More than 20 years of international large-scale assessments: Lessons learned?

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International large scale assessments in education, as we know them today, was established with the TIMSS study in 1995. All the Nordic countries have participated in at least some of these, but with Norway and Sweden as the most frequently participating countries. In this talk I will reflect on why and how these studies are useful (or not) in providing information about the status of mathematics education in the Nordic countries

I will extend this discussion by presenting another analytical approach of the data from these assessments. Usually, data from these studies are combined, condensed and structured into larger measures of constructs (e.g. achievement, motivation or self-concept in mathematics to mention a few). And in studies like these this is a viable and defendable strategy to produce robust information to inform policy-making in the participating countries. However, there is more to be found for those who seek! In this case I rather make use of item-level data. Previous analyses based on such an approach for instance suggest that the Nordic countries, including the higher performing Finland, make up a joint profile when it comes to relative strengths and weaknesses in their mathematics competency. In brief: Nordic students perform relatively well on items in a context of realistic problem solving, but less well when they are confronted with items involving explicit algebraic notation. These findings will be discussed in light of recent theories of effective teaching in mathematics. The point to be made here, is that this approach to a large extent information which is partly hidden in the overall scores reported from the studies.

In this talk, I will extend this approach by presenting ongoing work with colleagues where we continue to explore the Nordic profile. The attention now is not on the Nordic profile of achievement, but rather on the instructional practices in our countries. By revisiting and reanalysing data from PISA 2012, we make use of so-called cluster analysis to develop country profiles of instructional practices. I will conclude my talk with some recommendations for how to further develop the international assessments as tools for both description of and research on mathematics education.