Executive summary

The Organisation for Economic Cooperation and Development (OECD) has defined a baseline standard of literacy in terms of its Programme for International Student Assessment (PISA). Students not achieving this baseline literacy, it is argued, are at serious risk of not being able to adequately participate in the twenty-first-century workforce and contribute as productive citizens. The Australian Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) determined that ‘the national standards … should be set at a “proficient” standard, rather than a “minimum” standard’ (Ministerial Council on Education, Employment, Training and Youth Affairs 2006, p.4), and set the key performance measure at a slightly higher level than the OECD’s baseline.

But how well does a student’s achievement in PISA predict their subsequent success in life? The definition of ‘success’ used in this project included satisfaction with life, as well as whether young people were fully occupied with education, employment or a combination of these activities. Those who were fully engaged and happy with their lives were designated as having a ‘successful outcome’.

Students who are high achievers at school generally have successful post-school outcomes, and, conversely, low achievers do less well and are more likely to leave school early. This study does not compare outcomes for high and low achievers, but instead focuses on students who are low achievers at school, but who have successful post-school outcomes. This is of interest to policymakers because, if we can identify factors, particularly at the school level, which contribute to this success, resources and assistance can be allocated towards improving post-school outcomes for those who do less well at school, and who are most at risk of unsuccessful youth transitions.

The Australian PISA sample for 2003 became a commencing cohort for the Longitudinal Surveys of Australian Youth (LSAY—known as the Y03 cohort). In this PISA assessment the major focus was mathematical literacy, while reading and scientific literacy were assessed as minor domains. Mathematical literacy places its primary emphasis on real-world problems and on the mathematical knowledge and competencies that are likely to be useful for dealing effectively with those problems. The sample of students chosen for this study were the 3238 students who did not achieve at least proficiency level 3 in mathematics in the PISA 2003 assessment, where level 1 is the lowest proficiency and level 6 is the highest proficiency. This group represented just under a third of the Y03 cohort.

The main activities of the low-achieving sample were identified for each of the subsequent years they remained in LSAY. As is the case for most young people in Australia, the majority remained at secondary school and in subsequent interviews indicated that they had completed Year 12 and had been awarded the appropriate qualification for their state. From there, more than one-third of them moved into employment—part-time or full-time—while under one-third went onto tertiary education at a university, TAFE (technical and further education) institution or some other facility.
For those who left secondary school early without completing their qualification, more entered the labour force than an apprenticeship or traineeship. Around one in six of these young people had attempted to enter the labour force early, although with varying degrees of success—close to 5% were still looking for work, while the proportion who were in part-time work was slightly larger than the proportion who had found full-time employment.

As has been found in other research using the LSAY data from previous cohorts, what happens in the immediate post-school years can have important consequences for young people. An overwhelming proportion of those who find a job or commence further study continue in those activities. For those who find it hard to secure a place in work or study, the future is less certain, although, even among these, most establish a foothold after a further year. This finding emphasises the importance of this period in the lives of young people, particularly those who have a history of low achievement, and reinforces the need for support and information for all young people in relation to the pathways and opportunities that are available to them upon leaving school.

In 2007, most of this group of young people, many of whom may have been expected to be experiencing difficulties, given their low achievement, were doing relatively well. Around 40% of those who were contacted in 2007 were in some form of further study or training; just over 30% were in full-time employment and another 17% were working part-time.

The main activities of those young people who remained in the study in 2007 were classified as being representative of full engagement (full-time work—35 hours or more on average per week; full-time study or training; part-time students who were working part-time or full-time hours), partial engagement (those working fewer than 35 hours per week on average, part-time students who were not employed) or non-engagement (those who were looking for work but not employed and those who were not looking for work but not employed—not in the labour force).

Those young people who were fully engaged and whose responses to the happiness items indicated that they were happier than average (compared with the entire cohort) then formed the sample for the subsequent analysis, which examined the factors that might determine whether a student is successful or not. Multilevel logistic analysis was used to examine what factors differentiated between the 602 sample members who had a successful outcome (in terms of their level of engagement and happiness) and those sample members with not so positive outcomes. The sample included 1596 students from 294 schools.

There was a clear finding that low-achieving students from a low socioeconomic background have a lower likelihood of success than similar students from more affluent homes. There are many reasons for this beyond having more access to financial and educational resources, such as more highly educated parents having more experience of educational systems and so being able to provide their child with a wider range of alternative pathways to success.

Indigenous status, other things equal, was not found to have a significant effect on success or failure. While these results should be treated with some caution—the number of Indigenous respondents was small—this finding, along with the finding about the links with socioeconomic status, add to the current debate in Australia that it is not Indigenous status as such that is related to poorer outcomes, but the interrelationship between Indigenous status and disadvantage.

The significant influence of motivation on students’ later outcomes is an important message for parents, teachers and policy-makers. Finding that students who recognise the value of mathematics for their future success are more likely to achieve this success, and that includes being happy with many aspects of their personal lives as well as their future and career, suggests that a focus on the practical applications of mathematics in everyday life may go some way to improving the outlook for students who are not quantitatively inclined and who are not performing well in the mathematics classroom.

Similarly, ensuring that the school experience is a positive one not only impacts on students’ lives while they are at school but appears to continue to influence them once they have left. Female
students, in particular, were more likely to be fully engaged in education, employment or a combination of these and to be happy with their situation, if they had enjoyed being at school, enjoyed learning and had felt safe and secure. While it is not possible to eliminate all stress or negative experiences from secondary school, findings such as this remind us of the important aim of education of fostering the social and emotional development of young people, as well as their academic development. It also reminds us that school can be a positive experience for all students, regardless of their achievement level, if an appropriate balance is maintained between the pursuit of personal goals and individual development, and comparison and ranking.

At the same time, young people should be encouraged to think carefully about their futures and to make strategic plans. Those young people, particularly females, who were not achieving well in mathematics and who had not thought about what they might do after leaving school were much less likely to be fully engaged and happy with their lives four years down the track.