



PUBLISHED ON APRIL 15, 2019 IN OPINIONS

Eastern Innovation Spree: Indian Schools Are Making Students The ‘Technology Drivers’

By Harshait Sarmah



Vladimir Putin and Narendra Modi met with students from the Russian educational centre Sirius and talented Indian children.

Over the years, technology has touched every aspect of human life. And the education system is a significant part of it. The importance of technology today has reached such a level that it is getting imperative for students to learn about the latest techs from an early age. And with a mission to make India one of the tech-ready nations, government, companies and educational institutes are taking vital steps.

India's Central Board of Secondary Education (CBSE), recently made an announcement about including artificial intelligence in the syllabus. And this step by CBSE is without a doubt a revolutionary one. Also, according to the board, the subject of AI will be an optional one and will be for the students of standard 8, 9 and 10.

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When we look at the India technological education side, there are numerous engineering colleges all across the nation. Many might also agree with me to the fact that while some colleges put in a lot of effort to deliver a significant amount of knowledge to its students, there are colleges that just don't deliver any value. It only creates issues for students in terms of knowledge but also in terms of landing a job of paving a career path.

Looking at this initiative by CBSE would definitely help students to be ready their journey in an engineering college. Having prior knowledge about a specific not only help in understanding the advanced concepts but also helps students to have a clear view of the things that have chances of impacting in the coming years.

And after the CBSE move, several leading educational institutions across India are working day in and out to include and implement AI tech studies to boost the learning process and provide the most advanced education to Indian students.

HXLS' Project Saksham

Maker-centered Learning is one of the most talked-about topics in the Indian education system at present. Written by the expert team from the Agency by Design initiative at Harvard Graduate School of Education's Project Zero, *Maker-Centered Learning* is a book on a theoretical framework and practical resources for the educators, curriculum developers, librarians, administrators, and parents navigating this burgeoning field.

Heritage Xperiential Learning School (HXLS), Gurgaon, is one such institute that has leveraged Maker-Centered Learning to enable innovation in classrooms through rapid-prototyping and design challenges. As part of the initiative, HXLS offers the Build Your Future elective for the Senior Program students. In this elective, students work on year-long projects to understand emerging technology trends and use it to address issues of social relevance.

“Maker-Centered pedagogy is an important extension of our Experiential Learning curriculum. The curriculum emphasises design thinking where students get to apply conceptual knowledge they absorb in classrooms, to solve real-world problems. This leads to a holistic experience that is related to the world around them,” said Purna Shridhar M, Head – Middle Programme, Heritage Xperiential Learning School

Talking about the other initiative, Saksham – Enabling the Society, is a project of Heritage Xperiential Learning School (HXLS) where students of grades IX, X and XI have created the some of the revolutionary products.

Automated Walking Stick: It is a 'smart' walking stick that works as a proximity detector for the visually impaired. The stick alerts the user to obstructions on the way and thereby reduces accidents. The stick also provides alerts through vibrations rather than sound to enable for a better response from the user. The team used Arduino, an open-source electronics platform based on easy-to-use hardware and software, to make the stick work.

3D Printed Braille cards: In order to address the scarcity of user-friendly educational resources available for the visually impaired in the market, the students also created 3D Printed Braille cards. The students worked with teachers of the blind school to find solutions that would explain abstract concepts to the students of the blind school. Based on their discussions, they decided to work on and create a prototype to communicate the shape of moon phases and various animals via touch.

'Help Me' Shoes: The third product is a pair of shoes that would indicate obstructions with the help of an alarm. The prototype has sensors that help the user to navigate easily. For this also, the students used Arduino — ultrasonic sensors were incorporated for detecting the distance and motors were used to give movement to the sensors to detect the best way to guide the person using it. The shoes are under testing phase and in the coming months the team intends to add an SOS feature using the GSM module of Arduino which will help the person to directly send an SOS alert to the loved one whose phone number will be saved in it.

According to Noora Noushad, Head – Design and Technology, Xperiential Learning Systems, the institute has also worked on creating a comprehensive digital literacy curriculum which is mapped from Grade 1 to Grade 12 on Data Sciences, AI & Machine Learning. These standards allow for the representation of digital skills beyond the technical knowledge thereby broadening the definition and implementation of digital literacy outside computer classrooms.

“Our focus is to put students on the designer seat of digital devices as opposed to being blind consumers. We believe that by giving students a chance to design with AI tools, they will develop a strong understanding of how AI products are programmed and the process of machine learning,” said Noora Noushad.

Outlook

When it comes to technology, India over the years has proved that the nation is not the one that takes a step back. Whether you talk about the Government, or companies, or educational institutes, everyone works together to push the nation's technology infrastructure to a whole new level. And the pace at which innovations are happening in India, the days are not so far when the nation will top the list of Technology innovations.

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