

Abstract

When mathematics tasks are used in multilanguage assessments, it is necessary that the task versions in the different languages are equivalent. The purpose of this study is to deepen the knowledge on different aspects of equivalence for mathematics tasks in multilanguage assessment. We analyze mathematics tasks from PISA 2012 given to students in English, German and Swedish. To measure formal equivalence, we examine three linguistic features of the task texts and compare between language versions. To measure functional equivalence, a *Differential item functioning* (DIF) analysis is conducted. In addition, we examine statistically if there is a relation between DIF and the differences regarding linguistic features. The results show that there is both DIF and differences regarding the linguistic features between different language versions for several PISA tasks. However, we found no statistical relation between the two phenomena.

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