Deakin Research Online

This is the published version:


Available from Deakin Research Online:

http://hdl.handle.net/10536/DRO/DU:30011026

Reproduced with the kind permission of the copyright owner.

Copyright : 2007, Sense Publishing
Measuring problem-solving ability: a step in the right direction

Reading this chapter from the 1980s again after so many years was a very rewarding experience. The freshness of the prose and the relevance of the ideas remain; a surprise in the mathematics education literature. However, it is not simply these characteristics that make an impact on the reader, but also knowing the extent to which Rasch’s ideas (1960) have taken root, both in Australia and internationally, in part due to contributions of Australians.

At the time that this paper was written, the Rasch approach to measurement was little known outside Denmark (Georg Rasch’s homeland) and the United States, where Ben Wright was endeavouring to get statisticians and educators to see the possibilities and benefits of introducing measurement, in its strictest mathematical sense, into their work. One difficulty in popularising Rasch’s work lay in performing the calculations required for an analysis. In 1980 the personal computer was merely a dream, and a main-frame computer only available in larger organizations. Despite this, two of the foremost Rasch thinkers of the time, both Australians, were developing new applications of Rasch’s basic ideas: David Andrich (Murdoch University) with Rating Scale analysis, and Geoff Masters (the Australian Council for Educational Research) with Partial Credit analysis. An example of a Partial Credit scoring scheme is given in Figure 1 of the Malone et al. chapter; a very appropriate choice, given that these Australian-created extensions of the Rasch idea were to play significant roles in the coming quarter century.

Since the beginning of the 1990s state-wide assessment in Australia has used Rasch analysis as the core of its scaling and reporting procedures. This enables reporting to parents in plain comprehensible language rather than numerical values. International assessment programmes, such as the Third International Mathematics and Science Study (TIMSS) and the Programme for International Student Achievement (PISA) use Rasch-based techniques for their analyses and reporting. Further, both programmes use Australian-based analysts for carrying out the programmes. While the Mathematics Profiles Series (Cornish & Wines, 1977) is no more, most current classroom assessment materials in mathematics use Rasch-based scaling and reporting techniques.

While it is difficult to appreciate fully how far we have come in the last 25 years, reading this chapter from 1980 reminds us of the excitement and hope that Rasch’s work aroused in some circles of the Australian education community; an excitement that remains and a hope that has been realized.

REFERENCES


Brian Doig
Deakin University, Australia