

Exploring Test Items in the PISA-style for Informatics

Abstract

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In 2003, we proposed to transfer the OECD-PISA-approach to testing competencies of young persons to informatics. To this end, the concept of literacy in informatics was defined. As an illustration, test items were presented, and the different aspects of literacy in informatics they are connected with were discussed.

Meanwhile, about 300 persons answered these items, and a first evaluation is available. The selection of this population is by no means representative, so we cannot draw conclusions in a statistically valid way. Nevertheless, the collection of answers is valuable in further analyzing the items and formulating hypotheses for further exploration. In particular, we investigate connections between the tested person's age or prior experience in informatics and the results in the test as well as gender differences.

As the original test items were formulated in German, we made a great effort to translate them to English for this article. Besides giving the english translation, we also focus on the translation process itself which endeavours to yield items in different languages with an equal degree of difficulty whilst respecting the cultural background of the intended test population.

As a consequence of both, exploring the German items and looking into the translation process, we present a selection of slightly modified items for use in a field test of larger scale and better statistical foundation.

Based on these investigations we formulate working hypotheses about competencies in informatics and their respective degrees of difficulty. This may lead to a definition of standards for school informatics.