Making Learning Smarter

On a mission to change the way children look at learning, Smartivity employs technology to make learning ‘smarter’. We speak to Tushar A Amin and Ashwini Kumar, co-founders, and find out more about how their innovative toys and activities use playful methods to teach.
A portmanteau of ‘smart’ and ‘activity’, Smartivity was founded with the belief that play is the most powerful form of learning. Children learn best through play. The next generation is growing up in a rapidly evolving technological world, but there is little innovation in the field of toys. Most technology-based products are created for entertainment and offer passive engagement and mind-numbing experiences. Smartivity addresses this gap and strives to focus on mind-and-body engagement.

With DIY and augmented reality (AR) products, Smartivity aims to inspire children to make things with their hands and give them that unique sense of accomplishment, pride, and ownership. Their products encourage children to become ‘makers’ instead of ‘consumers’. Based on their experiences, the founders are of the opinion that the most promising opportunities for success in the future will be in the fields of science, technology, engineering, arts, and mathematics—the STE(A)M subjects. “As engineers, we realise the importance of scientific training in our day-to-day life, even in spheres that are not remotely science related—be it decision-making or creative brainstorming. We believe that strong STEM fundamentals will ensure that a child grows up to be an active contributor in shaping the future, rather than being just a mute observer,” says Mr Amin.

Understanding the evolving technology-savvy society that the next generation is growing up in, the Smartivity portfolio spans purely physical DIY activities, augmented reality, robotics, virtual reality, and IoT technologies, and bridges the physical and digital worlds. While a lot of emphasis is placed on analytical reasoning, Smartivity founders believe that success in real life requires a wholesome approach, which can only be achieved by striking a perfect balance between creative, practical, and analytical intelligences. Their ‘smarter learning’ philosophy is based on enhancing multiple intelligence. Their passion for STEM subjects, desire to inspire children to be makers of the future, belief in the power of play, and their core strength in integrating bleeding-edge technology and playful learning came together in the form of Smartivity. Mr Amin adds, “All our products—both physical and technology—are designed in-house by a team of product designers and technologists hired from India’s premier design and technology institutes (IIT, Delhi, NIFT, NID-Ahmedabad, Srishti School of Design). We own design and technology patents on all our products. ”

IMPORTANCE OF STEM LEARNING
According to the National Science Foundation, 80% of the jobs created in the next decade will require some form of math and science skills. Smartivity leverages this finding and emphasises the education component of their products to create a strong foundation. Mr Kumar says, “The education system often fails to ensure that students are able to make practical application of concepts. As a result, our society has not been able to ‘make things’. We just consume things. Through Smartivity, we want to change this situation.”

Smartivity believes that STEM skills will have a much broader impact—way beyond employability.

STEPPING ASIDE FROM TRADITIONAL LEARNING
Contrary to traditional approach, which mainly encourages rote learning, Smartivity focuses on practical understanding of concepts through play. For instance, in Smartivity Mouse Hunt Automata, children are not told how gears work but are made to build a toy that incorporates the gear mechanism with different gears. The child learns the practical implications of gears through play, which can then be put in perspective when they encounter the topic in their class. The company’s products encourage
children to not only assemble a toy but also experiment by trying to put different parts together to see how it affects the performance even if it is wrong, as mistakes are also a part of learning.

CHALLENGES
Smartivity started in the apartment of Ashwini Kumar and Apoorv Gupta, in New Delhi. This was their design studio, testing lab, and warehouse, rolled into one. Over a couple of years, they grew from a four-member team to a 50+ strong organisation. During their initial bootstrapping stages, finances were critical, which forced them to pivot from a digital sales-based business model to the more difficult retail-sales focused approach to earn revenue. Their products were not easily welcomed by retailers. Eventually, the founders received positive response from parents, which encouraged retailers to start stocking their products. Smartivity soon started focusing on increasing their retail footprint. Here, they faced a problem finding the right material to implement their designs. After a lot of exploration, they zeroed in on high-quality engineered wood, which allowed them the freedom to create sturdy, durable, and dynamic products with more engaging gameplay.

Mr Kumar adds, “As our operations expanded, we rented a warehouse for packaging. Since our products consisted of small parts, formulating a packaging and quality control process was another challenge. In order to ensure there were no missing parts, we had to go back to the drawing board and redesign the way our products were packed.”

Smartivity expanded their portfolio and redefined colouring and jigsaw puzzle-solving activities by adding augmented reality technology to these traditional favourites of children. Familiarising parents and children with this technology was a challenge, which was only resolved through demonstrations and BTL activations.

Apart from these, being a startup, Smartivity faced common challenges such as fund-raising, cash-flow management, and zero-money marketing. Nevertheless, from an annual revenue of `64 lakh when they started, they are now clocking revenue of `10.5 crore. From six stores in South Delhi, they have expanded to evolved global markets such as the US, Europe, and Australia. Smartivity was also titled the winner of the India Emerging Twenty award, which recognises 20 startups from the country with global potential. Recently, they also received the top AR/VR company honour from the Karnataka Chief Minister, based on research by Growth Enabler.

ROLE OF INNOVATION AND TECHNOLOGY
Smartivity bridges the physical and digital worlds through innovative solutions like their AR-enhanced activities. Colouring and jigsaw puzzles have been...
taken up a notch, by incorporating the latest technology and a right dose of learning. For instance, Smartivity has taken the traditional colouring sheet and brought it to life with the Smartivity Edge Jungle Safari. Using this product, a child can scan a coloured sheet of an animal on the free Smartivity Edge AR app. The animal, say a lion, will come to life in the app, in the exact same colours that the child has used, bringing the child's imagination to life. The child can then interact with it, hear it roar, and watch it attack. The app will also provide trivia about lions, quiz questions, and spellings. Mr Kumar says, “Technologies like AR and VR are powerful tools to democratise access to information and deliver immersive learning. From dinosaurs to marine animals, and from the structure of a cell to the solar system, these products invite children to learn about different topics in a way they love and expect to be taught in.”

QUALITY CONTROL
Giving quality paramount importance, Smartivity focuses on packaging small parts, which has driven a lot of in-house innovation, resulting in a switch from packaging individual parts to the present sheet-based packaging. Smartivity has secured the highest safety certifications in the form of ASTM (American standards) and EN-71 (European standards), since their products are for children. The required raw materials are also purchased from some of the best vendors.

STEM LEARNING IN SKILL INDIA CAMPAIGN
The Skill India campaign, launched in 2015, aims to train people in different skills by 2022. In alliance with this, STEM learning is integral to any training—be it imparting instructions or combining analytical, creative and practical intelligences to acquire the skill. Mr Amin adds, “Skill building is critical if we are to empower members of the society with tools to help themselves. While increasing employability or encouraging self-employment is the desired end-result of any skill development program, the training involved is at the heart of such a programme. Moreover, the world of tomorrow will be driven by technology. As technologies like robotics and artificial intelligence begin substituting human labour, emphasis on STEM learning can ensure that the government’s Skill India campaign stays relevant in the future.”

The government has also extended adequate support to startups, through its Startup India programme. While Smartivity has not been part of any government initiatives directly, it has benefitted from government’s export promotion initiatives and has started exporting to the US, Europe and other countries. Smartivity’s products were also selected among the top 15 innovations by NITI Aayog and showcased in front of a global audience at Global Entrepreneurship Summit in Hyderabad, last December.

BUSINESS MODEL AND MARKET SHARE
Their business model is based on sales through four channels—retail sales, which includes traditional toy stores and modern retail chains like Hamleys and Crossword; exports to the US, Europe, and Australia; B2B, where they tie up with schools; and online sales, where products are sold on e-commerce platforms like Amazon and Flipkart, and their website. For exports, Smartivity has partnered with PlaSmart Inc, a US-based toy company that helps them reach out to children in the US and Canada through online and retail channels. iToys, Smartivity’s global partner and representative in the US, has also guided and showcased their products to the right international buyers. This has helped the firm branch out to markets like the Scandinavian countries, the UK, Japan, and South Korea. They are also developing custom-made products for school chains in collaboration with their academic teams.

Due to their wide reach and quality products, Smartivity has shipped over 500,000 units till date and their products are sold through over 800 prime toy retail stores across India. They have raised a total of US$ 1.2 million in funding (over two rounds - April 2015, July 2016) since inception in January 2015.

FUTURE OF LEARNING
Efforts made by players like Smartivity align with the government’s goal of augmenting its skilled talent pool and complement its Skill India programme. The unwavering focus on STEM learning will certainly contribute to strengthening India’s innovative, knowledge-based economy.

Reference