PAT Vocabulary Skills

Test and item difficulty

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CONTENTS

Difficulty of PAT Vocabulary Skills tests 1

PAT Vocabulary Skills Test 1 3

PAT Vocabulary Skills Test 2 4

PAT Vocabulary Skills Test 3 5

PAT Vocabulary Skills Test 4 6

PAT Vocabulary Skills Test 5 7

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Difficulty of the PAT Vocabulary Skills tests

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 Vocabulary Skills tests in scale score units. These mean item difficulties – or test difficulties – are shown together with their standard deviations in the table below.

PAT Vocabulary Skills	No. of items	Mean item difficulty (patv)	Standard deviation (patv)
Test 1	27	93.3	9.5
Test 2	30	106.2	8.3
Test 3	33	118.3	7.8
Test 4	35	130.4	8.0
Test 5	38	140.4	7.6

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

By displaying the items grouped by vocabulary skill, it can be observed that the number of items in each strand varies from form to form. For example, it can be seen that in Test 1, there is a large proportion of Knowing items, and in the remaining forms the proportions of items in this strand are much smaller. It can also be seen that in all forms, Morphology items are a smaller proportion.

A summary is provided in the table below.

	No. of items			
PAT Vocabulary Skills	Knowing	Applying	Categorising	Morphology
Test 1	14	7	5	1
Test 2	6	13	7	4
Test 3	1	14	15	3
Test 4	1	14	15	5
Test 5	3	18	14	3

An analogy to developmental frameworks may help explain the differences in the proportions of the strands in each test form. Consider Bloom's cognitive taxonomy, which orders cognitive tasks from low to high complexity, where recall-based tasks are lower in the hierarchy than application-based tasks such as organising. In a similar way, Knowing the meaning of specific words is conceived in PAT Vocabulary Skills to be a less complex – and therefore a lower-order – skill than Applying that knowledge, which in turn is lower-order than Categorising a set of words according to different meanings. Morphology, because of its abstractness, is conceptualised to be the most complex skill in the PAT Vocabulary Skills framework.

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The point should be explicitly made here that the complexity of a task is not necessarily associated with the difficulty of an item. There are rare words that make for difficult Knowing questions, and familiar syntax rules that make for simple Morphology questions. This does not, however, undermine the idea that tasks involving root words and affixes are more complex than recalling the meaning of a word, even when the more complex task is easier than a task requiring lower-order skills.

The composition of each test was decided upon by using professional judgment to balance the strands in each test in a way that would make them appropriate for the students the test is targeted to. It was intended that Tests 1 and 2 be used with younger students, and therefore the proportions were skewed toward the lower-order strands, which are less complex tasks. Similarly, Tests 3–5 are intended to be used with older students, and so the proportions were balanced towards the higher-order strands.

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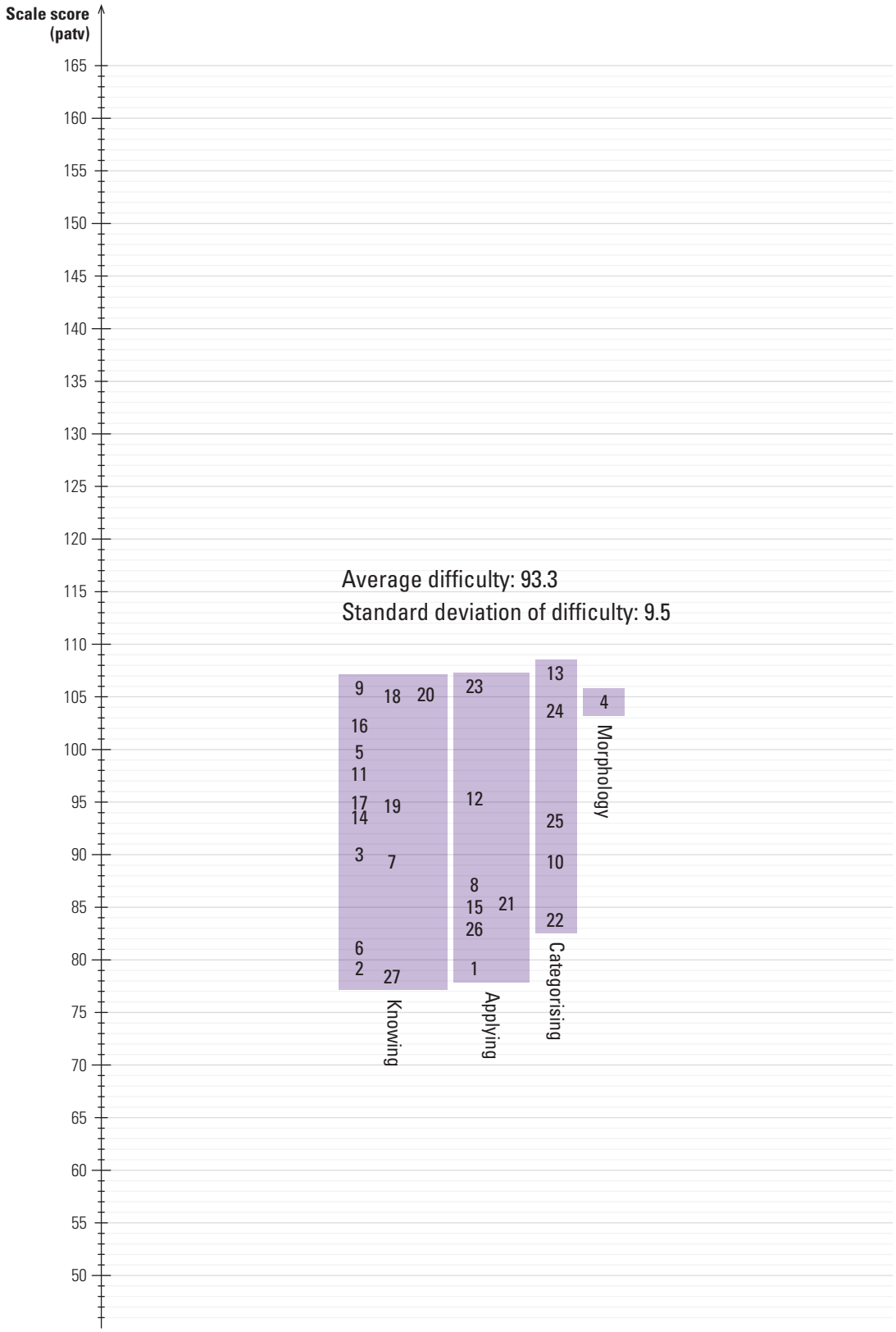
PAT Vocabulary Skills Test 1



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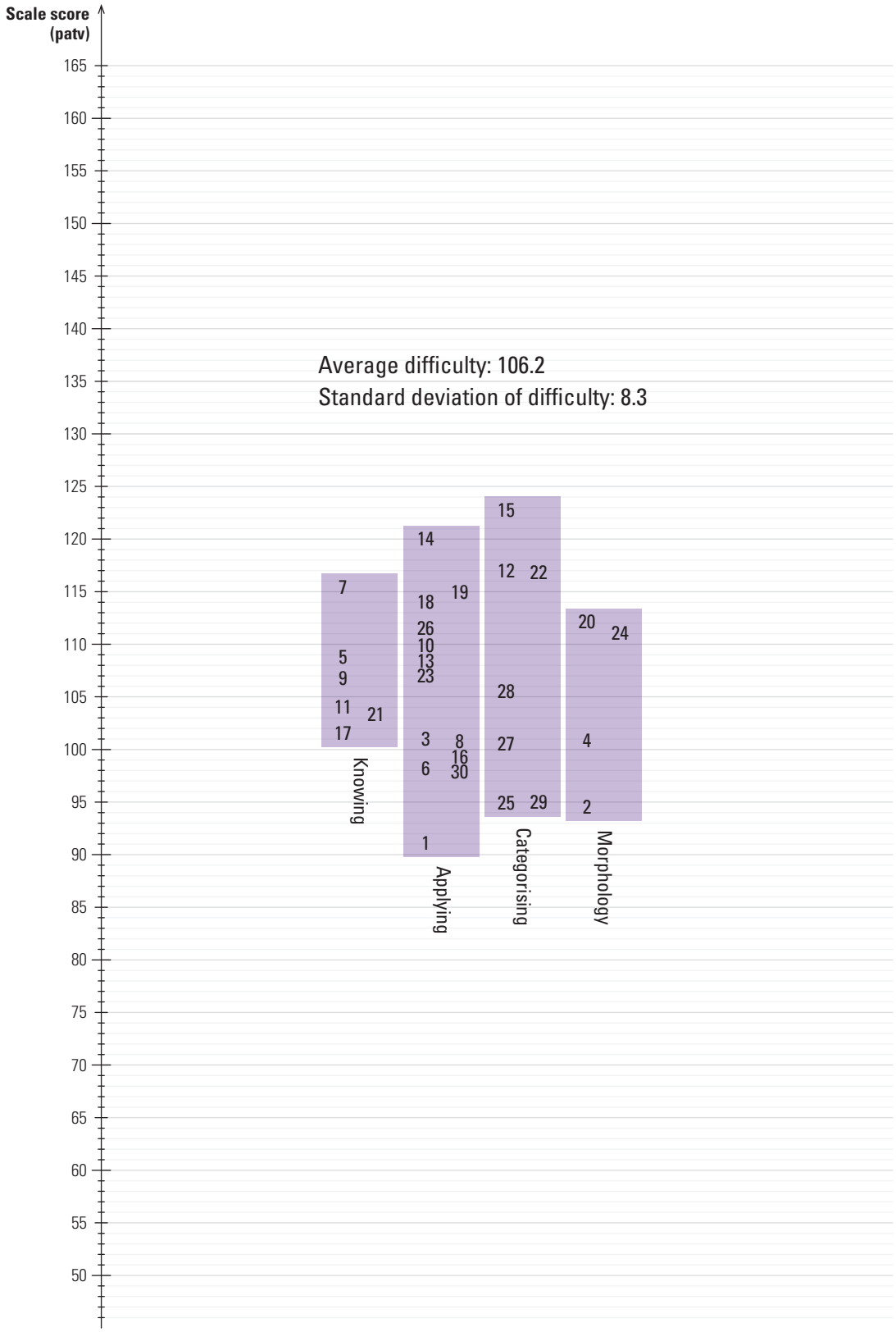
PAT Vocabulary Skills Test 2



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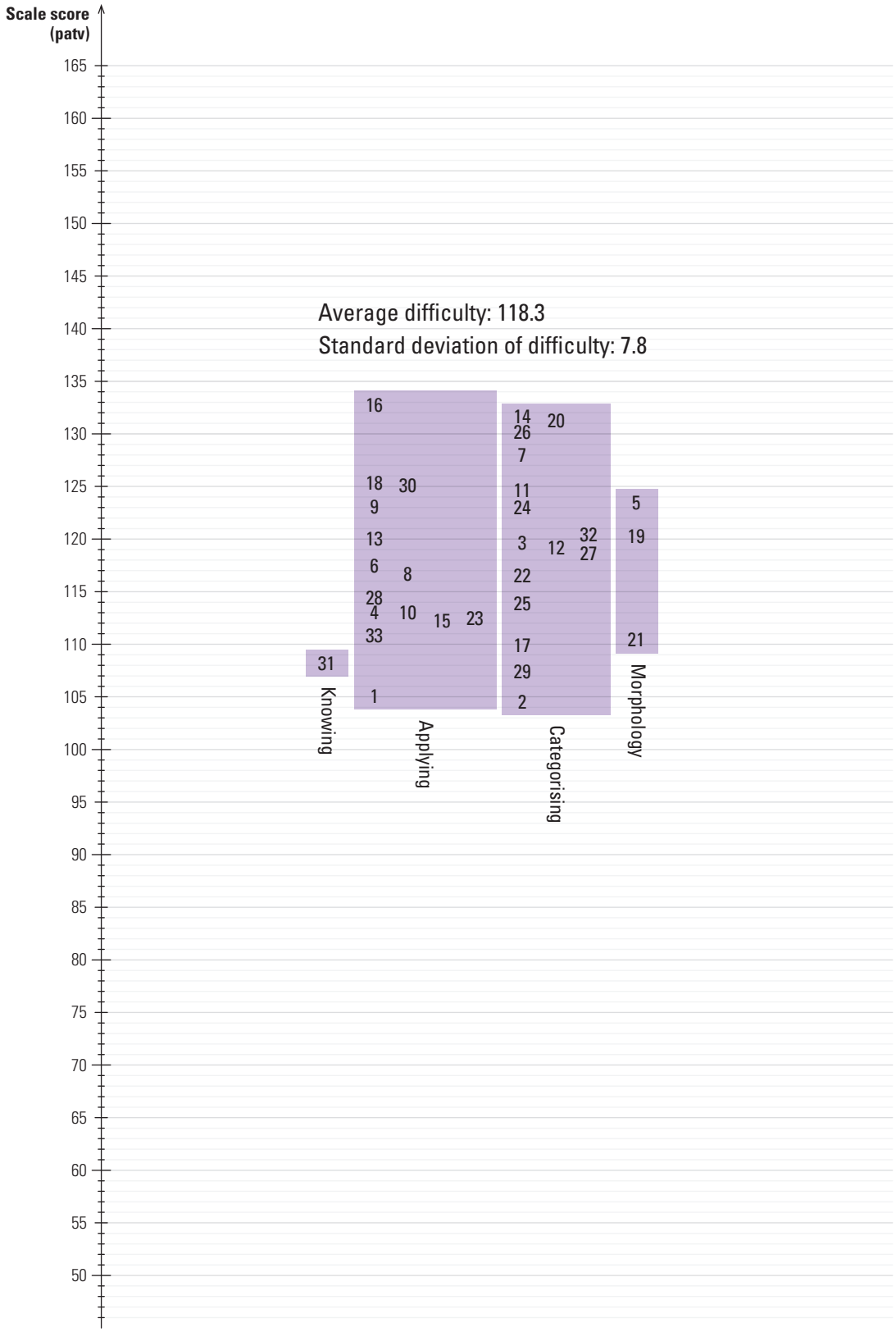
PAT Vocabulary Skills Test 3



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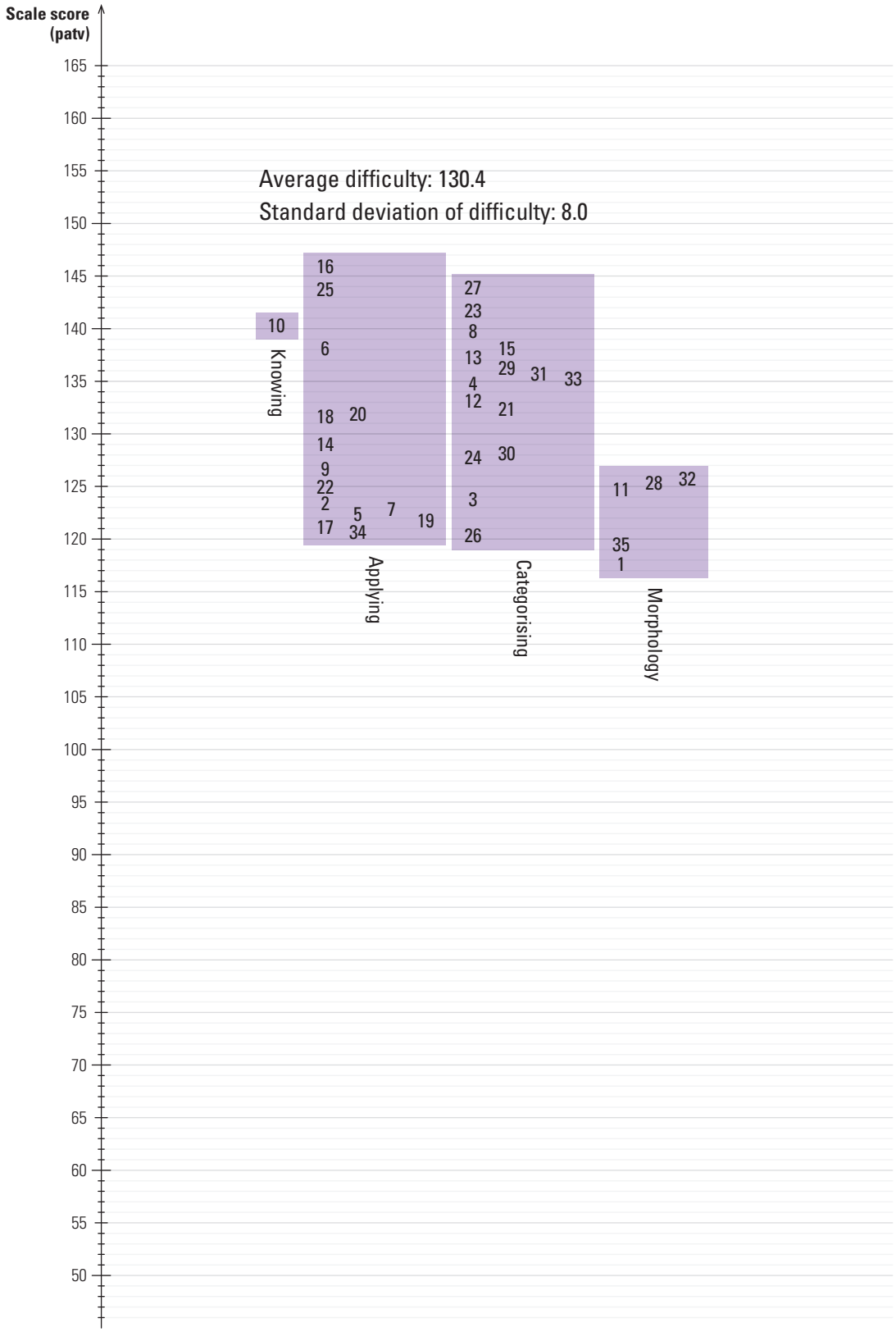
PAT Vocabulary Skills Test 4



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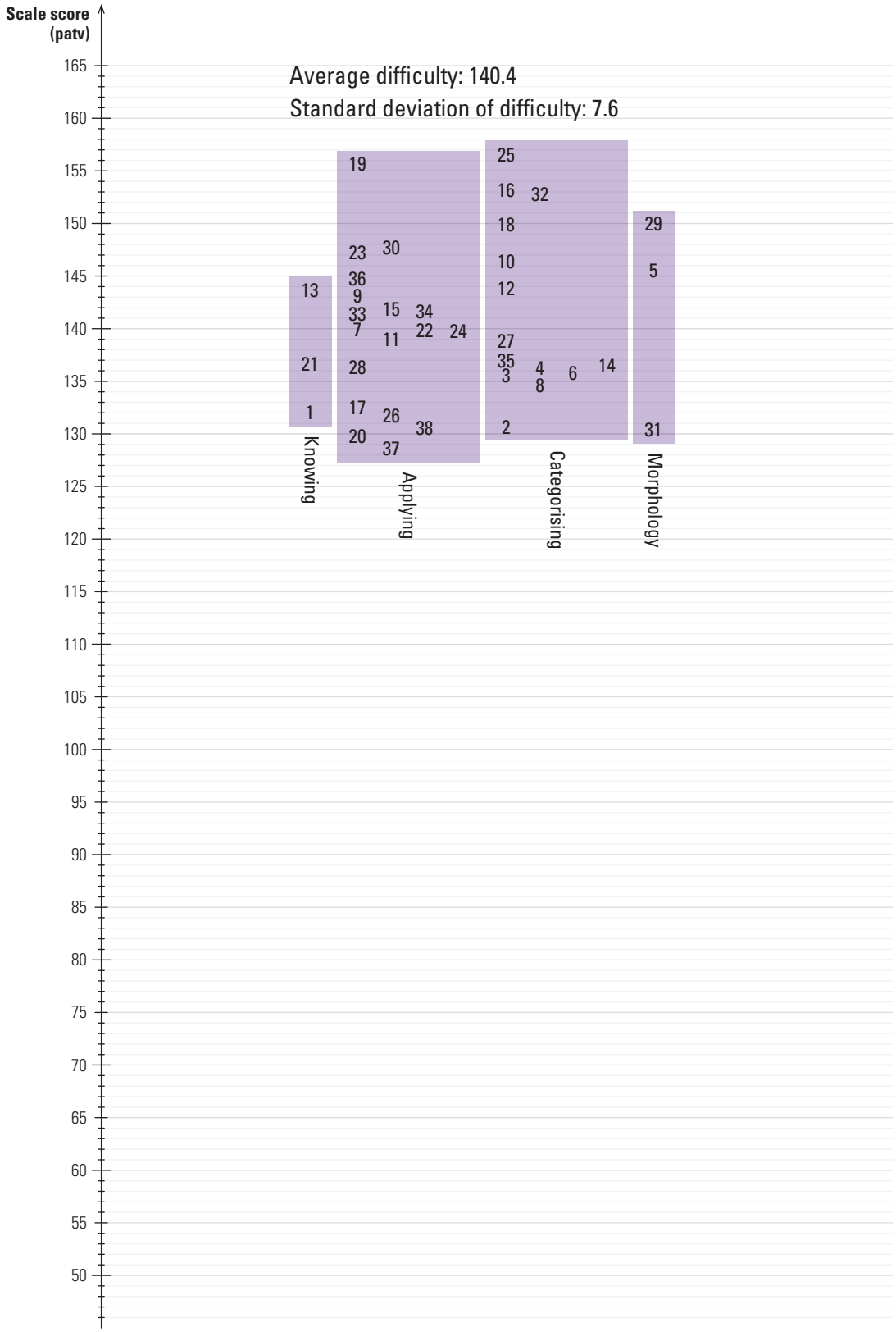
PAT Vocabulary Skills Test 5



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