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ED-TECH INVESTMENT LANDSCAPE



ED-TECH AND VENTURE CAPITAL

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INTRODUCTION TO USA EDUCATION LANDSCAPE

According to a recent PISA report, compared to other OECD countries, **USA spends far more on education**. However, it **continues to fare worse on student assessment performance**. As per the data collected by International Student Assessment, 15-year old in the U.S ranked 31st on the OECD mathematics test and their score was far below the average for reading and science.

This statistic is surprising with the USA being ground to Ivy League institutions, attracting global talent, and its absolute spend in education.

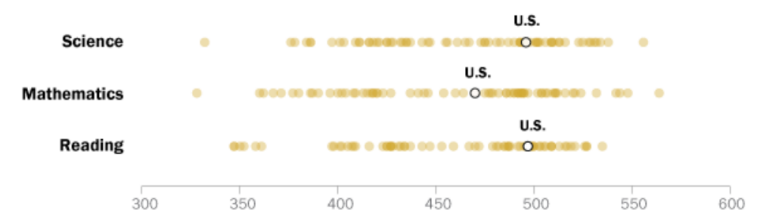
THE USA EDUCATION LANDSCAPE

The United States of America spends close to the average percentage of GDP as compared to other Organisation for Economic Co-operation and Development (OECD) countries which is 3.5% for elementary and secondary education and spends above the average percentage of GDP (1.5%) for post-secondary education at 2.6%. However, in absolute terms USA spend per child far exceeds that of the other OECD countries. USA spends \$12,800 per student on elementary and secondary education which is 35% more than the OECD country average which is at \$9,500. For post-secondary level, USA spends \$30,000 per student which is 93% of higher than OECD countries (\$19,000).

Surprisingly, with this investment in education and also being the home ground to the Ivy League institutions, the United States fares considerably worse than most of its OECD counterpart.

Internationally, U.S. stands in middle of pack on science, math, reading scores

Average scores of 15-year-olds taking the 2015 Program for International Student Assessment



Note: Scale ranges from 0-1,000. Results from China not included because only four provinces participated in PISA 2015.
Source: OECD, PISA 2015

PEW RESEARCH CENTER

According to the data collected by International Student Assessment, 15-year olds in the U.S. ranked 31st on the OECD mathematics test and their score was far below the average for reading and science.

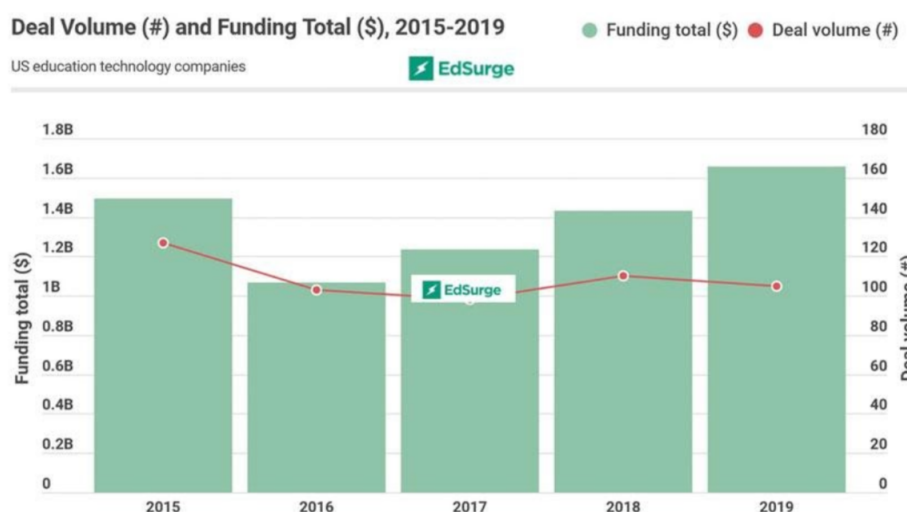
With the government providing 90% of funding in elementary and secondary education directly impacting 90% of students who go to public schools, the question remains whether ed-tech from the private sector a role has to play.

For the purpose of this paper, I will analyze key trends of VC investments in the education space.

ED-TECH IS GROWING

INVESTMENT IN ED-TECH IS GREW BY 16% NEARING \$1.6B IN 2019

Ed-tech companies raised \$1.66 B in 2019 in the USA, which is a 16% rise from its 2018 number across 105 deals. Overall, the venture capital investment was \$108B in the USA across ~6K deals. Of the global investments USA accounted for 42% of the overall investment in 2019 with just 32% in 2018. **There was a general surge in investments in ed-tech in 2019** as even general VC's such as Great Hill Partners invested in the sector. (invested \$90M in Examity in 2019 and \$110M in Connexco in 2018). In 2019, the seed and series A round averaging ~\$3M and \$8M respectively were higher from their previous years whereas series B and C averaging ~\$20M and ~\$50M respectively were similar to their 2017 value. Reach Capital, Learn Capital, New Market Venture Partners, Owl Ventures, and Rethink Education are the leading investors in ed-tech companies. Bessemer Venture Partners and General Catalyst were a few general VC's that invested in ed-technology. The big acquisitions took place in 2018, mostly driven by PE firms and large-education institutions. The biggest one in 2019 was the acquisition of Trilogy for \$750M by 2U's.



FRAMEWORK TO SEGMENT ED-TECH PRODUCTS

LIFE STAGE, STAKEHOLDER, PROBLEM DEFINITION

Ed-Tech products can be segmented based on the life-stage of the learner, the stakeholder within the sub-sector and the problem it is trying to address. Broadly, the life-stages are pre-K12, K-12, post-secondary, and adult-learning (corporate and lifelong learning). Within each of these sub-sectors ed-tech products are either B2B where the payers are schools and corporate employers or B2C where the payers are students, teachers, parents and employees. For a few dual sided marketplace products, they potentially serve two stakeholders at the same time. Further, each of the products focus on three broad problems.

1. **Administrative efficiency** where success is measured based on reduction in time to complete a task such as lesson planning, grading, attendance, communication etc.
2. **Learning and teaching improvement** where success is measured in improvement of academic and non-academic subject matter acquisition achieved either through personalization of learning, aggregation of best-in-class resources, and pedagogical methodologies such as gamification
3. **Simplifying connections between the provider and receiver of service**, ranging from connecting tutors to students to college going adults to job-opportunities. The above segmentation framework can be used to trace venture capital funding. VC's specializing in ed-tech consider college financing products in the realm of ed-tech, however this paper argues its need to be re-classified with lending fin-tech products.



DIFFERENTIATING THE ED-TECH INDUSTRY

In tandem with the broader start-up industry, most successful ed-tech companies are those whose payer is an institution i.e. either the school or corporate.

- **The key difference for ed-tech companies is that **sales cycle is longer** to get buy-in from school districts who are traditionally the decision makers for technology adoption in schools**

Historically, adult learning catered for professional development has had higher growth multiple ~4.7x than higher-ed and K-12 where the growth multiples have been 3.5X and 4.4X respectively.

LARGE INVESTMENTS IN ADULT-LEARNING

Of the four sub-sectors, adult-learning has grown in significance in 2019, eight of the top ten deals were focused on workforce development and training which accounted for ~40% of overall ed-tech investments in 2019. Within these Guild Education, Better Up, and Andela raised greater \$100M rounds and MindTickle, EdCast, A Cloud Guru around ~\$40M rounds. These are indicative of VC's frustration of low-yield from investing in K-12 education marred by low school budgets. Most of these companies are marketplaces connecting corporate employers with wide-array of training modules, potentially leading to a trickle-down effect on companies building bite-sized courses such as Udemy, Udacity, Pluralsight and Coursera.

As an evolving investment thesis, targeting salaried learners through marketplaces is a good investment strategy as there is a trickle-down effect on MOOC learning platforms as well.

Of the top VC's in ed-tech, we see only GSV Accelerator having investment across the value-chain. There is a

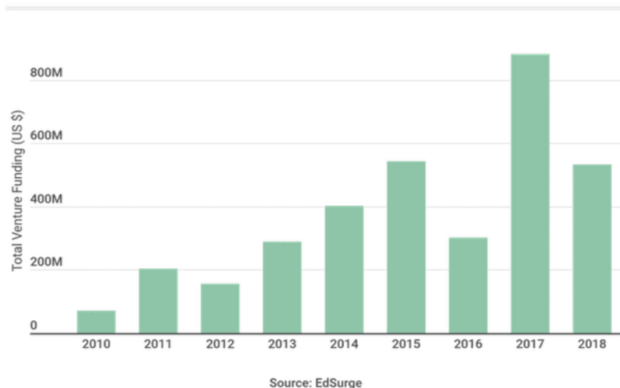
host of companies such as Lambda Schools and Springboard that are blurring the line between workforce development and college employability. These companies are set not just to train and upskill workers but also to connect their learners with job opportunities. This is a different offering from Better Up and Degreed that are focused on just workforce training. Increasing VC capital in this sub-sector is leading to reallocation from the underserved K-12 sub-sectors where investments have been falling.



K-12 EDUCATION INVESTMENTS

On the other hand, ed-tech investments started with the promise of disrupting the K-12 market, however investors have started to grow weary of exit opportunities for these companies. This is evident below in the dip in VC investments in K-12 and low concentration of mega-rounds investments in the K-12 sub-sector.

Venture Capital Investments in US K-12 Edtech Startups



The K-12 stakeholders ranging from school districts, students and teachers might have the need to leverage technology but don't have the willingness to pay because of low school budgets. Additionally, long institutions partnerships of school districts, conflict between the payer and user, and the child's excess addiction with technology all make ed-tech adoption difficult.

Within this sub-sector, investments have shifted towards products catering to administrative inefficiency in schools and teacher support. A few examples are Schoology (JMI Equity, Great Oaks Ventures), itslearning (acquired by Sanoma Media), and Canvas who all sell 'platforms' to school districts with the SaaS business model. However, these LMS platforms are slowly being replaced by free to use Google Classroom and Chrome Books.

Average Dollars Invested by Number of Deals, 2016 - 2018 Curriculum Products



CHANGING K-12 ED-TECH LANDSCAPE

Additionally, there is also an emergence of B2C products for seamless parent and teacher communication. ClassDojo (\$35M), Edmodo, and Remind are the front runners in grabbing capital to address the above but are yet to have a sustainable monetization strategy. On the other hand, K-12 ed-tech investments focusing on core, supplemental and assessment curriculum has dropped from accounting for 50% of total K-12 investments to just 25% from 2016 to 2018. Even within the curriculum space of the \$90M investments in 2018, the focus has been coding and writing products.

US education technology companies

Company	Amount (USD)	Description	Lead Investor
Guild Education	\$157M	Connecting employees with higher-ed programs	General Catalyst
BetterUp	\$103M	Employee coaching and development	Lightspeed Venture Partners
Coursera	\$103M	Online course and credential platform	SEEK Group
Andela	\$100M	Software development training	Generation Investment Management
Examity	\$90M	Online proctoring services	Great Hill Partners
Grammarly	\$90M	Online writing and grammar assistant	General Catalyst
Degreed	\$75M	Professional learning platform	Owl Ventures, Jump Capital, Signal Peak, GSV Accelerate, AllianceBernstein
Minerva Project	\$57M	Online university and technology developer	Bytedance
Newsela	\$50M	K-12 reading and instructional content	TCV
MindTickle	\$40M	Sales training platform	Norwest Venture Partners
ZUM	\$40M	K-12 school transportation	BMW i Ventures
ClassDojo	\$35M	K-12 communication app	GSV, Signalfire
EdCast	\$35M	Corporate learning platform	Avathon Capital
A Cloud Guru	\$33M	Cloud computing training platform	Summit Partners

Source:EdSurge

PRE AND POST K-12 EDUCATION

Pre-K12 and post-secondary education traditionally make up ~11% of the total investment in ed-tech and there is a shift in funding from pre-K12 to post-secondary sub-sector. In 2019, post-secondary education technology companies received ~\$740M in funding, which is nearly double than that in 2018. At the same time, funding in the pre-K12 sub-sector declined from \$1.42B in 2018 to \$855M in 2019. Within post-secondary, the common problems being addressed are college financing and student employability with a range of products both for institutions (B2B) and students (B2C).

Ed-tech companies focusing on connecting college students with jobs have been growing in significance and will gain more momentum during the COVID-years. However, with low-demand and high supply of employees, even these companies' value-proposition will diminish.

Trilogy Education acquired for \$750M by 2U's and Handshake (\$40M raise) are few companies doing just that.

I'd like to argue that investments in companies such as Common Bond (\$50M raise in 2018) and Campus Logic (\$55M in 2018) should be considered by VCs traditionally focused on fin-tech versus ed-tech. Even though these companies target market are students, parents and college institutions, the success of the product is dependent on risk-analysis of financial aid institution and debt holders, having stronger synergies with micro-lending and wealth management fin-tech companies.

However, investing in products tackling college debt seems like an ideal strategy, given the low returns from other ed-tech companies and potentially stronger exit opportunities for lending and wealth management products.

INVESTMENT TRENDS DURING COVID

April and May 2020

From the investment side VC firms specializing in ed-tech companies such as Reach Capital, Rethink Education and Owl Ventures have not slowed their investment activities and continue to raise funds. However, there are more companies chasing the same capital as companies that would traditionally not raise money through these firms are putting in their applications. VC's are more likely to invest in companies that they are aware of leading to increase in already funded companies than in early stage ones. COVID will also lead to modest valuations and companies turning towards traditional PE firms or large education publishing houses for exit opportunities.

On the demand side, even though the shut-down of schools would necessitate the use of tech products, lower-school budgets would drive revenue for this uptick in demand. Schools are more likely to try products such as Zoom and Hangout which would offer them similar services at free of cost/lower price.

MAJOR DEALS IN APRIL AND MAY 2020

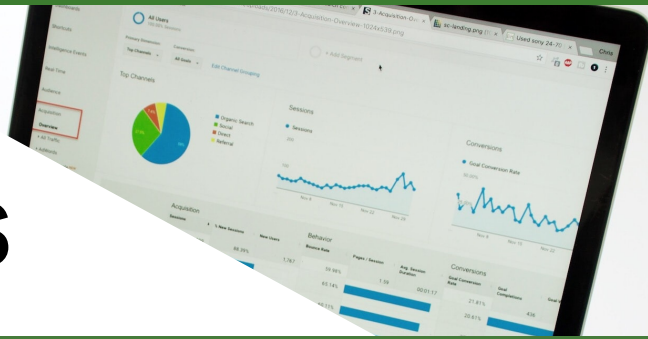
Surprisingly, multiple deals have closed in the months of April to May 2020 when the pandemic had reached its peak. There has been an emergence of new players in the market such as Presence Learning raising Series C \$27M with Catalyst Investors leading the round. This company focuses on mental health and speech therapy for K-12 and plans to expand to hospitals. This is an indication that investors are betting on companies building products to address surge in COVID related problems, one of them being mental health. Investments also focused on learning language products such as Duolingo and Preply, which connects learners with online tutors. TopHat and Teachable were other big investments focusing on online instruction.

Overall, investors haven't changed their investment activities and the end of 2020 would see ed-tech more cushioned with venture capital money.

However, these investments would be used to build goodwill with school districts, parents and teachers by offering services for free rather than in building a sustainable revenue stream.



KEY TAKEAWAYS



- Even with ed-tech investments reaching a record high in 2019, it still **remains just 1.5% of the overall VC investment in 2019**, signaling VC's little change of sentiment towards low-yield in ed- tech.
- VC firms specializing in education have **corporate training and college financing companies** in their portfolio, having the potential to have multiples congruent to traditional SaaS and fin-tech companies. However, this is also leading to capital being reallocated away from companies focusing on K-12, which is the largest and most underserved market.
- Even though investments during COVID in ed-tech hasn't dipped, **VC capital will be used to build goodwill rather than grow revenue**. This is because even though school demand for online training has expanded, school budgets have fallen.

FURTHER QUESTIONS TO EXPLORE

- “Will **college lending products** be more successful if invested by traditional VC’s focused on fin-tech?”
- “Has the **rise in charter schools** paved for easier buy-in and higher willingness to pay for ed-tech products for school districts?”
- “How do different education VC firms **define success**? How are their returns different from other firms?”

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