

From Data to Coding and responsible digital citizenship: the design of a learning journey

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Abstract

The aims of the work are: 1) To obtain a picture of Italian students' strengths and weaknesses in three different areas: Computer and Information Literacy, Civic and Citizenship Education, Collaborative Problem Solving, and their learning evolution from 2015 to 2018. 2) To obtain a picture of teachers' enacted actions and outreach activities related to computing and coding and their evolution from 2014 to 2022; 3) To identify core competencies and commonalities in international curricula in 3 different areas: Computer and Information Literacy, Civic and Citizenship Education, and Computer Science; 4) To identify a learning path that, by using data as a glue, fosters the development of students' competencies in the above-mentioned areas; 5) Using a system thinking approach, drawing upon the author's experience, some epistemological reflections will be shared regarding possible collaboration avenues between STEM, arts and humanities to create better opportunities for young people.

Keywords: computer and information literacy, civic and citizenship education, collaborative problem solving, learning path, system thinking