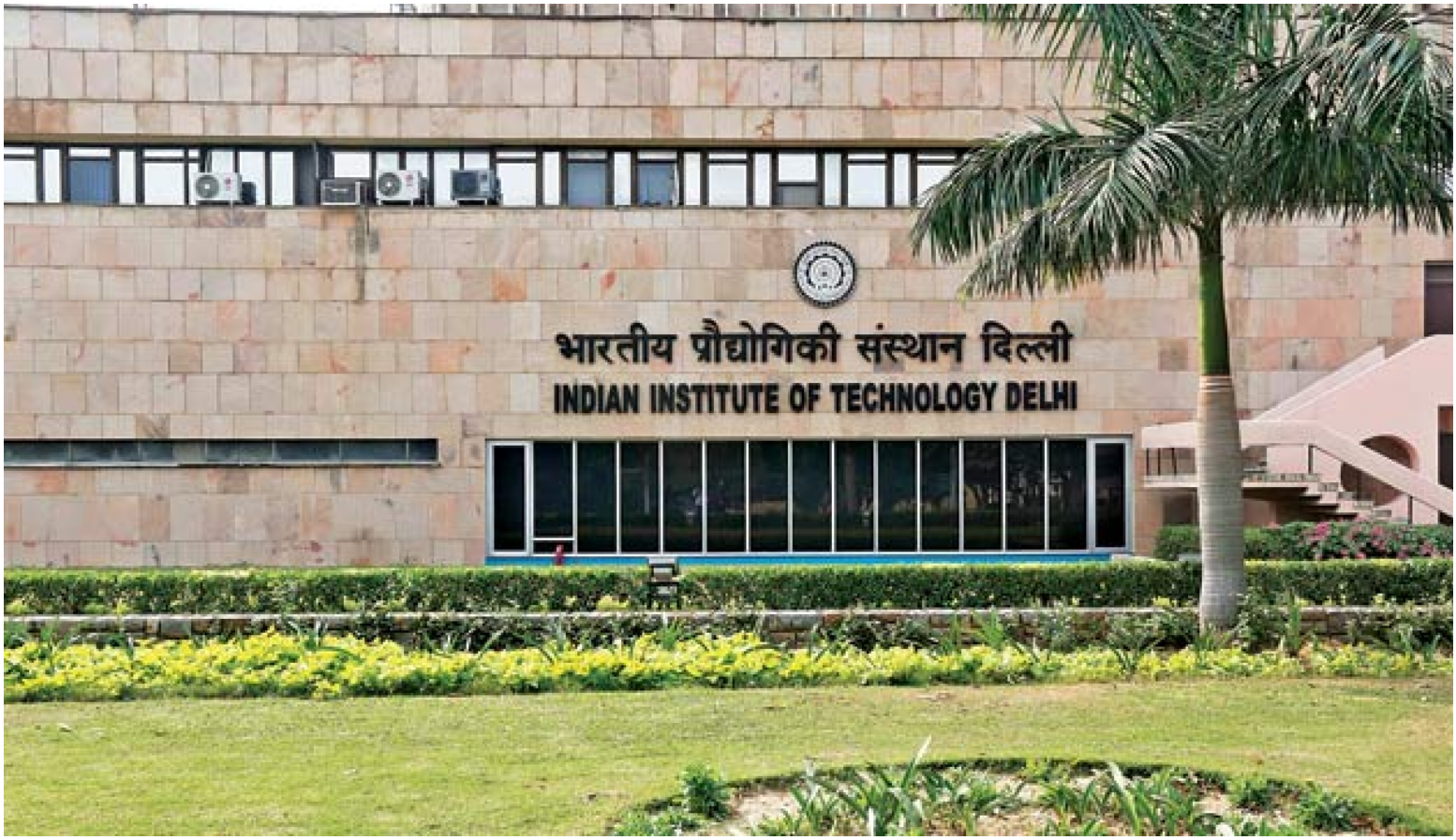
Appeared in DNA, Mumbai Newspaper
on Sun, 08 Jan 2017, Page 17

IIT Delhi engineers make learning fun



IIT Delhi IIT Delhi , Wikipedia

Experimenting with the traditional mode of primary education in Indian schools, by giving it a touch of technology, engineers from the Indian Institute of Technology (IIT), Delhi have developed SAKSHAR- Image-projective Desktop Varnamala Trainer (IDVT) software for making learning easy and fun for students. The software is already being used on a trial run in over 20 Kendriya Vidyalayas in the national capital.

“The traditional education system based on procedural and rote learning does not help kids to improve basic skills like literacy and arithmetic. The use of incomprehensible books makes the children shy away from learning and is not suitable for primary education,” said Dr SK Saha, Professor, Mechanical Engineering, IIT Delhi

“This might be a major contributing factor for school drop outs in India. SAKSHAR is a device which can make learning interactive and full of fun. After we introduced this mode of teaching in Kendriya Vidyalayas, teachers said that the students are finding it very interesting,” he said. SAKSHAR -IDVT is based on SOI (step-on interface) concept, which uses the projected screen as a bidirectional interface, through which the information is presente from the robot to the user, and the user instructions are delivered to the robot.

A game-based learning methodology is being used in SAKSHAR. The game displays a question to find out the correct image of an object. For example, it asks find 'K' for Kettle. The game displays four available options and the player/learner has to select the correct answer. Total points of the game are displayed at the bottom side of the projective screen. The game also displays the time taken in seconds.

"I got this idea from Dr T Matsumaru from Bio-Robotics & Human-Mechatronics Laboratory, Graduate School of IPS, Waseda University, Japan who designed a device named IDAT for patients requiring upper limb rehabilitatio by training to improve eye-hand coordination. SAKSHAR is the next generation of IDAT designed for the use in educational purposes. We feel that devices like SAKSHAR will give a boost to reading skills of children and thus improve literacy," said Dr Saha.

The game has two operating modes— teaching mode and testing mode. Teaching mode was designed for targeting kids, who are new to schools. Corresponding to each alphabet, this mode contains basic and well-known objects. In this mode, the user is given unlimited number of attempts for each alphabet.

In the testing mode, once a user is familiar with alphabets and gets enough knowledge about them, it is used to test his/her knowledge. Testing mode contains multiple images for each alphabet, which exposes the user to more number of alphabets. This mode does not provide unlimited attempts. It displays a countdown timer on the basis of which the time available for making choice for a given slide is kept constant. Four points are given for a correct answer, whereas each wrong answer has a penalty of one point. The total score can be used to keep track of learning outcome for each user.

"We have Hindi alphabets and elementary mathematics teaching options. We are trying to make it cost effective," said Dr Saha.