

## Concluding Comments

In this report we have investigated what happens to students' achievement in mathematics, reading and writing over the transition from primary to secondary schooling. We used the assessment tool, asTTle, to measure the changes in achievement in these three areas as students moved from Year 8 to Year 9, and then into Year 10.

The transition from primary to secondary schooling is one of considerable change for students. A student's ability to cope with the many changes inherent in this transition is likely to influence how they feel about school and how they progress and develop, academically, socially and emotionally.

The results from our study are in line with previous research around the transition from primary to secondary schooling reviewed by McGee et al (2003).

We found that over the transition average student achievement in mathematics dropped, while in reading and writing it tended to plateau. There was also greater variability in students' mathematics and writing scores over the four phases of the study than there was in their reading scores. Although average student achievement improved in all three subjects by the end of their first year at secondary school there was a second drop in students' mathematics scores as they moved from Year 9 into Year 10, although to a lesser extent than a year earlier.

While the asTTle results from this study show good achievement gains for most students by the end of Year 9, there is need for concern about some students' learning and achievement, particularly those students who were achieving in the bottom quartile in mathematics. We found that the gap between the high and low achieving students in mathematics widened once students were at secondary school, and between Phases 3 and 4 students in the bottom quartile showed the lowest rate of progress. In contrast, students in the top quartile had a higher rate of progress in mathematics than other students between Phases 2 and 3.

The information collected over the course of this study reinforces the importance of having good foundations in mathematics, reading and writing. Although most students' achievement scores fluctuated over the four phases of the study, we found that around half of the students who were in the bottom quartile in either mathematics, reading

or writing in Year 10 had also been achieving in the bottom quartile in Year 8. Similarly, two-thirds of the students achieving in the top quartile in mathematics and reading in Year 10, and half of the students in writing, had also been high achievers in Year 8.

Furthermore, around half of the high achieving students in mathematics or reading consistently achieved in the top quartile across all four phases of the study.

Reading appeared to be a particular issue for the Pasifika students in our sample who were over represented in the bottom quartile for reading. By comparison, three-quarters of the students who were achieving in the top quartile for reading were New Zealand European/Pakeha. We also found that Pasifika students were slightly more likely to be in the bottom quartile for mathematics than other ethnic groups and were not represented at all in the top quartile for this subject.

The extent of students' engagement in their learning at secondary school is one important issue to emerge from this study. Information gathered indicates that students' enjoyment of, and engagement in, learning deteriorates as they move through the school system. Curriculum, pedagogy, relationships with teachers and other students, as well as student self-efficacy all influence how students feel about school and ultimately how well they progress. Our data indicate that students were often unhappy about certain aspects of what and how they were learning in class, which contributed to their lowered engagement in the classroom.

Despite the students in our study having fairly positive attitudes towards mathematics, reading and writing there was a downward trend in their attitudes towards all three subjects as they progressed through school. Students, however, were more positive about reading than they were about mathematics and writing at each phase of the study.

While a significant number of the low achieving students in mathematics said that mathematics was one of the subjects they liked best in Phase 1, the proportion of those mentioning mathematics as a best liked subject decreased in each phase.

In contrast, the high achieving students' liking of mathematics fluctuated from Phase 1 to Phase 4, dropping as they transitioned from Year 8 to Year 9, increasing by the end of Year 9, only to drop again early in Year 10. Although at different phases of the study a number of the high achievers said that mathematics was one of their least favourite subjects, they nevertheless understood the general concepts and principles of mathematics and were more likely than others to consider they were good at this subject.

Teachers play a major role in how students feel about particular subjects. Students often have quite different feelings about their various teachers, which has a consequent effect on how engaged they feel in their classes. Students told us that they felt more engaged and enjoyed their classes more when they felt their teachers listened to what they had to say and helped them to understand new concepts by clearly explaining things, when they taught them new things and had the ability to make boring things seem interesting, and when they were able to inject a sense of humour into their teaching and interactions with students. The challenge for teachers is to find ways to encourage, maintain and foster a positive attitude towards learning so all students remain engaged at school.

It is evident that form teachers at secondary school often do not know the students in their form classes particularly well for some time after their transition to secondary school, especially if they only see them at form time and do not take them for any of their subjects. There may therefore be benefit in form teachers also teaching students for one of their core subjects in Year 9, as this would enable them to get to know their students better and look out for students who are potentially 'at risk'. It is important

too for schools and teachers to be aware of any out-of-school factors which may affect students' learning and achievement (i.e. family issues such as bereavement, sickness or divorce), as these can impact on a student's well-being and their ability to concentrate and learn.

Interestingly, we found that the Year 9 form teachers of the students who we grouped as high achievers were able to provide more accurate assessments of how the students in their form classes were performing when compared with the form teachers of the low achieving students. Form teachers were more likely to describe the high achieving students as open and easy to relate to.

The form teachers of the low achievers, on the other hand, were more likely than those of the high achievers to be unsure of how their students were actually achieving, particularly when it came to rating students' ability in mathematics. They indicated that they did not know at least half of the low achieving students in their form class very well and felt these students were not easy to get to know.

The teachers of the high achieving students in Years 8, 9 and 10 were also generally more likely than the teachers of the low achievers to describe their relationship with students as 'excellent'.

Ensuring the work at school is targeted at the right level for each student's ability and prior achievement can be a challenge for teachers. Although early in Year 9 the low achieving students were slightly more likely to find the work at secondary school more demanding or challenging, by the end of Year 9 and early in Year 10 it was the high achievers who were generally more likely to say they found the work more demanding or challenging.

It was also found that the low achievers in mathematics and reading were more likely than the high achievers to consider they were repeating work they had already done in Year 9 and again in Year 10.

We found that a number of parents in the study felt their children were achieving well in particular subjects and doing well at school generally when in reality they were among the lowest achieving students. This raises questions around whether parents are receiving accurate information from schools about their children's progress or whether they simply do not accept what teachers are telling them.

The low achieving students in all three subjects were generally least likely to say they had many books in their homes and were less likely to say they enjoyed reading in their spare time. Students in the lowest achievement quartile for reading and writing were also more likely to indicate watching television as something they mostly did in their spare time and, on average, these students watched more hours of television than the high achievers. Interestingly, though, similar proportions of low and high achieving students in mathematics said they mostly watched television in their spare time and there was very little difference evident in the hours each of these groups of students watched television.

In this report we have focussed on students' achievement in mathematics, reading and writing only. Success at school, and indeed how well students make the transition from primary to secondary schooling, however, cannot simply be measured by students' achievement in these three areas. Achievement in other areas such as sports, performing arts and option subjects needs to be acknowledged and encouraged, as do aspects of their social development such as relating to others, self-management and being actively involved in communities<sup>88</sup>.

School transition strategies are important to help ease the transition to secondary school for students but often these strategies simply deal with the more immediate aspects of the transition, such as familiarising students with their new school environment. Our analyses of students' achievement over the transition has revealed a number of issues which need to be addressed within secondary schools if particular groups of students, in particular low achieving students, are to make a successful transition and remain engaged in their learning at secondary school. To conclude, these issues are well reflected in the review of the transition literature by McGee et al (2003):

*“Attention needs to be given to discontinuities in teaching approaches; the gap between pupils' expectations of secondary school and the reality; helping teachers develop strategies for helping students manage their own learning; giving pupils the opportunity to ask things they do not understand, particularly relating to classroom learning and the expectations of new teachers; and flexible learning/teaching, which takes account of differences in pupils' preferred learning styles.”* (p. 9)