Draw a robot - pre-service teachers’ conceptions

Gordana Miščević, Danimir Mandić, Jelica Ristić, Sofija Matović

Univesity of Belgrade, Faculty of Education, Serbia

risticjelica.uf.bg@gmail.com, danimir.mandic@uf.bg.ac.rs

Education for digital transformation	**Number of the paper: 117**	

Abstract

Technological advancements are reshaping the educational landscape, emphasizing the importance of digital competencies in the coming decade. Educational robots, leveraging artificial intelligence, play a pivotal role in shaping K-12 education and fostering computational thinking, a vital skill for today's youth and their educators. This research endeavors to reveal teachers' perceptions of robots and their pedagogical implications, aiming to refine teaching practices in educational settings. Specifically, the study seeks to determine whether teachers discern between robots and non-robots, identify prevalent features in robot depictions, understand the rationale behind specific robot choices, and uncover potential misconceptions. Employing a mixed-method approach, we used the Draw-A-Robot Test (DART) and open-ended inquiries to probe teachers' conceptions of robots. Our sample comprised 107 pre-service teachers from the University of Belgrade, Faculty of Education, Serbia. Through rigorous analysis conducted by two independent evaluators, we identified the bee bot as the prevailing representation of educational robots, often depicted with animal-like characteristics. Furthermore, our investigation uncovered prevalent misconceptions about robots, shedding light on critical areas for teacher development. The findings of this research carry significant implications for enhancing teacher competencies regarding integrating robots in educational settings. By addressing misconceptions and refining perceptions, educators can harness the potential of educational robots to advance learning and teaching experiences.

Key words

computational thinking, digital competences, education, misconceptions; mixed-method approach

Revizija #5
Stvoreno 17 rujna 2024 14:39:08 od Admin
Ažurirano 21 rujna 2024 19:33:54 od Martina Gajšek