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Suomen kasvatustieteellinen aikakauskirja

Arffman, Inga. 2007. The problem of equivalence in translating texts in international reading literacy studies. *The Finnish Journal of Education Kasvatus* 38 (4), 348–353. — The article discusses the special problems of equivalence that arise when translating texts in international reading literacy studies. In these studies, it is absolutely mandatory that all the different-language texts be equivalent to each other, and thus equally easy or difficult to understand. Because if they are not, the results of the test will be invalid – and unfit for educational decision-making. The article takes a brief look at a doctoral thesis made on the topic (Arffman 2007). In the study, three English and Finnish texts used in the PISA 2000 reading test were compared text analytically. The analysis revealed six different types of problem which differed considerably between the texts. The study suggests that it will probably never be possible to attain full equivalence of difficulty between all the different-language texts in international reading literacy studies; however, by developing the translation work, a relatively high level of equivalence – and validity – seems attainable.

Descriptors: equivalence, validity, reading, comprehension, difficulty level, translation, assessment, PISA

Kupari, Pekka. 2007. PISA 2003: Finnish students' attitudes and motivation toward mathematics. *The Finnish Journal of Education Kasvatus* 38 (4), 316–328. — The article depicts and analyses factors related to Finnish 15-year-olds' attitudes and motivation toward mathematics. The PISA 2003 survey targeted at five factors in this respect: learner's self-image for mathematics, mathematical confidence, mathematics-related anxiety, interest in mathematics (internal motivation), and external motivation. After a conceptual analysis of these factors the article discusses their interconnections as well as related gender differences identified within the low- and high-achieving students. The wide gender gap detected in all attitude and motivation factors tell about inequality between the genders, which has serious ramifications for the students' further educational and career choices.

Descriptors: attitudes, motivation, gender, mathematics, comprehensive school, PISA

Linnakylä, Pirjo – Malin, Antero. 2007. How to support weak readers? Engagement in reading as a way to enhance literacy. *The Finnish Journal of Education Kasvatus* 38 (4), 304–315. — This article explores the connection between engagement in reading and literacy performance, especially for low achievement. The effect of reading engagement is compared

to the connections of students' socio-economic, cultural and linguistic background. The article is based on the Finnish PISA 2003 data, which is analysed by means of a two-level logistic regression model. The results showed that the risk of low literacy achievement was increased by students' low engagement in reading as well as limitations pertaining to their home background. Although strong engagement in reading was connected with good literacy performance and it did partly even out some literacy differences in terms of gender and learning resources at home, it did not, however, diminish the meaning of students' socio-economic or immigrant background. The conclusions and discussion on development challenges draw on findings from this and other analyses concerning engagement in reading.
Descriptors: literacy, engagement in reading, motivation, home background, gender, PISA

Reinikainen, Pasi. 2007. Explanations for good PISA problem solving results in Finland. The Finnish Journal of Education Kasvatus 38 (4), 340–347. — This article deals with factors that in light of multilevel modelling are connected with Finnish 15-year-old students' performance in the problem solving items of the PISA 2003 survey. PISA 2003 explored for the first time students' problem solving skills in this age group by broad-based cross-curricular test items. There were altogether 19 items of this kind, dealing with practical problems, everyday situations outside school, and young people's future challenges. In this sense, PISA problem solving tasks can be seen as indicators for coping with everyday life. Earlier research has shown that students' problem solving performance is strongly connected with their home background and mathematics achievement. The present study reveals, for instance, that also students' IT skills, possible problems, and competitive character are connected with their problem solving achievement.

Descriptors: problem solving, comprehensive school, multilevel models, PISA

Törnroos, Jukka. 2007. Finnish- and Swedish-speaking students' achievement in PISA 2003 mathematics test. The Finnish Journal of Education Kasvatus 38 (4), 329–339. — In the PISA 2003 mathematics test Finnish-speaking students outperformed their Swedish-speaking peers in Finland with a statistically significant difference. This article analyses the difference more closely, based on the test items used. At the item level the difference in student performance was on average about 3 percentage points to Finnish-speakers' advantage. Item-level differences varied very much, and the only consistent patterns were found in items related to probability as well as involving combinatory aspects. Now identified differences between the language groups deviate from earlier observations, and further research is needed to investigate possible connections to the learning materials used, for example.

Descriptors: student achievement, language groups, mathematics, PISA

Väljjarvi, Jouni. 2007. Finnish school as a learning environment. The Finnish Journal of Education Kasvatus 38 (4), 354–363. — School environment directs learning on many levels. For instance, the resources, physical facilities and working atmosphere contribute to the conditions for school's internal interaction. This article focuses mainly on three resource-related issues in the light of the PISA 2003 survey: a) how principals and students evaluate the learning environment of their own school; b) how students use their time in general and how efficiently in international comparison across different school systems; and c) the connection between the school's socio-economic status and student achievement. The approach emphasises the Nordic perspective in particular.

Descriptors: school, learning environment, PISA