

Test and item difficulty 2020 validation



Australian Council for Educational Research

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Difficulty of the PAT Reading 5th Edition tests

The PAT Reading 5th Edition tests incorporate some reading units previously used in PAT-R Comprehension tests alongside new units. The units included from PAT-R Comprehension were selected based on the previous performance of the items.

Through the Rasch measurement analyses that were carried out, it is possible to report the mean difficulty of the items in each of the PAT Reading 5th Edition tests in scale score units. These mean item difficulties – or test difficulties – are shown together with their standard deviations in the table below.

PAT Reading 5th Edition	No. of items	Mean item difficulty (patr)	Standard deviation (patr)
Test 1	14	65.6	9.0
Test 2	29	98.2	10.5
Test 3	32	99.9	9.0
Test 4	29	109.2	13.9
Test 5	29	116.6	13.3
Test 6	34	123.0	11.0
Test 7	35	123.5	10.9
Test 8	34	131.0	7.4
Test 9	35	138.7	7.7
Test 10	35	143.7	7.7

The locations of the PAT Reading 5th Edition items on the measurement scale are shown on the following pages. Items have been placed in shaded blocks according to the reading text to which they belong. Each block illustrates the span of difficulty for a given text. The item numbers written in the block identify the items belonging to the text. Overlap in difficulty of the booklets as well as overall progression in difficulty can be clearly seen.

In February 2020, ACER reviewed the performance of the PAT Reading 5th Edition assessment to identify whether improvements could be made to the accuracy of the scale scores reported for students.

This validation exercise was made possible by an extensive dataset of over 1.9 million tests completed by Australian schools since the release of PAT Reading 5th Edition in 2018.

Following the validation exercise, changes were made to the calculation of scale scores for some PAT Reading 5th Edition tests. The updated scale score difficulties are reflected throughout this document and within the online reports.



















