

FUTURE OF TECHNOLOGY IN EdTech

Our learning is changing, the shift from classroom to online teaching well underway. To satisfy the student of the future, it's become all the more imperative to understand a student's progress, gauge teacher-student engagement, predict learner's performance in order to deliver personalized, improved and customized learning solutions.



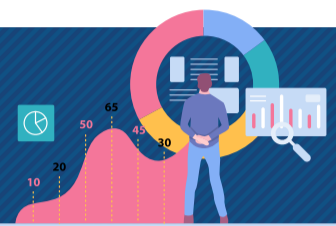
The backend for offering these services is self-evolving at a rapid pace, and is expected to be the crucial driver for business transformation. Tata Elxsi brings to you the key aspects that are likely to allow the inorganic growth of the eLearning sector in 2022 and beyond.

Our technology experts share their perspectives and opportunities for each of these trends, along with their likely implications on the EdTech sector.

TOP 4 Technologies in EdTech

WHAT'S NEXT?

The global education technology market size is anticipated to reach USD **285.2 billion** by 2027.



Data will enable personalized learning, where student preferences and past performance will provide a unique user journey to each user.

Audience Engagement Analytics data will enable eLearning firms to analyze student behavior, performance and engagement of live and on-demand content. This in turn will help to improve learning outcomes and attainment of all students.

From audience behavior, consumption time per device, to performing content and consumption per location, **Advanced Dashboard & UI interface** will give better understanding of the content performance. It will give details on average minutes viewed, number of views, provide customized teaching, depict meaningful patterns and recommend learning actions.



Student Engagement & Viewership will help understand which part of the streamed content was most effectively engaged by the audience. It will also give details on rapid page exits, assess student's engagement and thus provide personalized learning experiences.

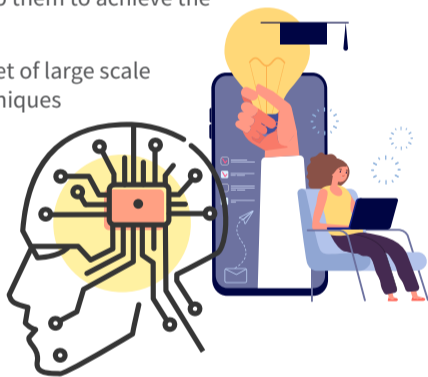
With personalized and customized learning being the need of the hour, there is huge scope of enabling the same using advanced AI Machine Learning backed technology stack.

Using an **ensemble of predictive models** will enable identify students weaknesses, highlight individual strengths, and suggest ways to improve performance.

Test and Grade Students: Using advanced recommendation models, test suits can be generated to assess students and teachers. They will also get constant feedback which would help them to achieve the learning goals together.

Improve Retention: We can use a set of large scale correlation and combinatorial techniques to find out the weak / improvement areas, and the common mistakes which students generally make.

This will help teachers to assist students, arrange extra lectures and suggest simplified teaching solutions to get better learning outcomes.



AI will create engaging user experience and utilize advanced heuristics to support discovery and recommendations within platforms.

Simplify Video Management: Using rich meta data gathered through AI tools, will help educators and students to search a video catalog the same way one searches documents, filter and gets quick access to most relevant content.

Recommend & Curate Content: By building a Recommendation Engine using Video Intelligence API, will help get access to viewer history and preferences. This in turn will help simplify content discovery for students / teachers and guide them to the most relevant content they want.



The width and depth of student performance and learning analytics will improve stickiness of the platform.

Blended and Immersive Experience using Data Analytics: The immersive nature of content delivery and the impact of content on learners are two key factors leading to this shift. Data driven decisions is the way for eLearning brands to remain competitive. Time to get over the spreadsheets and reports, and embrace Immersive Analytics.



Interpret the data about learner's performance and engagement on a specific course curriculum, and help deliver customized and personalized training / learning experience to enable learners learn better.

Data-driven Hyper-personalization 1

Opportunities

- Strategize structure, content and delivery of teaching modules based on insights from Data Analytics
- Data driven insights for continuous refinement of content delivery

Implications

- Data driven models (Instead of conventional exam oriented methods) for student performance assessment - Subtle, objective & student friendly
- Objective feedback on teaching based on data driven insights
- Data driven growth strategies tailored for various user groups across different geographical regions, economic strata, intellectual abilities

Dynamic Adaptive Learning 2

Opportunities

- Automated Intelligent Tutoring based on existing content - Content delivery tailored for the individual needs
- Personalization for the individual student based on his / her profile (Including performance, interest in subject, grasping ability, attention span)
- The existing background infrastructure will enable cater to a larger volume of students through extensive automation. This in turn would help reduce the cost of education and be a growth engine for the EdTech business

Implications

- Improved outcome - Grades, results and performance
- Improved productivity - For both teachers and students
- Reduced individual expenditure, increase the volume and reach, help exponential increase of business

Automated Content Management 3

Opportunities

- Enablers for Next Gen e-Learning - Content mapped with metadata, Smart summaries, Tailored recaps are the building blocks for personalization and adaptive learning
- The focus should be more on the effective use of available content, rather than creating new content. This will help the EdTech sector to generate high quality content faster

Implications

- Driving factor of Adaptive and personalized content
- Optimizing the cost of content management, make optimum use of resources with extensive use of automation

Immersive Data Visualization 4

Opportunities

- Student performance metrics for different aspects of the course provides a granular visualization to the student, that allows for continuous correction
- Course content gets customized on-the-fly based on student's learning outcomes. Students can continually assess themselves without going through an assessment test

Implications

- Improved outcome - Grades, results and performance
- Better classification of student performance

About Tata Elxsi

Tata Elxsi is amongst the world's leading providers of design and technology services across industries, including Automotive, Broadcast, Media, Communications, Healthcare, and Transportation. It is part of the \$106 Billion Tata Group.

Tata Elxsi provides scalable, personalized and customized Design, Technology and Content Development solutions for the EdTech sector. By deploying Design Thinking principles in synergy with new age technologies, Tata Elxsi is helping students, education systems and providers to facilitate anytime, anywhere learning. We provide turnkey services in Smart Learning which includes - Research and Experience Strategy, UX Design, Immersive Content Design & Development, and Technology support. We leverage a wide spectrum of disruptive digital technologies such as IoT (Internet of Things), Cloud, Mobility, Extended Reality, Big Data and Analytics and Artificial Intelligence.

Headquartered in Bangalore - India, Tata Elxsi has Design studios and Offices in India, USA, EMEA and APAC.

To know more about our offerings, please write to info@tataelxsi.com

www.tataelxsi.com

