

Abstract of the doctoral dissertation „Use of robotics tools in computer science teaching”

The use of robotics tools in education has been a topic of interest for educators for a while. With technological advancements, new tools are emerging in the market aimed at supporting students' skill development and increasing their engagement in the learning process. This study aims to investigate the effectiveness of such tools in computer science education.

The paper consists of two chapters. The first one includes a literature review on the role of teachers and the challenges involved in preparing for this profession. It also describes the challenges in teaching computer science and the skills that need to be developed in the process of computer science education. Additionally, it explores LEGO® Education methods, which promote hands-on learning and problem-solving abilities among students.

The second chapter focuses on research aimed at analyzing the effectiveness of LEGO® Education tools in computer science education. The research is divided into six stages, which examine the development of both soft and subject-specific skills among elementary, secondary, and university students. The study also analyzes the challenges faced by teachers when implementing robotics tools in the classroom. The results provide valuable insights into the use of computer science tools in education and can assist teachers in making informed decisions regarding their inclusion in the curriculum.

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