Acting on the evidence: what might the PISA 2009 reading findings mean for our teachers and school leaders?

BY MARIE TELFORD // NOVEMBER 2012
WHAT IS PISA?
The Programme for International Student Assessment (PISA) is an international standardised study that assesses and compares how well countries are preparing their 15-year-old students to meet real-life opportunities and challenges.

WHAT DOES PISA ASSESS?
PISA assesses three key areas of knowledge and skills – reading literacy, mathematical literacy and scientific literacy – and has a focus on one of these literacy areas each time PISA is administered. The focus of PISA 2009 is reading.

HOW OFTEN IS PISA ADMINISTERED?
PISA is administered every three years, beginning in 2000. Reading was the main focus in the first cycle.

WHO PARTICIPATES IN PISA?
Around 470,000 15-year-old students from 65 countries or economies, including the 34 Organisation for Economic Co-operation and Development (OECD) member countries, participated in PISA 2009. In New Zealand, 4,643 students from 163 schools took part in the main study. Students and schools were randomly selected.

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This workbook examines key findings on New Zealand 15-year-old students’ reading performance from the Programme for International Student Assessment 2009 (PISA 2009) and explores their implications.

The workbook provides information about our students’ reading habits in the print medium (reading enjoyment, time spent reading, what they read); the types of literary tasks they do for school; the motivational, structuring and scaffolding practices they experience in their English classes; and the ways in which parents or whānau can influence their child’s reading skills. It also provides information about students’ use and knowledge of effective learning strategies that are critical to their educational development.

Literacy knowledge and skills are necessary for learning in every subject area, and for moving from learning to read to reading to learn. As students progress through the curriculum, particularly at the secondary levels, the literacy and language demands on their learning become increasingly complex, abstract and specialised within each subject.

The findings for PISA are relevant for both primary and secondary school learners because PISA is designed to measure the cumulative learning at age 15-years - often referred to as ‘the cumulative yield of education’.

In this workbook each section includes a piece called What might the PISA findings mean for teachers and school leaders? It has been designed to stimulate discussion among primary and secondary school teachers, leaders and other educators, and to promote the sharing of knowledge about how teachers and school leaders can:

- promote and foster parent or whānau involvement in their child’s learning
- foster and nurture students to enjoy reading
- encourage students to enjoy reading a wide range of materials
- extend students’ reading skills and knowledge (particularly weak readers) by using motivational practices and scaffolding students to tackle more complex and challenging texts and literacy tasks
- empower students with knowledge of the most effective strategies that enable and promote their learning.

The workbook has a focus on gender given that boys’ reading literacy skills and knowledge are generally much weaker than girls’, regardless of their ethnic grouping.

More detailed information that links to each section in this workbook is available in the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds’ reading habits, learning approaches and experiences of teaching practices (Telford 2012).
Are early educational experiences related to reading literacy at age 15?

PISA findings indicate that participating in early childhood education and home-based literacy-related activities when children are young has a positive relationship with reading literacy at age 15.

What do the PISA findings tell us?

Ninety-one percent of New Zealand 15-year-olds had participated in early childhood education (ECE), and more than two-thirds had participated for longer than one year.

Almost all parents or whānau (or someone else in the home) of our 15-year-olds reported that they had frequently read books to their child during their first year of schooling. The majority were also frequently involved in other early home-based literacy-related activities, such as reading signs and labels aloud and telling stories.

The difference in average reading scores between our 15-year-old students whose parents or whānau read books to them regularly when they began school and those who did not was equivalent to more than one and a half years of schooling.

Early childhood education

Our 15-year-old boys without ECE experience were typically very weak readers. Their reading skills were significantly lower than boys who participated in ECE for at least one year or longer, and substantially lower than girls without ECE experience. Proportionally fewer boys (67%) than girls (71%) had participated in ECE for longer than one year.

Although 91% of our 15-year-olds had participated in ECE, most other high-performing PISA countries had an even higher proportion of ECE participation.

Home-based literacy-related activities in the early primary years

Home-based literacy-related activities while children are in early primary school were also related to stronger reading skills. This included reading books (as mentioned above), and activities such as parents or whānau frequently talking with their child about the things they themselves do, telling stories, writing letters or words, reading signs and labels aloud, or talking with them about their own reading.

Typically, at age 15 students who were involved in these activities had an advantage in reading that was equivalent to approximately one year of schooling.

New Zealand parents or whānau tended to do some types of activities less often with their sons than with their daughters, such as singing songs, writing letter or words, and playing word games.

See pages 10-13 of the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds’ reading habits, learning approaches and experiences of teaching practices, for more detail.
What might the PISA findings mean for teachers and school leaders?

The findings suggest that even after 10 years of schooling, students without ECE or home literacy-related experiences have weaker reading skills. While most New Zealand students have had these experiences, it is important that students who did not are identified when they enter school so that they can benefit from specialised learning opportunities.

Questions for teachers and school leaders (particularly of Years 1–3)

›› How do we identify what a child brings to their learning and be responsive to their individual learning needs?

›› How effective are our classroom processes for identifying whether a child has had ECE or home literacy-related experiences?

›› How do we support students who haven’t had these experiences to ensure they quickly develop the reading knowledge, skills and attitude expected of their cohort?

›› How do we involve the parents and whānau of our diverse learners to positively engage in their child’s learning? (For example, have we supported them to know how they can nourish their child’s reading so that when books go home the experience is fun and positive for all? Have we encouraged them to talk to their child about the things that they themselves do?)

›› How do we support teachers to develop appropriate classroom programmes and strong and successful connections with parents and whānau? (For example, does the school have information (eg, a database) that teachers can use that provides monitoring information about which interventions are successful in accelerating learning for these students?)

›› How can we work with community groups (eg, at the local marae, or at churches or Plunket) to enable parents and whānau to know the value of early childhood education and home literacy-related experiences for their children and, where possible, provide or facilitate these services?

Resources that may be useful for teachers and school leaders

The Reading Together programme is a research-based workshop programme for teachers, parents and whānau, and children. It helps parents and whānau to support their children’s reading at home more effectively.

http://home-schoolpartnerships.tki.org.nz/Initiatives-that-have-been-effective/Reading-Together

Pause, Prompt, Praise (PPP) is a set of reading tutoring strategies developed by Auckland researchers working with the parents and whānau of a group of older children who were experiencing difficulties in learning to read in Mangere, South Auckland, in the mid-1970s. Ministry-funded trials of this approach during the late 1990s produced very positive results for the students, the parent and whānau tutors, and the schools.

http://home-schoolpartnerships.tki.org.nz/Initiatives-that-have-been-effective/Pause-Prompt-Praise-PPP

Hei Awhiwhi Tamariki ki te Pānui Pukapuka (HPP) means “Supporting children’s oral language development within English-medium storybook reading contexts”. HPP is a tutoring programme in which schools enlist the help of parent and whānau tutors, who are then trained to enrich students’ oral language. The parent and whānau tutors read interesting stories and discuss them with students, one on one and in a fun way, to support the oral language development and phonological awareness of learner readers, including older primary school students with reading ages below seven years.

http://home-schoolpartnerships.tki.org.nz/Initiatives-that-have-been-effective/Hei-Awhiwhi-Tamariki-ki-te-Panui-Pukapuka-HPP
What do the PISA findings tell us?

Our students are more likely to be strong readers if their parents or whānau role-model their reading enjoyment by reading books on a regular basis. Nearly 90% of the parents or whānau enjoyed reading.

Fifteen-year-olds whose parents or whānau frequently discuss books, films or television programmes (84%), or political and social issues (68%) with them, or simply spend time just talking with them (97%), were generally much better readers than those whose parents or whānau were less involved in these types of activities.

Influence of whānau’s own reading habits

Our students were generally stronger readers if their parents or whānau held positive attitudes towards reading. The large majority of our 15-year-olds’ parents or whānau reported that reading is one of their favourite hobbies, that they enjoy going to bookshops or a library, and that they feel happy if they receive a book as a present.

Influence of parent or whānau involvement with their 15-year-old in academic and non-academic activities

The majority of the students’ parents or whānau reported that they frequently spent time just talking with their 15-year-old, eating dinner at the table, discussing films or television programmes and books, or discussing school progress with their 15-year-old.

Two-thirds of parents or whānau reported that they discuss social and political issues with their 15-year-old. This activity had the strongest relationship with reading literacy across all the activities examined in PISA.

It is significant that New Zealand’s parents or whānau were less likely to participate in school-based activities, such as discussing their child’s progress or behaviour with a teacher, compared to parents from the 18 PISA countries that asked parents about their school involvement.

See pages 14-17 of the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds’ reading habits, learning approaches and experiences of teaching practices, for more detail.
What might the PISA findings mean for teachers and school leaders?

The findings show us that interactions with parents, whānau and other adults are important in supporting students to become strong readers. While most New Zealand students have these experiences, schools can play a role in affirming and encouraging both students and parents and whānau to engage in and strengthen their conversations, especially discussions that involve complex issues such as social and political issues.

Questions for teachers and school leaders

›› What are our current practices to ensure that our classroom curriculum is both culturally responsive and responsive to what is important to the wider community?

›› What are our current classroom practices to encourage students to talk and write about complex issues, books, films and TV programmes in ways that support knowledge building? (For example, do students discuss with each other about why a particular news article or a character in a book has an impact on them before they write? Is there a scaffolded structure or learning framework for discussion?)

›› How well do we work with parents and whānau so that they know what their children are learning about and can create opportunities to engage in conversations about a range of topics? (For example, is background material for a learning field sent home? Is parental expertise sought in particular learning areas?)

›› How can we improve our educational connections with parents and whānau so that teachers can make use in their teaching practice of what parents and whānau bring to students' learning?

Resources that may be useful for teachers and school leaders

The leadership best evidence synthesis section on the Education Counts website on creating educationally powerful connections with family, whānau and communities offers insights into the types of home interactions that make a difference to student learning.

www.educationcounts.govt.nz/publications/series/2515/60169/60170

The Ruia resource supports schools to undertake an inquiry and knowledge-building process to strengthen partnerships. The site includes an interactive audit tool, case studies of effective partnerships, and links to a range of tools and other resources the Ministry of Education and schools have worked on over time.

http://partnerships.ruia.educationalleaders.govt.nz/

How can we build our pedagogical knowledge to ensure students have the capability to engage in conversations about political and social issues, books, films and TV programmes with each other and with adults in ways that deepen their world knowledge? The BES Exemplar 1: Developing Communities of Mathematical Inquiry may be a useful place to start because it explores ways to shift class talk so that it is more participatory and meaningful. The context is mathematics, but the concepts can be transferred to other talk inside and outside the classroom.

www.educationcounts.govt.nz/topics/BES/bes-exemplar
Do New Zealand 15-year-olds enjoy reading?

PISA findings indicate that enjoying reading and reading for enjoyment on a daily basis are positively related with reading literacy.

What do the PISA findings tell us?

Two-thirds of our 15-year-olds reported they read for enjoyment every day. Typically, the more time they spent reading for enjoyment, the better their reading score.

There was a very large gap in reading performance between 15-year-olds who enjoyed reading the most and those who enjoyed reading the least. The gap was larger for boys than for girls.

Overall, the performance gap between students who enjoyed reading the most and those who enjoyed reading the least was equivalent to more than three years of schooling.

Girls were twice as likely as boys to hold positive views about reading.

Reading daily

Twenty percent of our 15-year-olds read for enjoyment for up to one hour a day. These students were particularly strong readers overall. Even students who read for less than 30 minutes a day were, in general, relatively strong readers.

Typically, the reading literacy score of the third of students who never read for enjoyment on a daily basis was weak.

Boys were less likely than girls to spend time reading for enjoyment. This was the case in every country participating in PISA apart from Korea.

Our boys were more likely to spend time reading for enjoyment than the OECD average, including their peers in three large English-speaking countries (Australia, United Kingdom and the United States).

Reading enjoyment

Girls were much more likely than boys to feel happy if they received a book as a present, to enjoy going to the bookshop or library, to express their opinions and talk with other people about the books they read, to exchange books, or to consider reading to be one of their favourite hobbies.

Boys who enjoyed reading the most typically had a very strong reading score, which was similar to that of girls who enjoyed reading the most.

Boys were more likely than girls to hold negative views towards reading. Approximately half reported that they read only if they had to and read only to get the information they need. One-third found it hard to finish books, around a quarter considered reading a waste of time, and at least one in five said they could not sit still for more than a few minutes to read.

Overall, our 15-year-olds were more likely to report that they enjoy reading than their counterparts in other OECD countries, including their peers in Finland and Australia.

See pages 18-24 of the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds’ reading habits, learning approaches and experiences of teaching practices, for more detail.
What might the PISA findings mean for teachers and school leaders?

(This section on students’ attitudes towards reading links with the following section on what students read for enjoyment.) A strong reader usually enjoys reading and reads widely. The evidence shows that the gender gap in reading enjoyment is large.

Questions for teachers and school leaders

›› Do we know who enjoys reading in each of our classes?

›› For students who appear not to like reading, do we know why? Is it that they haven’t found reading material that stimulates their interest, or is it that they don’t have the reading skills and attitudes to make reading a positive experience?

›› Have we provided multiple opportunities for students to spend time reading, and are these times celebrated?

›› How do we ensure that what we ask each student to read actually connects with their life, identity, language and culture? This could be through their need to see themselves in text or the need to see a completely different world.

›› Do we have the resources that are relevant and reflect the identities, languages and cultures of our students?

›› Do we need to build our knowledge about engaging reluctant readers in their learning, especially boys, in productive ways that lead to improved outcomes?

›› How well do we support parents and whānau to know what their child is reading so that they can talk with him or her about the reading material and find other texts their child may like to read.

Resources that may be useful for teachers and school leaders

The reading skills that students need across the curriculum in order to respond to and think critically about texts at each year level are described in the Literacy Learning Progressions. For example, by the end of Year 10 students are expected to have control of a range of comprehension strategies that they use deliberately and flexibly, depending on their purpose for reading.

www.literacyprogressions.tki.org.nz/

Success for Boys is a Ministry of Education project that is designed to help school leaders look at the teaching–learning relationships with boys in the classroom, create supportive learning environments for boys, and provide a range of approaches and tools to address the diverse learning needs of boys so that they achieve to their full potential.

http://success-for-boys.tki.org.nz/

The Education Review Office report Boys’ Education: Good Practice in Secondary Schools (July 2008) provides schools and policy makers with examples of how 10 New Zealand secondary schools successfully support boys’ education. The schools in this study were selected on the basis of their good overall levels of student achievement, previous positive ERO reports and well-developed pastoral care and support strategies.

What do New Zealand 15-year-olds read for enjoyment?

PISA findings indicate that reading a range of reading materials, including fiction, is positively related with reading literacy.

What do the PISA findings tell us?

Students who read a wide range of reading materials were generally stronger readers than those who did not.

Reading fiction books regularly was strongly related to strong reading skills. A third of our boys and over half of our girls read fiction regularly.

Our 15-year-old students read magazines or newspapers more often than fiction books, non-fiction books or comics. More than half of them regularly read magazines and newspapers (i.e., at least several times a month). A third read fiction books, a quarter read non-fiction books, and just over 10% read comics regularly.

Our boys read newspapers and magazines more often than they read the other types of reading materials, whereas girls read magazines, fiction and newspapers the most. Boys were more likely to read comics than girls.

Reading fiction books

Both boys and girls who regularly read fiction for enjoyment were generally substantially better readers than their counterparts who did not.

Our 15-year-olds were more likely to read fiction than the average for 15-year-olds across the 34 OECD countries, including Finland, Australia and Canada.

Reading non-fiction books

Boys who read this type of reading material regularly were generally much stronger readers than their peers who did not. This was not the case for girls: there was no difference in the average scores of girls who read non-fiction books regularly and those who did not.

Our 15-year-olds read non-fiction for enjoyment more than the OECD average, including their peers in Finland and the four large English-speaking countries (Australia, Canada, UK and US).

Reading newspapers

Although our boys and girls read newspapers to a similar extent, boys with weak or strong reading skills were equally likely to read them. Among our girls, stronger readers were more likely to read newspapers for enjoyment.

Although New Zealand students read newspapers less often than the OECD average, typically they read them more often than their peers in Canada, Korea and the United States, and to about the same extent as Australian students.

Reading magazines and comics

Our students with weak reading skills were more likely to read magazines and comics than our strong readers. This was true for both boys and girls.

Boys were nearly twice as likely as girls to read comics regularly, but our girls read magazines more often than boys.

Our boys and girls were less likely to read these genres than their OECD counterparts overall. Finland’s and Japan’s students read magazines and comics the most, with well over half of their students reading them.

Reading a diverse range of materials (fiction books, non-fiction books, magazines, newspapers and comics)

New Zealand girls and boys were as likely as their OECD counterparts to read a wide range of reading materials.

See pages 25-34 and page 74 of the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds’ reading habits, learning approaches and experiences of teaching practices, for more detail.
What might the PISA findings mean for teachers and school leaders?

(This section on what students enjoy reading links with the previous section on students' attitudes towards reading.) A strong reader enjoys reading and reads widely. The findings show that the gender gap is most obvious in reading fiction.

Questions for teachers and school leaders
›› Do we know the range of reading materials students engage with outside of their classes?
›› How can we extend the range of materials students read? (For example, do students know how to use the online library catalogue and have access to a wide variety of appealing reading materials?)
›› How well do we work with parents and whānau?
›› How do we ensure that our students read widely and that they have a framework that allows them to successfully read the different types of text? (For example, are students scaffolded or given a learning framework to become independent readers of all types of reading material?)
›› How do we improve the range of reading material across all curriculum areas?
›› How do we support parents and whānau to encourage their children to broaden the range of reading materials, and in particular, ensure short stories and novels are part of their repertoire? (For example, do we support parents and whānau to enrol their child in the local library and access newspapers and online reading material?)

Resources that may be useful for teachers and school leaders

Literacy online has a number of resources that may be worth exploring. For secondary teachers, thinking about literacy across all learning areas may be a good start.
http://literacyonline.tki.org.nz/Literacy-Online/Secondary-Literacy/Teacher-needs/
Literacy-in-the-learning-areas2

For all teachers a discussion about text selection may be useful. The following link is to resources that support text selection up to level 4.
http://literacyonline.tki.org.nz/Literacy-Online/Student-needs/Planning-for-learning/
Text-Selection-Guidelines
What reading literacy tasks do our 15-year-olds undertake?

PISA findings indicate that interpreting literary texts and using tasks that are associated with non-continuous texts are positively related with reading literacy.

What do the PISA findings tell us?

New Zealand students with strong reading skills were more likely to undertake tasks that involve interpreting literary texts and to use non-continuous texts.

Interpreting literary texts

Students who reported regularly undertaking the following literary tasks generally had stronger reading skills than those who did them less often:

- explaining the cause of events in a text
- explaining the way characters behave in a text
- explaining the purpose of a text.

Around two-thirds of our 15-year-olds reported that they had undertaken the above interpreting literary text tasks regularly, a similar proportion to the OECD average.

New Zealand girls were more likely to have undertaken interpreting literary text tasks than boys. This was the case overall across the OECD countries.

Boys who undertook these tasks regularly were typically those with stronger reading skills. This was not the case for girls: girls with weak or strong reading skills were equally likely to have carried out these tasks.

Tasks associated with non-continuous texts

Students who had regularly undertaken the following non-continuous tasks were likely to have stronger reading skills than those who had undertaken them less often:

- finding information from a graph, diagram or table
- using texts that include tables or graphs
- using texts that include diagrams or maps
- describing the way the information in a table or graph is organised.

Well over half of our students used three of the four non-continuous text tasks.

Our boys used non-continuous texts less often than girls.

New Zealand students who used non-continuous texts the most were typically those with stronger reading skills. This was the case for both boys and girls.

In Finland and the four large English-speaking countries (Australia, Canada, UK and US), boys used these texts to about the same degree as girls, whereas overall across the OECD countries boys were more likely to use them.

See pages 40-46 and pages 75-78 of the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds’ reading habits, learning approaches and experiences of teaching practices, for more detail.
What might the PISA findings mean for teachers and school leaders?

All students need to be challenged and supported to develop their competencies in contexts that are increasingly wide ranging and complex. Weak readers were less likely to report they had experienced many challenging and complex text-associated tasks.

Questions for teachers and school leaders

›› How do we ensure that all students – not only those with strong reading skills – are scaffolded to more challenging and complex literacy tasks? (See the next section on teacher structuring and scaffolding.)

›› How do we ensure that students are engaged with rich, challenging and complex literacy tasks in all learning areas? (For example how do we support the specific language features of each learning area?)

›› Do we need to build our teaching knowledge about knowing how to improve the range of tasks and activities in all learning areas?

›› Do we need to build our teaching knowledge about the scaffolding required to support weak readers to be successful in the more challenging and complex tasks to ensure their reading literacy experiences are amplified rather than simplified?

Resources that may be useful for teachers and school leaders

The PISA Reading Proficiency Level 2 (at the end of this workbook) describes the type of reading skills necessary for effective and productive participation in 21st century life.

The types of reading tasks that Year 1–8 competent readers would successfully complete are available on the Ministry of Education website.

Do teachers use motivational, structuring and scaffolding practices?

Exposure to challenging and complex structuring and scaffolding practices and motivational practices in English classes is positively related to reading literacy.

What do the PISA findings tell us?

Our students with strong reading skills were more likely to have been exposed to the range of structuring and scaffolding practices and motivational practices examined in PISA.

Overall, the structuring and scaffolding practices were found to contribute to making a difference to our students’ reading literacy skills and knowledge by the equivalent of well over one year of schooling.

Motivational practices are also strongly related to stronger reading skills. Overall, the performance gap between those in classes where their teachers used them the most and those in classes where they were used the least, was equivalent to just under one year.

Structuring and scaffolding practices

Stronger readers were more likely to report that the following structuring and scaffolding practices were used in most or all of their English classes:

» giving students a chance to ask questions about a reading assignment
» telling students in advance how their work is going to be assessed
» marking students’ work

» asking whether every student has understood how to complete a reading assignment
» checking that students are concentrating while working on a reading assignment
» posing questions that motivate students to participate actively
» discussing students’ work after they have finished a reading assignment (formative feedback on an assessment).

Around two-thirds or more of New Zealand students were in English classes where their teachers used the practices that were positively related to reading literacy.

New Zealand boys were less likely than girls to report that their teachers used these practices in all or most of their English classes.

Boys with stronger reading skills were more likely to report that their English teachers explained beforehand what was expected of students, whereas girls with strong or weak reading skills were equally likely to report that their teachers did this.

Our 15-year-olds were more likely to report that their teachers use the structuring and scaffolding practices in most or all of their English classes than the average across the 34 OECD countries.

Motivational practices

Students in classes where their teachers used the following motivational practices examined in PISA were likely to have strong reading literacy skills:

» asking questions that challenge students to get a better understanding of a text
» asking students to explain the meaning of a text
» giving students enough time to think about their answers
» encouraging students to express their opinion about a text.

Around two-thirds of New Zealand students were in classes where teachers used these four practices in most or all of their English classes.

Half of our students were in classes where teachers used the effective strategy of showing students how the information in a text builds on their prior knowledge, a practice noted in The New Zealand Curriculum. Our students with weak or strong reading skills were equally likely to be in English classes where this motivational practice is used often.

Our 15-year-old boys and girls were equally likely to report that their teachers used the motivational practices examined in PISA in most or all of their English classes. Stronger readers were more likely to report that their teachers used the more complex and challenging practices.

Our 15-year-olds were more likely than their OECD counterparts, including students from Canada, Finland, Japan, Korea and Singapore, to report that their teachers use motivational practices.

See pages 47-52 and page 79 of the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds’ reading habits, learning approaches and experiences of teaching practices, for more detail.
What might the PISA findings mean for teachers and school leaders?

The types of scaffolding and structuring and motivational practices experienced by weak readers tended to be those that attempted to engage students to undertake a task rather than engage them with the learning. This section links very closely with student ownership and control of learning described in the next section.

Questions for teachers and school leaders

How do we ensure that students know why it is important to check their understanding of the purpose of a task and what is required of them? (For example, does classroom talk involve students clarifying with their peers about purpose, actual task, and indicators of success?)

How can we support teachers to ensure all students are motivated and scaffolded to learn?

Resources that may be useful for teachers and school leaders

BES Exemplar 5: Learning Logs He Kete Wharawhara explores the way learning logs have been used to strengthen student–teacher communication and accelerate learning.

www.educationcounts.govt.nz/topics/BES/bes-exemplars
Are our students aware of the effective strategies for learning?

Knowing the effective strategies for summarising information, understanding and remembering complex information, and using control strategies is positively related to reading literacy.

What do the PISA findings tell us?

Typically, students who knew about learning strategies requiring metacognition skills (summarising, understanding and remembering strategies) that international reading experts rate as the most effective were very strong readers.

The performance gap between students who reported knowing most about the effective summarising strategies and those who did not was equivalent to approximately three years of schooling.

Overall, the PISA findings show that students who were the most knowledgeable about the understanding and remembering strategies and who used control learning strategies the most had an advantage that was equivalent to at least two years of schooling.

Our boys were less aware of the effective strategies requiring metacognition skills than our girls. Boys were also less likely to self-direct their learning by using control learning strategies, and less likely to use memorisation strategies.

Are our students aware of effective learning strategies that require metacognitive skills?

Students with stronger reading literacy skills were more likely to know that the following two strategies were the most effective for summarising complex information:

» carefully checking whether the most important facts in the text are represented in the summary
» reading through the text and underlining the most important sentences, and then writing them down in your own words.

Just over half of our 15-year-olds knew about the two effective summarising strategies.

Our boys were less aware than our girls of the effective summarising strategies. This was the case in all 34 OECD countries.

It is a concern that 13% of our 15-year-old students considered that trying to copy out accurately as many sentences as possible was an effective summarising strategy. These students were typically very weak readers.

Our students were much less likely to know about effective summarising strategies than their OECD counterparts on average, especially when compared with their peers in most other high-performing countries.

The following understanding and remembering strategies examined in PISA were also rated as the most effective by international reading experts and were more likely to be used by students with strong reading skills:

» underlining the most important parts of the text
» summarising the text in your own words
» after reading the text, discussing its contents with other people.

About half of our 15-year-old students indicated that they knew about the first two of the three effective strategies for understanding and remembering complex information. A third knew about the other.

Boys were less aware of the most effective strategies for understanding and remembering information than girls. This was also the case on average across the OECD countries.

New Zealand students were as aware of the effective understanding and remembering learning strategies as the OECD average.

See pages 55-66 and pages 82-86 of the companion report, Reading to Learn PISA 2009: New Zealand 15-year-olds' reading habits, learning approaches and experiences of teaching practices, for more detail.
What other effective learning approaches do our students use when they study?

The findings show that the following four control strategies examined in PISA were all strongly related to achievement:

» starting by figuring out exactly what you need to learn
» figuring out which concepts you do not really understand
» checking if you understand what you have read
» if you don’t understand something, looking for additional information to clarify this.

Our boys were less likely than the girls to use these strategies. This was also the case in the vast majority of other participating PISA countries.

Both our boys and our girls used these strategies much more often than their international counterparts on average across OECD countries, including their peers from almost all other high-performing countries.

Our stronger readers were more likely to use the elaboration strategy:

» understanding the material better by relating it to your own experiences.

The findings also show that weaker readers were equally or more likely than strong readers to use the three other effective elaboration strategies examined in PISA:

» relating new information to prior knowledge in other subjects
» figuring out how the text information fits in with what happens in real life
» figuring out how the information might be useful outside of school.

These types of strategies are noted in The New Zealand Curriculum as a key effective teaching action for promoting student learning. The PISA findings suggest that our weaker readers are developing an awareness of these effective learning strategies.

Half of our 15-year-olds often or almost always related new information to prior knowledge acquired in other subjects.

Our boys and girls used the elaboration strategies to about the same extent.

What might the PISA findings mean for teachers and school leaders?

Strong readers are aware of the effective learning approaches (control strategies, summarising strategies, understanding and remembering strategies). Because the summarising and understanding and remembering strategies require students to process information, these strategies are referred to as metacognition skills.

Boys are less likely to use or know about the most effective strategies for learning. Weak readers tend to rely on memorisation. This section links very closely with the motivational and structuring and scaffolding teaching practices.

Questions for teachers and school leaders

» How do we know what learning strategies each student uses to successfully undertake classroom, school-wide or home-based tasks in all learning areas? How do we link to these successes in our classroom?

» How do we ensure that students know why it is important to summarise text and check their understanding of text? For example, does classroom talk involve summarising texts in a range of different ways, discussing the importance of processing information, and checking the usefulness of particular summaries against agreed-upon indicators of success?

» Do we need to build our pedagogical knowledge in knowing how to support students to be active in their learning and to use effective learning strategies in all learning areas? In particular, how do we build our knowledge to support boys to engage and take ownership of their learning?

Resources that may be useful for teachers and school leaders

BES Exemplar 4: Reciprocal Teaching discusses supporting literacy learning in whole-class and small groups in primary and secondary classes. It shows how reciprocal teaching has been highly effective with Māori and Pasifika students, low-achieving students, students with special needs and English-language students.

www.educationcounts.govt.nz/topics/BES/bes-exemplars
Types of tasks students can do at each PISA reading proficiency level

<table>
<thead>
<tr>
<th>Level</th>
<th>Lower score limit</th>
<th>Percentage of students able to perform tasks at this level or above</th>
<th>Characteristics of tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>708</td>
<td>1% of students across the OECD can perform tasks at least at Level 6 on the reading scale. 3% of New Zealand students.</td>
<td>Tasks at this level typically require the reader to make multiple inferences, comparisons and contrasts that are both detailed and precise. They require demonstration of a full and detailed understanding of one or more texts and may involve integrating information from more than one text. Tasks may require the reader to deal with unfamiliar ideas, in the presence of prominent competing information, and to generate abstract categories for interpretations. Reflect and evaluate tasks may require the reader to hypothesise about or critically evaluate a complex text on an unfamiliar topic, taking into account multiple criteria or perspectives, and applying sophisticated understandings from beyond the text. A salient condition for access and retrieve tasks at this level is precision of analysis and fine attention to detail that is inconspicuous in the texts.</td>
</tr>
<tr>
<td>5</td>
<td>626</td>
<td>8% of students across the OECD can perform tasks at least at Level 5 on the reading scale. 16% of New Zealand students.</td>
<td>Tasks at this level that involve retrieving information require the reader to locate and organise several pieces of deeply embedded information, inferring which information in the text is relevant. Reflective tasks require critical evaluation or hypothesis, drawing on specialised knowledge. Both interpretative and reflective tasks require a full and detailed understanding of a text whose content or form is unfamiliar. For all aspects of reading, tasks at this level typically involve dealing with concepts that are contrary to expectations.</td>
</tr>
<tr>
<td>4</td>
<td>553</td>
<td>28% of students across the OECD can perform tasks at least at Level 4 on the reading scale. 41% of New Zealand students.</td>
<td>Tasks at this level that involve retrieving information require the reader to locate and organise several pieces of embedded information. Some tasks at this level require interpreting the meaning of nuances of language in a section of text by taking into account the text as a whole. Other interpretative tasks require understanding and applying categories in an unfamiliar context. Reflective tasks at this level require readers to use formal or public knowledge to hypothesise about or critically evaluate a text. Readers must demonstrate an accurate understanding of long or complex texts whose content or form may be unfamiliar.</td>
</tr>
<tr>
<td>3</td>
<td>480</td>
<td>57% of students across the OECD can perform tasks at least at Level 3 on the reading scale. 66% of New Zealand students.</td>
<td>Tasks at this level require the reader to locate, and in some cases recognise the relationship between, several pieces of information that must meet multiple conditions. Interpretative tasks at this level require the reader to integrate several parts of a text in order to identify a main idea, understand a relationship or construe the meaning of a word or phrase. They need to take into account many features in comparing, contrasting or categorising. Often the required information is not prominent or there is much competing information; or there are other text obstacles, such as ideas that are contrary to expectation or negatively worded. Reflective tasks at this level may require connections, comparisons, and explanations, or they may require the reader to evaluate a feature of the text. Some reflective tasks require readers to demonstrate a fine understanding of the text in relation to familiar, everyday knowledge. Other tasks do not require detailed text comprehension but require the reader to draw on less common knowledge.</td>
</tr>
<tr>
<td>2</td>
<td>407</td>
<td>81% of students across the OECD can perform tasks at least at Level 2 on the reading scale. 86% of New Zealand students.</td>
<td>Some tasks at this level require the reader to locate one or more pieces of information, which may need to be inferred and may need to meet several conditions. Others require recognising the main idea in a text, understanding relationships, or construing meaning within a limited part of the text when the information is not prominent and the reader must make low level inferences. Tasks at this level may involve comparisons or contrasts based on a single feature in the text. Typical reflective tasks at this level require readers to make a comparison or several connections between the text and outside knowledge, by drawing on personal experience and attitudes.</td>
</tr>
<tr>
<td>1a</td>
<td>335</td>
<td>94% of students across the OECD can perform tasks at least at Level 1a on the reading scale. 96% of New Zealand students.</td>
<td>Tasks at this level require the reader to locate one or more independent pieces of explicitly stated information; to recognise the main theme or author’s purpose in a text about a familiar topic, or to make a simple connection between information in the text and common, everyday knowledge. Typically the required information in the text is prominent and there is little, if any, competing information. The reader is explicitly directed to consider relevant factors in the task and in the text.</td>
</tr>
<tr>
<td>1b</td>
<td>262</td>
<td>99% of students across the OECD can perform tasks at least at Level 1b on the reading scale. 99% of New Zealand students.</td>
<td>Tasks at this level require the reader to locate a single piece of explicitly stated information in a prominent position in a short, syntactically simple text with a familiar context and text type, such as a narrative or a simple list. The text typically provides support to the reader, such as repetition of information, pictures or familiar symbols. There is minimal competing information. In tasks requiring interpretation the reader may need to make simple connections between adjacent pieces of information.</td>
</tr>
</tbody>
</table>

### Reading literacy proficiency levels

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<tr>
<th>Country Name</th>
<th>Mean Score</th>
<th>Standard Error</th>
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</thead>
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<td>*Kyrgyzstan</td>
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<td>(1.2)</td>
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</tbody>
</table>

*non-OECD countries

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**Percentage of students**

- Country mean significantly higher than New Zealand
- Country mean significantly lower than New Zealand

[Below Level 1b] [Level 1b] [Level 1a] [Level 2] [Level 3] [Level 4] [Level 5] [Level 6]
List of countries and economies participating in PISA 2009

<table>
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<tr>
<th>Africa</th>
<th>Asia</th>
<th>Europe</th>
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</table>

* non-OECD countries and economies