LEARNING CURVE ISSUE 22

NSW GOVERNMENT

DEPARTMENT OF EDUCATION

How high expectations and engagement in primary school drive student learning

Centre for Education Statistics and Evaluation

This publication explores the role of student engagement and classroom practices for improving student learning. Specifically, it looks at the impact of engagement and effective teaching experienced in Years 5, 6 and 7 on academic performance in Year 7.

Key findings (Figures 1 and 2)

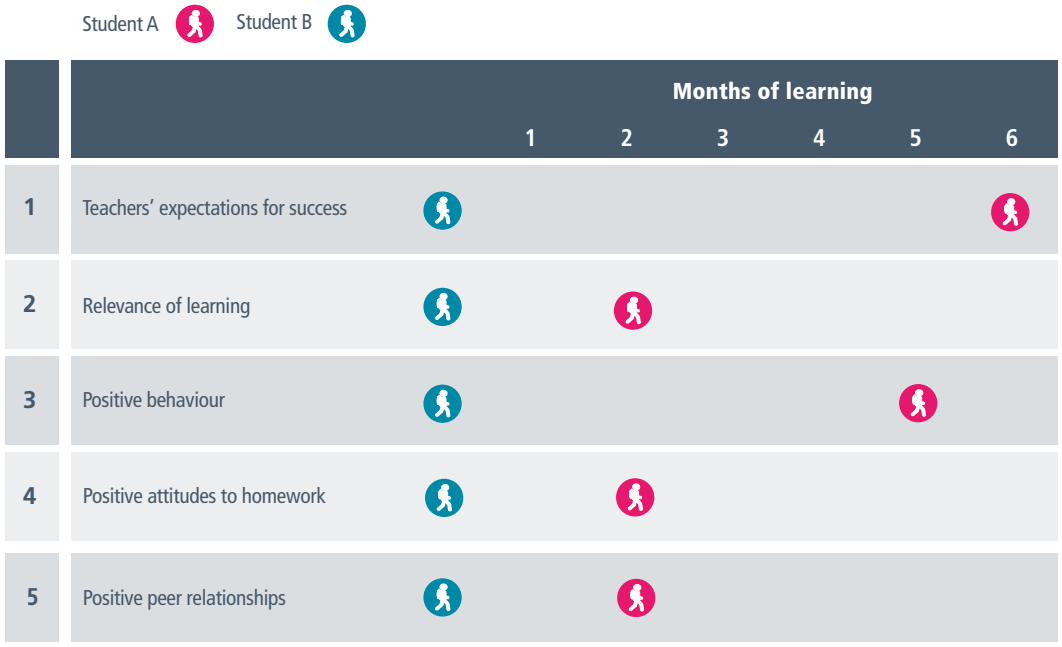
1. A culture of high expectations is as important for learning in primary school[1] as it is in high school[2]. Year 5 students who report having teachers with high expectations are over 6 months ahead in their learning by Year 7.
2. Socioeconomic status has an impact on students' engagement at school. The proportion of students engaged in primary school is lower for students in the lowest socioeconomic quartile than for more advantaged students across measures of both classroom and social engagement at school.
3. Other aspects of effective teaching also matter. When students understand the purpose of what they are learning and teachers deliver clear instruction and relevant content, student achievement improves.
4. Having positive peer relationships and classroom behaviour during primary school are also important for learning.
5. Students with a positive attitude towards homework during the final year of primary school have better numeracy outcomes in the first year of high school.

1 This research uses data from Years 5 and 6 as indicative of students' primary schooling, and looks at the subsequent impact on student outcomes in Year 7. The findings in this Learning Curve are a result of a collaboration between the Centre for Education Statistics and Evaluation (CESE) within the NSW Department of Education, and the Institute for Social Science Research (ISSR) at the University of Queensland

2 Refer to previous CESE research on the effect that high expectations, effective teaching practices and engagement in Year 7 have on academic performance in Year 9: https://www.cese.nsw.gov.au/publications-filter/improving-high-school-engagement-classroom-practices-and-achievement.

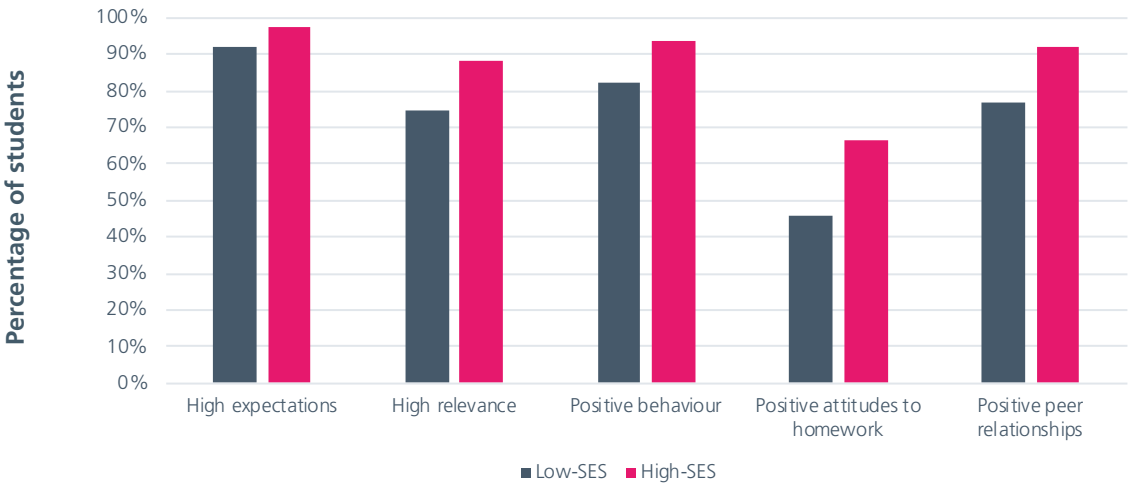
Figure 1. What works to drive performance in primary school

Engagement and effective teaching practices in Year 5 and their effect on student learning by Year 7



Note: Student A reports experiencing high engagement and effective teaching practices, compared to Student B who does not.

Figure 2. Student engagement in primary school for low- and high-SES students, 2019



What does the research say?

We know that student engagement and classroom factors matter for learning. Previous research from the Centre for Education Statistics and Evaluation (CESE) using *Tell Them From Me* (TTFM) data shows that high school students who are positively engaged and whose teachers use effective teaching practices and set high expectations can be six to seven months ahead in their learning, after socioeconomic status (SES) and prior achievement are taken into account (CESE 2017). This study examines how these aspects of schooling come into play in primary school.

Early engagement and classroom experiences are key indicators for later engagement and achievement. The patterns of engagement that develop during primary school years set the stage for long-term learning. Other longitudinal studies suggest that students who participate in classroom activities and report enjoying school in the early years are more likely to continue to exhibit these positive characteristics, which, as a result, progress their learning in subsequent years (Ladd & Dinella 2009). Learning depends on children's willingness to embrace school life and engage in classroom tasks. Children who respond cooperatively to teachers and perform school-related tasks are among those who showed the greatest long-term academic gains (Ladd & Dinella 2009).

An important milestone for young students is the move from primary to secondary school. A unique contribution of this work is that it considers how engagement and classroom factors before and after the transition to high school affect student academic achievement and engagement in Year 7.

Methodology

The *Tell Them From Me* (TTFM) student surveys collect annual data on key indicators of student engagement, effective teaching practices and classroom factors. The analysis reported in this Learning Curve uses a subset of the 2015-2017 TTFM longitudinal data: specifically, students who were in Year 5 in 2015, Year 6 in 2016, and in Year 7 in 2017. This allows us to explore the associations between engagement, classroom factors and academic performance among younger students moving from primary to secondary school within the NSW government school sector.

The analysis uses longitudinal panel data analysis to unpack these relationships. Longitudinal analysis allows us to examine the effect of changes in engagement among the same set of individuals and how these relate to gains in their academic achievement. This Learning Curve uses a matched dataset of 4,050 students who completed the 2015, 2016 and 2017 TTFM student surveys.

The use of NAPLAN as a measure of academic achievement

The National Assessment Program – Literacy and Numeracy (NAPLAN) is an annual assessment for students in Years 3, 5, 7 and 9. NAPLAN test results for reading and numeracy in Years 5 and 7 are used in this Learning Curve as indicators of academic achievement. While academic achievement covers a broad range of school-based outcomes across many different subjects, the modelling of longitudinal data sets is suited to academic test instruments, such as NAPLAN, that have a level of consistency over time and are reported on a single scale. The NAPLAN tests measure students' achievement gain between testing years in addition to being a valid and reliable measure of academic achievement by Year 7.

The results from NSW

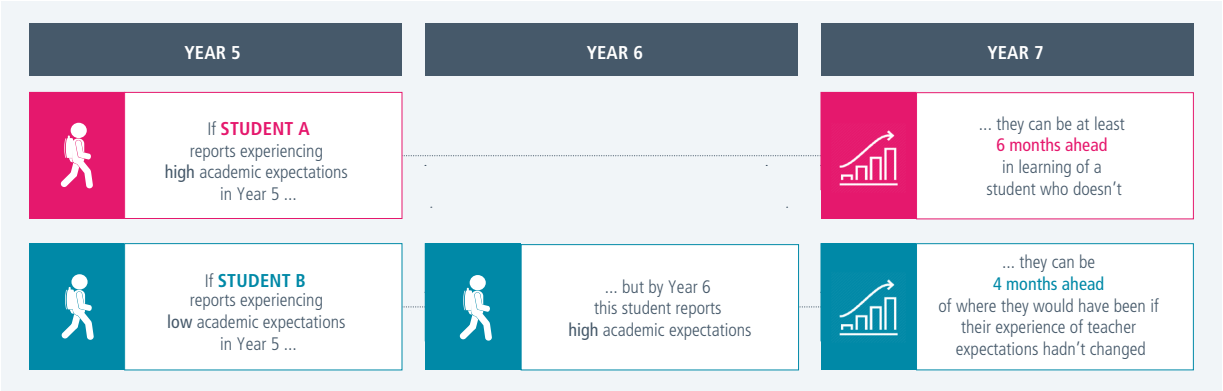
1. High expectations for success

Expectations for success is a measure of classroom context and represents the extent to which school staff value academic achievement and hold high expectations for all students.

Where two students are identical in terms of socioeconomic status and prior academic performance, a student in Year 5 who agrees that their teachers have high academic expectations of them (and their peers) is over 6 months ahead in their learning by Year 7 (in terms of NAPLAN scores), compared with a student who does not agree (Figure 3). This impact is found regardless of the level of expectations students experience in Years 6 or 7.

Importantly, the data modelling indicates that expectations for success have a unique and positive impact on performance every year. For those students who report experiencing low academic expectations, it is not too late to see gains in learning if these expectations improve in subsequent years. If a student shifts from reporting low expectations in Year 5 to high expectations in Year 6 or 7, it still provides a large boost to learning (up to the equivalent of four months' worth), compared with students who continue to report low academic expectations.

Figure 3. The effect of teachers' expectations for success on NAPLAN scores



Teacher expectations for success – what is it and why is it important?

Extensive research demonstrates that when teachers hold certain beliefs about the potential academic achievement of their students, this can be confirmed in their students' performance (Hattie 2009, Jussim & Harber 2005, Rosenthal & Jacobson 1968, Rubie-Davies 2017). Some studies suggest that the expectations that teachers hold of their students have an impact on how they teach and interact with their students, and on how students experience the classroom environment. For example, teachers are typically emotionally warmer and more supportive, provide clearer and more positive feedback, and teach more difficult material to students for whom they hold higher expectations (Harris & Rosenthal 1985). The learning experiences provided for and delivered to students, in the form of these different activities and challenges, can in turn influence how fast they progress (Rubie-Davies 2017).

Further research suggests that the impact of teacher expectations on students' learning can be long lasting. It is found, for example, that teachers' estimations of children's intelligence as early as aged 4 can predict academic outcomes later in secondary school and beyond (Alvidrez & Weinstein 1999, Sorhagen 2013). Previous work by CESE has also demonstrated the significant impact of high expectations for success on student outcomes in NSW (CESE 2014). High school students whose teachers have high academic expectations of them (and their peers) are three months ahead in their learning by Year 9, after socioeconomic status and prior achievement are taken into account (CESE 2017).

The impact of teacher expectations is immediate, and can have a self-perpetuating impact on student achievement. For example, research from New Zealand demonstrated that teachers' expectations were significant predictors of their students' current performance, even after controlling for the students' prior achievement (Rubie-Davies et al. 2014). This suggests that teachers' expectations can have an immediate impact on their students' performance. Since student performance is also related to future expectations, focusing on within-year expectations provides teachers with the ability to continually move student achievement in the right direction.

Being a high expectations school – Liverpool West and Warwick Farm Public Schools case studies

Liverpool West and Warwick Farm are two public schools located in south western Sydney. With Index of Community Socio-Educational Advantage (ICSEA) values lower than the Australian average, the majority of students from both schools come from a disadvantaged background. While this presents a challenge for the schools, this has not prevented them from fostering a climate of high expectations.

Liverpool West Public School's First Foot Forward program, in partnership with Western Sydney University, provides Year 6 students with regular visits to the university. This encourages students to think about tertiary education very early in their schooling and helps motivate them through Year 6 and across the transition to secondary school. Seeing, experiencing and learning about higher education helps to instil high aspirations.

For both staff and students, Warwick Farm Public School has a focus on high expectations and effective leadership. The school adopts the mottos 'Raising the Bar' and 'Leading the Way' using these phrases regularly across the school and within internal and external communications. These messages are a core expression of the school's determination to shift community perceptions of the school as being disadvantaged and outdated, and have helped to raise levels of school pride. As a result, students at Warwick Farm are keen to attend school and enthusiastically engage with school life.

To read the case studies in full, refer to the companion publications http://www.cese.nsw.gov.au/publications-filter/high-expectations-engagement-primary

2. Relevance of learning

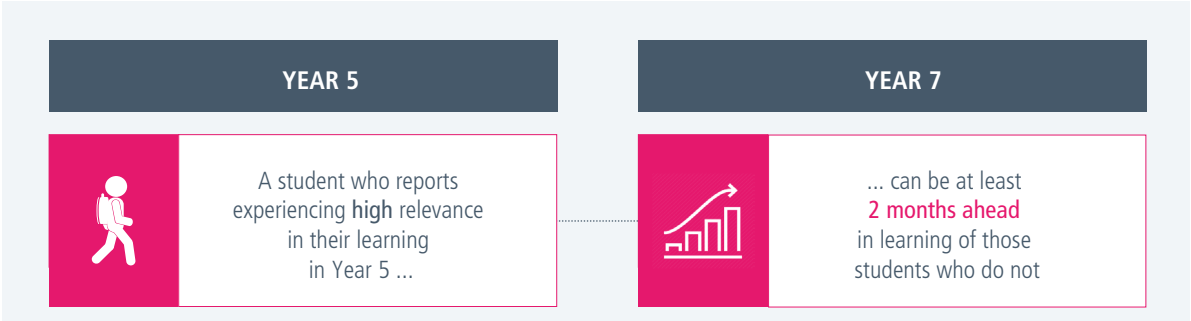
One of the key facilitators for learning is the extent to which quality instruction is provided in the classroom. In the TTFM surveys, this refers to teachers' use of classroom time and whether classroom instruction supports students to understand the purpose of what they are learning.

The results from the NSW data show that when students report that their teachers deliver relevant content, they are at least two months ahead in their learning by Year 7, compared with students who say that their teachers do not provide relevant classroom instruction (assuming all other characteristics are the same; Figure 4). Classroom instruction in primary school years that helps students to understand the purpose of what they are learning is particularly significant for later reading achievement.

Relevance in the classroom – what is it and why is it important?

Teachers' effective use of class time and their ability to deliver complex learning instruction in a purposeful and meaningful way are critical elements associated with learning gain in the classroom (Scheerens 1992). Research finds that interest and grades improve when students find meaning in their schoolwork and make personal connections between their lives and classroom learning (Brophy 1999, Hulleman & Harackiewicz 2009). According to educational neuroscientists, it is easier to attach new pieces of information to old ones, suggesting that learning can be made easier by linking current knowledge, interests and attitudes with the new content being learned (Willis 2008).

Figure 4. The effect of whether students find their learning relevant on NAPLAN scores



3. Positive behaviour

Positive behaviour is a measure of institutional engagement. It captures behaviours that occur in the classroom, such as whether students report that they are listening to their teacher or are disruptive. It also measures the extent to which students break school rules or otherwise get into trouble at school.

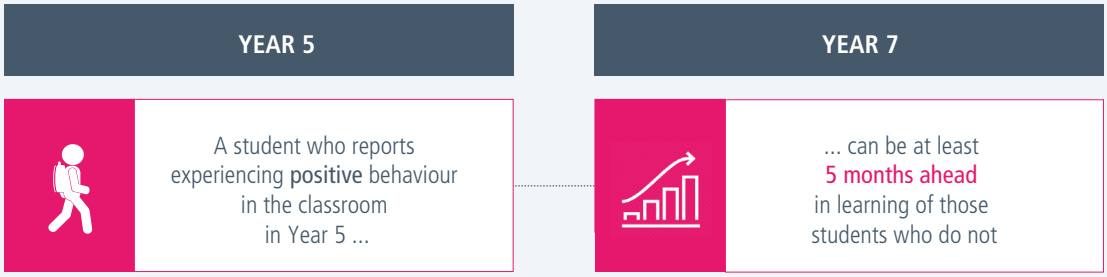
The results from this study clearly show that early behavioural engagement, in the form of cooperative classroom participation, has benefits for sustained learning. Where two students are identical in terms of socioeconomic status and prior academic performance, a student in Year 5 who exhibits positive behaviour in class and at school, is at least five months ahead in their learning by Year 7, compared with a student who reports poor classroom behaviour (Figure 5).

Classroom behaviour – what is it and why is it important?

Good behaviour in a classroom setting often refers to the socially acceptable learned behaviours, such as acting cooperatively, exhibiting self-control, remaining still when required and engaging productively with classwork. A large body of research supports the idea that good behaviour is linked to better achievement. Such behavioural competencies and skills are 'learning enablers', helping students to remain engaged and motivated in the classroom (Malecki & Elliot 2002).

Earlier work from CESE confirms the impact of positive classroom behaviour on academic achievement in secondary school. Students who report positive behaviours are, on average, six months ahead in terms of NAPLAN scores in Year 9 (CESE 2017) and more likely to complete high school in Year 12 (CESE 2019).

Figure 5. The effect of classroom behaviour on NAPLAN scores



The **NSW Department of Education's Behavioural Code for Students** policy is a component of the NSW Wellbeing Framework for Schools, which outlines a positive approach to discipline that recognises and reinforces appropriate behaviour and manages unacceptable behaviour.

Students are expected to demonstrate respectful, safe and engaged behaviour. School leaders are responsible for developing a school discipline policy in consultation with the school community. School discipline policies should include four components that demonstrate school-wide positive behavioural support:

- the discipline code or school rules
- strategies and practices to promote positive student behaviour, including specific strategies to maintain a climate of respect
- strategies and practices to recognise and reinforce student achievement
- strategies and practices to manage inappropriate student behaviour.

To read the department's approach to student behaviour in full, go to: https://education.nsw.gov.au/student-wellbeing/attendance-behaviour-and-engagement/student-behaviour/behaviour-code

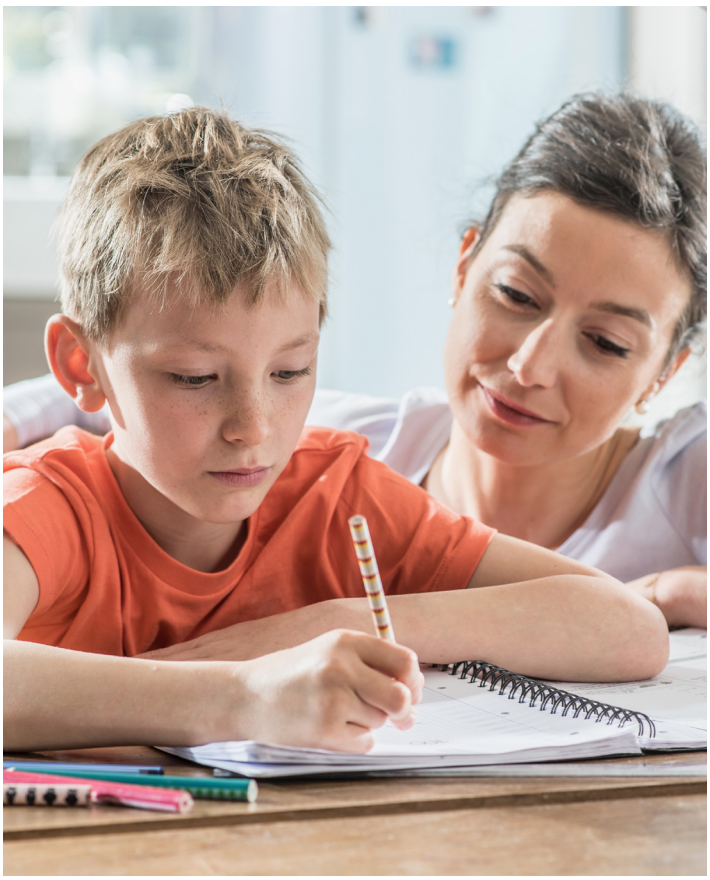
Behavioural problems are considered to be a substantial risk factor for learning (Malecki & Elliot 2002, Normandeau & Guay 1998, Wentzel 1993). In a study by Wang & Holcombe (2010) students who were rated by their teachers as being disruptive, inattentive and reported to exhibit non-compliant behaviours also scored substantially lower than their classmates on standardised test scores.

The research identifies that school-wide behavioural support interventions and social skills training have the largest effect on improving discipline issues and challenging behaviours in schools (Durlak et al. 2011, Lipsey & Wilson 1993). School-wide positive behavioural supports are systems to communicate expectations and teach rules around good behaviour (Sugai & Horner 2002). Social learning programs promote self-management, social awareness and relationship skills (Durlak et al. 2011). Both types of intervention approaches emphasise the role of school staff in promoting desirable social behaviours through positive modelling, expectations and interactions (Osher et al. 2010).

4. Positive attitudes to homework support numeracy achievement

Attitudes to homework is another measure of school engagement in TTFM. It refers to the time and effort students are motivated to invest in learning and studying outside of school hours.

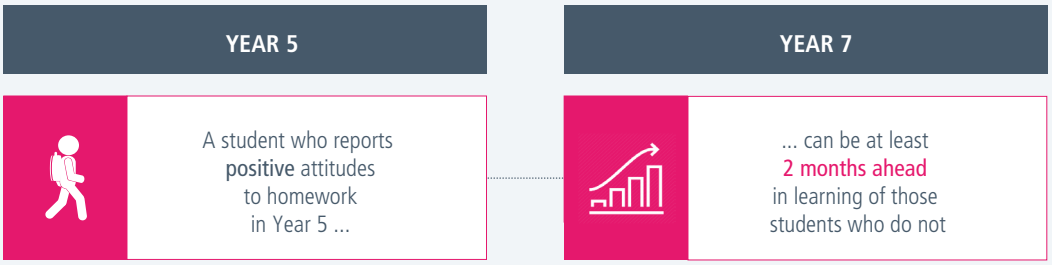
Where two students are identical in terms of socioeconomic status and prior academic performance, a student in Year 5 who agrees that they have positive attitudes to homework is, on average, two months ahead in their NAPLAN numeracy scores by Year 7, compared with a student who does not agree. However, this impact was not observed for reading scores, indicating that the effect is specific to numeracy outcomes (Figure 6) and that the type of homework typically set during numeracy instruction may be particularly beneficial to student learning.



Having a positive attitude to numeracy homework – what is it and why is it important?

Students' learning is enhanced and positive work habits develop when tasks and homework are regularly completed (Marzano & Pickering 2007, Trautwein et al. 2006). Teachers can help create more positive attitudes toward studying at home by providing positive feedback early so that students come to recognise that homework is a valuable and worthwhile activity that helps them to learn (Núñez et al. 2015).

Figure 6. The effect of attitudes towards homework on NAPLAN numeracy scores



Echoing the findings of our work[3], some international research demonstrates that the positive effect of homework on academic outcomes may be subject-specific. Studies have found that students with positive attitudes toward mathematics spend more time and effort on homework and have improved outcomes in the middle years of school (Singh et al. 2002, Mullis et al. 2012). One study in America found that mathematics homework had a large and positive effect on students' maths test scores, but that homework in science, English and history had little impact on their respective test scores (Eren & Henderson 2011).

This may reflect differences in the types of homework typically set in different subjects. Hattie (2009) suggests that homework has a larger effect on maths performance because homework tasks typically set in this subject are about 'deliberate practice' of things learnt in class. The type of task is also important for improving learning outcomes. Mathematics homework best supports learning when it is short, regular and focused on practising skills in order to develop students' mastery of the material (Hattie 2009). Homework of this type supports the transfer of knowledge and skills to long-term memory. Cognitive load theory[4] suggests that this promotes learning by freeing up students' limited working memory for the processing of new material (Norton 2014, Sweller et al. 2011).

Students also report preferring homework that is highly structured with specific and discrete tasks and goals (İflazoğlu & Hong 2012).

The exact benefits of doing homework are unclear. Early meta-analyses found, for example, that time spent on homework in the primary years has little impact on student learning (Cooper 1989, Cooper et al. 2006). However, other research suggests that undertaking homework has non-academic benefits that can ultimately help to raise student achievement. The NSW Department of Education Homework Policy (2012) highlights how homework can help develop skills such as time management, study skills, motivation and independent learning outside of the classroom. Our current study provides some evidence to complement this advice and shows how a more positive attitude towards homework, such as enjoying tasks and making an effort to complete them on time, does have a sustained benefit for students' numeracy achievement.

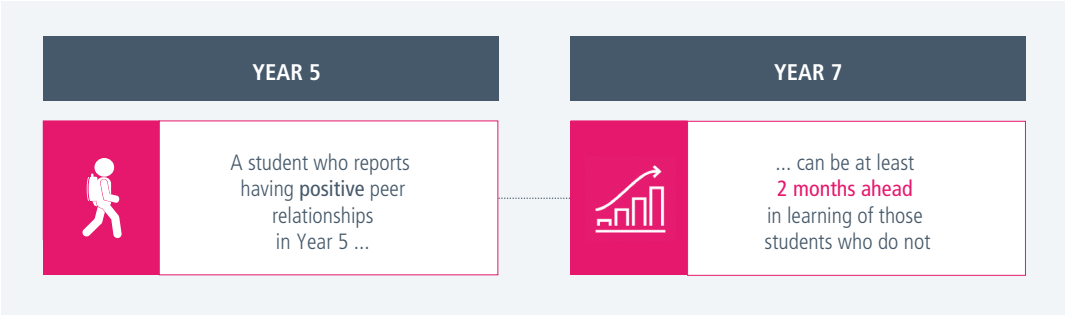
3 Non-significant results were observed for NAPLAN reading scores, suggesting the effect of positive attitudes to homework may be greater for numeracy performance.
4 For more information on cognitive load theory and how to put this into practice, see CESE's suite of resources: https://www.cese.nsw.gov.au/publications-filter/cognitive-load-theory-research-that-teachers-really-need-to-understand.

5. Positive peer relationships support literacy achievement

In TTFM, 'positive relationships' is a measure of social engagement. It refers to students' friendships with their peers that help them form positive social connections and participate meaningfully within the school. Positive peer relationships promote engagement and a sense of belonging, while negative peer experiences are associated with school disengagement.

The results from the NSW study suggest that early social engagement, in the form of peer connections and friendships at school, has particular benefits for literacy learning. Where two students are identical in terms of socioeconomic status and prior academic performance, a student in Year 5 who agrees that they have positive friendships in school is at least two months ahead in their NAPLAN reading[5] scores by Year 7, compared with a student who does not agree (Figure 7).

Figure 7. The effect of positive peer relationships on NAPLAN reading scores



5 Non-significant results were observed for NAPLAN numeracy scores, suggesting the effect of positive peer relations may be greater for reading literacy performance.

The importance of social engagement for literacy – what is it and why is it important?

Positive peer connections are vital to children's wellbeing, to their sense of self, and to their social development. Most of the research literature generally agrees that positive peer relationships are highly significant for establishing student wellbeing and engagement in school life (Zins 2004).

Although early researchers argued that peer influences contribute to a lack of effort and are 'distractions' when it comes to schoolwork (for example, Bishop 1989, Goodlad 1984), contemporary researchers suggest that positive relationships and group memberships made in school can promote positive attitudes and engagement with school. Classroom peer relationships help children feel securely connected to school (Connell 1990, Juvonen 2006). Relatedness to the peer group is associated with classroom engagement, which, in turn, is related to academic performance. Thus, acceptance by the peer group may enhance classroom engagement because it provides a sense of cohesion and belonging (Wentzel 1993).

The evidence particularly highlights the important role of social interactions in literacy development. A focus on social skills in pre-school, for example, has been shown to promote successful literacy learning (Doctoroff et al. 2006, Normandeau & Guay 1998). Children develop literacy skills through everyday interactions, first between the adults and caregivers in their lives, and then with peers in informal and academic settings. Regular interactions with peers contribute to the development of children's language and understanding. According to sociocultural theory, talking with peers provide opportunities to learn from one another (Vygotsky 1986).

In primary school, the positive impact of friendships on later reading achievement may be capturing the tail-end of social learning and literacy development that is seen in the pre-school literature. For example, children who are more socially engaged with peers have more opportunities to participate in interactive play that involves the use of language and comprehension to convey ideas and interpret responses (Fantuzzo et al. 2004). Recently, Sabol and colleagues (2018) found that positive engagement with peers improved four-year-old children's ability to assign content to words (receptive language) – although there was no significant relationship between engagement with peers and ability to express words (expressive language).

Strategies for fostering engagement in the classroom

Be a high expectations teacher

- Create a positive classroom climate – A high expectations classroom emphasises a classroom community of peer and teacher support. Some ways that teachers can demonstrate high academic expectations of their students, as measured in the *Tell Them From Me* primary survey, are:
  - be clear about what is expected of students and follow-up on expectations
  - make it clear to all students that they must work hard to succeed
  - when setting homework, expect it to be done on time.
- Help students set goals that are relevant, specific and measurable – Personal goals encourage students to best their own prior performance and to build their skills and understandings accordingly. When goal setting takes this form, teachers can tell if goals are being achieved and whether they are challenging enough, and can communicate high but reachable expectations for each individual student.

Explicitly link student interests to learning to create relevance

- Link learning content to personal goals – Teachers can link lessons to their students' learning goals and personal interests in order to promote the relevance of schoolwork. This can encourage learning autonomy in the classroom as students appreciate how their classwork contributes to the development of their skills and understandings, as well as their own enjoyment of things that interest them.
- Have explicit learning intentions for all activities – When teachers clearly state the learning intentions of the lesson and the learning activities, students understand what is expected of them and have explicit guidance to allow them to achieve success.

Facilitate peer relationships

- Provide opportunities for students to share their learning with each other – When students share knowledge and ideas, and are given the space to explain their thinking, they practice being respectful listeners and learners. Providing opportunities for students to interact and collaborate with their peers in the classroom and in year group and school-wide activities helps develop these skills.
- Enabling student leadership – Whole school practices, such as opportunities for students to engage in peer support, buddying, or mentoring programs, provide a platform for forming positive and respectful relationships.

Foster positive attitudes towards homework

- Make homework a focus on the process of learning – Homework opportunities could reward effort and demonstrations of learning, rather than being a measure of exactness or correctness. Such experiences can help students to see homework as an opportunity for growth.
- Provide structured tasks that encourage practice and repetitive learning – As students encounter new concepts in the classroom, it is important that they are able to develop their confidence and capabilities with these new skills. Brief, but frequent, experiences with homework will help develop students' skills, which is found to be particularly beneficial for numeracy learning.

Encourage positive classroom behaviours

- Facilitate social and emotional learning at school – Students who acquire core competencies, such as recognising and managing emotions and behaviours, engage in perspective taking, and handle everyday interpersonal interactions constructively, are more likely to act responsibly, and with care and concern for others. These attributes also encourage prosocial attitudes towards classroom interactions and learning.
- Adopt school-wide strategies that reinforce appropriate behaviour – Effective school-wide strategies set an expectation that communicates consistent values, norms and responsibilities, and the consequences for behaviours when in the school context. Structured classrooms, familiar routines, and consistent language help students to recognise and reinforce the behavioural expectations and norms for school.

Conclusion

The evidence highlights that when students are engaged in school and have teachers who set high expectations for behaviour and learning, they learn more. This study using NSW TTFM data confirms that what happens in primary school has a significant impact on how students perform academically by the time they move to secondary school.

Our findings add to the current literature on the importance of a culture of high expectations and positive attitudes toward school for improved learning outcomes. Moreover, the modelling shows that engagement and quality classroom experiences in primary school can have a positive lag effect on academic performance when students have moved onto high school.

The NSW study found that students from low-SES backgrounds are less likely to demonstrate positive engagement with school or to agree that their teachers hold high academic expectations of them (Figure 2). Both local and international data have highlighted the consistent gap in the proportion of low- and high-SES students who report positive participation and classroom experiences in school (CESE 2019; OECD 2016). However, our current modelling indicates that it is never too late to receive a learning boost if these experiences are improved.

The current publication is accompanied by case studies from two primary schools that provide a strong culture of high expectations and whose students demonstrate positive school engagement, despite their socioeconomic disadvantage. These resources describe the strategies implemented by Liverpool West Public School and Warwick Farm Public School to ensure a positive learning and classroom environment for their students.

References

Alvidrez, J & Weinstein, RS 1999, 'Early teacher perceptions and later student academic achievement', *Journal of Educational Psychology*, vol. 91, no. 4, p. 731–746.

Bishop, J 1989, 'Why the apathy in American high schools?', *Educational Researcher*, vol. 18, no. 1, 6–10.

Brophy, J 1999, 'Toward a model of the value aspects of motivation in education: Developing appreciation for particular learning domains and activities', *Educational Psychologist*, vol. 34, no. 2, pp. 75–85.

Centre for Education Statistics and Evaluation 2014, *What works best: Evidence-based practices to help improve NSW student performance*, research report.

Centre for Education Statistics and Evaluation 2017, *Improving high school engagement, classroom practices and achievement,* research report.

Centre for Education Statistics and Evaluation 2019, *Supporting school completion: The importance of engagement and effective teaching,* research report.

Connell, J 1990, 'Context, self and action: A motivational analysis of self-system processes across the lifespan', in D Cicchetti & M Beeghly (eds) *The self in transition: From infancy to childhood*, University of Chicago Press, Chicago, USA.

Cooper, H 1989, 'Synthesis of research on homework', *Educational Leadership*, vol. 47, no. 3, pp. 85–91.

Cooper, H, Robinson, JC, & Patall, EA 2006, 'Does homework improve academic achievement? A synthesis of research, 1987–2003', *Review of Educational Research*, vol. 76, no. 1, pp. 1–62.

Doctoroff, GL, Greer, JA, & Arnold, DH 2006, 'The relationship between social behavior and emergent literacy among preschool boys and girls', *Journal of Applied Developmental Psychology*, vol. 27, no. 1, pp. 1–13.

Durlak, JA et al. 2011, 'The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions', *Child Development*, vol. 82, no. 1, pp. 405–432.

Eren, O, & Henderson, DJ 2011, 'Are we wasting our children's time by giving them more homework?', *Economics of Education Review*, vol. 30, no. 5, 950–961.

Fantuzzo, J, Perry, MA, & McDermott, P 2004, 'Preschool approaches to learning and their relationship to other relevant classroom competencies for low-income children', *School Psychology Quarterly*, vol. 19, no. 3, p. 212–230.

Goodlad, J 1984, *A place called school*, McGraw-Hill, New York, USA.

Harris, MJ & Rosenthal, R 1985, 'Mediation of interpersonal expectancy effects: 31 meta-analyses', *Psychological Bulletin*, vol. 97, no. 3, p. 363–386.

Hattie, J 2009, *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*, Routledge, London, UK.

Hulleman, C & Harackiewicz, J 2009, 'Promoting interest and performance in high school science classes', *Science*, vol. 326, pp. 1410–1412

İflazoğlu, A & Hong, E 2012, 'Relationships of homework motivation and preferences to homework achievement and attitudes in Turkish students', *Journal of Research in Childhood Education*, vol. 26, no. 1, pp. 57–72.

Juvonen, J 2006, 'Sense of belonging, social relationships, and school functioning' in P Alexander & P. H Winne (eds) *Handbook of educational psychology*, Erlbaum, Mahwah, USA.

Jussim, L & Harber, KD 2005, 'Teacher expectations and self-fulfilling prophecies: Knowns and unknowns, resolved and unresolved controversies', *Personality and Social Psychology Review*, vol. 9, no. 2, pp. 131–155.

Ladd, GW & Dinella, LM 2009, 'Continuity and change in early school engagement: Predictive of children's achievement trajectories from first to eighth grade?', *Journal of Educational Psychology*, vol. 101, no. 1, pp. 190–206.

Lipsey, MW & Wilson, DB 1993, 'The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis', *American Psychologist*, vol. 48, no. 12, p. 1181–1209.

Malecki, CK & Elliot, SN 2002, 'Children's social behaviors as predictors of academic achievement: A longitudinal analysis', *School Psychology Quarterly*, vol. 17, no. 1, p. 1–23.

Marzano, RJ & Pickering, DJ 2007, 'Errors and allegations: About research on homework', *Phi Delta Kappan*, vol. 88, no. 7, pp. 507–513.

Mullis, IV et al. 2012, *TIMSS 2011: International results in mathematics*, TIMSS & PIRLS International Study Centre, Boston, USA.

NSW Department of Education 2012, *Homework policy guidelines*, <https://education.nsw.gov.au/policy-library/associated-documents/Hwk_Pol_guide.pdf>

Normandeau, S & Guay, F 1998, 'Preschool behavior and first-grade school achievement: The mediational role of cognitive self-control', *Journal of Educational Psychology*, vol. 90, no. 1, p. 111–121.

Norton, S 2014, 'Middle-school homework engagement in mathematics', *Curriculum Perspectives*, vol. 34, no. 1, pp. 29–42.

Núñez, JC et al. 2015, 'Teachers' feedback on homework, homework-related behaviors, and academic achievement', *The Journal of Educational Research*, vol. 108, no. 3, pp. 204–216.

OECD 2016, *PISA 2015 results (volume I): Excellence and equity in education*, PISA, OECD Publishing.

Osher, D et al. 2010, 'How can we improve school discipline?', *Educational Researcher*, vol. 39, no. 1, pp. 48–58.

Rosenthal, R & Jacobson, L 1968, *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development,* Holt, Rinehart and Winston New York, New York, USA.

Rubie-Davies, CM et al. 2014, 'Successive teacher expectation effects across the early school years', *Journal of Applied Developmental Psychology*, vol. 35, no. 3, pp. 181–191.

Rubie-Davies, CM 2017, *Teacher expectations in education*, Routledge, New York, USA.

Sabol, TJ, Bohlmann, NL, & Downer, JT 2018, 'Low-income ethnically diverse children's engagement as a predictor of school readiness above preschool classroom quality', *Child Development*, vol. 89, no. 2, pp. 556–576.

Scheerens, J 1992, *Effective schooling: research theory and practice*, Cassell, London, UK.

Singh, K, Granville, M, & Dika, S 2002, 'Mathematics and science achievement: Effects of motivation, interest, and academic engagement', *The Journal of Educational Research*, vol. 95, no. 6, pp. 323–332.

Sorhagen, NS 2013, 'Early teacher expectations disproportionately affect poor children's high school performance', *Journal of Educational Psychology*, vol. 105, no. 2, p. 465–477.

Sugai, G & Horner, R 2002, 'The evolution of discipline practices: School-wide positive behavior supports', *Child & Family Behavior Therapy*, vol. 24, no. 1–2, pp. 23–50.

Sweller, J, Ayres, P, & Kalyuga, S 2011, *Cognitive load theory,* Springer, New York, USA.

Trautwein, U et al. 2006, 'Effort on homework in grades 5–9: Development, motivational antecedents, and the association with effort on classwork', *Child Development*, vol. 77, no. 4, pp. 1094–1111.

Vygotsky, L 1986, *Thought and language*, MIT Press, Cambridge, USA.

Wang, M & Holcombe, R 2010, 'Adolescents' perceptions of school environment, engagement, and academic achievement in middle school', *American Educational Research Journal*, vol. 47, no. 3, pp. 633–662.

Wentzel, KR 1993, 'Does being good make the grade? Social behavior and academic competence in middle school', *Journal of Educational Psychology*, vol. 85, no. 2, pp. 357–364.

Willis, J 2008, *How your child learns best: Brain-friendly strategies you can use to ignite your child's learning and increase school success*, Sourcebooks Inc., Nappersville, USA.

Zins, JE 2004, *Building academic success on social and emotional learning: What does the research say?*, Teachers College Press, New York, USA.

Authors: Samuel Cox and Jin Zhou

November 2019

Centre for Education Statistics and Evaluation
GPO Box 33, Sydney NSW 2001, Australia

Visit our website to subscribe to the CESE newsletter

02 7814 1527
Yammer
info@cese.nsw.gov.au
cese.nsw.gov.au

NSW GOVERNMENT