

EduBot Online

Educational Robotics in Online Learning

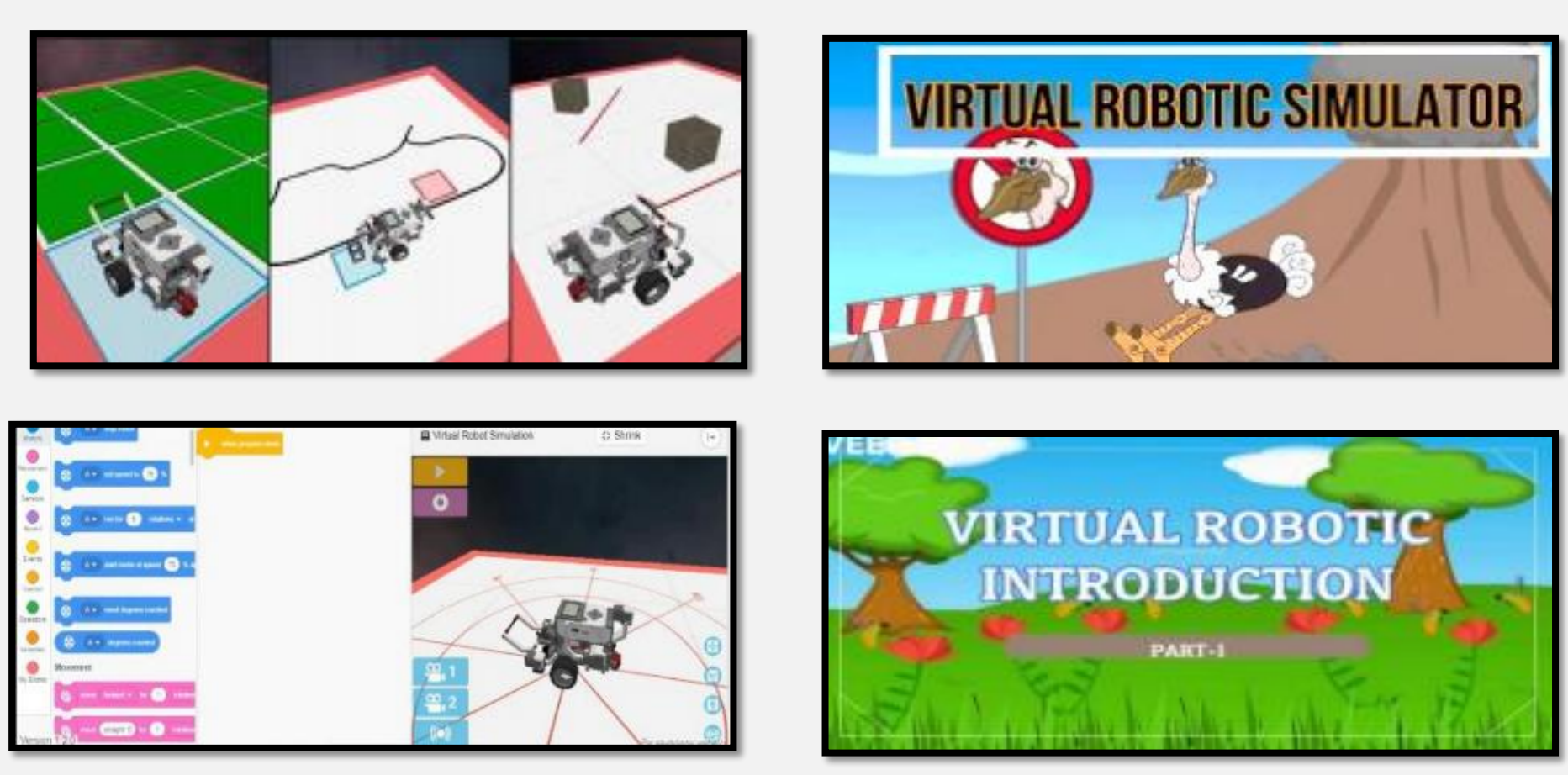
ABSTRACT

This product is about e-learning platform on virtual learning activities for Lego EV3 educational robotics. This platform is built based on Odoo.com open source to avoid any copyright issues. This platform consist eight lessons on Lego EV3 virtual robotics which is made for upper primary students. Each lesson contains a guidance video for students to learn robotics independently. The free version of Lego EV3 simulator from Carnegie Mellon University were used in this e-learning platform for students to complete the robotic tasks. No any special skills needed by students to use this e-learning platform. At the end of the lesson, students will receive their participation certificate.

The use of virtual learning activities for Lego EV3 robotics can improve students' interest and self-efficacy in STEM education. A group of 130 students were attended pilot testing. The effectiveness was evaluated by pre and post questionnaire. Data were analyzed using descriptive statistics for this e-learning platform. 95% students showed positive responses on interest while 93% reported their self-efficacy was the best learning robotics in this platform. Finding shows that students' perception on interest and self-efficacy of this e-learning platform on virtual Lego EV3 robotics was positive.

OBJECTIVE

- The students will be able to participate in educational robotics course from anywhere and anytime
- The students will have a multisensory learning experience and internal motivation to explore self-paced online instructional methods
- The students will be able to assess their understanding interactively



ADDED VALUE

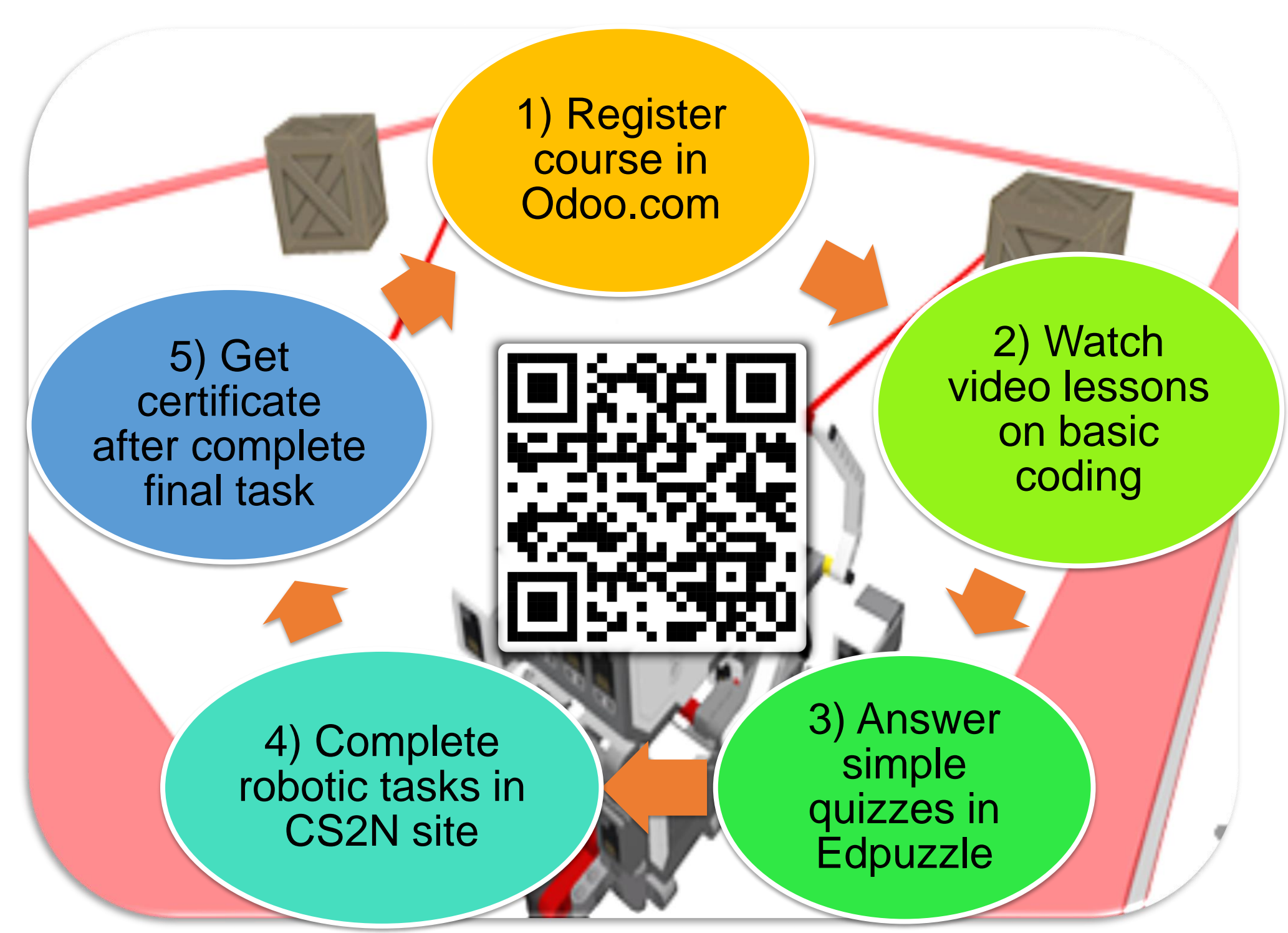
- ❑ Lessons were delivered using recorded videos
- ❑ Every video lesson contains subtitles that sync with the narration
- ❑ The audio narration applies an appealing friendly human voice is able to display positive emotions among the students
- ❑ There were questions embedded in the video to ensure students do not skip any part of the lessons

SIGNIFICANCE

- ❖ Offers an interactive online robotics learning experience.
- ❖ Offers relevant content that is suitable for primary school students.
- ❖ Stress free learning (anywhere & anytime) - novelty
- ❖ Provides free access to all school students

COMMERCIAL POTENTIAL

- ✓ This program has potential to be registered as Micro-credential course under Ministry of Education
- ✓ This program can be used as a certification course under STEM field



RECOGNITION

- The LMS platform (odoo.com) is recognized by MSC Malaysia
- The robotic simulator used are recognized by Carnegie Mellon University, USA
- The contents in EduBot Online course recognized by experts from University Sains Malaysia, Polytechnic Seberang Perai and Malaysian Teacher Training Institute



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