

Ebook- Solving key challenges in the education sector with Digital Transformation



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INTRODUCTION

Technology is enforcing a paradigm shift in almost all facets of education. The widespread adoption of technology is fueled by its potential to solve some of the key challenges plaguing the sector. However, the ability of digital transformation to act as a positive tool depends on the way it is applied. Implemented wrongly, or just for the sake of it, the disruption may end up wrecking a perfectly working system, with no tangible benefits to show.

The successful application of the latest technology in the educational sector requires an understanding of the key challenges on hand and then identifying the best interventions and tools to deploy, to overcome such challenges.

CHALLENGE #1: EFFECTIVENESS OF LEARNING TECHNIQUES

Ensuring a wholesome teaching effectiveness has been a major challenge plaguing educators for long. The best of methods come to naught if the recipient is unable to grasp the content. The traditional models of classroom education, even after being spruced up by the first generation of computing tools such as power point presentation and the like, face serious limitations in capturing the student's attention.



Tip

- 1. The latest digital transformation tools promise to make learning a collaborative and interactive experience. The application of virtual, augmented, and mixed reality solutions enhance the impact of teacher instruction, and simultaneously deliver a fun and deeply engaging immersive experience for the student.*
- 2. Immersive technology solutions enable students to go on virtual field trips rather than merely read from a text. Rather than merely look at the media, students experience it. A virtual reality infused classroom, for instance, transport students to ancient Greece in a 360-degree pane, when the teacher imparts a class on Socrates or Plato.*

CHALLENGE #2: RELEVANCE OF THE CURRICULUM

Along with ensuring the effectiveness of the curriculum, many educational institutions face a big challenge of ensuring the relevance of the curriculum. The curriculum, in most educational institutions, is static, with the system incapable of updating itself to reflect real-life issues or co-opt the latest developments in a fast-changing world.



Tip

- 1. New technology and new learning models, powered by dynamic content, offer previously unthinkable possibilities to students and deliver a highly relevant curriculum.*
- 2. One solution soaring in popularity is gaming technology. Gamification not only makes a difficult or dry subject more exciting but also ensures the relevance of the activity. Online games have the flexibility to mirror real life issues. Learners get opportunities to apply new knowledge when identifying obstacles and consider multiple perspectives before fixing a solution.*
- 3. Many universities across the world, such as Western Sydney University, University of Maryland, and others have already launched highly successful gamification based curriculum, as part of a distinct shift from a curriculum based on memorizing knowledge to experiential learning and competency.*

CHALLENGE #3: BRIDGING THE ACHIEVEMENT GAP

The achievement gap reflects a disparity in the enrollment and academic performance between student groups. Empirical evidence suggests different students, from different socioeconomic status, ethnicity, race or gender having various levels of performance. Sometimes, the disparity may be based on purely individual traits rather than background factors. Regardless of the cause,

bridging the gap in performance is a serious challenge faced by educators.

A traditional classroom, with one-size-fits-all pedagogy, is wholly unsuited to deal with students on individual basis.

Tip

1. *Technological developments make it easy to create a level playing field and offer customized support to students. New teaching methods that co-opt the latest technological advance, enable educators to offer personalized pedagogy in a viable way.*
2. *A blended learning approach reduces the level of direct classroom instruction from the teacher and co-opts more discovery-based methods of learning. The discovery-based component of the course allows students to set their own pace. Adaptive learning is a similar approach, where technology empowers students to make their own decisions regarding the path of their learning, and the time frame. The underlying technology, based on Artificial Intelligence, collects information about student behavior as they progress and answer questions. The system uses the collected information to offer instant feedback, and adjust the learning experience accordingly. Advanced tools with adaptive sequence analyze student data in real-time and change the content which comes next in a sequence, depending on how the student fared or performed in the previous sequence.*
3. *Advanced personalization solutions co-opt gamification, where students get a “choose-your-own-adventure” mode of learning. The approach attunes instruction to student tastes and preferences.*

CHALLENGE # 4: STUDENT SUPPORT

Student support is a critical area where many educational institutions falter. With the focus of educators being rightly on imparting high quality and effective education, many institutions overlook the student support component of the program. The importance of such support in ensuring sound education remains highly underestimated.



Tip

1. The application of Artificial Intelligence chatbots comes to the rescue of universities struggling to offer effective support.
2. Chatbots equipped with Natural Language Progression, as in Siri, have human capabilities. These tools, capable of answering common questions or solving basic problems, guide students through complex paperwork such as financial aid or bill payments, and even assist them with homework. The infusion of such technology eases the workload and lessens the strain on university resources. Universities adopting such self-service and automated options can focus on education and things that really matter.
3. One case of successful AI in action is in Australia's Deakin University. The University uses IBM Watson to create a virtual student advisory service, available on a 24X7 basis. Watson's virtual advisers have so far successfully fielded 30,000+ questions in a single trimester. The benefits are manifold, including highly effective support for students, freeing up human advisers to handle advanced issues and considerable cost savings.

CHALLENGE #5: THE FRAGMENTED DIGITAL ECOSYSTEM

The availability of adequate technical resources is a serious challenge faced by many educational institutions. The problem is not just confined to third-world countries, but even in advanced economies.

Compounding the issue is the highly fragmented digital ecosystem, with many players providing different services and cut-throat competition in the field. Identifying the right digital product, and striking permanent relationship with multiple providers is a significant administrative challenge faced by educational institutions. There are allied challenges related to web content creation, management, and publishing.



Tip

- 1. Many students are still expected to visit the technology lab for access to a computer or laptops. The present trend of BYOD is also highly inefficient and limits the application of technology in learning. However, the trend is changing, with many institutions investing in advanced technology. In 2014, more than three million Chromebooks were used in US educational institutions, and the number is growing with every passing day.*
- 2. The adoption of the latest tech tools and gadgets is also changing the classroom, in a way it mimics the workplace. The traditional row of chairs facing a teacher is now passé, fast being discarded in favor of collaborative-friendly spaces. SMARTboards in place of chalkboards and SMARTdesk pods instead of individual seating fortify such developments.*

CONCLUSION

Digital transformation is not a program or a one-off initiative. It is rather a strategic process which may be deconstructed into steps and stages, with one stage forming the base for the next. The application of digital transformation initiatives in the educational sector is a gradual and long-term process, considering that unlike a workplace, a sudden disruption may do more harm than good. With the academic session usually set in stone, there is little time to factor in a learning curve, and instructors are expected to co-opt the digital transformation initiatives in their stride.



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