

## Summary of Key Findings

In this section, we present our key findings for influences of aspects of the NCEA on student motivation and achievement. We also provide a summary of areas of major agreement regarding perceptions about changes to design features of the NCEA, including how these were seen to relate to study behaviour and achievement outcomes for students. The section ends with a summary of the key findings organised by the four studies described in more detail in previous sections of the report.

### Relationship of Motivation Orientations and School Achievement

- The motivation orientation scores for *Doing My Best* and *Doing Just Enough* both showed strong relationships between self-reported motivation in 2005 and achievement two-three years later in 2007-2008 in total credits attained, the number of internal credits with Excellence, and the number of external credits with Achieved, with Merit and with Excellence. High scores on the *Doing Just Enough* orientation in 2005 also significantly predicted higher numbers of Unit Standards attained in 2007 and 2008.
- The motivation orientations *Doing My Best* and *Doing Just Enough* were relatively stable across years (2006 to 2008), however there were differences for sub-groups of students. In 2007, more than one-third (35%) of students for whom we had survey data from both Year 10 and Year 11 did not show any change in their motivation pattern. Another third moved up or down one category (see below), 20% moved two categories and 8% moved up or down 3 or more categories.
- However, there were changes in motivation over time for sub-groups of students. We identified 6 motivation student categories ranging from low to high motivation constructed from the subscales *Doing My Best* and *Doing Just Enough*, and we found significant differences in achievement patterns across time for these categories.
- There were significant differences in achievement related to whether students had increased, decreased or stayed the same in self-reported motivation orientation from 2006 to 2007. Those who maintained their motivation level or increased in motivation achieved more total credits in 2007.

### Relationship of Attributions to Achievement

- Students' most highly ranked attributions for their best and worst marks were their own effort, their ability, the difficulty of the assessment task, and teacher influences. They gave lower ratings to luck and the influences of family/whānau and friends.
- The attribution literature generally shows that luck is rated higher as a cause for failure (bad luck), whereas students in Years 10-11 in our sample rated the role of luck significantly higher as an explanation for their best performance than for their worst performance.

- Gender was significantly related to attributions for best and worst marks, with girls more likely than boys to attribute their best marks to effort and their worst marks more to their lack of ability and the difficulty of the assessment task. Girls attributed both their best and worst marks to teacher factors more than boys, who attributed their worst marks more to bad luck than did girls.
- Pacific students rated both family/whānau and friend influences as more important to both their best and worst marks than did European, Māori, and Asian students. Māori and Pacific students attributed their best marks less to ability, effort and the difficulty of assessment than did European and Asian students.
- Regressions showed that *Doing My Best* and *Doing Just Enough* motivations were strong predictors of grades, and that students' attributing their best marks to their effort was also a strong predictor of grades, particularly the total number of credits.

### **Influences of Part-Time Work, Sport, Child Care and Other Activities**

- In 2007 and 2008, approximately 50-40% respectively of Year 10 and Year 11 students who answered these questions reported that they engaged in part-time work. Those who worked up to 10 hours weekly generally attained more credits than those who did not work at all or who worked more.
- A higher percentage of students reported participation in sport, over 60% in both 2007 and 2008. Students who reported playing sport attained more credits than students who did not report participation in sport in both years.
- Again in both years, nearly half of students reported they spent time weekly caring for siblings and other children in the family. Students from low decile schools did proportionately more childcare and students from high decile schools reported less childcare. European students were likely to be less involved in childcare than others and Māori and particularly Pacific reported more childcare than others. Asian and Māori student participation in childcare decreased from Year 10 to Year 11, whereas Pacific students increased childcare across these two years. Caring for other children was negatively related to achievement in 2007 but showed no significant relationship in the 2008 data.
- Participation in part-time work, child-care, and sport were related to academic achievement and motivation orientation patterns, whereas participation in paid tutorials was marginally related. Other activities were not related to achievement motivation.

### **Relationship of Certificate Endorsements with Motivation and Achievement**

- Late in 2007 and again in 2008, approximately half of Year 10-11 students reported not knowing that NCEA Certificates could be endorsed with Merit or Excellence. More Year 11 students reported this awareness than Year 10 students, but the fact that many students report not knowing about the endorsements is concerning given that these students had spent the year working on credits to attain NCEA Level 1.

- Students reported overwhelmingly that the endorsements mattered to them. Of those who said they knew about the endorsements, the vast majority said this mattered to them mostly/definitely, and only about 1 student in 15 said endorsements didn't matter at all.
- There was a significant relationship between whether endorsements mattered to students and their motivation orientation (*Doing My Best* and *Doing Just Enough*) over time, with positive motivation decreasing across time for students who said they were not motivated by endorsements and who did not know about them. Motivation remained relatively stable for students who were motivated by the endorsements. Students who knew about the endorsements were more likely to increase their motivation whereas those who said they did not know were more likely to decrease their motivation across two years.
- Knowledge of the endorsements was related to gaining NCEA Level 1 that year for Year 11 students and was also related to gaining either Merit or Excellence on Level 1.
- The vast majority of the students who attained NCEA Level 1 with Merit said that the endorsements mattered to them either mostly or definitely, and virtually all students of those who attained Excellence said the endorsements mattered to them either mostly or definitely.
- The total number of credits attained on NCEA Level 1 was also related to knowledge of and how much endorsements mattered to students. Those who reported that endorsements definitely mattered to them achieved significantly more external credits with Excellence than other groups. Across the year, the greatest impact of the endorsements occurred during the fourth Term and the examinations period, in which those who said the endorsements definitely mattered achieved significantly more credits than all other groups.
- Knowing and caring about the endorsements showed a positive relationship to achievement regardless of student achievement level. All groups (low, middle, high achieving in terms of total credits attained during the year) showed more positive achievement patterns if they had reported knowing about the endorsements.

### **Predictive Validity of a Screening Tool for Motivation and Achievement**

- A brief screening measure of *Doing My Best* and *Doing Just Enough* motivation orientations administered in Year 10 has been shown to have utility, acceptable reliability, and high predictive validity strongly related to future motivation orientations and achievement. This motivation measure predicts future achievement over and above the predictions possible based only on prior achievement. A simple self-report of motivation orientation such as this that can predict future achievement for students who are not otherwise being assessed could be used to plan and focus interventions towards more positive motivation and achievement patterns.
- Motivation orientations reported in 2005 or 2006 by Year 11 students were predictive of achievement two years later in 2007 or 2008 when they were in Year

13. The orientation *Doing My Best* predicted higher achievement at follow-up, whereas *Doing Just Enough* predicted lower achievement two years later.

- Whereas achievement in Year 11 in 2005 was a significant predictor of achievement in Year 13 in 2007 as one would expect, positive motivation orientations on the screening survey added further value to the prediction of future achievement. Motivation orientation scores were better predictors of the number of credits achieved two years later in comparison to predictions made based solely on credits attained in the same year as the survey was completed.

### **Parent and Student Attitudes about Aspects of the NCEA**

- A large number of students (220) participating in 23 Focus Groups from 10 secondary schools across the country affirmed the positive impact of the certificate endorsements for Merit and Excellence on motivation, study behaviour and achievement. They stressed that whereas previously there was less incentive to continue working past the 80 credits needed for each level, the endorsements motivated them to continue trying for credits towards an endorsement.
- Students referred to intrinsic motivators such as being proud of one's achievements, knowing one has worked hard, wanting to do the best you can, and having high personal expectations as well as extrinsic motivators including working for a Merit or Excellence endorsement, competing with friends, pleasing one's family, earning reinforcers (e.g., rewards promised by one's parents for high achievement), gaining UE and getting a scholarship.
- Students felt that employers had an understanding of the NCEA and also valued the endorsements, so that having an endorsement for Merit or Excellence would enhance one's employment credentials as well and may even make the difference between getting or not getting a particular job.
- Parents and older siblings generally were viewed as having a positive influence on achievement and motivation. Many students reported that their parents rewarded them with privileges and monetary rewards for high marks, but students also emphasised the importance of parents having high expectations. Older siblings had a positive impact whether they had done well (thus wanting to also do well) or had not done so (e.g., wanting to do better than an older sister or brother who had dropped out of school early and/or was unemployed).
- Friends were seen as having a positive impact in wanting to impress one's peer group but also helping one to keep a balance between academic study and not "stressing out" by participating in other, social activities. Students also referred to wanting to work harder than classmates who "muck around." There were frequent references to competing among one's peer group as part of the process of doing well academically and being recognised with Merit and Excellence. Friends were seen as supporting and encouraging one another to do well, and students did not want to be surrounded by "underachievers which reduces motivation."

- Many students agreed that it was the teacher who had the single biggest impact on learning. They liked teachers who made learning fun, caught their interest in the subject or topic, and used humour in their teaching. They wanted teachers who set boundaries and had high expectations.
- Students also valued teachers who showed a personal interest in them and their achievement. They commented on the negative influences of teachers' who showed favouritism, communicated low expectations, and/or showed impatience or even anger for asking 'dumb' questions. Students wanted teachers who "believe in you and say you can do it."
- Students also wanted teachers to provide more information about how their subject area and topics within subjects related to life and future study goals. They emphasised that these linkages helped motivate them, particularly when an activity might otherwise seem boring or irrelevant to the real world.
- As in our previous reports, most students continued to express positive attitudes about the mix of internal and external assessments in the NCEA, feeling that the internal assessments in particular allowed them to spread their workload across the year and use feedback to improve future academic performance.
- At one school where there had been considerable discussion regarding the possible adoption of the CIE in addition to the NCEA, a focus group comprising high achieving Year 10 students engaged in articulate and thoughtful discussion of the advantages and disadvantages of the two systems. Clearly, there had been a high level of deliberation and information-sharing about this decision at the school, and, interestingly, the majority opinion in the student group favoured the NCEA rather than the end of the year, norm-referenced examinations of CIE.
- At a *whārekura*, focus groups were extremely well informed regarding the endorsements and how the NCEA worked generally. They reported being highly motivated to do well, that their teachers care about them and encouraged them to do their best, and that they anticipated attaining Merit and Excellence. This level of awareness contrasted sharply with how much other students across the sample seemed to know about the new endorsements, for example, and differed from the lower level of endorsement awareness characteristic of other low decile level schools.
- Students continued to express concern about the possibility of failing standards at a particular level because of missing one question (e.g., not getting Merit because of missing an "achieved" answer) and lack of consistency across schools, particularly regarding being allowed to resubmit assignments and resit assessments.
- Many students also continued to argue that they wanted finer grade bands than the present system providing only four "grades".
- Students supported the development of subject endorsements, feeling that this would be highly motivating to both those who otherwise would not get the overall Certificate with an endorsement as well as those who could strive for Excellence in gaining subject endorsements as well as the Certificate endorsement.

- Both junior and senior secondary students overwhelmingly indicated that they needed more information from their schools and particularly from their teachers about NCEA. They indicated that while a few teachers seemed very well informed and gave them lots of information, most teachers did not and seemed to leave this responsibility to the school overall.
- Focus groups and interviews conducted in April 2008 with Māori and Pacific parents of students in both junior and senior years revealed positive attitudes about the impact of the NCEA on motivation and achievement.
- Parents expressed that the NCEA allowed their children to demonstrate achievement better than “previous ways” and was a “good system for Māori.”
- Parents supported the endorsements for Merit and Excellence and felt this new grading would motivate students.
- Parents described a broad range of strategies at home to enhance children’s motivation and achievement, including use of the car, going out to dinner, buying things, money, family trips, and through praise, high expectations, help with homework, focus on future goals (such as UE), encouragement, reduced TV watching, ongoing communication, and not allowing friends around after school to make time for homework.
- Parents were generally positive about teacher influences on their children but lacked specifics about ways in which teachers had provided support for high achievement.
- Parents expressed varied knowledge and understandings about the NCEA and the 2007 design changes; most were aware of, and supported, the endorsements; and there was some confusion about what the different grades meant.