

Title: Digitising Early Childhood – There is a Bot for That.

Abstract:

Robots provide a range of digital manipulatives that can combine computational thinking skills with play to develop fine motor skills and hand-eye coordination while engaging our youngest school citizens in collaboration and team work. These new generation resources help our early years students level up by combining computational thinking with storytelling and retelling, picture books and other traditional materials including pattern blocks, beads and LEGO pieces, and they provide opportunities for developing an understanding of algorithms; mathematical concepts, such as number, size, and shape and literacy comprehension through sequencing.

Who needs screen time when kindy and foundation students can engage and interact with digital bots and connect with their imagination to learn the skills of computational, systems and abstract thinking? Robots also help children to solve problems systematically while encouraging creativity. By designing STEM challenges, teachers can provide opportunities for design thinking as students develop solutions, select materials, build, test and evaluate their own digital constructions while also learning geometry, drawing, mapping, mechanics, electronics and the language of computer science and the programming of input and output devices in developmentally appropriate ways.

When we teach children to write, we are teaching them to communicate. By digitising these literacy activities through robotics, we can also teach them to program and learn the language of technology with smart playful learning opportunities.

Author Bio:

Robin McKean is the CSER Digital Technologies Project Officer in Western Australia whose role it is to structure professional learning programs within schools designed to promote motivation and engagement with Digital Technologies as a key aspect of Australia's future in innovation and facilitate professional learning sessions structured around the CSER digital technologies learning resources. She is an active committee member of the Educational Computing Association of Western Australia.