Tata ClassEdge Product Story

Friday, 01 March 2019

The Journey So Far

Tata ClassEdge (TCE) was launched on Feb 22, 2011, as an in-class teacher support system, to empower teachers with the possibilities of technology and to augment their teaching

experiences. It was also aimed at addressing the shortage of quality teachers and minimizing passive instruction

The product gained a distinctive edge in the market and could establish itself as a premium

brand, thanks to:

• Our proprietary instructional model Multiple Learning Experiences model (MLEx) that

was designed to encourage active learning

• Meticulously designed lesson plans and multiple formats of digital content

• A technical architecture built around Teaching Points (TPs) – small learning units –

which helped us map our content effectively to any publisher or any textbook

• Sophisticated graphic design, as exemplified through our proprietary illustrated

characters, high-quality 3D and 2D animations, live-action videos, etc.

During the last eight years, TCE has managed to grow into a comprehensive EdTech

organization by expanding its product portfolio to address the various needs of all key

stakeholders. Products like TestEdge, PlanEdge, Student Connect, Teacher Connect and

Campus Connect address critical needs like annual academic planning, assessment creation,

communication with parents and teachers, building a knowledge repository and making

ClassEdge Lesson Plans available to teachers on their mobiles. These products differentiated

us from the competition and served as an entry barrier for other players.

TCE also moved into textbook publishing in 2016. In FY 18, we sold 130K copies of our values and life skills curriculum “Thinking About Values”, a commendable achievement for a print product in the second year of its publication. TCE also partnered with Words Worth to take their English Language Lab and tab-based self-learning product to our customers.

Over the last eight years, we have implemented ClassEdge in over 1600 schools and approximately 27,000 classrooms. Tata ClassEdge is currently being used by over 120000 teachers, and about 1.6 million students are exposed to it every school day. Tata ClassEdge, today a well-known brand in the school education segment, stands for quality, reliability, and innovation in the EdTech segment.

That said, the usage of ClassEdge today is mostly limited to the school premises. The business model is based on a per classroom per month fee. But that is just the journey so far – it's time to explore new pathways.

The Education Landscape

Technology penetration now impacts all aspects of school management, moving beyond inclass solutions to areas like school administration, assessment management, transportation, safety, sports, and communication. Co-curricular offerings like arts, sports and public speaking are being digitised as well. Currently, these needs are fulfilled by local vendors, with inconsistent quality.

School chains have also started publishing their textbooks, reference books and workbooks, and are exploring ways to provide access to specific skill-based learning resources through a single platform. Examples of skill-based learning resources include reading programs, foreign language learning, coding, financial literacy, Vedic math, logical reasoning and so on.

Traditional publishers, on the other hand, are struggling with their sales numbers. In most cases, the sales are either stagnating or dropping – a situation attributed to uncertainty in regulations, competition from new age publishers like schools, EdTech companies and local publishers. For long, traditional publishers never considered technology as a threat to their business, and therefore they were underprepared for the current EdTech competition. Their half-hearted attempts at integrating technology did not see any commercial benefits, and they were unsure of how to monetize digital content. They are now looking for EdTech partners to help them leverage their content library and enhance it with technology and rich media.

Self-learning, Test Prep and Data Analytics

Parent involvement in education is much higher today, as they recognise the impact of quality education on their children's future success. They are receptive to the use of technology enabled learning tools; however, apprehensions still exist on the use of technology for lower age children. Most parents look up the Internet for educational videos, worksheets, relevant images and practice assessments. Many of them have started taking subscriptions to EdTech products that support self-learning, homework, language skills and general aptitude.

Although enrolment in coaching classes for the preparation of competitive exams starts from class XI, students start taking foundation courses right from class VII or even earlier. The competitive exams which the students appear for include JEE, NEET, CLAT, Olympiad, TOEFL, SAT, KVPY and NTSE – some of which like Science and Math Olympiads start right from primary classes.

Assessment and data analytics are emerging as core areas for tracing the learning path of students and providing them with individualised feedback to improve their learning outcomes. Teachers can also use this data to design remedial teaching. Educational Initiatives (EI), a leading organization in student assessments, has worked with over 3,000 schools with over 350,000

students across 21 states. Report Bee, another startup that raised funding from India Educational Investment Fund, and which has recently been acquired by XSEED Education, provides analytics of student assessments and helps schools monitor the growth of each

student.

The government, through its RISE (Revitalizing Infrastructure & Systems in Education)

program has increased their spend on technology in education. Government schools have a huge dearth of trained teachers. To overcome this problem, they are gradually moving

towards the installation of digital boards and e-content to aid teachers in their teaching

process. Wherever connectivity is poor, states are looking at products that can work offline

and store data. The data can be transferred whenever the systems are connected, or they can be manually extracted and transferred to another system. Government schools need regional language content, and there aren't many players with comprehensive regional language content.

Our current research and product development initiatives are geared toward effectively

addressing the needs of self-learning, preparation for high stake tests, data analytics and

personalisation.

The Technology Landscape

The ever-increasing Internet connectivity and the boom in smartphone adoption are all set

to change the way students learn. Better accessibility, distribution and delivery formats

together have the potential to address three core issues of the education sector:

1. Access to quality learning content

2. Connecting stakeholders (teacher-student-parent)

3. Personalisation of learning experiences – at scale, using adaptive learning platforms

Adaptive learning has the potential to address a crucial challenge in classroom learning: how do we engage learners at different learning levels in the same classroom? Adaptive learning systems use machine learning to help personalise the presentation of learning material based on the understanding of students. In addition to adaptive learning, new technologies like virtual reality (VR) and augmented reality (AR) will play a major role in making learning more immersive and engaging.

New forms of technology in the Testprep and assessment space will likely enable a big shift

from fixed summative assessments – which form the norm today – to more continuous and

adaptive formative assessments. Online assessment solutions are customisable,

personalised to a student and quick to deliver. They also significantly reduce the time taken for correction and eliminate inaccuracies of evaluation and scoring.

Learning analytics have evolved, and there has been a change in focus from Big Data to

'little' data – personal activity data which when analysed by intelligent systems can provide key insights into the way students learn. This data may also unlock new potential for personalisation of tools and content. By adding the right information capture mechanisms and real-time insight capabilities, learning platforms can now vastly enhance the teaching learning experience.

Aligned with our pedagogical principle of encouraging active teaching and learning, the

ClassEdge platform provides space for teachers to create their content and share them

creation with other teachers. The maturity path for EdTech is to get teachers to move from

the consumption of ready-made resources to creation and sharing of experiences – in other words, what is required is a shift in teacher perception of EdTech as being externally

imposed to something that they create and own. This is an aspect we intend to strengthen

through our user experience design.

We also intend to personalise learning for each student in the schools that have signed up

with us. On this account, we have tied up with Knewton, one of the world's leading adaptive learning companies. Even in this space, we don't see personalisation as just another consumption model but as one that supports unique ways in which students express their understanding.

The Pedagogical Landscape

While the short-term goal of education is to do well on parameters measured by the schooling system – summative assessments being the most critical – the long-term aims are difficult to measure. British educationist John White in his paper titled "The Aims of Education" lists several such goals. Some of these include:

– Understanding what it means to live a fulfilling life (for example, health, food, clean

air and water, housing, income, education, various freedoms)

– Managing interpersonal conflicts, negotiating and compromising where appropriate

– Critically examining how wealth is created and distributed nationally and worldwide,

and understanding the economic interdependence of individuals and communities

– Being aware of the impact of science, technology and global markets on work patterns

and prospects

– Respecting diversity, with an understanding of the modern world and the place of

one's nation and city within it

Most of the educational content developed in the EdTech space does not take a long-term

view of education and is designed to cater to the immediate goals – transfer of knowledge to help with assessments.

Tata ClassEdge was the first EdTech organisation in India to take a long-term pedagogical view and design solutions that were meant to encourage self-reflection, critical thinking, multiple perspectives, and varied expressions.

For example, in one of our lesson plans, we have an activity on the topic of India's freedom

movement. In this activity, students are divided into three groups – one group would write a short passage on a specific aspect of the independence movement from the perspective of an Indian historian, another from that of a Pakistani historian and the third group from that of an English historian. In addition to learning about the Indian independence movement, this activity helps children understand how history gets written and how the prism from which we look at the world has an impact on how we see it.

A similar approach can be seen even in our values books, Thinking About Values – where

students are presented with stories and situations and are asked to make ethical decisions,

thereby presenting values not just as moralistic monoliths but as subject to what one values in each context: intention, act, consequence or belief system.

As for our digital assets, even when many textbooks shy away from an interdisciplinary

approach to teaching-learning, we attempt to break disciplinary silos and get children to see how subjects are connected.

That said, we do align our design thinking with short-term goals as well, and ensure students achieve the desired learning outcomes expected from their assessments. Student

engagement is a key success factor, and therefore solutions like GameEdge (game-based

practice), Lab Edge and various other kinds of interactivities have been built into the program to draw higher student participation in the learning process.

Schools are social learning spaces, more authentic for forming real connections with your

peers and teachers than a virtual world disconnected from social realities – a critical aspect that our pedagogical design for school solutions consider. For example, even our games for in-class use have been designed to ensure team participation. Self-learning on a device, on the other hand, is more individualistic. Of course, technology does provide the affordance for connecting each student with the world outside, but we need to be cautious of minimizing distractions, too.

Education is part of a complex system, and it is reductive to describe teaching-learning in

linear cause-effect models – the variables include, but are not limited to, socio-economic

backgrounds of students, their genetic dispositions, their place of residence, the schools they attend, the quality of their teachers, their home environments, regulatory frameworks, etc.

It is because of this complexity that we hardly see any documented evidence (using

experiments that can be replicated) of sustained improvement in learning outcomes

attributed to any single technological solution.

The immediate pedagogical challenge for us, then, is to design solutions where students and parents see the direct value of our offering – high engagement with learning, clarity of

concepts and better retention. What is even more important is to enable students to use this learning effectively in their school system, where almost all learning outcomes are measured using pen and paper tests. And we need to do this without losing sight of the larger and long-term goals of education.

Tata ClassEdge Product Story