solutions

- Led Galvanize's Series C in July 2018
- Acquired industry competitor HackReactor in July 2018 in conjunction with initial investment
- Grew education customer base during investment, focusing on increasing utilization and fill-rates across coworking and coding cohorts
- Sold to K12, a leading online education company, in January 2020





Please send any inquiries to john@catalyst.com