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Students' participation in related science and technology activities, and the impact on their attitudes towards these disciplines

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Abstract

According to the research, there has been a decline in the positive attitudes that children and young people have toward science and technology (S&T) throughout the last decades, which is increasing every day. The interest in understanding the causes of this phenomenon has encouraged a great number of investigations. Although these studies are not conclusive, most of the reviews agree on the need of further research on how children and teenagers perceive S&T, and how this perception is related to their attitudes to these contents both inside and outside school. In this framework, the present study aims to identify and analyze the students' attitudes towards S&T. We have applied a questionnaire to 1,336 students of three different age groups (10, 13 and 16), with families from different socioeconomic status, and from urban and rural schools. We have studied the relationship between the students' preferences to participate in activities related to S&T inside and outside school contexts. In addition, we have explored the value that students attribute to scientific work to improve people quality of life and solve social and environmental problems. The results show significant differences between groups of students regarding their participation in S&T activities inside and outside school, and a progressive decline in positive attitudes toward those disciplines as the age of the sample increases. In the conclusions, we discuss the implications of these results to promote students' motivation on these areas of knowledge and also improve its teaching.

Keywords: attitudes, learning activities, science and technology, formal and informal educational context.