Making new mates to enhance students’ working memory skills

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WORKING memory is our ability to hold and mentally manipulate information over short time frames.

Before using working memory, schoolchildren need to attend, which includes switching on and listening to teacher instructions. Students use working memory constantly when they are reading, writing, working out maths problems, and spelling.

Our research has confirmed how important working memory is for young learners. There are highly significant correlations between working memory and doing well at school, as well as students’ academic self-concept or sense of self-worth, and classroom engagement.

Low working memory is a problem experienced by about 10 to 15 per cent of children and is a high-risk factor for poor academic progress.

Information held in working memory is easily lost through distraction, trying to hold too much information at once, or engaging in a demanding task. To help students, teachers and parents address this problem, a team of school psychologists from the University of Sydney and the NSW Education Department have developed Memory Mates, a classroom-based attention and working memory intervention program. Our program helps upper primary-aged students develop the capacity to self-monitor and self-regulate their use of the attention and working memory strategies to improve learning outcomes, academic self-concept, and academic engagement. Memory Mates teaches and supports students by using 10 key attention and working memory strategies, presented as icons with a description of how to use them. The strategies are focused on how they attend, learn and engage in classroom activities.

For example, a student can use a link icon to relate new information to previous information or experience, making it easier to consolidate and then remember the new learning. We have made all the materials, including student-oriented icons and a teacher booklet free to download from the program’s site memorymates.education.

The unique feature of Memory Mates is that it is the only program aiming to enhance attention and working memory skills in children within classroom contexts, under teacher guidance and support.

One of our research studies with 13 classes of Year 4 students in NSW found significant positive gains in spelling and mathematics achievement following the Memory Mates intervention.

SUSAN COLMAR IS A UNIVERSITY OF SYDNEY ASSOCIATE PROFESSOR IN THE SCHOOL OF EDUCATION AND SOCIAL WORK, AND NASH DAVIS AND LINDA SHELDON ARE SENIOR PSYCHOLOGISTS AT THE NSW EDUCATION DEPARTMENT.