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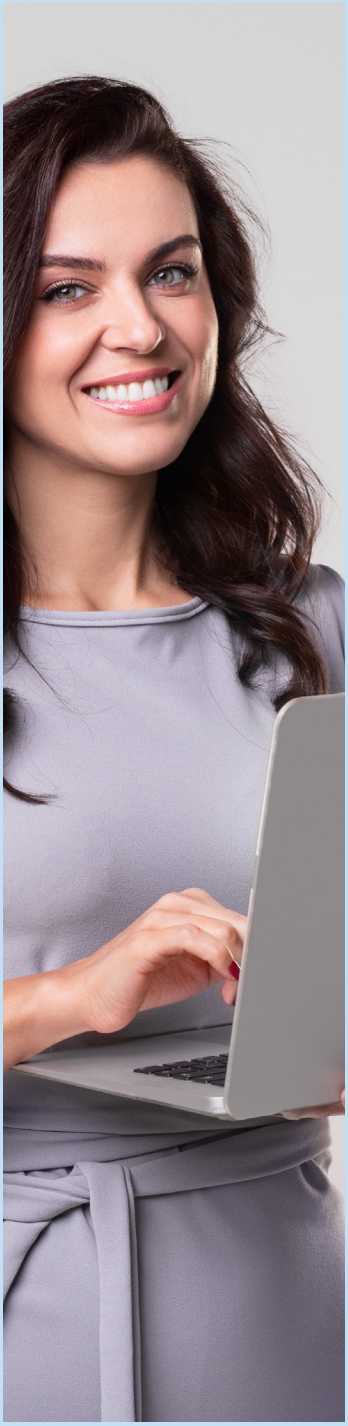

EDUCATION ONLINE: EDUTECH, ASSESSMENT, AND GROWTH IN HIGHER EDUCATION

Abstract

Education was one of the hardest hit sectors during the pandemic and had to turn to online learning and edutech services to continue. Despite the initial disruptions, technology and education have combined to deliver a highly engaging and rich learning experience for students. Although there are some challenges, such as lack of awareness or the need for technical support and training, technology for teaching and learning has taken off. This POV discusses the role of technology-based assessment in monitoring and transforming students' progress and how edutech services are poised to change the outlook of higher education.

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Introduction

The COVID-19 pandemic disrupted the entire world, but the education sector was one of the hardest hit sectors as all educational institutions, from primary schools to higher education institutions, had to shut down and move online. Many students struggled as schools, educators, and students could not adjust to the new normal, and there was lack of community support, which was readily available in traditional schooling.[1][2]

During this time, edutech emerged as an effective alternative to traditional education as schools and universities took cues from early adopters of online learning and moved away from trying to deliver the 'traditional classroom experience' over videoconferencing.[1] But how has the combination of technology and education fared in addressing different aspects of a wholesome learning experience and assessing students' learning?*

Key dimensions of a learning experience

A 2021 study by McKinsey has uncovered eight dimensions of the learning experience that contribute to effective student engagement, which include: [1]

- **Clear education roadmap:** To make steady progress and achieve their goals, students need to have a clear sense of their curriculum's direction.
- **Seamless connections:** Easy access to their classes and other learning materials is a crucial dimension of the learning experience.
- **Range of learning formats:** Different learning formats are engaging for different students. So, a range of learning formats, from self-guided instructions to real-time classes, and easy interactions with instructors and peers are crucial.
- **Captivating experiences:** Engaging classes with the best professors, high-quality reference material, and up-to-date course content can captivate the students for an enhanced learning experience.
- **Adaptive learning:** Every student has a unique learning style, and they need to focus on different subject areas. Access to practice exercises and mock tests suited for the individual student's needs, with minimal interference from the course instructor, can deliver a rich learning experience to the students.
- **Real-world skills application:** Hands-on practice with the concepts covered in the classroom is critical to ensure that students are ready for the real world. Using simulation tools can give students this opportunity and equip them to solve real-world problems.
- **Timely support:** Without timely support to address students' queries, even the highest quality course can fail and leave students with a disengaging learning experience. So, adequate and timely support for academic and non-academic issues is crucial.

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• **Strong community:** Students thrive when they feel included in an academic community where they belong and can seek peer support without any hindrance.

These dimensions can sometimes be tricky to cover in a traditional classroom. However, edutech and virtual classrooms have various tools that can encompass them and give students an enhanced and engaging learning experience.[1]

Leveraging technology to improve the learning experience

Edutech and online learning has empowered educational institutions and instructors with several tools that offer students a great engaging learning experience. Higher education institutions have already started leveraging technology to improve the learning experience during and post the pandemic. Eight of the key learning technologies enabling the change are:[2]

• **Group work:** Tools to facilitate virtual collaboration and knowledge sharing have allowed educational institutions to simulate a 'classroom' environment, where students work with each other and collaborate to complete their assignments.

• **Connectivity and community building:** Students now have multiple avenues to connect and interact with the course material via instructors and peers for more convenience and a better understanding of the subject matter.

• **Augmented and virtual reality (AR and VR):** AR and VR applications in higher education provide students with access to engaging, immersive, and interactive simulations that allow students to have hands-on experience with simulated real-world problems and enhance their skill sets.

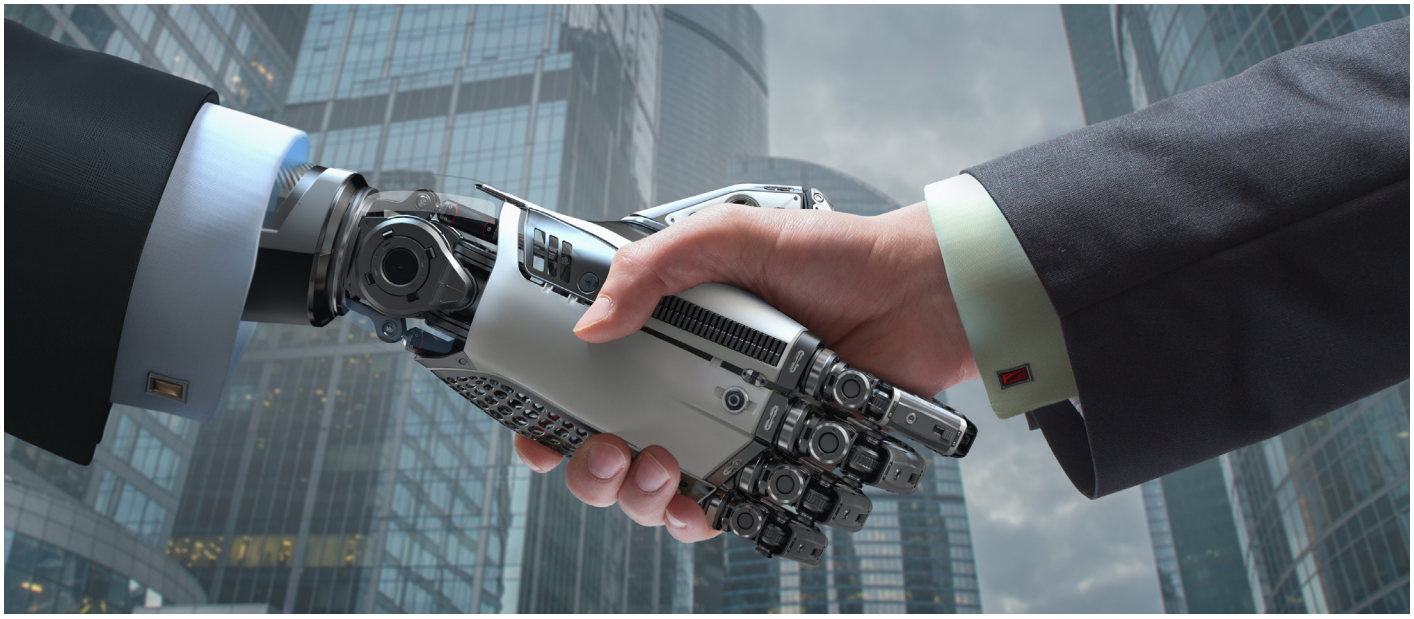
• **Machine learning–powered teaching assistants:** Apps and chatbots have become common in online higher education. These machine-learning (ML) applications interact with students, answer their queries, and even provide practice tests.

• **Artificial intelligence (AI) adaptive course delivery:** Adaptive learning can be an excellent resource for students. With online learning, AI applications can curate and deliver custom lesson plans based on students' needs.

• **Classroom interactions:** In addition to delivering real-time classes, virtual classrooms also facilitate instant polls for formative assessment, breakout rooms for collaborative work, and interactive chats for any questions or comments about the course material.

• **Classroom exercises:** With the technology for teaching and learning evolving, teachers can now give exercises in the virtual classroom and offer immediate feedback via gamification. This has made formative assessment easier, convenient, and transparent.

• **Student progress monitoring:** With all of these tools at their disposal and technology-based assessment, tracking and monitoring students' progress has become easier. Instructors can now easily identify at-risk students, determine their weak areas, and deliver adaptive custom learning to help them.



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Using technology for instant assessment

Students must go through formative and summative assessments during their learning experience so that teachers can identify their baseline skills and track their progress over time. Technology-based assessments have made both formative (continuous check-ins while students are learning) and summative (evaluation at the end of instruction period) assessments easier for teachers and students. For example, teachers can administer classroom polls or pop-up quizzes, give instant feedback with edutech tools, and track student progress as the lesson advances. They can administer online tests or ask students to build a portfolio at the end of the course.[3]

Using technology to assess student learning (formative or summative) has numerous advantages, including higher engagement, easy identification of knowledge gaps, and facilitating adaptive learning. Some of the important ways an amalgamation of technology and education can aid learning and help deliver a rich and engaging learning experience are:[4]

- **Increase flexibility:** Edutech services add flexibility to students' learning experience as they can access learning resources and take online assessments best suited for their individual learning needs and style.
- **Improve feedback:** Technology-based assessment allows teachers to assess the student's learning at the moment and provide instant feedback or modify instruction delivery. As a result, students have a much better learning experience and comprehension of the subject matter.
- **Identify and address differences:** Every student has a different learning style, and it is challenging for teachers to accommodate individual students' needs in traditional schooling and assessment. Edutech, however, has made this process easier with a variety of tools at teachers' disposal. As a result, teachers can curate custom lesson plans and assessments for students to increase engagement and ensure that every student has an effective learning experience.
- **Acknowledge emotions:** Students' emotional state plays a critical role in their learning experience. Using technology for teaching and learning gives students access to tools for communicating their emotional state privately so that the teachers can accommodate their emotional needs during learning and assessment.
- **Consolidate learning:** In addition to having all learning resources and past assessments in a single place, edutech tools also allow students to create presentations or podcasts to showcase and review their learning. Such consolidation of learning material — in the most convenient format — is not just a valuable resource for them but for their peers as well.

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Edutech services have introduced several tools for using technology for learning and assessment that contribute to an engaging and rich learning experience for the students. They have also allowed teachers to address every student's needs. As a result, edutech services are now shaping the future of higher education in institutions around the globe. [4][5]

The future of higher education with edutech

Despite the adoption challenges early during the pandemic, the education industry has fully embraced the edutech sector as a partner in delivering an engaging learning experience. Moreover, with the global demand for skills skyrocketing, higher education institutions have also acknowledged that the traditional learning environment is not capable of scaling to meet the global skilling demand.

And with digital tools being able to mimic live and collaborative interactions between instructors, students, and their peers, nothing is stopping edutech services from redefining the future of education. Moreover, as edutech services become more advanced and technology for teaching and learning becomes more accessible, higher education institutions are embracing the amalgamation of technology and learning. As a result, with inputs from education experts, technology-based assessment is becoming more accurate and accessible.[5][6] However, higher education institutions still find it challenging to embrace edutech and technology-based assessment fully due to:[2]

- Lack of awareness and technological capabilities
- Budgeting constraints
- Lack of faith in using technology for teaching and assessment
- Lack of technical support and training

Despite these challenges, online education is thriving. Even in the post-pandemic world, using technology for teaching and assessing students is augmenting the classroom learning experience.

Conclusion

Edutech services have emerged as an effective alternative to traditional learning, even offering students tools for a more engaging and rich learning experience. As technology evolves and technology-based assessment becomes more accessible to educational institutions around the globe, the union of technology and learning is shaping the future of higher education. With digital tools offering the same sense of community, connection, and collaboration, using technology for teaching and assessment edutech services is set to revolutionise higher education and learning.

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*For organisations on the digital transformation journey, agility is key in responding to a rapidly changing technology and business landscape. Now more than ever, it is crucial to deliver and exceed organisational expectations with a robust digital mindset backed by innovation. Enabling businesses to sense, learn, respond, and evolve like living organisms will be imperative for business excellence. A comprehensive yet modular suite of services is doing precisely that. Equipping organisations with intuitive decision-making automatically at scale, actionable insights based on real-time solutions, anytime/anywhere experience, and in-depth data visibility across functions leading to hyper-productivity, Live Enterprise is building connected organisations that are innovating collaboratively for the future.

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