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The contribution of computer science to technical general education

Abstract

The idea of general education is, among other things, to bring pupils in contact with different ideas, topics, methods, activities, and areas of work independent of their social or family context. In this sense school serves as a "test living", where pupils can try out themselves in different fields. These attempts may fail here without any serious consequences. It is hoped that some of these tests will be successful, so that young people at the end of their school career can choose from a positive variety of life perspectives. If an important aspect is missing at school, this aspect cannot be tested there. But the pupils know very well that then the personal risk of a failure in that case is being shifted to the time after school. A positive decision for this aspect becomes difficult.

In High School technical thinking and acting hardly have any room. Since an ever growing number of students of an age group pass through High School, they hardly come in touch with technology-related topics. Consequently later they often ignore the enormous field of technical professions. If the spectrum of school subjects is to be extended by a new subject, that can establish a close link to technology, this subject should have its place in grades 7-9, because there the important pre-decisions for the later professions are made. The subject "computer science" is able to take over this task very well, because, due to the universality of its tools, it can use these tools without any additional equipment in many different areas.

The following contribution examines how the term "technical general education" can be concretized. On the basis of some examples the consequences for instruction are explained.