Fun and games that can change your brain

A university professor has developed a computer game that has the ability to "re-wire" people's brains, writes EMMA SHAW.

The power of play has been found to effectively train the brain of children taking part in a University of Wollongong study.

Dr Stuart Johnstone, an associate professor in UOW's School of Psychology, has been researching the brain activities of children with ADHD for 15 years. He has developed software that helps children improve their cognitive skills and behaviour by completing a series of specialised computer games.

A pilot study conducted last year among 30 children diagnosed with ADHD reported significant benefits to those taking part in the program.

"What we're trying to do is give people situations where they train to have more control over processes of the brain," Dr Johnstone said.

"The realistic expectation, at the neural level, is that there will be a re-wiring, there will be adjustments, a pruning of connections that are not effective and strengthening of connections that are effective."

Change is measured, and success quantified, in a number of ways, from behavioural aspects monitored by parents and teachers, to performance on neuro-psychological tasks, and the measurement of brain electrical activity.

"After the first study, we saw changes in all of these things," Dr Johnstone said.

He and his research team are about to start in-depth analysis of data from a second study, conducted earlier this year and involving 120 children, both with and without ADHD.

Initial reports are indicating some success, as in the case of eight-year-old Alex, who was diagnosed with ADHD earlier this year.

Murn Trish said her son had been much calmer and less prone to angry outbreaks since completing the program of 25 gaming sessions.

"His teacher noticed a big difference in the classroom as well," she said. "Alex has been getting into less trouble at school, his sleep has improved and his speech therapist has also noticed an improvement."

Dr Johnstone said he was now considering the potential impact of the software on mainstream education.

"We're thinking if children with ADHD are starting off behind the eight ball and we're wanting to bring them up to speed, what will it do for healthy children? We have visions of a primary school taking this on and putting everybody through it, so everyone has the opportunity to do this and push their abilities up a level."

Dr Johnstone has already received positive feedback from school principals who have indicated they would like to see this type of research further developed.