

Spotlights

K-12, Future of Work, and College Accessibility

eLAB



SIEGEL
FAMILY
ENDOWMENT

The Challenge of Equitable Technology Adoption in Education

In 1728, the Boston Gazette ran an advertisement for "Caleb Philipps, Teacher of the new method of Short Hand", where Mr. Philipps offered through weekly mailed lessons- what we could call the first MOOC (Massive Open Online Course). By 1840, the introduction of uniform postage rates allowed Sir Isaac Pitman to teach a course where he would mail learning content on postcards and receive transcriptions from his students. We could call this the first online bootcamp.

For 250 years, technology-enabled and public policy breakthroughs to bring high-quality, accessible, and affordable education for the majority have been right around the corner. While significant progress has been made, particularly in literacy rates across the world, we still seemed far from a global leap forward. That all may have changed during the pandemic.

At the onset of Covid-19, the broad adoption of technology in education happened almost overnight. McKinsey found that between the start of the pandemic and late 2021, U.S. educators reported a 49% increase in learning technologies that enable collaboration and connectivity. The pandemic forced a rapid uptake in technology adoption across nearly every facet of the education function (from virtual classrooms, asynchronous learning, or blended models) and across every socio-economic demographic and age range (from K-12 to adult learning models, and within every income bracket).

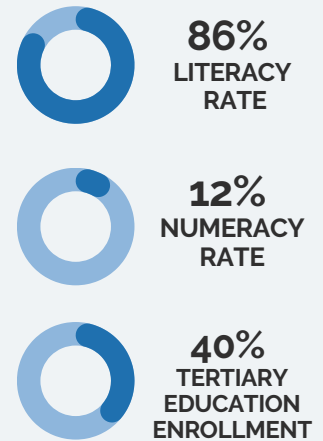
Today, we must reflect on what we learned during this period of time, and what technological approaches to education will ultimately have a sustained, positive impact for both learners and teachers.

Equity, Affordability, and Accessibility in Education

Perhaps the most pressing question in education throughout the years has been how to bring high quality and affordable education accessible to anyone, anytime, regardless of geography, wealth, and past merit. This may sound an impossible task, yet the world has achieved this outcome before.

Yet numeracy rates, measured as the percentage of adults skilled at problem-solving in math, arguably as important as literacy, stands at just 12%. Tertiary education enrollment (college, associate, and trade school degrees) stands at 40%, while tertiary education attainment, a better predictor of career success, is much lower.

Inequality—defined as a lack of opportunity for the majority—is the biggest problem of our time, and the strength of inequality rests almost exclusively on a lack of educational equity. Lack of high-quality, affordable, and accessible education is the largest barrier to accessing good jobs and financial independence, accessing adequate healthcare, participating in civic discourse, and even developing an ability to care for the environment. We believe that technology is the bridge by which we can improve education and quality of life for all.



Introducing **Spotlights**

The eLab team, in collaboration with the Siegel Family Endowment, have produced a series of Spotlights to highlight insights from the education technology (EdTech) startups, both for-profit and nonprofit, that aim to bridge the education gap from K to Gray (Kindergarten through life-long learning). These Spotlights and the founders we interview are a reflection of what the possibilities are, where we are standing today, and what barriers we need to break to reach the full potential of universal access to education.

eLab by Columbia University

eLab by Columbia University is a fellowship that brings together entrepreneurs (Fellows) who are leveraging technology to solve the biggest challenges in education—in K12, HigherEd, Workforce, Corporate Development, and Core Skills Development—with a collective mission to have a major impact in education and workforce development by solving for equity, affordability and universal access. Since its inception in 2020, to date, eLab has served 120 Edtech founders from 11 countries.

Siegel Family Endowment

Siegel Family Endowment is a foundation that aims to understand and shape the impact of technology on society through our lenses of learning, workforce, and infrastructure. Founded in 2011 by David M. Siegel, co-founder and co-chairman of the financial sciences company Two Sigma, we believe that philanthropy is society's risk capital – it can help drive innovation by investing in local leaders and community-born solutions, fostering prosperous and equitable futures for all. Our work is centered around funding organizations that address society's most critical challenges, while supporting innovative civic and community leaders, social entrepreneurs, researchers, and more that are driving this work forward.

K-12 Education

Spotlight: K-12 Education

A K-12 Education may be something that many families in the Global North take for granted, but on a worldwide scale, access to early education is far from guaranteed. Of the world's 787 million children of primary school age, 8% do not go to school—that's 58 million children.

In many countries, non-state and non-governmental actors fill the educational gap. According to UNESCO, in places where public schools were of low quality and in short supply, the percentage of private institutions increased by several percentage points over the past decade. Households in lower and middle income countries also spend roughly 10% more on education, accumulating significant costs for pre-primary and primary education.

In the United States, the pandemic upended K-12 education across the country, and families are still feeling the effects as students play catch-up academically and readjust to in-person learning. Now, 55% of Americans want schools to rethink how best to teach kids rather than just return to pre-pandemic learning modes, with a renewed emphasis on cultivating practical skills, emotional intelligence and 'character', as well as critical thinking abilities. The big question is: what is the best way to do this?

In this Spotlight, we'll identify a few key pain points in K-12 education today, and then outline some of the ways in which entrepreneurs are developing solutions and re-assessing these problems to tackle systemic challenges.





Shifting Learning Practices To Meet Student Needs

The market potential for upskilling technologies is substantial—LinkedIn reports that 46% of learning and development professionals say upskilling and reskilling is a top focus area in 2022. By some estimates, the global market size might be more than \$370 billion considering many employers spend an average of \$1,300 per employee annually on continuing education.

A core component of successful upskilling technologies is the increased access to real-time learning outcomes. When employers better understand the comprehensive skill sets of their workers in real-time they can make better decisions about not only who to train and on what topics but also what business strategies they can successfully endeavor today versus what skills they need to train or hire for in the future.

In the future, technology could enable a better learner experience with behavioral nudges and videos along the learning journey, artificial intelligence or virtual reality to improve one-on-one coaching, and natural language processing to track time spent talking versus listening in meetings. Today, however, systems and processes in the workplace are not always designed to bring the best out of people, but emerging technologies and ideas will allow us to improve upon these systems.



Supporting Teachers and Overcoming Staffing Issues

In the process of innovating the classroom, however, teachers cannot be overlooked. On both a local and national scale, there are widespread teacher shortages in schools, many of which can be attributed to the pandemic. Additionally, superintendent turnover jumped up to roughly 50% in the nation's largest districts. The fact is that students can't properly learn if there aren't enough teachers, or if those teachers do not feel supported in their school districts. Beyond improving salaries or benefits, some states are experimenting with teacher apprenticeships and customized teacher training programs to bolster the recruiting pipeline and diversify staff.

Providing Assistance Beyond the Classroom

In order to work against the declining public trust in the K-12 education system, improving the ways in which schools engage with families will be crucial. The dip in public trust was at a low during the pandemic, when debates surrounding virus mitigation and efforts to control classroom discussions on topics such as race and gender reached a peak.

Beyond family outreach, mental health support was, and continues to be, a primary concern for educators as students re-entered classrooms. With increased reporting around K-12 students suffering from depression and anxiety, many schools and school boards have placed a renewed focus on re-training staff to provide support and re-working curricula to meet students' social and emotional needs.





Meet the K-12 Entrepreneurs



In light of the challenges that many K-12 students face, we sat down with a group of eLab entrepreneurs who are actively working to improve the learning environment for these young students. Here's what they had to say about the K-12 education innovation landscape (interviews have been edited for clarity and brevity). This is who they are and why they do what they do:





Mo Arbaji



Mo is Founder and CEO of ChalkTalk, a platform for teachers & trainers to build, personalize, & run their real-time learning courses.

What is the biggest challenge you are trying to solve?

The first wave of personalized learning came and went by. This arrived in 2012 with MOOCs, and the basic idea was let's give everyone a test and based on that test, we'll give [students] personalized content and assessment. Teachers were teaching to the mythical 50th percentile, and as a result, a lot of students were getting left behind. [I think] no amount of gamification can replace the interactions between learners [and from] learner to teacher.

What role is technology playing today?

Everyone is building technology or content. We don't [necessarily] need more [platforms], but we need better engagement with teachers and students, as well as stronger implementation. With Chalktalk, the question we explored was: can we personalize learning for every student in the classroom but still keep it social and human? We can do this not by changing how teachers teach, but reinventing how [these] interactions work in the classroom.

What do you expect to see in the future?

What technology will do in the future is enable conversations between teachers and students in a decentralized way more effectively. [We'll see more] asynchronous learning coupled with real-time interactions, and tech will help scale this paradigm.



Kyla Bolden **WIZKID**

Kyla is the CEO of Wiz Kid Learning, an e-learning platform offering live online programs for children aged 4-18.

Why are you passionate about K-12 education?

I think it's awesome to supplement traditional K-12 education and ensure that kids are prepared personally and professionally. I got a computer at a young age, and realized there

were no programs out there for me. I taught myself to code and and develop websites, but [I found that] there were no communities to join, unlike other sports and extracurriculars. Building WizKid, it's important to not just have the skills, but [develop] a community of like minded learners, a more holistic form of education.

What is the role of technology today in your business?

Technology plays a huge role at WizKid. When we first started programming, it was in person. Then we shifted to online to educate as many people as possible—we didn't want to make [someone's education] less achievable because of location. We're always thinking about how we can use technology to reach various kinds of backgrounds and learning styles. Right now, we're focused on small group classes. As we incorporate more tools, like AI, we see it as a way to teach kids in a more personalized way and reach more students. It's all about giving more access. When used correctly, [tech] levels the playing field. At the same time, one barrier is making the experience as social as possible because classes are online. We want to make sure the classroom feels as much of a community as possible, even though it's virtual.

What do you expect to see in the future?

I'm hoping that there will be more focus to develop core skills for kids that they're actually interested in. School tends to focus on one kind of learner. I'm hoping K-12 education can provide more ways to educate more types of learners. Specifically, [instilling] more of an educator's mindset. Being able to understand technology, and how to use it for good. I think people could benefit from having more of a tech-focused education.



Alma Losada **AEQUALAND**

Alma is the Founder & CEO at Aequaland, a value-driven edtech platform for kids 4-10 years that develop the life skills needed to become well-rounded global citizens.

Why are you passionate about K-12 education?

I'm passionate about educating the little ones. Brains reflect the lives they have lived. Our brains are continually changing by the education they receive, the hobbies we have, and the sports we play. We can no longer cast the debate of the difference as nature vs. nurture. We need to acknowledge that our brains are mouldable.

The problem is that capitalism, the patriarchal system, and traditional heritage are rooted unconsciously and guide our perceptions. To change the world, we must start from the root of the problem and plant the right seed [with our children]. I believe education can

change these perceptions, change the way we treat each other, [and] change the world for the better. At Aequaland, we want to empower every child to realize their inner superhero. I believe that access to a holistic education with digital play and physical activities can provide a creative pathway for kids' self-love, self-belief, and self-consciousness.

What role is technology playing today?

We use tech in two different ways: 1) For students, we use digital play and gamification to increase the appetite for learning, engagement and retention. It's scientifically proven that adding game elements increase the grey matter and dopamine in our brains, making us happier and smarter. 2) For educators, the class dashboard captures students progress to support their learning journey in a personalized way, and the resources offers teachers a 'pick-n-mix' of our themes and content.

The roadblocks [to achieve this] are: 1) The lack of technology or outdated tech in the schools and 2) the absence of familiarity and knowledge of using and integrating technology in the classroom. If we look at obstacles as opportunities to turn problems into progress, there is an opportunity for us to accompany, train and support schools on their digital transformation journey.

What do you expect to see in the future?

With AI and robotics, the workforce will be disrupted, jobs will disappear, and new ones will emerge. Education must speed up to match the new workforce. I see a growing need for social and emotional skills development. What differentiates humans from machines is that we are emotional beings. Technology enables us to allocate more time towards higher impact activities and to foster an inclusive and collaborative blended schooling space. With the help of data and AI, we can tailor and recommend learning according to each child, creating tech that supports greater human potential.



Miriam Altman-Reyes

Miriam was Co-founder and CEO of KinInvolved, an industry leader in efficacy-tested technology to elevate student attendance, through its acquisition in 2022 by PowerSchool, where she is VP, Go-to-Market Strategy and Partnerships for its innovation group.

What is the biggest challenge you are trying to solve?

As a high school educator, one issue I encountered was kids missing or being late to class, so I tested different interventions. When I did my MPA, we developed a software platform

that generated a two way communication to prevent absenteeism and provide access to data that can help school/district leaders to see trends in real-time and over time. We then built automated interventions based on the attendance data. Over time, the challenge of absenteeism has not gone away, but due to the pandemic, there is now much more public awareness of the problem.

What role is technology playing today?

Technology cannot replace human interaction, it is about creating capacity and systems that are reliable. An example is our digital attendance postcard, which automates attendance-data-driven interventions, but [still requires] teachers to have conversations with parents around root causes. Attendance [is a] foundational issue; this is a pretty green market, and most [school] districts [don't have] a solution to solve for this holistically.

What do you expect to see in the future?

I am hopeful for the future. The pandemic placed emphasis on gaps [in the education system], and there is a huge opportunity to think differently about how we educate kids. We will see transformations that will have positive intergenerational effects.



Juan Manuel Restrepo



Juan is the Director of Cosmo Schools, a movement that wants to transform the education system in Latin America through a network of high quality and accessible schools.

Why are you passionate about K-12 education?

I'm really interested in how tech can transform society. We live in a world where we have huge gaps in equality, gaps between public and private education. Education [is] for me the pathway towards transforming society. No matter your family or economic reality, if you are [given a] pathway to education, you can become what you want to become.

In starting Cosmo, we wanted to explore what the future of education could be. We traveled the world, learned about 100 educational models, talked with teachers and students. [We wanted to] move from transferring knowledge to building pathways of inspiration and facilitating the learning process.

What is the role of technology today in your business?

We cannot see tech as the end or the purpose of education. It's a powerful tool that helps us engage towards a new way of learning—it helps us reduce the gaps and also increase

access. Tech will disrupt more of the traditional [aspects] of learning, but we cannot forget about human interaction. If you leave the human aspect out, we lose a sense of who we are. Technology makes knowledge more accessible, but we need to also develop human social and emotional skills at the same time. In K-12, there is not a lot of disruption happening. It's a very traditional model. We have not had a scalable, disruptive change in a long time. [To do this], we need to change the minds of leaders, and help them see how tech can be a powerful tool.

What do you expect to see in the future?

We're going to have more personalized education through AI. But the big challenge is how we won't lose the human aspect. We're going to have AI disrupting many jobs, changing general perspectives of how we work, live, and spend our time. The gap between rich and poor countries could increase. [Therefore] access to technology is going to be critical to reduce this gap.



Maria Vélez

CRACK
THE
CODE.

Maria is the Founder and CEO of Crack The Code, a computer science school for kids and teenagers.

Why are you passionate about K-12 education?

I am passionate about K-12 education because day-in-day-out we are changing lives. Our work is having a direct impact on the futures of the kids that we are working with. There is nothing more gratifying than knowing that your hard work is benefitting society.

What role is technology playing today?

Technology is what enables us to reach students all across Latin America. [Because of technology], we are able to scale faster and work with kids that otherwise wouldn't be able to have this type of education. We are also teaching kids how to use and create technology, so our work is tied to technology in different ways. One of the biggest roadblocks we have is that schools in very small and remote parts of Latin America don't have devices or internet, so we can't work with them.

What do you expect to see in the future?

I expect to see that technology will transform how we learn, what we are learning and how we should teach. Education leaders, teachers and mentors should be open to accept change in how we teach, how students learn—because a new generation of learning is here.



Kellie Lauth MindSpark®

Kellie leads the MindSpark team by designing and launching community-based solutions with innovative professional learning, as well as creating transformational shifts across schools through industry-school partnerships. At Couragion, Kellie is redefining what it means to collaborate across sectors to ensure ample opportunities for communities we all care about.

Why are you passionate about K-12 education?

I remain deeply passionate about the expansion of workforce literacy opportunities in partnership with K-12 and industry, especially in rural and highly impacted communities. Providing students with viable industry recognized credentials and mentors is an investment with strong economic and social returns. We can diversify traditional career pathways and offer more options to all students, creating more access and opportunity on-ramps. We have seen firsthand in the communities we work with, the power of intersecting industry and education together to galvanize relevant and viable solutions.

What role is technology playing today?

Technology plays a key role in our organization. We not only utilize multiple platforms, apps, and tools to communicate and run our organization, but we upskill educators in drone technology, responsible AI models, AR/VR, and robotics. With the acquisition of Couragion, we have leveled up our ability to build responsive and agile courses, intersect partners, and utilize gaming to support robust early career exploration and development.

What do you expect to see in the future?

In the future, I would expect and hope to see an expansion of community-based problem-solving approaches that uplift education as foundational. There is limitless potential in education. We believe the health of communities and our economy is directly tied to the health of our education systems. My hope is that cross-pollinated, transdisciplinary partnerships that provide fluid, dynamic, fierce, unassuming, and simple solutions become the norm across the education landscape.



Sonny Thadani Robin

Sonny is CEO and Co-founder of Robin, a supportive community that connects students with inspiring coaches to empower emotional growth.

Why are you passionate about K-12 Education?

I wanted to get involved with [education] work after seeing the [effects] of mental health issues within my family, getting involved in Sandy Hook Promise, and as a Dad, realizing the impact of gun violence on children. The world of education is rewarding and unique and it houses everything that my values and beliefs stand for.

What is the biggest challenge you are trying to solve?

[Specifically], I wanted to dig deeper on mental health. We want to support our students, but if we don't support the educator as well, [then they] won't be able to bring their best selves to work. We've learned that teachers don't have enough [personal] support—they have professional development and training, but who is supporting them? They don't have access to therapists and coaches or mentors, and [this] is a critical problem to solve.

What role is technology playing today / in the future?

We all know how powerful technology is, but we need to use it effectively. For us [at Robin], it is the ability to provide access to students who may not have had the opportunity to access coaches, and when a new skill set is learned, the technology will help us build that into a habit. [But], technology cannot replace on ground support, shared safe spaces and replace personal relationships.

What do you expect to see in the future?

A [major] barrier to innovation is [having an] understanding of what's happening — innovation has to come from people who understand education deeply. [We need to] have more stakeholders become decision makers: we need teachers, students, parents to have a voice and seat at the table to drive change. We also need to pay educators more money, and change incentive structures.



Phil Weinberg



Phil is a Senior Advisor and MD of the Writing Pathway Innovation Lab at the non-profit Teaching Lab (TeachingLab.org), a multi-year research project providing teachers with a clear, open-source roadmap for implementing the highest-quality writing instruction. He was formerly a Senior Partner at Quill.org and Deputy Chancellor for Teaching and Learning of the New York City Department of Education.

Why are you passionate about K-12 Education?

Educating our young people is an essential aspect of working toward a more equitable society and maintaining a functioning democracy. At present, my attention is on writing because it is something that does not receive enough focus in teacher training or in the classroom. Writing is an important element in the learning process, and is a key skill ensuring young people develop voice and agency in the world. If students are not taught how to express themselves effectively, we are leaving [these students] without access to one of the most important skills they will need for the rest of their lives.

What is the biggest challenge you are trying to solve?

When we started our project, we [realized] there was no coherent and research based approach to teaching writing to support teachers. That support exists in math and in reading. Educators deserve help constructing a progression of skills to enable students to grow as writers. Individual teachers should not have to create that pathway themselves.

What role is technology playing today / in the future?

ChatGPT notwithstanding, I don't think technology exists right now that effectively supports teachers to teach writing well. However, I believe technology will play a huge role over the [next] 20 years—it will help educators become more efficient at providing thoughtful feedback to their students, and it will allow teachers to better track the thinking and learning of students as it evolves in their writing. Additionally, I think technology can support instructional approaches that become more student-centered and differentiated to meet students where they are and help propel them forward. [That said], we also need to understand that tech is a luxury in some places, and that creates huge inequities across the world. Once all students have [better] access to technology, then some of these inequities will begin to dissipate.



Future of Work



Spotlight: Future of Work

With tertiary education enrollment and attainment rates at less than 45% in the US, upskilling and workforce development efforts are bridging the gap. Upskilling can take on many different forms, but generally refers to providing employees, entrepreneurs, or gig workers with the skills and tools they need to advance in their career trajectories.

Today, more employers and educational institutions are adopting technology for upskilling than ever before and advances in technology are helping create a more level playing field for workforce development opportunities. The scale provided by technology enables workers to learn from anywhere, connect more seamlessly, and receive personalized education.

One of the key challenges with upskilling is that workers do not have equal access to development opportunities, which can increase productivity and wages. For example, higher earners tend to have access to high quality, selective, and brand-recognized programs, and they are more likely to have available time for studying, while low earners typically do not have as much access to these same opportunities. Even if a company offers their low-earners a free online course (i.e. a MOOC), not all workers have the time, childcare support, energy after long shifts, or even internet access to take such courses at the duration required for completion. The bottom line is that we need solutions that offer equal accessibility and meet workers where they are.

In this Spotlight, we'll highlight some innovative upskilling and workforce development solutions that exist today to help people advance in their careers, with a particular focus on underserved populations (low earners, minorities, women in the workforce, new job entrants, etc).

The Role and Promise of Technology

The market potential for upskilling technologies is substantial—LinkedIn reports that 46% of learning and development professionals say upskilling and reskilling is a top focus area in 2022. By some estimates, the global market size might be more than \$370 billion considering many employers spend an average of \$1,300 per employee annually on continuing education.

A core component of successful upskilling technologies is the increased access to real-time learning outcomes. When employers better understand the comprehensive skill sets of their workers in real-time they can make better decisions about not only who to train and on what topics but also what business strategies they can successfully endeavor today versus what skills they need to train or hire for in the future.

In the future, technology could enable a better learner experience with behavioral nudges and videos along the learning journey, artificial intelligence or virtual reality to improve one-on-one coaching, and natural language processing to track time spent talking versus listening in meetings. Today, however, systems and processes in the workplace are not always designed to bring the best out of people, but emerging technologies and ideas will allow us to improve upon these systems.





Meet the Future of Work Entrepreneurs

We sat down with a group of entrepreneurs who are actively working to tackle the many issues connected to the future of upskilling and workforce development. This is who they are and why they do what they do (interviews have been edited for clarity and brevity):





Chris Motley MENTOR SPACES LIFT AS YOU CLIMB

Chris is Founder and CEO of Mentor Spaces, a community-driven mentorship platform designed to help companies scale DEI efforts while advancing the careers of underrepresented talent.

Why are you passionate about workforce development?

I worked at Goldman Sachs in trading, but decided to leave finance in order to provide better opportunities for people. I [became interested] in how to use technology to remove barriers that young People of Color face in accessing careers, mentorship, or even starting conversations with people who are different from them.

What is the role of technology today?

At Mentor Spaces, technology can drive the scale of impact and efficiency as well as be an account of record when helping organizations build and retain a pipeline of talent.

Technology entrepreneurs have many stakeholders, and the buyer is not always the same person as the user. Buyers are often risk averse, but Covid-19 has made more people open to technology in the space.

While there are multiple problems in the tech ecosystem, the core of [the solution] is helping companies build more diverse pipelines and retain these people, build social capital, and serve underrepresented minorities to sustainably engage with their communities.

What do you expect to see in the future in this space?

We are in the 4th industrial revolution that is focused on AI, cloud computing, big data, etc, but the incentives for companies need to change—the structure of business and society as a whole is reflective of an industrial economy. The former model, where training was paid by the employer and pensions were offered, has deteriorated. Nonprofits get funding, but don't have the resources and tech to scale; we [mostly] get our innovation from VCs who don't have the same lived experience of their users.

On the positive side, I'm [seeing] a trend of people working together more closely than they ever have before. In edtech, there is a natural desire for investing in infrastructure that [aids] collaboration, [which brings about] new forms of innovation and collaboration. New programs such as eLab by Columbia University and the TechStars Workforce Development Accelerator will continue to fuel growth and innovation.



Ahva Sadeghi

Ahva is Co-Founder & CEO of Symba, an all-female founded all-in-one internship management platform that helps employers streamline, track key metrics and build community in their programs.

Why are you passionate about workforce development?

Workforce development has had a direct impact in my career and professional development; it means creating equitable access to jobs and economic mobility. I was the first remote intern for the state department; I did 6 more [internships], and these opportunities unlocked new career potential for me with the support of mentors. I wanted to help others have access to these same types of jobs and created Symba as a part of my social impact project with late Congressman John Lewis in Atlanta.

Internships have this notion of being a ‘feel good’ [endeavor] and not necessarily strategic. We are redefining what early career means and helping employers champion their diversity recruiting efforts from the ground up.

What is the role of technology today?

We are using technology to combine program management and data analytics to help employers improve their workforce development programs and make smarter hiring decisions. CHRO/People Officers want to invest in their diversity pipelines and make strategic hiring choices, university recruiters want to drive efficiencies, and interns and apprentices want meaningful career experiences. Our all-in-one platform helps employers scale their initiatives and double down on their early career initiatives by over 500%.

What do you expect to see in the future in this space?

I’m optimistic that experiential learning opportunities are on the rise and employers will continue to realize their long-term value. However, a lot needs to change in terms of equity and access. There is an [entrenched] cycle of economic mobility for people that [improves] with access to education and key workforce development opportunities. We need to rethink how we do workforce planning and how we think about candidacy for employment. Given the current landscape of labor shortages, this is a pivotal moment for employers to invest more resources into this space.



Sophie Smallwood roleshare

Sophie is CEO of Roleshare, a company that brings the sharing economy to jobs to enable a sustainable, diverse, and equitable workforce. Roleshare's platform matches fractional employees to job share opportunities. By enabling job share, Sophie Smallwood and team aim to increase the diversity of talent in mid-senior roles.

Why are you passionate about workforce development?

I used to work in advertising in LA, and through volunteering, I met a woman who was a board member of a charity, a mother to young twins, and a director at her advertising firm. I asked her, "how do you balance it all?" She told me that she split this director-level role with someone else, and that a lot of things had to align for her to be able to do this. I thought, despite the fact that we all have diverse interests and passions, there was no platform that tried to make job sharing easy.

What is the role of technology today?

At Roleshare, we use tech to scale matching and connections between fractional professionals looking for job share opportunities. We want to help enable equitable opportunities in the workforce, retain and redeploy existing employees that don't fit the traditional working model, giving them access to senior/impactful roles, and increase diversity of talent into mid senior roles.

What do you expect to see in the future in this space?

There is still a lot of legacy thinking from the industrial revolution days in terms of how we think about work culture. I think that the future of the workplace is going to be employee-led. We need to adapt to a diminishing full time workforce; it's going to be less about exclusive access to talent and employees, and more about creating a shared talent ecosystem.

I believe the future of workforce development will be employee-led with more mutual accountability and the application of web3 and DAOs to enable autonomous organizations. Organizations will need to shift how they access talent and accommodate learning as we adapt to a less full-time and more fractional workforce. Employees will increasingly have portfolio careers with multiple sources of income and the use of talent ecosystems will impact how and when people learn and grow in their careers.



Jessica Rothenberg-Aalami

Jessica is CEO and founder of Cell-Ed, a flexible microlearning platform proven effective to teach, nudge, and coach essential skills over mobile—including without the internet. Cell-Ed aims to use technology to bridge the gap of functional literacy to provide better life, work, and health outcomes for all.

Why are you passionate about workforce development?

After attending a dozen public schools across the US as a young person, I viewed education as a system that you needed to learn how to decode and decipher—and if you could, it was one that could help you thrive and realize your dreams. In the US, however, education is not equitable or fair, and [this is what] I wanted to address at Cell-Ed.

What is the role of technology today?

It's hard being a young person or an adult—it's even harder to navigate work with low functional literacy. This gap prevents one in three people from accessing opportunities and building their dynamic path. If the tech sector would focus innovation on our greatest challenges - lack of access to food, shelter, and dignity in work for the world's majority - we could actually serve the majority workforce - and alleviate poverty.

Technology also does not have to be the most sophisticated to solve daunting problems and even today, a basic mobile phone has the power to connect one to essential skills and services - and even change systems. We just need to do a better job designing and co-creating solutions with these users at the center.

What do you expect to see in the future in this space?

We're living in a time of insecurity: how can people perform in their jobs if they don't feel safe? People need opportunities to perform, and so the near future [of this industry] must be focused on sustainable [technological] design that supports radical changes - and the majority of people's needs. Let's be bold.



Tania Luna

Tania is a co-founder and chair @ LifeLabs Learning, a company that helps managers and teams at over 2,000 companies develop the most important behaviors of leadership and inclusion, fast.

Why are you passionate about workforce development?

I fell in love with workplace skill-building when I taught organizational psychology at a city university, where my classes were filled with first-generation college students, immigrants, and individuals with marginalized identities. Their final assignment was to consult with a real company, and they looked forward to this opportunity all semester long. But something strange happened as soon as they set foot inside the corporate offices of these “clients”: they shrunk away as though they had nothing to add, even though they were brilliant and outspoken in class.

It helped me see that a major gap exists in people’s access to leadership and people skills that make employees both fit in and stand out in the workplace. I’ve also learned that even equipping individuals with privileged backgrounds with these skills benefits and lifts up everyone around them. When managers are effective, they catalyze their team’s confidence, competence, and even compassion. These skills then tip over into everyday life.

What is the role of technology today?

I think it’s important to remember that technology is a tactic and not a strategy. It is a means to an end. So, we first have to understand what we want to achieve or the skills we want to help build, then ask how technology can help us get there. For example, tech can help increase learning retention, but only if we use it in accordance with learning psychology (e.g., by following forgetting curve research vs. by sending random nudges that learners start to see as spam).

In particular, I’m excited to see technology aid practice (i.e., getting “reps in” without relying on another person’s availability), social learning and peer community-building, tailoring learning to the individual, assessing skill gaps and improvements, real-time feedback (e.g., an alert that tells people they’ve been talking too much), and, of course, providing worldwide accessibility.

What do you expect to see in the future in this space?

Power is becoming increasingly distributed and leadership is becoming more of a fluid role than a fixed job. This shift means that more people will need to be strong collaborators, communicators, and leaders (with formal and informal authority). A lack of these core skills will become a major barrier to equity and inclusion at work and in society at large.

As AI takes on more responsibilities, we’ll also see a bigger push to help people build up the skills we are best poised to have: people skills!



Steve Gilman

Steve is Co-Founder and CEO of OneRange, which delivers inspiring professional development opportunities to every employee. Range partners with technology companies, helping them retain and grow talent by enabling their workforce to discover and access any learning resource.

Why are you passionate about workforce development?

My story is a kaleidoscope, and I've had a lot of different careers, but I've never been satisfied by the ways companies provide professional development [to their employees]. I've noticed a huge difference between what companies thought they invested in people

and what people feel they are invested in. 41% of employees left their last organization because of lack of career or development opportunities, so I became focused on solving for professional development, given the huge disconnect between employees and management, and workers asking for upskilling.


There's an affinity for [sending employees] to college programs, [but] tuition reimbursement is [mainly so that] employees can check off best places to work awards. How much of this education is actually being used [in the workplace]? No one has the answer, but [I believe] that [the reason] people leave or stay comes down to how you can expand their mind and give them potential to grow. When you invest in people you will, over time, see the investment [for your company].

What is the role of technology today?

The value proposition of Range is to help save the time and headaches of senior leaders. These leaders are not upskilling themselves every day, so they often do not understand the developmental needs and wants of their workforces. Technology helps provide real-time people analytics and learning data to guide strategic professional development investments.

What do you expect to see in the future in this space?

A critical challenge and opportunity for upskilling over the next 20 years will be measuring impact. When you invest in people over time you see the benefit, but it can be hard for executives to adopt a new learning or upskilling program if you can't measure it in isolation. In comparison, the U.S. military does not measure learning and development performance of service members on a quarterly basis but the aim is to increase the budget and continuously attract recruits and retain them via upskilling.



College Accessibility

Spotlight: College Accessibility

Let's start with a bit of good news: according to UNESCO, the global higher education enrollment rate almost doubled between 2000 and 2018, going from 19% to 38%. Tertiary education enrollment rates have been slowly, but steadily climbing for the past 50 years—today, roughly 40% of the world is able to enroll in some form of post-secondary education, according to the World Bank. Regions in Southeast Asia, Latin America, and the Caribbean, in particular, have experienced the highest level of growth over the past decade.

While this is cause for some optimism, the fact remains that education, let alone a post-secondary degree, is still inaccessible for the majority of the planet. Poverty, political instability, discrimination, and institutional barriers are chronic barriers for at least 60% of the planet to gain access to a university education.

Despite comparatively high rates of post-secondary enrollment in the United States, the price of a college education is still untenable for many families. Today, 77% of Americans think that college is unaffordable, and they have good reason to feel that way: the average student loan debt for recent college graduates in the US is nearly \$30,000, and it takes the average student a whopping 20 years to pay off this debt. What is the innovation sector doing to improve the situation for students?

In this Spotlight, we'll identify key reasons why college accessibility remains such a difficult task, and outline some of the solutions that entrepreneurs are developing to tackle this massive challenge.

Prices are Steep, and Aid Isn't Enough

1.7 million scholarships are awarded annually to college students in the United States, with the US Department of Education granting an estimated \$46 billion in scholarship money annually. And while this sounds promising, it's not nearly enough—only 7% of students will receive a scholarship, with less than 0.5% of students receiving a 'full ride.'

Making matters worse, the fixed costs of college continue to increase, seemingly without end: sticker prices (including living costs) rose 41% between 2007 and 2017. Adjusted for inflation, this figure represents a 20% increase. Post-pandemic, many colleges reported a nearly 6% increase in tuition rates for Fall 2022. Though many students, particularly at private universities with large endowments, do not pay the full sticker price, the "need-based aid" that many students receive is still nowhere near enough to make their education affordable.

The Value of a Degree is in Question

The number of undergraduates nationwide is now down 5.1% compared to two years ago, a loss of almost 1 million students. Ballooning tuition fees and living costs are scaring prospective students away from college campuses, with many wondering what these economic sacrifices will actually yield. Nearly a quarter of respondents to a national survey said they didn't believe a 4 year college degree would be necessary for the career that they wanted.

While the demand for 4 years degrees seems to be in flux, non-traditional programs are on the rise: according to McKinsey, from 2011 to 2021, the number of learners reached by massive open online courses (MOOCs) increased from 300,000 to 220 million, with the pandemic rapidly accelerating the growth of remote and hybrid degrees by 92 percent. A separate survey also found that one-quarter of adults plan to enroll in a non-degree program in the next 6 months. As many students question the value of college, they are turning to other resources to get the skills that they need.



Barriers to Access are Systemic

While the overall population of Americans with post-secondary degrees has been slowly increasing—up from 38% to 45% since 2008—the gap between the proportion of white Americans with degrees and Black, Hispanic, and Native Americans, with degrees has not narrowed during this same period of time. Why? Opportunity engenders opportunity, and for many low-income families of color, it is incredibly difficult to break into the college system. Even once in college, Black students are borrowing nearly double the amount that their white peers borrow on average; these same white classmates are also exponentially more likely to graduate.

This education equity gap also overlaps with technology access. Black, Latinx, and rural respondents to a national survey were the most likely to say that access to a computer and/or to the internet would be a significant barrier in pursuing further education.





Meet the College Accessibility Entrepreneurs



Given some of the major issues that prospective, current, and former college students face, we sat down with a group of eLab entrepreneurs who are actively working to tackle these problems head-on at their respective companies. Here's what they had to say about the college accessibility innovation landscape (interviews have been edited for clarity and brevity). This is who they are and why they do what they do:





Ana Hernandez InScribe

Ana is Co-Founder & COO of InScribe, an innovative platform that helps institutions scale high quality academic support for their students.

Why are you passionate about improving college education?

I've always been passionate about education. I started as a high school teacher, and eventually worked at a startup called eCollege based in Denver where I met my co-founders, Katy and Matt. One of the things we saw that learning management systems are not great at connecting students. We built InScribe to fill that void and give students a place to connect in the digital world like they would in an on-campus environment.

What are the biggest barriers to innovation in the higher education sector?

Schools are still functioning the same way as they were 60-100 years ago. Some places are working to improve how we teach students, but college still essentially looks the same as it did 30 years ago. Tech has changed so many things, but education has lagged.

What role does technology play in addressing these challenges?

Covid made us understand isolation, and helped us see how technology can be a lifeline. We're building safe spaces where students can connect within the confines of their institutions, allowing them to collaborate with their peers and helping get them connected to faculty and staff in a more scalable and supportable way.

What does the future look like for higher education?

There's been a lot said about automation, especially lately. That's all really exciting, but I think the best outcomes happen if we retain the human element as we innovate. Success and connection come only when other people are part of the equation, whether that's learning from the real experiences of our peers or instructors, or just feeling less alone while struggling through an assignment at 11:00 at night. Human connection will continue to play that vital role in engagement and retention.



Kevin James

Kevin James is the founder and CEO of Better Future Forward, a nonprofit social enterprise founded to ensure that all students from low-income backgrounds have protective, aligned financial support to access to high-quality educational pathways to a prosperous and fulfilling life.

Why are you passionate about improving college education?

It feels like we're going through a seismic shift in terms of the nature of [what it takes] to achieve a middle class life. Post-secondary education is [still] so essential in creating the opportunities that people want to have...you just need to figure out financing for it.

What are the biggest barriers to innovation in the higher education sector?

We started with a framework for innovation 60 years ago, [which was that] the higher ed system is good, we just need to give students money to access it. Then we can push them out the door and say good luck. I think we need a framing change to say students need money, but this should [coincide with] asking what educational pathways are going to give students the support they need.

What role does technology play in addressing these challenges?

We're using human-centered design to build a better financial tool and identify high quality educational pathways—that's where a lot of the innovation is in our work.

What does the future look like for higher education?

I see more programs emerging that are trying to bring together links in the chain that students need.



Casey Powers **climb**

Casey Powers is the CEO of Climb Credit, an education finance company that evaluates the return on investment of education programs and helps consumers find, evaluate, and finance these programs to increase their earning potential.

Why are you passionate about improving college education?

My interest was born of a passion for lifelong learning. My background is in financial inclusion, and I think the use of financial products [can bring] about a better life. How can responsible finance lead people to upward mobility? I'm interested in the perfect meeting of those two passions.

What are the biggest barriers to innovation in the higher education sector?

College accessibility shouldn't be the only goal—it's about learning accessibility. [College] shouldn't be a one size fits all option; there should also be a broader awareness of other education options.

What role does technology play in addressing these challenges?

Tech is at the center of our business, it supports our ability to make our business function in every respect. Tech is how we scale and provide a better customer experience for student learners and also for our schools. Data is the center of students' experience...[and it helps] how we decide who we lend to.

What does the future look like for higher education?

I see employers being a bigger part of the [college] education system. The talent gap is the flip side of this education system problem. I see [the creation of more] direct hiring pipelines from the training programs that are shaping talent for the economy of the future.



Felipe Vergara

Felipe Vergara is the Founder and Chief Executive Officer of Lumni, an innovative company that manages funds to finance students in exchange for a percentage of their future income.

Why are you passionate about improving college education?

From a young age in Latin America, I could see that very few people had good resources. My initial thought was how to give more people access to higher education. If you could go to a certain school, you would have a statistically greater chance of [improving] your life.

What are the biggest barriers to innovation in the higher education sector?

Speaking from the perspective of a founder, you need a long term vision, and you also need capital. The world economy is so connected today, [and] people with capital look for the [US] dollar as a safe place.

What role does technology play in addressing these challenges?

When we began, everything [about our business] was super manual. [Incorporating] tech has been one of the most complex and necessary things for us. Ultimately, we have a good platform, but as a founder, you have to be super efficient.

What does the future look like for higher education?

Look, to get a job in banking 30 or 40 years ago...you needed to be a man from a high income background. Things have been changing. I always see the glass half full—if you have a goal, when you have a vision and a dream, even if it's a bit idealistic, it leads you for life.



Michelle Cho **GLADEO**

Michelle Cho is the CEO and Co-Founder of Gladeo, an inclusive, storytelling career navigation platform building a more inclusive and equitable future of work.

Why are you passionate about improving college education?

Growing up as a child of immigrants, I was told to study hard, go to college and then I would be set for life. In my last year of college, I [thought] I had 3 choices: consulting, investment banking or law school. None of those interested me. I decided to move down to LA to work in Hollywood, [but] I had no idea where I fit in. I did over 100 informational interviews to figure out what career fit me best and find [someone] who would give me a shot. It was a tough process, so I wanted to make sure it would be easier for the next generation. I think career exploration should start as early as high school, and at the very least, college. College is hard, but when you have a goal, a direction, it makes things easier.

What are the biggest barriers to innovation in the higher education sector?

The venture capital world can be hard to navigate. When we pitched Gladeo, traditional VCs hated the fact we were selling to public entities because it's tough, but I don't believe you can do true systems change work when you don't work with community colleges. In the last year, we have sold to several public entities...impact investors are a solution if they are true impact investors.

What role does technology play in addressing these challenges?

Data is an important application of technology in this sector. You can aggregate data. Since we have hundreds of thousands of users on our platform, [we ask ourselves] what is the intervention that actually makes a difference? Also, technology can make things easier to do not just for students but also for the career counselors and administrators that help students. It can connect you to things that you would have spent hours trying to find and streamline processes.

What does the future look like for higher education?

I see [an emphasis on] more skills-based credentials vs. just college-based. [I think education is] becoming more about the [hard] and soft skills that you learn. Also, learning is not going to be something you do only in your late teens/early twenties. I believe we will have to constantly learn skills throughout our life and so we will always need higher education, though not in the traditional 2 or 4 year way.



Eric Menna Loper

Eric (along with Sam) is the co-founder of Loper, an EdTech platform building resources to path students on their best-fit learning journey.

Why are you passionate about improving college education?

Strong access to a quality education is proven to be a top driver for social mobility, but the average student isn't informed enough to understand the landscape. The consequences of poor decision-making are bleak, and the success stories are plentiful for people who end up on the right path.

The right learning path unlocks each stepping-stone of upward mobility, but the standard student doesn't have the resources to discover their right path. I'm passionate about helping students build their journey in education so they maximize the return on their investment of time and money.

What role does technology play in your company today?

We're striving at Loper to meet the modern learner where they are in their educational discovery, and technology is central to that goal for today's educational consumer. Students today crave bite-sized, on-the-go information. Consumers today demand curated content for messaging to break through. Educational providers need to innovate

their approach to meeting the modern applicant where they are.

At Loper, technology underpins all of this as we build an enjoyable and approachable search platform for today's learner. We're advancing the ways applicants can access information about the post-secondary landscape and enabling providers to innovate on their engagement

What do you expect to see in the future in this space?

I'm excited to watch the landscape of post-secondary paths grow and change over time. We're in a pivotal moment in higher education where students have more opportunities and credentials to choose from than ever before (and Loper wants to support them through that increased choice).

The future is going to bring even more choice with a rapidly evolving value proposition and a diversifying landscape of opportunity. Many traditional providers will innovate to keep up with new entrants that enter and threaten the pedigree of the traditional path. The student of the future is going to have endless ways to learn, and they'll need help figuring out where to start.



Sam Bernstein **Loper**

Sam (along with Eric) is the co-founder of Loper, an EdTech platform building resources to path students on their best-fit learning journey.

Why are you passionate about improving college education?

Improving access to education and promoting student success are the best ways to combat inequality. I'm passionate about our industry because technology has an incredible ability to broaden the reach of high-quality resources and increase efficiency for those working every day to support students. We're also seeing real innovation in terms of what educational pathways are available to students, so I think it's a very exciting time to work around post-secondary education.

What role does technology play in your company today?

Technology saves our stakeholders (students, counselors, college enrollment teams) time and powers personalized content for our users. Students should see information that is relevant to their interests instead of content for an audience at large.

What do you expect to see in the future in this space?

I expect to see greater optionality for students and a further unbundling of services. The traditional, on-campus 4-year college experience isn't going away. But in its current structure, that is a luxury good whereas access to education beyond high school is a necessity for the population at large in a functioning democracy. With greater optionality, students can better personalize their learning path, but within a set pathway (i.e. attending Loper University), I expect to see more variable offerings that meet a specific student's needs.



We are grateful to SFE for sponsoring this program.