Transforming Education:
Reimagine learning for future-ready talent
Abstract

With the global economy increasingly centred on knowledge and skill, educational institutions are moving from traditional teaching methods to custom methodologies that promote anytime, personalized, and adaptive learning. Disruption in education with adoption of online learning platforms and the move to cloud-based solutions have brought about radical changes in education and student outcomes, attracting a potential investment of $10 trillion in the next 10 years. The pandemic has served as one of the biggest disruptors as well as accelerators in the sector. Online learning has become feasible, more easily accessible, attractive, and effective. Worldwide, institutions must leverage innovative technology solutions to reimagine the learning value chain and their operations, to transform how they teach and create a talent pool for the future.

Traditionally, across developed and emerging markets, institutions have underinvested in education technology, or edutech, for various reasons, the least among them being the belief that one must “go to school” to learn. Factors such as lack of an enabling policy environment, inadequate government funding or budget constraints, and parental and educator inertia have also played their part. According to a 2020 Citi GPS report, *Education: Fast Forward to the Future*, edutech spend worldwide will more than double to 4.8% of total the education spending, to about $360 billion by 2024, from about $160 billion in 2019. That's an average growth rate of 17% per year.

This indicates massive blue ocean opportunities for digitalization of education. The pandemic has catalyzed this demand, especially in the emerging markets with significant unmet potential. For example, when one of India’s premier technology institutes, IIT Chennai, launched an online Bachelor’s program on data science, it received an opening enrolment of 35,000 students. The Citi report also forecasts that 50% of all study hours (in and outside classroom) will be digitized, suggesting a market size of $2.7 trillion in the medium term, eight times that in 2024. Industry and service providers hope that the large potential increase in tech spend will, at long last, lower barriers to entry, thus sharply reducing cost to students and yielding better learning outcomes.

Reduced enrolment and funding affect revenues

However, investing in smart technologies such as artificial intelligence, machine learning, blockchain, AR/VR, big data and the internet of things (IoT) will require strong financial health of institutions, which are currently struggling with reduced enrolment and revenues. According to the Citi report, enrolment rates are set to fall in 2021, especially for international enrolments; a potentially large drop in student enrolments is expected in the short term. This trend has been visible for some time, especially as higher education has become more expensive and students not only see in-person learning as having less value for money, but also find online courses to be a more reasonable and quicker channel to secure degrees and, consequently, jobs.
Higher education institutions are worried how to better attract, retain, and engage students in the face of falling enrolment due to the pandemic travel restrictions, reduced education funding, and the shift to digital. With international students making up 20%-30% of enrolments in the U.S., U.K., Canada, and Australia, universities expect 4%-10% of decline in enrolment in the next couple of years, according to the Citi report.

Even government funding is getting hard to come by, as national economies struggle to grow or even survive. With economic volatility reducing affordability of good education, matching learning to job readiness has become increasingly important for students. During the pandemic, 70% of the students in 13 countries said they had considerably fallen behind on their studies, according to a 2020 Canvas and Hanover Research report on state of student success and engagement, for various reasons, including affordability and lack of access, which includes cheap and uninterrupted internet connectivity. To engage such students, education needs to be more visual, interactive, immersive, and affordable.

Apart from the quality of faculty, engaging content/instruction and their delivery and assessment will hugely influence student outcomes. Creating meaningful, interactive experiences between the faculty and students and among students will ensure continued learning. It is here that technology plays the most important role. Digital fluency equips learners with tremendous potential for collaboration, innovation and entrepreneurship.

In the backdrop of this seismic environmental shift in education, how can learning providers as well as learners use these challenges as an opportunity to evolve and thrive? How can technology be better incorporated into pedagogy to help institutions and content providers adopt and create learning models that are resilient and innovative?

Innovate technology to reimagine learning

The answer is already clear. According to HoloniQ, by the year 2030, 1.15 billion more students will complete school or college education, and the number of new teachers required to serve them would be 40-50 million. The unmet gap in the number of teachers will be at least 15 million in the next decade or so. This gap can only be filled by a hybrid model of physical and digital education, or ‘phygital’ education that innovatively uses technology to provide accessible, economical and engaging learning.

Education institutions that quickly act to reimagine learning by improving faculty availability, capability and proficiency, and by enhancing education content and delivery through
sophisticated technologies will be better positioned to grow themselves and help students succeed as well. Here is what the education transformation road map could look like.

- **A “phygital” world:** To provide an inclusive world-class learning experience, integrate digital platforms with physical assets. Solutions that creatively blend physical and digital modes seamlessly will be needed to attract and retain a highly diverse student community. The initial investment in creating capability and branding will yield major benefits over time in lower overall costs and bring in higher revenues.

- **Digital First:** Enable academic institutions to automate end-to-end student outreach process, promote academic integrity in selection, assessment and marking, and offer omnichannel student experience to gain significant increase in enrolments.

- **Hyper-personalization and new learning methods:** Promote an immersive and hyper-personalized learning experience, irrespective of the size of the classroom, to the learners by leveraging advanced digital technology such as AI-based cognitive tools. In other words, learning at individual pace, based on learner’s aptitude and interest help teachers assess students’ weaknesses and gaps and then, fashion the solutions imaginatively.

- **Industry-driven, new ecosystems:** The future holds ‘digital self-learning’, ‘peer-to-peer’, or ‘teacher on-demand’ systems, where experts will teach only complex topics. Performance feedback will be near real-time for course corrections. New alliances and ecosystem among universities, edutech companies, education content providers, LMS, MOOCs and courseware providers will facilitate end-to-end services for the industry.

- **Optimizing operations:** Integrate and automate end-to-end university processes like corporates and create exponential value for stakeholders. Significantly transform the technology infrastructure to deliver remote learning capabilities -- managing digital content, LMS, remote assessments, cloud hosting, or “as-a-service” model, rather than making large capital investments – keeping in view the shrinking capital base.

Education has winged out of classrooms to evolve into anywhere, anytime learning. Blended, technology-supported education aimed at improving personalization, engagement, and ultimately outcomes will not only enrich students but also teachers and institutions -- a win-win-win-win for individuals, government, and society.
About the author

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Ankur Mathur leads the newly formed Education Business Unit at TCS. Over the last 29 years at TCS, he has built expertise in business transformation, business and technology strategy and deployment, and strategic client and partner relationships. Prior to the current role, he led the Semiconductor sub-ISU of TCS globally for 10 years. Ankur has been associated with clients in the technology industry for over 15 years, having performed varied roles such as ISU Head, Sub-ISU Head, Client Partner, BRM, Delivery Partner, and Business Consultant. He has led strategic relationships and provided technology and transformation services to clients in US, Europe, UK, South America, Israel, India, and Australia & New Zealand. He has led high-performing teams that have won many awards from clients and partners.

Ankur holds a post-graduate diploma in Management and a Bachelor’s degree in Engineering. He is certified in Governance of Enterprise IT (CGEIT). He has participated as a local ethics counsellor, and is a proponent of leadership, inclusion and diversity.

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