

## Ability, Achievement and Progress

The international research literature reports that, throughout their education, there is a tendency for students' achievement to dip at times of transition, but particularly after more significant transition points, such as that represented by the move from primary to secondary schooling. We wanted to see whether this finding held true in a New Zealand context, and if so, the nature of the dip, and how long it might endure. From the outset of our study, therefore, a key focus was to be on student achievement shortly before and at three points after the Year 8–9 transition.

This chapter begins by providing teacher and parent estimates of Emily's ability level, and goes on to present data on how well Emily was progressing at school, including the nature of her overall achievement, and, more specifically, estimates of her achievement in each of reading, writing/written expression, and mathematics.

Also included in this chapter is more 'formal' reporting of Emily's achievement, in the form of asTTle<sup>83</sup> results. Her scores in reading, writing

and mathematics, from asTTle testing sessions conducted at all four phases of the study, are discussed. Because these scores are derived from a consistent measure of achievement, we were able to look at patterns in Emily's achievement over the course of the study, and reflect on these in light of other information about Emily and in terms of the research evidence about student achievement following the transition point we are focusing on.

### Important Note

Our report — *Students' Achievement as they Transition from Primary to Secondary Schooling* — deals extensively with the topic of student achievement within the context of our transition study. Data relating to the achievement of the overall group of participating students has therefore been kept to a minimum in the present report (and chapter).

### Estimates of Ability Level

We obtained an estimate of ability level from teachers and parents for each student that took part in the study. This was to provide a broad reference point against which to consider our students' achievement levels, and also to see how likely it is that different people have contrasting views about a student's ability level.

#### Teacher Estimates of Emily's Ability Level

Teachers consistently rated Emily's ability as 'above average'.

Teachers before and after transition were consistent in rating Emily as being of 'above average ability'.

Emily's Year 8 teacher arrived at this estimate<sup>84</sup> by a combination of assessment procedures she had

developed herself for use with her class as a whole, information from other teachers within the school, standardised test scores, general observations of Emily's work and behaviour, plus other "*personal observations*" (Table 11). This teacher considered that these methods were the most important because:

*"[They] have given an overall picture of Emily's strengths and weaknesses [and because they are] reliable methods."*

Emily's Year 9 teacher simply stated that she'd placed most weight on 'general observations' to arrive at her estimate of Emily's overall ability level.

<sup>83</sup> Refer p.14 — under the heading 'Achievement Testing' — for a brief explanation of asTTle (Assessment Tools for Teaching and Learning).

<sup>84</sup> Teachers indicated which assessment measures they placed most weight on in order to rate a student's ability level. The teachers were given a list of methods to choose from; these are listed in Table 11.

**Table 11:** How teachers arrived at their assessment of Emily's ability level

The basis for estimate of student's ability	Phase 1 —Year 8 teacher	Phase 3 — Year 9 English/form teacher
Information from previous/other classroom teachers within this school	✓	✓
Information passed on from the student's previous school		
Information from specialist teachers (eg, RT:Lit; RTLB)		
My own assessment procedures that I have used with the class as a whole this year	✓	✓
Assessment procedures that I have used specifically with this student		
General observations of how the student works and behaves	✓	✓
PAT scores		[Not given as a specific option in Phase 3]
(Other) standardised test scores <sup>a</sup>	✓	
Other ways <sup>b</sup>	✓	

<sup>a</sup> The standardised test scores specified by Emily's Year 8 teacher were: STAR, Daniels and Dieck, Australian maths & English composition, Running Records.

<sup>b</sup> The 'other way' specified was that of "personal observations".

### Parental Estimate of Emily's Ability Level

When asked to describe their 'Year 8 child's overall ability' in Phase 1, Emily's parents stated:

*"She is above average. In fact, she is very intelligent for her age."*

Parental estimate of ability is therefore consistent with that of Emily's teachers before and after transition. In fact, to the question 'Do you think your view of your Year 8 child's ability is the same as the school's?', Emily's parents considered that it was.

They went on to say they had based the assessment of their daughter's ability on...

*"...parent-teacher interviews, school reports, her whole attitude and performance of wanting to do her best at everything."*

This comment suggests that Emily's parents had good communication with the school about their daughter and also reinforces other information discussed in this report regarding the positive, caring relationship between Emily and her family.

Parental and teacher estimates of Emily's ability level coincided.

## All Students

### *Parent estimates of their child's ability level*

We asked parents to give an estimate of their then Year 8 child's ability level. Of those parents who responded (N=60), almost 60 percent judged their child to be of 'above average' ability, with a further 30 percent regarding their child as 'average'. Four parents advised that their child was 'below average', and two that their child was of 'superior ability'. And one parent was 'not sure — hadn't really thought about it'.

Most often, parents based their estimation of ability primarily on their own knowledge and understanding of their child, but they also took into account feedback from their child's current (main) teacher, and to a lesser extent, assessments made by previous teachers, and results of various standardised measures, including Progressive Achievement Tests (PAT).

A large majority of the responding parents felt that their estimate of their child's ability would be the same as the school's estimate of ability.

### Predictions of Emily's Highest Educational Qualification

Teachers anticipated that Emily would achieve an undergraduate university degree. As with their estimates of Emily's ability level, teachers before and after transition were consistent in their response to the question 'What do you think is the highest level of qualification this student is likely to achieve?', both predicting that Emily was likely to achieve an undergraduate university degree (eg, BA).

Although parents were asked in Phase 1 what sort of qualifications they thought their Year 8 child would achieve in the future, Emily's parents omitted to answer this question. However, when asked how much education they wanted Emily to receive, they replied "As much as possible", adding that there was "Nothing we can think of" that might stop [her] from getting the kind of education [we] would like her to receive'.

### Achievement

#### Emily's Own Estimate of How Good she was at Learning

The discussion in Chapter Five indicated that, in general, Emily considered herself to be 'good at learning'. Also, data in Chapter Ten show that Emily identified at least some subjects in which she felt she was doing well.

#### Teacher Views of Emily's Progress and Achievement

To provide some context for their assessment of Emily's achievement, we first asked teachers

to 'describe the overall level of achievement of this student's class in relation to other students at this year level'.

The Year 8 teacher positioned overall class achievement slightly more positively than her Year 9 counterpart, giving a rating<sup>85</sup> of 'very good/excellent' for Emily's Year 8 class, compared to the latter teacher's rating of 'average, but very good in some respects' for her class in Year 9.

Similarly, when teachers described Emily's 'overall level of achievement in relation to other students in her class in each of reading, written expression/writing and mathematics, the Year 8 teacher rated Emily more highly than her Year 9 form teacher did a year later (Table 12).

However, in contrast to the data in Table 12, teachers before and after transition were consistent in their ratings of Emily's overall 'progress in school/ schoolwork in relation to her **own** performance'. They each considered that she had made 'very good progress'.

Emily's Year 8 teacher added a comment:

*"Emily has worked consistently hard and as a result has made good gains in all areas."*

Her English<sup>86</sup> teacher in Phase 3 also rated Emily as having made 'very good progress' in that subject during the year.

**Table 12:** Teacher ratings of Emily's progress in three subject areas relative to other students in her class

Rating of progress compared to classmates	Phase 1 — Year 8 teacher			Phase 3 — Year 9 English/form teacher		
	Reading	Written expression/writing	Maths	Reading	Written expression/writing	Maths
Minimal/very low						
Slow/below average						
Average/medium						
Average, but very good in some aspects				✓	✓	✓
Very good/excellent	✓	✓	✓			
Other rating						
Not sure						

<sup>85</sup> The response options provided were as listed in Table 12.

<sup>86</sup> We also invited mathematics teachers to provide feedback about students' progress in their subject area, but this information was not obtained for Emily.

## All Students

### *Parent predictions of students' highest educational qualifications*

To the Phase 1 question 'What sort of qualifications do you think your child will achieve in the future?' no parent answered 'none'. The largest group (around 40%) felt their child would achieve either an undergraduate and/or postgraduate university degree.

The response from around one quarter of parents was that they either hadn't thought about it at that stage, it was too early to say, or that they 'didn't know/were not sure'.

Only two parents felt their child would achieve only NCEA level 1 (School Certificate).

### *Teacher views of the highest qualifications students were likely to achieve*

The data in the table below suggest that, overall, the students' teachers were less positive or optimistic than participating parents about the level of qualifications students would be likely to achieve. For example, teachers in each of Phases 1 and 3 were of the opinion that 16 percent or more of the students would achieve either no formal qualifications or only NCEA Level 1. (However, it should be noted here that, in general, parents of the students who had achieved in the 'middle range' or upper quartile on the asTTle assessments, tended to be more highly represented in the study.)

Highest qualification the student was expected to achieve	Phase 1: Year 8 teachers' views % of students <sup>a</sup>	Phase 3: Year 9 English or maths teachers' views % of students <sup>a, b</sup>
None	6	7
NCEA Level 1 (School Certificate)	10	12
NCEA Level 2 (University Entrance)	11	15
NCEA Level 3 (Bursary)	4	6
Trades Qualification	8	8
Tertiary diploma	11	8
Undergraduate degree	28	23
Postgraduate degree	10	8
Other	1	2
Don't know/not sure	10	12
Missing data	1	3

<sup>a</sup> Teachers often provided feedback on more than one student in the study.

<sup>b</sup> The data reported here are an average of the responses of English and mathematics teachers.

### *How much education parents wanted their child to receive*

Parents commenting in Phase 1 on 'how much education they would like their child to achieve', most often indicated that they would like their child to at least complete their secondary school education (to the end of Year 12, and preferably Year 13), with the relevant qualifications, and then go on to some sort of tertiary study — usually university, but also in some cases to a polytechnic or a work-related 'training' institution. But there were also a considerable number of participating parents who simply stated that it would depend on what their child felt happy doing: that they should go as far as they wanted to or felt capable of.

Thinking about what might prevent their child achieving the education they would want for them, the largest group (41%) expected that there should be no impediments. But several parents in each case listed peer pressure, money worries, the child's attitude/lack of motivation and/or the nature of their choice(s), and health and family problems as factors that might hinder or limit their child's future education.

Before and after transition, teachers considered Emily had made 'very good' progress in her schoolwork.

As well as the feedback from teachers in Phases 1 and 3, form teachers gave a more general rating<sup>87</sup> of students' academic progress in Phases 2 and 4.

The particular question put to them was 'Overall, how would you describe [this child's] academic progress so far this year?'.<sup>87</sup>

The teacher in Phase 4 rated Emily's progress as 'excellent', a considerably more positive rating than that given by her counterpart at the equivalent stage of the previous school year. This latter teacher, who had been Emily's form/English teacher for her first term in Year 9 only, rated Emily as having made 'satisfactory' progress.

These contrasting ratings are, perhaps, less indicative of relative progress per se than they are about how teachers perceive still largely unknown students soon after the transition from primary school, compared to how they see the students once they have become much more familiar faces in the school (the Phase 4 teacher had been Emily's form/English teacher since Term 2 the previous year).

### Parent Views of Emily's Progress and Achievement

Parent feedback in Phase 1 when asked 'How do you feel [Emily] is getting on this year in each of reading, writing (written expression) and maths?' is shown in Table 13.

**Table 13:** Parent views on Emily's progress in Year 8 in specified subject areas

Subject area	Parental assessment
Reading	"Excellent."
Written expression/writing	"Excellent."
Mathematics	"Okay?"

It is of interest that the comment about mathematics seems to suggest that Emily's parents either felt less well informed about their daughter's progress in this subject, and/or that they did not feel confident enough about their own knowledge or understanding of mathematics to be able to give a definite opinion, as they had for Emily's reading and writing.

## All Students

### *Form teacher ratings of students' academic progress early in Year 9 and Year 10*

The data show that although fewer teachers chose 'excellent' to describe students' academic progress in Phase 4 compared to Phase 3, overall ratings were more positive in Year 10. Teachers also noted that quite a number of students seemed much more settled and positive in Year 10 than they had been the previous year.

However, there were a relatively small but important proportion of students judged to be falling below a 'satisfactory' level of progress.

Rating of progress	Phase 2 — Year 9 form teacher % of students <sup>a</sup>	Phase 4 — Year 10 form teacher % of students <sup>a</sup>
Excellent	19	12
Above average	26	35
Satisfactory	42	48
Below average	7	2
Causing concern	2	4
Not sure/don't know student well enough to comment	2	—
Missing data	1	—

<sup>a</sup> Teachers often provided feedback on more than one student in the study.

<sup>87</sup> It was assumed that quite early in the school year, teachers may not necessarily know students very well; this is why we sought more general feedback at this stage, rather than in-depth information.

To the further question, ‘What sort of progress do you think your Year 8 child has made in her overall class work this year?’, Emily’s parents replied:

*“Very good. Every task that was put toward her she completed with great achievement. Even if she was not sure about anything she attempted to complete all tasks.”*

Similarly, in Phase 3 of the study, it was evident that Emily’s parents were generally very satisfied with how their daughter was getting on at secondary school. They described her as having progressed ‘very well/extremely well’, explaining their assessment as follows:

*“Her [Emily’s] comment is ‘I’ve laid my foundation, I’ve had fun and next year I’m going to settle down and work hard for the goals that I set for myself’. That tells us that she has settled, plus positive school reports, positive letters sent home, and interaction with school teachers.”*

## AsTTle Results

### Mathematics Results

While Emily had stated in her interviews that she enjoyed mathematics more at secondary school, largely

because of her maths teacher, her achievement, as measured by asTTle, did not reflect this.

The data in Table 14 show that Emily’s asTTle score in Phase 2 was significantly lower than it had been in Phase 1, mirroring the general trend in mathematics

for students in the present study, as well as for students in the national data set for asTTle, and students in other studies (refer footnote 93 in Chapter Fourteen, for example).

And even though Emily’s maths score in Phase 3 was higher than in Phase 2, taking her to the next curriculum attainment level, it was below the group mean and continued to be lower (if only slightly) than her Phase 1 attainment. Emily’s maths score dropped once more in Phase 4, again reflecting the overall trend among participating students of a dip in mathematics achievement following a transition.

Throughout the study, Emily’s overall curriculum attainment level for mathematics showed a considerable decrease, from the ‘level 4-Proficient’ she gained in Phase 1, to ‘level 3-Advanced’ in Phase 4. The overall decline in Emily’s maths attainment, according to asTTle, was not typical of other students in the study who, like Emily, had achieved high scores in maths for the Phase 1 asTTle assessment. Most of these high-achieving students went from strength to strength in their mathematics over the course of the study (as discussed in our ‘achievement report’).

However, the data in Table 14 coincide, in a broad sense, with information obtained from interviews with Emily: that is, that her attitudes towards — and, apparently, achievement in — various subjects either fluctuated or changed considerably over the course of the study.

Her parents were very satisfied with Emily’s overall progress in Years 8 and 9.

**Table 14:** Emily’s asTTle achievement scores and overall curriculum-level attainment in each of mathematics, reading and writing at each phase of the study

	Mathematics				Reading				Writing			
	Scores		Curriculum levels <sup>a</sup>		Scores		Curriculum levels <sup>a</sup>		Scores		Curriculum levels <sup>a</sup>	
	Emily’s score	Group mean	Emily’s level	Group mean	Emily’s score	Group mean	Emily’s level	Group mean	Emily’s score	Group mean	Emily’s level	Group mean
Phase 1 – November 2003	720	607	4P	3A	487	481	3B	3B	651	508	4B	3B
Phase 2 – March 2004	568	659	3P	4B	513	487	3B	3B	664	519	4P	3B
Phase 3 – October 2004	686	776	4P	4A	621	535	4P	3P	672	576	4P	3A
Phase 4 – April 2005	619	824	3A	4A	665	585	4A	4B	656	563	4B	3P

<sup>a</sup> Note: In relation to curriculum levels, Level 3 of the curriculum is broadly speaking the average level at which students in Years 6 to 8 operate, while Levels 4 and 5 are generally the levels applicable to most Years 9 and 10 students. ‘B’ denotes that a student is working at a ‘basic skills’ level, ‘P’ = proficient, and ‘A’ = advanced.

## Luke's Achievement

At the end of Year 8, Luke's asTTle scores (these are presented on p.240) showed he was achieving at level 3–Basic of the curriculum in reading, level 2–Advanced in writing (below the group mean for study participants of level 3–Basic) and level 3–Advanced in mathematics.

In Phase 2, Luke's asTTle score in reading had fallen only slightly compared to his Phase 1 score, but his score in maths showed a dramatic drop, taking him from Level 3A to level 2A of the curriculum.

But, interestingly, although he stated that he did not like writing and was not good at it, his asTTle writing scores increased in Phase 2 and again in Phase 3. And in Phase 4 he gained the same score as he had in Phase 3.

Despite his improvement, overall, Luke's scores in writing indicated that he was working at a lower curriculum level in this area by Phase 4 (level 3–Proficient) than he was in either reading or maths (level 4B in each case). His Year 8 teacher had earlier commented that although she felt Luke would handle the transition to secondary school very well in most respects, she had concerns about his application in the area of writing.

After his dip in reading achievement in Phase 2, Luke's reading scores showed a slight gain in Phase 3, and a more substantial one in Phase 4, showing he made steady overall progress in reading over the course of the study, and reflecting the pattern of results in reading for the group as a whole.

Following the significant dip in his maths score between Phases 1 and 2, Luke made significant gains in Year 9 (from curriculum Level 2A in Phase 2 to level 4B in Phase 3) and remained at this level in Phase 4.

However, despite this gain, his asTTle mathematics results for Phase 4 were only slightly higher than his Phase 1 results, suggesting that perhaps maths learning in Year 9 had been more a case of consolidating prior learning rather than progression to new or higher-level learning. This may account for his greater enjoyment of maths in Phase 4: that is, he said he was now starting to learn new concepts in maths, making it more interesting for him than it had been the year before.

Overall, it is likely that Luke was working below his potential. For example, his mother referred to his ongoing lack of application and organisation to do with his schoolwork and mentioned his school reports in which teachers stated that they thought he 'could work harder'. And Luke himself often referred to his propensity for becoming distracted by friends and classmates, which meant that he often missed important information.

### Reading Results

Early in the study, Emily indicated that she was not very interested in reading, and her Phase 1 and Phase 2 asTTle achievement scores in reading seem to reflect this attitude. But by the end of the study, Emily was expressing more positive attitudes to reading; interestingly, there was a corresponding increase in her asTTle achievement reading scores in the latter two phases of the study, particularly in Phase 4.

### Writing Results

In contrast to reading, Emily was very positive about writing in Phase 1 and subsequently, which is contrary to the findings of a number of national and international studies that show that students tend to develop increasingly negative attitudes to writing over time. She also scored highly — considerably above the group mean — on the asTTle writing tasks in Phase 1, with subsequent asTTle scores in writing remaining at much the same level, despite a small drop-off in relative curriculum level in Phase 4. The Phase 4 result may have been influenced by Emily's disclosure that while she still felt positive about it, she currently had less energy and inclination for

'creative writing' activities due to unusually heavy other commitments.

### Summary Statements about Emily's Achievement and Progress at School

Emily's asTTle achievement scores coincide, in a broad sense, with other information obtained from or about her throughout the study, including teacher and parental feedback on her strengths and progress, and the information that showed that her attitudes towards various subjects fluctuated or changed over the course of the study. The main exception was the dramatic overall decline evident in Emily's asTTle mathematics scores, despite the evidence that she felt increasingly positive towards maths following her transition to secondary school and the Phase 1 score that seemed to indicate that she had been doing very well in maths in Year 8.

Overall, however, Emily is shown to be a student with definite strengths in a range of subject areas, and as a student with generally very positive attitudes to learning and a strong desire to do well.

## Comparing Luke's asTTle achievement patterns with those of the other participating students

Luke's asTTle results reflected the broad achievement trends for all participating students over the first three phases of the study, in that there was a drop off in his scores in Phase 2, compared to Phase 1, particularly in mathematics, and a subsequent rise in scores in each of reading and writing, and, most markedly, in mathematics in Phase 3. Luke's Phase 4 results for reading and writing again corresponded quite closely to the group trend in that his reading score showed a quite dramatic increase compared to Phase 3 (and earlier phases), while his writing achievement showed a 'plateau effect'. In contrast to other participating students, however, Luke's maths scores did not dip in Phase 4 following the move to Year 10, although the gain in his score was not substantial.

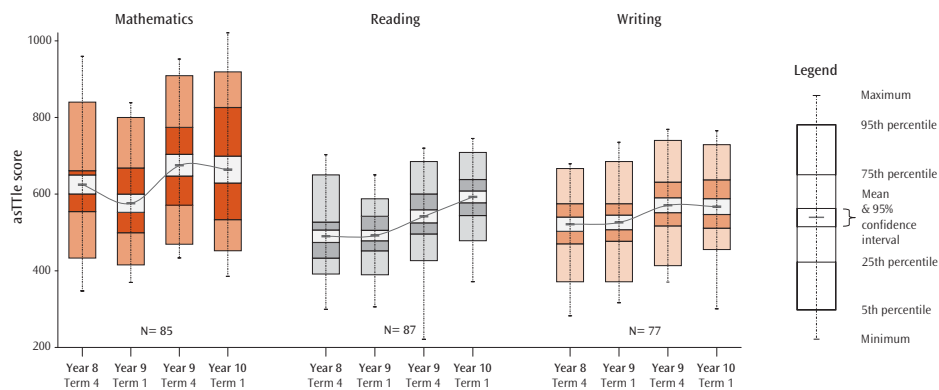
	Mathematics				Reading				Writing			
	Scores		Curriculum levels <sup>a</sup>		Scores		Curriculum levels <sup>a</sup>		Scores		Curriculum levels <sup>a</sup>	
	Luke's score	Group mean	Luke's level	Group mean <sup>b</sup>	Luke's score	Group mean	Luke's level	Group mean	Luke's score	Group mean	Luke's level	Group mean
Phase 1 November 2003	612	607	3A	3A	487	481	3B	3B	474	508	2A	3B
Phase 2 March 2004	469	511	2A	4B	471	519	2A	3B	506	519	3B	3B
Phase 3 October 2004	643	588	4B	4A	496	535	3B	3P	550	576	3P	3A
Phase 4 April 2005	658	545	4B	4A	579	585	4B	4B	550	563	3P	3P

<sup>a</sup> Note: In relation to curriculum levels, Level 3 of the curriculum is broadly speaking the average level at which students in Years 6 to 8 operate, while Levels 4 and 5 are generally the levels applicable to most Years 9 and 10 students. 'B' denotes that a student is working at a 'basic skills' level, 'P' = proficient, and 'A' = advanced.

<sup>b</sup> It may be noted that group means for mathematics in the table for Luke differ from the group means for this subject reported in Table 14 (Emily's results). This is because, from Phase 2 onwards, students who had achieved high scores in the maths asTTle test in Phase 1 (of whom Emily was one) took a slightly different test that incorporated a few items at a higher curriculum level. Thus there were two 'test groups' of students for mathematics. (Reasons for the test variation are explained in our report *Students' Achievement as they Transition from Primary to Secondary Schooling*.)

## All Students

*Their achievement in mathematics, reading and writing as measured by asTTle*



The box and whisker plots above show the spread of students' achievement scores on asTTle in mathematics, reading and writing over the course of the study.

### *Between Phases 1 and 2:*

- average student achievement in mathematics declined;
- there was no significant improvement in reading;
- students achieving in the highest quartile for reading showed a significant decline in achievement;
- there was no significant improvement in students' writing scores.

### *Between Phases 2 and 3:*

- there was a marked improvement in average student achievement in all three subjects;
- students in the highest quartiles in mathematics and reading in Phase 2 showed a greater gain in mean performance than students in the lower quartiles;
- the spread of scores increased for maths and reading.

### *Between Phases 3 and 4*

- there was a noticeable overall improvement in reading only;
- students in the upper quartile for mathematics continued to improve;
- there was a drop off in achievement in mathematics for students in the lower quartile;
- students in the lowest quartile in maths and writing showed the lowest rate of progress;
- the spread of scores increased for maths, but decreased slightly for reading and writing.

As mentioned elsewhere in this chapter, in-depth discussion of students' achievement within the context of the study is contained in our report *Students' Achievement as they Transition from Primary to Secondary Schooling*.