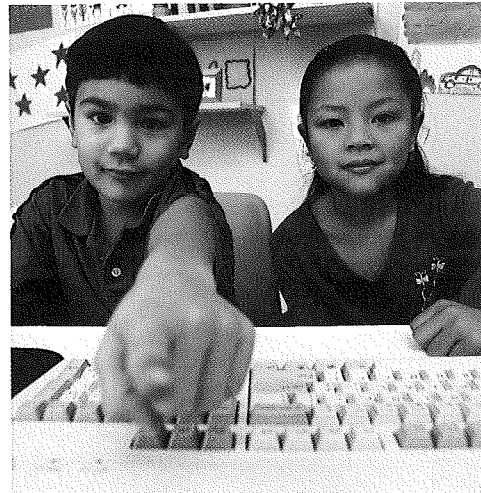


An innovative project is literally freeing up students' brain space so they can concentrate on more complex literacy and numeracy tasks. By **Julie Hare**.



# Quicker & smarter

**A** program which targets students with learning difficulties, in particular slow recognition and response times in reading and numeracy tasks, is having a significant impact on a group of 12 Year 5 students at Newling Public School in Armidale. QuickSmart is being run by a small team of researchers from the University of New England, headed by Professor John Pegg.

"The purpose of the program is to provide necessary strategic instruction and practice opportunities to middle school students who are experiencing difficulties in reading and numeracy," says project co-ordinator and instructor Anne Bellert.

"The program is designed to improve students' information retrieval times which in turn frees up working memory."

To monitor student progress, the program uses the Computer-Assisted Assessment System (CAAS) which was developed by Professor Mike Royer from the University of Massachusetts.

Using CAAS, high frequency words or number facts flash on the screen. When the student responds, the computer provides an audio cue that it has heard. The instructor then marks the answer right or wrong. Students aim to increase their accuracy and speed of recall and decrease response times.

"Automatic and effortless recall of well-learned information frees up working memory and allows students with learning difficulties to undertake high order

mental processing with greater efficiency and success," says Anne.

Program director, Dr Lorraine Graham, says results over the three terms of the project have shown an average response time of six seconds drop to less than one on word recognition activities.

"We use high frequency words, particularly those associated with the curriculum. For example, for Year 7 students we use words like procedure, experiment, science words and maths words. For Year 5, we use more generic words that build up from three letters to four letters and so on to quite difficult words like notorious, destruction and visualise.

"By making basic word recognition, basic word skills, basic sentence comprehension and basic numeracy facts automatic you allow a more efficient use of working memory which then allows the student to engage in successful comprehension and problem-solving activities."

One student, for example, took an average of 13 seconds to complete sentence comprehension activity at the beginning of the program.

"By the time he got to the end of the sentence he had forgotten who did what and why at the beginning of the sentence," says Lorraine. He has now reduced his average time to five seconds.

A feature of QuickSmart is that much of the assessment information is accessible and understandable to participating students, allowing them to monitor their

own progress. They are then encouraged to set realistic future goals.

John Reid, Principal of Newling Public School is pleased with the results.

"Largely it's been successful," he says. "Gavin Morgan, the classroom teacher, has been pleased with the lack of disruption to the class and the noticeable benefits. The kids really enjoyed it – no one dropped out.

"We've seen improvements in self-confidence and socialisation skills. We've also got the hard data through BST results and other formal tests; all the students involved made progress on their Year 3 scores."

John says these improvements are unlikely to plateau with the end of the program. "I expect them to keep going because they've mastered the basics now and often it was the basics that were holding them back."

While the UNE researchers have so far only worked with Years 5 and 7, Lorraine says she's had positive feedback from teachers who recognise the program's potential for students from Years K-12.

"It's the interplay between accuracy and time that makes this program effective. We talk to the kids about being quick and smart. It's as if they are using clear and well-travelled pathways to understand and to remember."

For more information on QuickSmart contact Dr Lorraine Graham on (02) 6773 3821 or email [lgraham@metz.une.edu.au](mailto:lgraham@metz.une.edu.au)