

## Singapore students with intellectual disabilities could soon try robotics

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*The workshops are part of SG Enable's ongoing efforts to make products, services and the environment more accessible to people with disabilities*

SINGAPORE - After two successful pilot workshops teaching robotics to students with visual impairment, SG Enable is looking into offering such workshops to people with intellectual disabilities.

A collaboration between Curious Squirrels, iC2 PrepHouse and The Lego Group, the workshops were held in November 2020 and March this year. They are part of SG Enable's ongoing efforts to make products, services and the environment more accessible to people with disabilities.

With the use of assistive technology, the students in the pilot workshops learnt coding concepts, how to programme a code that operates robots, and about the real-life applications of robots.

Mr Alvin Tan, head of technology catalyst at SG Enable, said that technology is crucial in enabling people with disabilities to learn, work and live more independently.

"Coding is an essential skill in the digital economy, and since last year, coding enrichment classes have been offered to all upper primary school pupils. However, for students with disabilities, the opportunity to learn coding may not be accessible to them."

He noted that the pilot workshops were a positive start in SG Enable's efforts to facilitate partnerships between social innovators or organisations - each with their own expertise - and end users.

"Encouraged by the response, we are also looking to expand these pilot workshops to make coding and robotics concepts accessible to students with intellectual disabilities," he said.

The workshops, held at Tech Able, an assistive technology space jointly managed by SG Enable and charity SPD, used blocks from The Lego Group's Lego WeDo kits - robotics kits created to enhance students' curiosity and science skills.

iC2 PrepHouse - which provides support to people with visual impairment - reached out to its clients to look for those interested in taking part in the workshops, while Curious Squirrels - which offers classes in areas like robotics and coding - conducted the sessions.

Said Mr Tan: "We worked with Curious Squirrels to make the workshop content e-accessible to the students with visual impairment, so they could read the content with the help of assistive technology.



*Founder of Curious Squirrels Annie Chia conducting a workshop*

"To help the students get a better understanding of what to expect during the workshop, they were able to access and read the workshop materials in advance."

He added that the SG Enable team also made physical coding blocks modelled after the digital ones in the Lego WeDo app.

The blocks were printed using a tactile printer that included Braille on the blocks so that the students could distinguish between the different blocks and arrange them in a logical flow, said Mr Tan.

He added that the five participants of the two pilot workshops and their parents gave positive feedback, and most of them also asked about upcoming sessions.

Curious Squirrels founder Annie Chia said the organisation plans to extend the robotics classes to more beneficiaries, with a goal to offer the programme to more special education schools here.

"We believe it is essential to expose special needs children to science, technology, engineering and mathematics education to keep up with 21st-century skills. We hope to play our part to provide equal learning opportunities for every child," she said.

Gabriel Tay, 17, a first-year polytechnic student pursuing a diploma in information technology, attended both workshops.

"I enjoyed the friendly and welcoming atmosphere. It was one of the few times that I really felt like I wasn't being judged," he said, adding that he would encourage children or anyone looking for something fun to do to try a session.

Secondary 4 student Colin Soon, 16, said he liked the moderated pace during both workshops that allowed him to explore and understand what was being taught.

The sessions would be great for those relatively new to robotics and coding, he said.

While he does not intend to participate in the same workshops again, he is keen to attend others related to coding and programming.

He said: "Robotics is fun, but I do not see it as a future job for me. I intend to do audio technology after I finish secondary school. However, I would want to continue to do robotics as a hobby."