Title: Measurement of Education - Item Response Theory
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Abstract
If we want to study abilities of certain pupils or other people in a given area, we can give them a didactial test, which would consist of items testing the abilities in question. The goal is then to determine the qualities of the people (ability parameter) and the relative difficulty of the questions (parameters of the questions) on the basis of the answers. Further we estimate how would a pupil, who have passed just one part of the test (assuming we have the item parameters of the whole test), would perform in the rest of the test. This is the research area of the Item Reponse Theory (IRT). In the introductory section the reasons are given for why we should use the IRT rather than the classical test theory for evaluating didactical test results, althought it's not regulary done in our country. The dichotomous Rasch model, which is one of the main IRT models, is described in detail. First the model is derived and then its main features presented. For the case of Rasch models we also demonstrate the most used methods of estimation of the ability and difficulty parameters. In the conclusion a possible continuation of the work is drafted.

Keywords: Dichotomous Rasch model, Item characteristic curve, difficulty parameter, ability parameter.