

# **THE READING STANDARDS OF STUDENTS AT RISK**

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Tilahun Mengesha Afrassa

**Educational Measurement Team**

**Data Management**

**Department of Education and Children's Services**

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### **Abstract**

The purpose of this study is to present the results of an analysis carried out to investigate the performance of Year 3 students who were below the Year 3 reading benchmark standard and whether they ended up being above the Years 5 and 7 reading benchmark standards two and four years later respectively after taking the Year 3 tests. The data involved in this study are Rasch scaled scores and a descriptive analysis of these data is reported. The findings of this study show that on average about 30 per cent of students who were below benchmark at Year 3 reading were able to achieve reading benchmark at both Year 5 and Year 7. However, on average about 25 per cent of the students who were below the benchmark at Year 3 reading were unable to achieve the reading benchmark standards either at Year 5 or Year 7.

### **Introduction**

Research studies have shown that children who read better in their early years were more successful in later years (than those who fell behind) in academic achievement (Snow, Burns and Griffin, 1998). Reading opened the door to learning other subjects such as mathematics, science, geography and history. This meant that children who were capable readers were more likely to succeed in learning these subjects than those children who could not read well. In today's society reading is critical for success in many fields. This is why educational authorities have developed the benchmarks or proficiency levels to identify students who need support to improve their reading skills in order that they can learn effectively at school and subsequently take an active part in present day society.

In order to give meaning to student performance on a Rasch measurement scale in terms of standards of achievement, the items that are calibrated on the same interval scale as the individual students tested are commonly used to provide meaning and have been regarded as 'benchmarks' (Bond and Fox, 2001).

The National Assessment of Educational Progress (NAEP) was the first program in the world to conduct an assessment of what students knew and could do in various subject areas and educational authorities in the United States have used the proficiency level of 'below basic', 'above basic', 'proficient' and 'advanced'. The

‘proficient level’ was the achievement standard that all students in the United States were expected to reach.

Following the implementation of proficiency level by NAEP in the United States, the International Association for the Evaluation of Educational Achievement (IEA) in the second IEA Science Study (Keeves and Schlucler, 1992) and in the IEA Reading Study (Schlucler, 1992) identified bands of performance with respect to Rasch measurement scales. These ideas have been adopted for the setting of standards for different year levels and different levels of achievement in Australia testing programs and become known as ‘benchmarks’ with a ‘cut-point’ that is identified as a ‘benchmark’ by setting a nationally agreed upon minimum acceptable standard at each year level. The measurement of student achievement on an interval scale that ranges across different year levels and that is independent of the students taking a test and the items included in the test, with benchmarks at appropriate levels on a calibrated scale adds meaning to results that are reported from testing programs across the Australian States and Territories, across year levels and across occasions. The work of Lawley (1943) in Scotland in the early 1940s and Rasch in Denmark in the late 1950s (Rasch, 1960) and the subsequent development of measurement in the field of education, have advanced the procedures of assessment and reporting of students performance on the clearly identified outcomes of learning in schools around the world through PISA (Program for International Student Assessment) and TIMSS (Trends in International Mathematics and Science Study).

Australian educational authorities have developed what they have referred to as ‘national benchmark standard’. The Ministerial Council for Education, Employment, Training and Youth Affairs (MCEETYA) (2000) advanced the idea of ‘benchmarks’ to report student achievement and to identify nationally agreed minimum acceptable standards for aspects of literacy and numeracy at particular year levels. These benchmarks represented minimum standards of performance below which students were likely to have difficulty progressing satisfactorily at school.

MCEETYA also stated that the benchmarks were required for use with reference to the current levels of achievement reported in national surveys and in State and Territory assessment programs. In the setting of the benchmarks there was extensive

consultation with stakeholders and with experts in the areas of literacy, numeracy and educational measurement.

Policy makers in education, meeting as MCEETYA, also agreed that the national goal would be for all students to achieve at least the benchmark level of performance as it represented the minimum acceptable standard at each year level tested. Regular publication of benchmark results would enable the monitoring of progress towards the attainment of that goal.

The standards described by the benchmarks for Years 3, 5 and 7 demand increasing levels of proficiency against which each student's progress through school can be measured and followed over time. The lowest level, the Year 3 benchmark, is located in the lower part of the achievement continuum, while the Year 5 and Year 7 benchmarks, demand increasing understandings and skills, and are set at progressively higher levels. Students' positions on an achievement continuum were initially estimated through the assessment programs undertaken by the States and Territories. However, a common testing program across all Australian States and Territories is now being established.

Currently there are national benchmark standards for Years 3, 5 and 7 Reading, Writing and Numeracy tests. The current practice is that all Years 3, 5 and 7 students who have participated in the Literacy tests, that include Reading, Writing and Spelling sub-tests and the Numeracy tests, that involve Number, Measurement and Data and Space sub-tests receive a report indicating whether they are above or below the Reading, Writing and Numeracy national benchmark standards.

The focus of this paper is on the Year 3 students whose reading achievement level is below the national reading benchmark standards. Thus the purpose of this study is to present the results of an analysis carried out to investigate the performance of four cohorts of Year 3 students in South Australia who were below the Year 3 reading benchmark standard and whether they were above the Years 5 and 7 reading benchmark standards two and four years later respectively after taking the Year 3 tests.

## Data collection

The four data sets used in the present study are longitudinal and hierarchically structured data involving about 40,000 government school students who are nested in approximately 450 South Australian schools. These students are located in four cohorts. The first cohort of students did the Years 3, 5 and 7 tests in 2000, 2002 and 2004 respectively, while the second cohort of students did the three tests in 2001, 2003 and 2005. Cohort 3 students did the Years 3, 5 and 7 tests in 2002, 2004 and 2006 respectively, while the fourth cohort of students did the Years 3, 5 and 7 tests in 2003, 2005 and 2007. Table 1 presents the numbers of students and schools that are involved in this study. Students and schools included in this study are only those whose Year 3, Year 5 and Year 7 test results in reading can be matched across the three testing occasions. The numbers of students who attained the benchmark standards at the three year levels are reported and discussed.

**Table 1** Numbers of students and schools involved in the study

Test Year	Students				Total No schools	No of Schools with students below benchmark	
	Above Benchmark		Below Benchmark				
	Count	%	Count	%			
<b>2000</b>	8633	89.6	1001	10.4	9634	449	216
<b>2001</b>	8370	85.2	1450	14.8	9820	454	246
<b>2002</b>	8628	89.1	1057	10.9	9685	453	225
<b>2003</b>	8750	84.6	1598	15.4	10348	452	231

The main concern of this study is for those students who failed to reach the Year 3 Reading national benchmark standard. It is seen in Table 1 that about 1000 to 1500 students in each cohort whose Year 3 Reading achievements were below the reading national benchmark standard were nested in approximately 230 South Australian government schools, and on each occasion about half of the 450 schools involved had no students below the Year 3 Reading benchmark standard.

## Data Analysis

The Reading achievement test data involved in this study are Rasch scaled scores and the benchmarks are located on an interval scale of Reading achievement that is an

interval scale on which the achievement of each student and difficulty level of each test items is located using Rasch scaling analysis based on item response theory.

### **Rasch Analysis**

Item response theory assumes that each student's performance on a test involves an underlying latent trait that can be measured on an interval scale, provided the items in the test satisfy specific requirements. The relationship between student performance and the probability that the student provides the correct response is expressed by a mathematical function. This mathematical function is known as the 'item response function' (Andrich, 2004 and Masters, 2004). The item-response function models the probabilities of students at various performance levels answering a particular item correctly. Thus, Item Response Theory (IRT) involves modelling a student's performance on a test as a function of both the characteristics of the items and the students' level of performance that involve an unobserved or latent trait. The model specifies the relationship between the latent trait and observed performance on the items of a test that are developed to measure each student's reading skills. This relationship can also be presented as an item characteristic curve (ICC) that is the graph of the item response function.

Different kinds of IRT models have been developed since the early 1940s, and three models have been widely used in applications associated with achievement tests. These models are: the one parameter logistic or Rasch model (Rasch, 1960), the two parameter logistic model and the three parameter logistic model (Birnbaum, 1968). However, only the one parameter logistic model or Rasch model measures student performance on an interval scale that is independent of the students taking the test and the items involved in the test.

Consequently, all Australian States and Territories agreed to use the Rasch model to measure student performance on the annual Literacy and Numeracy tests that they administered to students at the Years 3, 5 and 7 levels. Thus the South Australian Literacy and Numeracy testing program analysis used the one parameter logistic model or Rasch model to measure student performance. Since the tests differ between year levels and between occasions it was necessary to equate the different tests between both year levels and occasions.

This was possible since the tests at the three different year levels have a small percentage of items that were common across two levels, and since some students had done the appropriate tests on two occasions.

In this way the different tests employed on the different occasions were equated to form a single scale of measurement that operated across year levels and occasions. In the scoring process all students involved at each year level were assigned scores on this calibrated scale, with any items omitted by students in responding to a test counted as wrong, together with responses that were not correct also counted as wrong.

## Results

In the following sections the results of the analyses of data using Rasch scaling procedures are presented. Only the results for Cohort 1 students are presented in detail here.

### Performance of Cohort 1 students

The section that follows examines the performance of Cohort 1 students who did the Years 3, 5 and 7 reading tests in 2000, 2002 and 2004 with respect to the specified benchmarks.

Table 2 presents the numbers and percentages of Year 3 students in 2000 whose reading results were below the national Year 3 reading benchmark standard and what their results were at Years 5 and 7 in 2002 and 2004 respectively.

**Table 2** Numbers and percentages of students who were below the Year 3 reading national benchmark standard in 2000 and their results in 2002 and 2004

Year5BM (2002)	Year7BM (2004)							
	Above		Absent		Below		Total	
	No	%	No	%	No	%	No	%
<b>Above</b>	356	36	32	3	166	17	554	55
<b>Absent</b>			2		4		6	1
<b>Below</b>	99	10	52	5	290	29	441	44
<b>Total</b>	<b>455</b>	<b>45</b>	<b>86</b>	<b>9</b>	<b>460</b>	<b>46</b>	<b>1001</b>	<b>100</b>

### The Reading Standards of Student at Risk

Of those 1001 students who were below the Year 3 reading national benchmark in 2000, 356 students (36%) were above the Years 5 and 7 national reading benchmarks (see Table 2) Ninety nine students (10%) who were below both Years 3 and 5 reading benchmarks in 2000 and 2002 respectively were above the Year 7 reading benchmark. In 2002, 554 students (55%) were above the Year 5 reading benchmark and 441 students (44%) were below the Year 5 reading benchmark, while only six students (1%) were absent from the test in 2002. In Year 7, 455 students (45%) achieved the Year 7 national reading benchmark, whereas 460 students (46%) failed to achieve the Year 7 reading benchmark. Among these students 290 (29%) were below the Years 3, 5 and 7 benchmarks, while 166 (17%) were above Year 5 reading benchmark in 2002.

#### *Students below Year 5 reading benchmark standard*

Table 3 records the 2000 Year 3 Reading scores, the corresponding numbers and percentages of students who were below the Year 5 Reading benchmark standards in 2002.

The cut score for Year 3 benchmark was 40.40 and the score distribution of these students as shown in Table 3 was between 40.64 and 45.01.

Of the 9634 students (see Table 1) who did the Year 3 reading test in 2000 and who did the Year 5 test in 2002, 1061 were below the national reading benchmark standard for Year 5 in 2002 (see Table 3). Of these 1061 students 441 (42%) were also below in Year 3 reading benchmark in 2000. Furthermore, 416 (39%) were just above the borderline in Year 3 (see Table 3). The 195 students whose Year 3 Reading score was above 45.01, considered as high scorers in Year 3 were below the benchmark in Year 5. Thus, there were 18 per cent of these students who were below the benchmark in Year 5. This shows not only that some students who were at the borderline in one year were likely to be below the benchmark in the next testing year but also that some students who were among the higher scorers in one year were also likely to be below the benchmark in the next testing year. This finding requires further investigation to examine the reasons why some students with a higher score in one test year were likely to be below the benchmark on the next testing occasion.

**Table 3** Year 3 scores of students who were below the Year 5 reading national benchmark standard in 2002

Year 3 2000				
Benchmark Level	Standard score	Number	%	Overall %
<b>Below Benchmark</b>	<40.40	441	41.6	<b>41.6 (N=441)</b>
<b>Above Benchmark</b>	40.64	84	7.9	<b>39.2 (N=416)</b>
	41.56	76	7.2	
	42.42	79	7.5	
	43.28	60	5.7	
	44.15	58	5.5	
	45.01	59	5.6	
<b>Well above Benchmark</b>	45.70	1	0.1	<b>18.4 (N=195)</b>
	45.81	37	3.5	
	46.62	35	3.3	
	47.48	24	2.3	
	48.29	22	2.1	
	49.15	27	2.5	
	50.01	13	1.2	
	50.88	9	0.9	
	51.80	10	0.9	
	52.72	6	0.6	
	53.70	2	0.2	
	54.79	3	0.3	
	55.94	2	0.2	
	57.21	2	0.2	
60.25	2	0.2		
	Absent	9	0.9	<b>0.9 N=9)</b>
	Total	1061	100	

*Students below Year 7 reading benchmark standard*

Table 4 presents the 2000 Year 3 Reading scores, the numbers and percentages of students who were below the Year 7 reading benchmark in 2004. The cut score for Year 3 benchmark was 40.40 and the score distribution of these students as shown in Table 4 was between 40.60 and 45.01. Among those 9634 students (see Table 1) who did the Year 7 reading test in 2004, 1301 were below the national reading benchmark standard at the Year 7 level (see Table 4). Of these 1301 students 460 (35%) were also below the Year 3 reading benchmark in 2000. Furthermore, 528 (41%) students who were just above the border line in Year 3 (see Table 4) were below the benchmark at Year 7 in 2004. The number of students who were below the benchmark after having a high score in Year 3 was 303, which was 23 per cent of the group.

**Table 4** Year 3 scores of students who were below the Year 7 reading national benchmark standard in 2004

Year 3 2000				
Benchmark Level	Standard score	Number	%	Overall %
<b>Below Benchmark</b>	<40.40	460	35.4	<b>35.4(N=460)</b>
<b>Above Benchmark</b>	40.64	104	8.0	<b>40.6 (N=528)</b>
	41.56	90	6.9	
	42.42	79	6.1	
	43.28	90	6.9	
	44.15	85	6.5	
	45.01	80	6.2	
<b>Well above Benchmark</b>	45.81	59	4.5	<b>23.3 (N=303)</b>
	46.62	48	3.7	
	47.48	43	3.3	
	48.29	29	2.2	
	49.15	34	2.6	
	50.01	25	1.9	
	50.88	17	1.3	
	51.80	13	1.0	
	52.72	11	0.9	
	53.70	8	0.6	
	54.79	5	0.4	
	55.94	2	0.2	
	57.03	1	0.1	
	57.21	4	0.3	
	58.59	1	0.1	
60.25	1	0.1		
62.27	1	0.1		
65.03	1	0.1		
	Absent	10	0.8	<b>0.8(N=10)</b>
	Total	1301	100	

It must be recognized that each student's score is estimated with some degree of error, that in the marginal range of scores is approximately 0.30 of a score point. Thus the change in the levels of scores between occasions can not be attributed solely to measurement error, but appears to be associated with effects of learning experiences between occasions. A similar statement can be made with respect to the measurement errors associated with the performance of the high scorers.

*.Year 5 Scores of Students below the Year 7 reading benchmark standard*

Table 5 presents the 2002 Year 5 Reading scores, the numbers and percentages of students who were below the Year 7 reading benchmark in 2004.

**Table 5** Year 5 scores of students who were below the Year 7 reading national benchmark standard in 2004

Year 5 2002				
Benchmark Level	Standard score	Number	%	Overall %
<b>Below Benchmark</b>	<48.70	612	47.0	<b>47.0 (N=612)</b>
<b>Above Benchmark</b>	48.92	78	6.0	<b>35.8 (N=466)</b>
	49.61	78	6.0	
	50.24	73	5.6	
	50.88	57	4.4	
	51.57	76	5.8	
	52.20	56	4.3	
	52.89	48	3.7	
<b>Well above Benchmark</b>	53.58	50	3.8	<b>16.5 (N=214)</b>
	54.27	37	2.8	
	55.02	32	2.5	
	55.77	27	2.1	
	56.52	17	1.3	
	57.32	14	1.1	
	57.67	1	0.1	
	58.13	11	0.9	
	58.99	6	0.5	
	59.91	4	0.3	
	60.89	1	0.1	
	61.98	7	0.5	
	63.19	3	0.2	
	64.57	1	0.1	
	66.12	1	0.1	
68.08	1	0.1		
70.73	1	0.1		
	Absent	9	0.7	<b>0.7(N=9)</b>
	Total	1301	100	

Among those 9634 students (see Table 1) who did the Year 3 test in 2000 and the Year 5 reading test in 2002, 1301 were below the national reading benchmark standard at Year 7 in 2004 (see Table 5). Of these 1301 students 612 (47%) were also below the Year 5 reading benchmark in 2002. Furthermore, 466 (36%) were just above the borderline in Year 5 (see Table 5) but were below the benchmark at Year 7 in 2004. The cut score for the Year 5 benchmark was 48.70 and the score distribution of these students is shown in Table 5 between the scores of 48.92 and 52.89. The number of students who went below the benchmark from having a high score in Year 5 was 214, which is 16 per cent of the group. This shows not only that some students who were at the borderline in one year were likely to be below the benchmark on the later testing occasion but also that some students at the higher score levels in one year were likely to be below the benchmark on the next testing occasion. This finding

requires further investigation to examine the reasons why students with a higher score in one test year were likely to be below the benchmark on the next testing occasion.

### **Summary of Results**

In summary, 45 per cent of students (see Table 3) who were below the Year 3 reading benchmark in 2000 were above the Year 7 reading benchmark in 2004. In addition, 46 per cent of students who were below the Year 3 reading benchmark in 2000 did not reach the Year 7 reading benchmark in 2004 (see Table 3). Furthermore, 29 per cent of students who were below Year 3 reading benchmark in 2000, failed to reach both the Year 5 and Year 7 reading benchmarks in 2002 and 2004 respectively (see Table 3). The summary results of the four cohorts of students followed the same trend is presented in Table 6 below.

Table 6 presents the percentages of Cohort1, Cohort2, Cohort3 and Cohort4 students who were below the Year 3 Reading benchmark standard and where they were at Year 5 and Year 7.

Table 6 shows that among students who were below the Year 3 reading benchmark standard, 42, 52, 44 and 45 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 5 reading benchmark standard two years later.

These students represent 5, 8, 5 and 6 per cent of all Cohort1, Cohort2, Cohort3 and Cohort4 students respectively (see Table 1). When compared between cohorts, Cohort2 recorded more students below the Year 5 reading benchmark (52 per cent). When compared with all students Cohort2 has more students below the Year 5 reading benchmark (8 per cent). Among students who achieved marginally above the Year 3 reading benchmark standard 39, 32, 38 and 27 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students were below the Year 5 reading benchmark standard respectively, while students who were well above the benchmark 10, 15, 15, 10 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 5 reading benchmark standard two years later (see Table 6).

**Table 6** Percentages of Cohort1, Cohort2, Cohort3 and Cohort4 students who were below reading benchmark at Year 3 and where they were at Years 5 and 7

	Cohort 1		Cohort 2		Cohort 3		Cohort 4	
	% BM	% Total	% BM	% Total	% BM	% Total	% BM	% Total
<b>Below Year 5 BM</b>								
Below Year 3 BM	42	5	52	8	44	5	45	6
Marginally above Year 3 BM	39	4	32	5	38	4	27	4
Above Year 3 BM	10	1	15	2	15	2	10	1
Total Below Year 5 BM		11		14		11		14
Absent	1		1	0	2	0	17	2
<b>Below Year7 BM</b>								
Below Year 3 BM	35	5	48	6	37	5	43	5
Marginally Above Year 3 BM	41	5	32	4	39	5	27	3
Above Year 3 BM	24	3	19	3	21	3	13	2
Total Below Year 7 BM		14		13		13		13
Absent	1	0	1	0	2	0	16	2
<b>Below Year7 BM</b>								
Below Year 5 BM	47	6	55	7	46	6	53	7
Marginally Above Year 5 BM	36	5	21	3	28	4	26	3
Above Year 5 BM	16	2	16	2	19	2	10	1
Total Below Year 7 BM		14		13		13		13
Absent	1	0	8	1	7	1	10	1

On average students who achieved marginally above the benchmark were 4 per cent the total students for each cohort, while those who were well above the benchmark were between 1 and 2 per cent of all students in each cohort. Overall 11, 14, 11 and 14 per cent of Cohort1, Cohort2, Cohort3 and Cohort4 students were below the Year 5 reading benchmark standard respectively.

Table 6 also shows that among students who were below the Year 3 reading benchmark standard 35, 48, 37 and 43 per cent Cohort1, Cohort2, Cohort3 and

Cohort4 students respectively were below the Year 7 reading benchmark standard four years later. These students were on average 5 per cent of the total students in each cohort. When compared between cohorts, Cohort2 also recorded more students below the Year 7 reading benchmark (48 per cent). When compared with all students Cohort2 has more students below the Year 7 reading benchmark (6 per cent). Among students who achieved marginally above the Year 3 reading benchmark standard 41, 32, 39 and 27 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 7 reading benchmark standard four years later, while students who were well above the benchmark 24, 19, 21, 13 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 7 reading benchmark standard four years later (see Table 6). Students whose achievements were marginally above the benchmark were on average 4 per cent of the total students in each cohort, while students who achieved well above the benchmark were on average 3 per cent of the total students in each cohort. Overall 14, 13, 13 and 13 per cent of Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 7 reading benchmark standard four years later.

Similarly among students who were below the Year 5 reading benchmark standard 47, 55, 46 and 53 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 7 reading benchmark standard two years later (see Table 6). These students were between 6 and 7 per cent of the total students in each cohort. When compared between cohorts, Cohort2 recorded more students below the Year 7 reading benchmark (55 per cent). Among students who achieved marginally above the Year 5 reading benchmark standard 36, 21, 28, and 26 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 7 reading benchmark standard two years later, while students who were well above the benchmark 16, 16, 19 and 10 per cent Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 7 reading benchmark standard two years later (see Table 6). Students whose achievements were marginally above the benchmark were between 3 and 5 per cent of the total students in each cohort, while students who achieved well above the benchmark were on average 2 per cent of the total students in each cohort. Overall 14, 13, 13 and 13 per cent of Cohort1, Cohort2, Cohort3 and Cohort4 students respectively were below the Year 5 reading benchmark standard two years later.

## Discussion

Table 7 presents the four cohorts of students who were below the Year 3 Reading national benchmark standards and their Reading benchmark results at Year 7. Among those students who were below the Year 3 reading benchmark standard less than 40 per cent achieved both Years 5 and 7 reading benchmark standards. However, for Cohort1, Chort2, Cohort3 and Cohort 4 students 45, 44, 42 and 52 per cent respectively achieved Year 7 reading benchmark standards. Nevertheless, 29 per cent (Cohort1), 29 per cent (Cohort2), 26 per cent (Cohort3) and 22 per cent (Cohort4) students did not reach the reading benchmark standards in both Years 5 and 7 after having failed to reach the benchmark standards at Year 3. Students who failed to achieve reading benchmarks in their early years of schooling were students at risk who clearly required intervention and support to become good readers. Furthermore, students who achieved marginally above the reading benchmarks at Years 3 and 5 were also at risk and required attention in order to obtain an adequate standard for further study at the secondary school level.

**Table 7** Cohort of students who were below the Year 3 reading national benchmark standards and their benchmark results in Year 7

% recorded	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Yr5 above and Yr7 above	36	27	26	39
Yr5 below and Yr7 above	10	17	16	13
Yr5 above and Yr7 below	17	10	14	10
Yr5 below and Yr7 below	29	29	26	22
Year 7 above	46	44	42	52
Absent	8	17	19	17

There were also approximately between 2 and 3 per cent of students who achieved well above the Year 3 benchmark standard cut-score, who failed to achieve the Year 5 reading benchmark standard, with a similar percentage falling below the reading benchmark at Year 7. Further investigation is required to identify why these students failed to achieved the benchmark at Years 5 and 7, and little research has been undertaken in Australia into this problem..

In the United States Serwach (2004) reported that some students who failed to catch up with their peers by fourth grade were unlikely ever to catch up on their own. In addition Francis, Shaywitz, Stuebing, Shaywitz, and Fletcher (1996) as well as

Torgesen and Burgess (1998) reported that the poor first-grade reader almost invariably continued to be a poor reader. These patterns are seen in the results presented in this study where less than 50 per cent of the students who failed to reach the benchmark standards at Year 3 achieved the reading benchmark standard at Year 7.

It is evident that the roots of reading take hold well before children go to school. This means that it is not meaningful to focus only on Year 3 reading scores as the problem, because some of the children's reading habits and skills are already well established by that age. The focus must start much earlier in order to develop a child's reading ability. It is clearly possible to advance reading achievement by starting in early childhood to build cognitive and language skills.

Allington and McGill-Franzen (1994) and Vaughn and Schumm (1996) reported that once children fell behind in the development of critical word reading skills, it might require very intensive interventions to bring them up to adequate levels of reading performance. Moreover, reading fluency might be even more difficult to establish because of the large amounts of reading practice that were lost by children during each month and each year that they remained poor readers (Rashotte, Torgesen, & Wagner, 1997). However, Bock (1998) argued that most children would learn to read, no matter what method was used to teach them. Nevertheless, some children unless they receive individualized remedial help would not master the tasks of reading that were taken for granted at later stages of life.

In this current study, some students may have received intervention programs to improve their reading skill, but they still do not reach the Year 7 reading benchmark standard. The reason may be that the intervention is not appropriate for the students. It seems likely that the most critical elements of an effective program for the prevention of reading disability at the elementary school level is the right kind and quality of instruction delivered with the right level of intensity and duration to the right children at the right time. However, this demands highly skilled remedial teaching, for which specialized training is required. It seems likely that for some children the Year 3 level may be too late. Consequently, it is important that appropriate programs are introduced from the very beginning of schooling.

### **Conclusion and Recommendation**

The findings of this study show that on average only about 30 per cent of the students who are below the reading benchmark at Year 3 are estimated to achieve the reading benchmark at both Year 5 and Year 7. However, on average only about 25 per cent of the students who are below the reading benchmark at Year 3 are found to be unable to achieve the reading benchmark standards at either Year 5 or Year 7. Nevertheless, it is found that 41 and 39 per cent students who are marginally above at the Year 3 reading benchmark standard are below the Years 5 and 7 reading benchmark standards respectively when they are tested two and four years later. Furthermore, 23 and 18 per cent of students who are well above at the Year 3 reading benchmark standard fall below the Years 5 and 7 reading benchmark standards, as they progress through the primary school years.

Since no information is available on which students who were below the Year 3 reading benchmark and who received the benefits of an intervention or remedial program further investigation needs to be undertaken within individual schools and with individual students to find out whether or not schools are providing appropriate intervention programs for those students who are below the Year 3 reading benchmark. In addition, it is important to find out what kind of support the schools provide to students who are marginally above the Years 3 and 5 reading benchmark so that they do not fall behind the benchmark standards on the next testing occasion. Further investigation is necessary to see why students who achieve well above the national benchmark standards on the previous testing year fail to achieve the benchmark standard on the next testing occasion. The analysis of the data collected in a large scale testing program can not answer these important questions. Consequently, research needs to be carried out within classrooms in order to provide programs and practices that help to solve the problems raised by the detailed analyses of the large body of data.

## References

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