

Performance Summary of ARISE Study at Churchill and Carroll schools 2013-2014

Executive Summary

Executive Summary: Empowering Children through Thynk training

A test of the prototype Thynk training was conducted in two private schools that specialized in learning disabilities and challenges. A total of 28 students completed Thynk training over the course of 8 weeks. All 28 students had reported attention difficulties or at least one learning disability, such as dyslexia. After training for 8 weeks, the study showed that students regardless of diagnosis:

- Reduced their inattention and impulsivity by 35% as reported by parents
- Increased number of skill-matched math problems completed correctly in 10 minutes
- Age equivalents on nationally normed gold-standard achievement subtest of math fluency improved by 8.3 months
- Reading fluency age grade equivalents advanced by 6.6 months
- Problems planning and completing homework reduced by 49% as rated by parents
- Reduced problematic classroom behaviors by 25% as reported by teachers

This was the first test of Thynk training outside of a clinical setting and clearly showed that Thynk training can benefit students with a range of learning in addition to attention difficulties. Thynk training not only improved cognitive skills but also improved academic performance and behavior.

THYNK Inc

THYNK Inc: Building Cognitive Skills

Thynk training has been designed with the knowledge from learning research that cognitive skills are essential for learning. In order to successfully learn, in school or otherwise, students need the ability to pay attention, to ignore distractions, and to control their own actions. By harnessing these skills, students can experience greater learning, a better experience in school, and an easier time getting homework done.

Backed by rigorous scrutiny, Thynk training technology has undergone comprehensive evaluation, involving 337 children across clinical and educational contexts spanning Singapore and the U.S. The resulting five peer-reviewed articles illuminate the transformative potential of Thynk training, showcasing significant improvements in attention and impulse control. Notably, the program has emerged as a valuable resource for children grappling with general attention difficulties and reading disabilities, offering a versatile intervention across diverse learning environments.

By harnessing the power of an AV headset, players navigate their character's pace through focused attention, with gameplay strategically designed to cultivate essential cognitive skills vital for success in academic, personal, and social spheres.

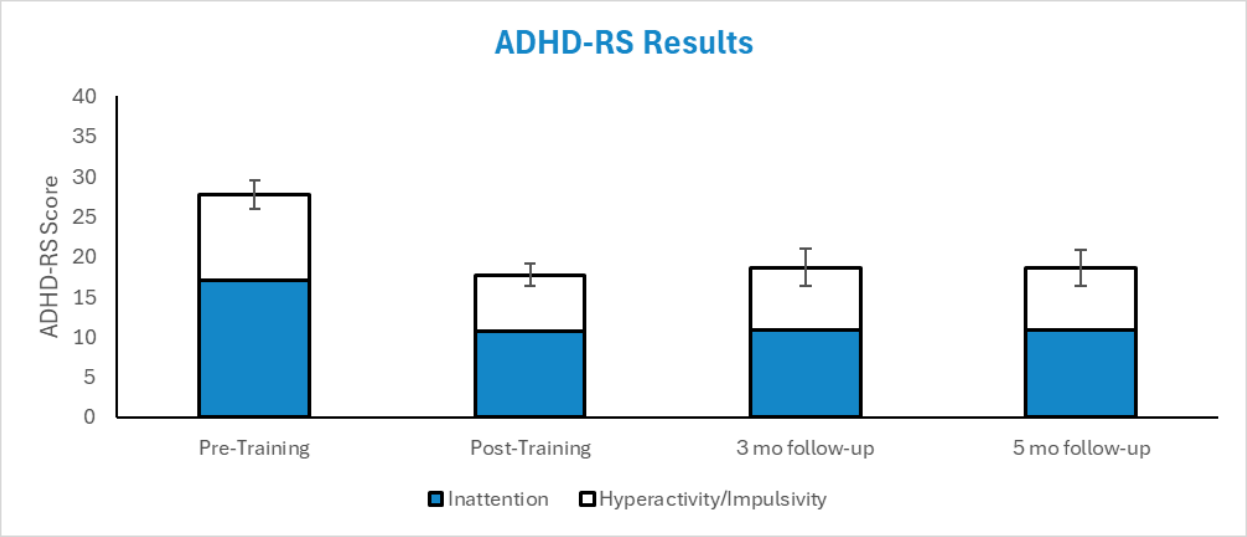
This study used an early prototype version of the Thynk training (Cogoland™) that nonetheless included all key elements to the Thynk training approach, including the AV headset, cognitive training game mechanics, and a transfer module.

Study Design

The study was run at the Churchill school in NYC and the Carroll School outside of Boston. Both schools specialized in students with learning difficulties. Across the two sites, 28 students participated in this test of Thynk training. About half of the students were not reported to have attention difficulties, but had other learning difficulties known to have attention-related components, such as dyslexia. They completed 24 sessions using Cogoland, an early version of Thynk cognitive training. They were tested on academic and behavior measures before and after the training, as well as 3 months and 5 months after the initial training was completed. Three of the students did not participate in the 3 and 3-month follow-up and an additional 3 did not participate in the 5-month follow-up.

Attention Rating Scale

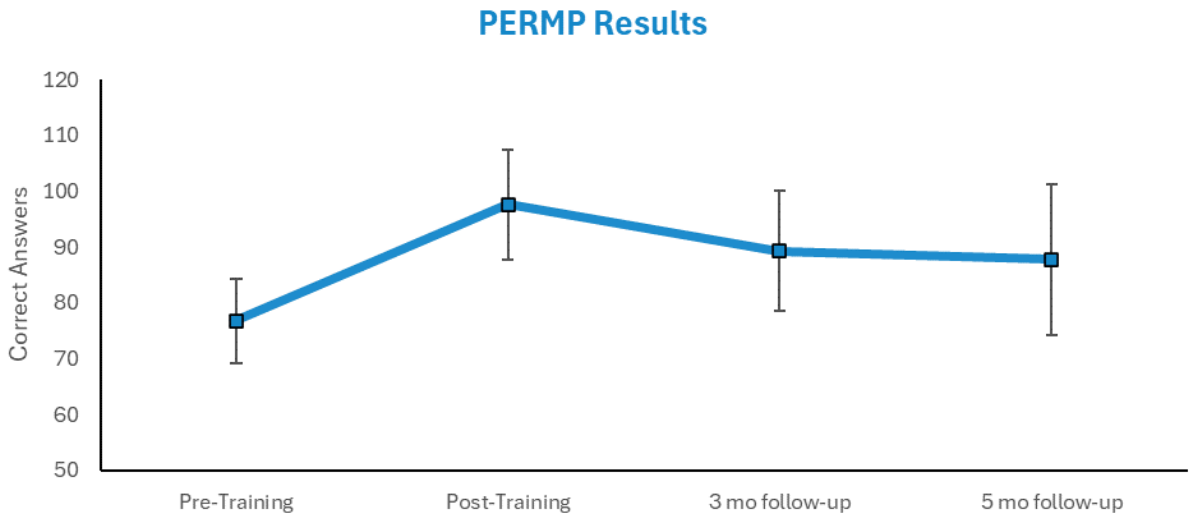
The Attention Rating Scale is a questionnaire that captures symptoms of inattention and poor self-regulation. Parents completed these measures before and after training and at the 3- and 5-month follow-up.



After training, students showed an average reduction of 35% in overall score, showing significant improvements in inattention and impulsivity. These improvements continued at 3 and 5 months after the training was completed. Importantly, about half of the participants without attention difficulties saw meaningful improvements in their attention and focus.

Permanent Product Measure of Performance (PERMP)

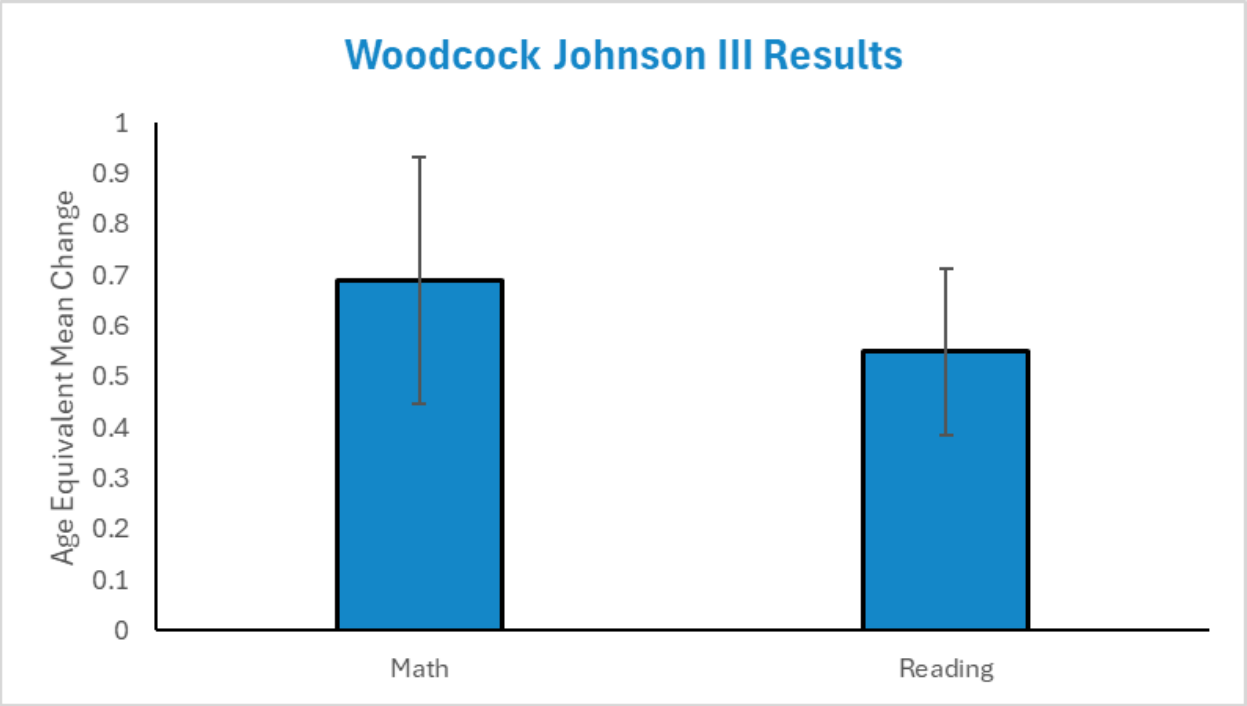
The Permanent Product Measure of Performance (PERMP) math assessment is an ability-adjusted collection of 400 math problems that measure a child's ability to pay attention and stay on task (S. Wigal, Truong, and Stehli 2012; S. B. Wigal and Wigal 2006). The students had 10 minutes to complete as many problems as possible that were at an appropriate math difficulty level based on an initial pretest before the study began.



After using Thynk training for 8 weeks, the students showed significant improvement in their ability to focus and complete math questions within 10 minutes. This directly translates to being more able to sit and focus on boring tasks at school, rather than disrupting the class. At follow-up this ability decreased somewhat, although the average did not return to baseline.

Woodcock Johnson

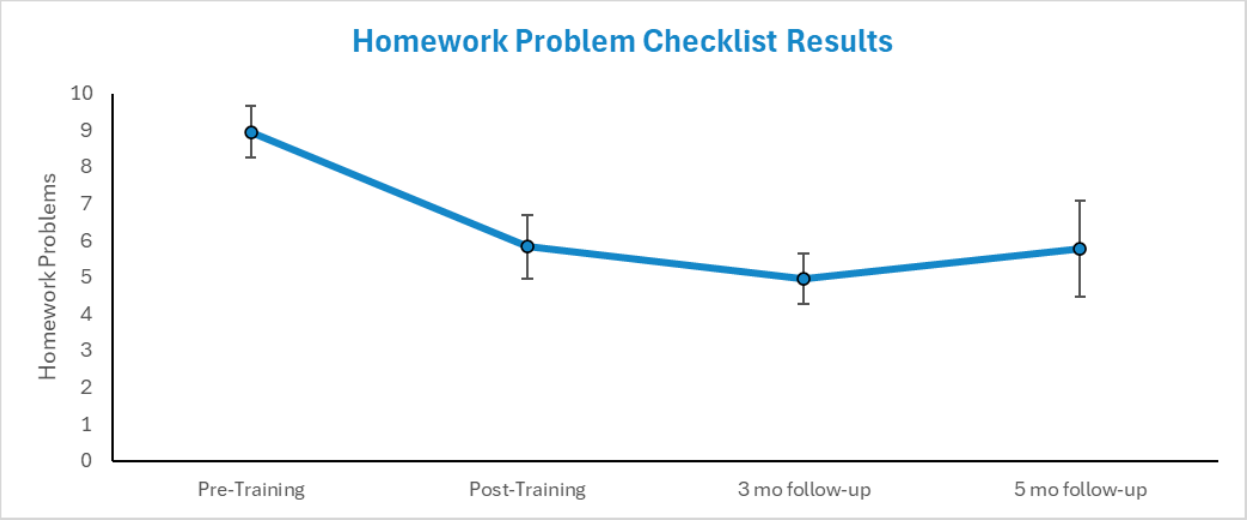
The Woodcock Johnson Test of Achievement III is a widely used assessment of cognitive abilities and academic skills. All tests are normed for age and grade level and therefore the test gives you both age and grade equivalent scores in addition to raw scores. For the purpose of this study, the Math Facts Fluency (i.e., math achievement and facility) and the Sentence Reading Fluency subscales were administered before and after students completed the training. These were only completed before and after training because there were only 2 versions available of the test.



After training for 8 weeks, students on average showed a 7 month gain in math ability and 5 month gain in reading ability.

Homework Problem Checklist

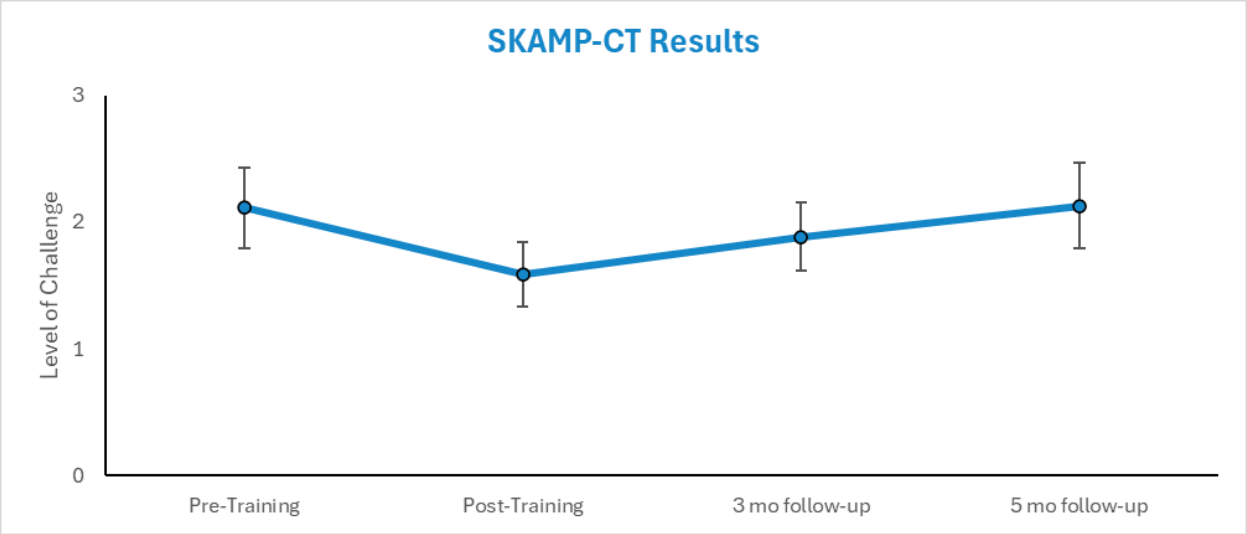
The Homework Problem Checklist is a parent-rated questionnaire that assesses a child's ability to successfully complete homework assignments. It includes questions about how distractible the child is while completing homework, the quality and quantity of parent-child interactions while doing homework, and homework management behaviors like remembering to bring the homework home or to turn it in at school.



After training, parents reported a significant decrease of 49% in problems with homework and these changes remained at 3 and 5 months after training.

Swanson, Kotkin, Agler, M-Flynn and Pelham Scale (SKAMP)

The Swanson, Kotkin, Agler, M-Flynn and Pelham Scale (SKAMP) was developed as a way to assess a child's behavior as a result of a school-based intervention within a lab school specifically designed to closely observe children (J. M. Swanson, Nolan, and Pelham 1982). For the purpose of this study, the SKAMP-Community Teacher Version (SKAMP-CT) was developed in order to fit the needs of the participants and the participant's teachers. The SKAMP-CT requires teachers to rate participants during one specified class period and takes place within a regular school period. Teachers completed the SKAMP-CT before and after training, and at the follow-ups.



Teachers reported a significant improvement in students' behavior in the classroom, including ability to start and complete a task, stay on task, shift to a new task, and interact appropriately with others.

Conclusion

This study was the first time Thynk training was successfully administered in a group, school setting with students who had attention or learning difficulties, such as dyslexia. The students showed lasting improvements in reducing inattention and hyperactivity. Students who did not have attention difficulties such as dyslexia, showed comparable improvements to the students with attention difficulties. Thynk training led to improvements in both behavior and academics, with a greater ability to stay focused on a task, to show appropriate behavior in the classroom, and have greater success completing homework. Additionally, the students showed gains of several months on standardized tests of both reading and math abilities.

This study reflects that Thynk training improves cognitive skills that transfers to meaningful improvements in their lives at school and at home. Building cognitive skills is the foundation needed for effective learning and this study confirms that as their cognitive skills improved, so did their school performance. This study also reflects that cognitive skill building can help students with many diverse learning difficulties.