

SECTION ELEVEN

EXPECTED OUTCOMES OF PHASE TWO

11.1 The common metric

It is proposed that each State/Territory uses one of its own tests and one test from another State/Territory. This design will permit the scaling and equating of the tests to a common metric. It is proposed that the general class of Rasch models for measurement be used for this purpose. The common metric will provide the relative difficulty of all items and will provide a frame of reference for the entire analysis. This frame of reference includes the location of each item on a hypothesised continuum of student achievement, and from this equating, the location of each person tested in the testing program of each State/Territory to be located on the same continuum. This means that at a general level of achievement, the performances of students in one State/Territory can be compared to the performances of students in other States/Territories.

Although the model will provide this overall relative difficulty of items on a hypothesised continuum of achievement, it is not expected that all sets of items will conform equally well to the hypothesis of just one continuum. Therefore, analyses which will demonstrate differences and equivalences in kind, as well as comparisons and differences in degree, must be carried out. This should be as important an aspect of the analysis as the establishing of the common metric. It will reveal the relative strengths of the performances in each State/Territory. The location of the items on a common scale will make these comparisons tangible.

11.2 National Literacy Profile levels

In addition to establishing the statistical equivalences among the student performances from each State/Territory as the main focus of Phase Two, equivalences with the National Literacy Profile levels can be established. Again, this should be facilitated by the location of each item on a continuum of achievement, and then by examining the content of the items in relation to the profiles. Because some States/Territories do not work with National Profiles, this might be a circumscribed outcome.

11.2.1 Results relevant to specific State/Territory groupings

In summary, the outcomes for Phase Two include:

- a hypothesised common metric to which the State/Territory tests can be related
- through the location of items on this common metric, permitting the association of the metric with the National Literacy Profiles
- identification of distinctive performances among States/Territories using departures of performance from the hypothesis of a common metric as the frame of reference.

11.3 Test scale equivalence

The first and foremost outcome for Phase Two is the equivalences that can be estimated among the measurement scales of the State/Territory tests. The equivalences are interpreted as follows. Given a score achieved by a student in any State/Territory in his/her own State/Territory test of aspects of literacy, what would be the score achievable in all other State/Territory tests for a student of the said ability level. This is done by making reference to the common metric for all the test scales concerned and is rendered possible via the links in data as a result of the common-person common-test design of the analysis used. All students in the sample and all the tests included are statistically linked so that a configuration of the data is obtained which is not different from having all students taking all of the State/Territory tests. (See section 5, *The Statistical Model for Test Equating* for detailed rationale.)

The reliability of the equivalences is expressed in terms of the standard errors associated with each element in all facets; their validity in terms of model fit statistics. The level of precision and the extent of conformity of the equivalences among the test scales can thus be made explicit.