

Abstract

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This dissertation thesis examines the assessment of students working with educational robotics in the teaching process at secondary schools. Educational robotics enables the development of students' programming, technical, creative, and social skills; however, its complex nature also presents challenges for assessment. The aim of this study was to examine current methods of assessing students in educational robotics at Slovak schools, identify the challenges teachers face during assessment, propose an assessment framework, and verify its practical applicability. The research was conducted using a mixed-methods approach and design based research. The first phase of the research mapped teachers' experiences with assessment in educational robotics. Based on this, assessment rubrics were designed focusing on the construction of a robotic model, programming, and teamwork. The rubrics were subsequently tested in Slovak secondary schools through teacher assessment, self-assessment, and peer assessment by students. The results show that traditional grading does not provide teachers or students with sufficiently specific feedback on the quality of work in educational robotics. The proposed rubrics helped clarify assessment criteria, promoted transparency in assessment, and made it possible to capture multiple aspects of student work. At the same time, it became apparent that their successful use depends on the clarity of the criteria, the teacher's approach to working with the rubrics, and their systematic integration into instruction. This dissertation thesis presents an assessment framework that can be applied in practice and contributes to a deeper understanding of the possibilities for assessing students in educational robotics.

Keywords: Educational Robotics, Assessment, Teaching process, Student, Secondary school