Witnessing milestones of large scale surveys

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During the 1970s and 1980s, not many researchers in Germany were interested in international large-scale surveys. After Germany participated for the first time in such a study with its representative sample (Six-Subject Study, 1970-1971) the results showed that the German educational system only reached an “average” position. The general reaction in Germany was not to dig deeper and to follow this research for a better understanding of the situation. For the following years Germany did not participate in any of these kinds of studies with a representative sample. As a consequence, Germany missed the opportunity to guide the development of its school system by using and profiting from the information and experiences of other countries which were well documented in those studies. The reaction was “to think about this” in the sense of a widespread tradition of a hermeneutic approach and instead of taking note of quantitative research in order to get different perspectives on the educational system, Germany preferred to concentrate on itself.

At the beginning of the 1990s, Rainer H. Lehmann from the University of Hamburg managed to participate in the International Reading Literacy Study (after 20 years of absence) with a representative sample of Germany’s primary and secondary students. At that time, Rainer H. Lehmann, Bodo von Borries and T. Neville Postlethwaite were the only persons at the University of Hamburg (besides a few more outside of Hamburg), who believed in the usefulness of large-scale surveys for the development of educational systems. In those days, the predominant position in education was that humans cannot be “measured”. Prof. Lehmann prepared and performed the German participation successfully.

Much more “exotic” than Prof. Lehmann was T. Neville Postlethwaite, at that time at the University of Hamburg. From today’s perspective, I am convinced that most of his opponents at our University did not understand what he was doing and that the other colleagues were not interested. This was the time when I started to study at the University of Hamburg. Unaware of this background, in 1990 I found myself in one of Professor Postlethwaite’s seminars. He gave me a new perspective on research and opened me up to new ways of looking at educational reality. As a result, I found this kind of perspective (quantitative empirical AND international comparative research) so interesting that I remained in the field until present (2018) and I guess and hope I will continue for some more time in the future. After the seminar in 1990, Prof. Postlethwaite asked me to work as student assistant in the international data processing office for the International Reading Literacy Study. Luckily, I agreed instantly.

The development of the international large-scale surveys coincided with the accelerating development of computers. For many years, empirical analyses had been undertaken (if not by hand) with mainframe-computers where every single batch had to be planned carefully, since computing time was valuable and much requested. Within the Reading Literacy Study, we had one of the first-generation desktop computers that were powerful enough for running cleaning routines and multivariate analysis with large datasets. This fact had important implications for the development of large scale surveys (I will come back to this below).

Looking back to my first steps in the research field of large-scale surveys, I must admit that my academic background was still quite "young" (or one might say "limited") at that time, as I was just at the beginning of understanding piece by piece the fascinating things that were going on in and around the institute of Prof. Postlethwaite.

Aside from being a great and internationally renowned researcher, he was also a professional and successful teacher. He was open-minded, and his door was always open (a very atypical attitude at that time at the University of Hamburg) so that even I, a novice student, could always step in and ask for help or advice. The way he motivated us students and how he stimulated the whole team was unique. From time to time he came to our offices to give us articles he found interesting as "bed-time reading". This gave us several opportunities not just to talk about the content, but also to understand the content's importance for our field of research. From the very first hour, he involved us students and assistants in challenging (and to be honest, highly demanding) project meetings which were often with international colleagues who discussed technical and content related issues of the study. Years and definitely decades later I realized what great learning opportunities he offered us. This outstanding researcher advocated for empirical procedures which, although new in those days, were so challenging, demanding, and conceptually well- founded that today, in their modern versions, they have become methodical standards.

Simultaneously with the further development of computers, I could witness with the help of Peter Allerup the implementation of Georg Rasch's approach (OPL) into the International Reading Literacy Study using desktop computers with differentiating speed and power variations in the scaling models. Only a few years later, the international coordinator of the Third International Mathematics and Science Study, Al Beaton, explained the advantages of plausible values to an interested but still little overburdened group of researchers while discussions about "implausible values" circulated.

Learning about the technique's conceptual background from such an expert and working the international data processing team for the IEA studies, gave us the opportunity to discuss, and finally understand in depth, the general ideas behind the theoretical concepts and empirical advantages of the implementation. I still remember very well when one (late) afternoon, the members of the IEA data processing office were sitting together with Ray Adams who, equipped with blank paper and a pen, guided us through the process to make us understand the metamorphosis from implausible to plausible values.

Over many years during my work (in different positions) in the context of TIMSS (from 2003 on Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy Study), I always followed the ongoing discussions of using more complex views on achievement items by implementing 2- and 3-PL models, which gives us (by taking plausible values into account) a model which fits better to reality. In this context, I am especially thankful to Ina V.S. Mullis and Michael O. Martin – as the directors of the International Study Center at the Boston College for giving me the opportunity to work together with persons like Eugenio Gonzalez and Kentaro Yamamoto who have the ability to see, explain, and convince us to take advantage of the latest, internationally recognized techniques. My thanks also include Pierre Foy and Marc Joncas from whom I enjoyed learning the topics of sampling procedures, the calculation of sampling weights and the necessity to understand and distinguish sampling and measurement errors

Looking back on how I went into and through the international large-scale research field, I am grateful that I was given the opportunity to witness and study the challenging, changing, and exciting state of the art techniques within this research area. I am especially thankful for having been accompanied by Michael Bruneforth, Dirk Hastedt and Heiko Sibberns over many years, as well as for being guided through the world of large-scale assessment by so many open-minded, understanding, and excellent researchers, of which I could name only a few here and who I regret if I have omitted! Today I am proud that I have the former chair of Prof. Postlethwaite at the University of Hamburg who inspired and influenced me so much. And, as I learned it from him, my office door is always open ...