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Robotic toys as a catalyst for mathematical problem solving.

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Summary: Robotic toys present unique opportunities for teachers of young children to integrate mathematics learning with engaging problem-solving tasks. This article describes a series of tasks using Bee-bots and Pro-bots, developed as part a larger project examining young children's use of robotic toys as tools in developing mathematical and metacognitive skills. The tasks provide motivating contexts to promote meaningful learning and engage children in multiple mathematical processes. The toys serve as catalysts, providing unique opportunities for tasks focusing on dynamic movement. The development of tasks that have multiple solutions engenders flexible thinking and encourages reflective processes. Furthermore, the nature of the toys promotes playful and sustained engagement with challenging mathematical concepts. (Contains 3 figures and 3 tables.) (ERIC)

Classification: U61 U62
Keywords: toys; robotics; educational opportunities; young children; preschool children; preschool education; problem solving; mathematical concepts; student motivation; learner engagement; metacognition
http://www.aamt.edu.au/Webshop/Entire-catalogue/Australian-Primary-Mathematics-Classroom