



BrainWare Safari (BWS) is designed to comprehensively develop the cognitive skills that are most important for learning. Several studies have been completed using BWS in different settings to demonstrate its effectiveness. LEC continues to sponsor additional research on BWS and to cooperate with independent researchers involved with cognitive-behavioral investigations as well as schools and other educational institutions.

Study Identifier	Subject Details	Measures	Results	Additional Information
CHA ¹ Phase I Spring 2005	<ul style="list-style-type: none"> 34 children divided into a control and study group (17 each) Worked at home with parents' assistance as needed over 11 weeks 	Subset of Woodcock-Johnson III Cognitive Battery Subset of Woodcock-Johnson Tests of Academic Achievement	<u>Study group</u> <ul style="list-style-type: none"> Avg. cognitive improvement = 4.3 years² Avg. academic improvement = 1.11 years <u>Control Group</u> <ul style="list-style-type: none"> Avg. cognitive improvement = 4 months Avg. academic improvement = 1 month 	Published in Helms D, Sawtelle SM. <i>A study of the effectiveness of cognitive skills therapy delivered in a video-game format.</i> Optom Vis Dev 2007, 38(1):19-26. A similar study with 9 Asian students from Xilin Community Center ³ also showed similar results.
CHA Phase II Summer 2005	<ul style="list-style-type: none"> 11 children from the control group of Phase I used BWS over 15 week summer and were re-tested Worked at home with parents assistance as needed in the summer 	Subset of Woodcock-Johnson III Cognitive Battery Subset of Woodcock-Johnson Tests of Academic Achievement	<ul style="list-style-type: none"> Avg. cognitive improvement = 4.0 years Avg. academic improvement = 1.1 years 	Published in Helms D, Sawtelle SM. <i>A study of the effectiveness of cognitive skills therapy delivered in a video-game format.</i> Optom Vis Dev 2007, 38(1):19-26.
Harbor Beach Community Schools ⁴ Spring 2008	<ul style="list-style-type: none"> 10 students 10 weeks, 45 minutes, 4 times a week Average age 11.1 years Worked in lab with supervision after school 	Subset of Woodcock-Johnson III Cognitive Battery	<ul style="list-style-type: none"> Avg. cognitive improvement = 3.1 years 	<ul style="list-style-type: none"> Independent verification of published results

1. CHA is Christian Heritage Academy in Northfield Illinois.

2. This notation is used throughout this document for age equivalent scores: 4.3 years means 4 years 3 months.

3. The subjects were students in the after-school program at the Xilin Community Center in Naperville, Illinois.

4. Harbor Beach Community Schools is in Harbor Beach, Michigan. This study was performed under the supervision of a certified SLP for the Huron Intermediate School District.



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Glenwood School for Boys and Girls ⁵ 2008-2009 SY	<ul style="list-style-type: none"> • 2nd through 8th grades • 96 students • 51 girls, 45 boys 	Visual Motor Inventory Woodcock-Johnson III Academic Tests: Reading Fluency, Writing Fluency, Math Fluency Woodcock-Johnson III Cognitive Tests: Decision Speed, Pair Cancellation	<ul style="list-style-type: none"> • Results are in grade equivalents • Cognitive changes range from 1.5 GE in grade 2 to 3.0 GE in grade 7 • Academic changes range from 0.5 GE in grade 2 to 2.9 GE in grade 8 	<ul style="list-style-type: none"> • Shows the academic benefit of developing cognitive skills • Publication planned
Study with Students Qualifying for a Gifted Program 2008-2009 SY	<ul style="list-style-type: none"> • 64 second graders 	CogAT Verbal, Quantitative, NonVerbal and Composite Sub-Tests/Scores	<ul style="list-style-type: none"> • 2 of 64 scored in 98th and 99th percentiles • 5 of 64 qualified with at least one 93rd percentile score plus MAP testing eligibility • 3 of 64 qualified for additional testing with one CogAT subtest in 93rd percentile 	<ul style="list-style-type: none"> • 60 out of 64 improved their CogAT test score – 24 on all four subtests/scores and 26 on three
CHA 1 year later September 2006	<ul style="list-style-type: none"> • All students from Phase I and Phase II were invited, 14 set appointments, and 5 were able to keep those appointments. 	Subset of Woodcock-Johnson III Cognitive Battery	<ul style="list-style-type: none"> • All five sustained their cognitive development. • Three continued accelerated growth. • Two lost some of the gains but remained well above their age & baseline. 	<ul style="list-style-type: none"> • Unpublished results.
Edgar Evans Academy ⁶ Spring 2006	<ul style="list-style-type: none"> • 28 4th and 5th grade boys with discipline problems. • Avg. chronological age = 11.0 years • Avg. cognitive age at pre-test = 8.2 years 	Subset of Woodcock-Johnson Cognitive Battery	<ul style="list-style-type: none"> • Avg. intellectual age post-test = 14.2 years • Avg. cognitive improvement = 6.0 years • Every student in this study showed growth, with many showing multiple year growth. 	<ul style="list-style-type: none"> • Teachers recorded behavioral improvements: focus, self-esteem, cooperation, etc. • Publication planned.

5. Glenwood School for Girls and Boys in Glenwood, IL, is a community supported non-profit organization dedicated to making a difference in the lives of disadvantaged children in the Chicagoland and Fox Valley Regions.

6. Edgar Evans Academy, one of the schools within the Indianapolis Public Schools (IPS).



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Coleman Academy ⁷ Spring 2008	<ul style="list-style-type: none"> • 4th, 6th and 7th grades • 4th Grade Girls was the only class that used BrainWare according to the implementation plan. 	Academic progress in Reading using DIBELS®	<ul style="list-style-type: none"> • Each 4th grade girl improved her reading score, the only class in which each student improved. • 4th Grade Girls end of year average ORF score was 144 WPM – 26 points above benchmark, and higher than any other class. • 4th Grade Girls was the only class that exceeded their end-of-year benchmark. 	<ul style="list-style-type: none"> • The 4th Grade Girls teacher noted behavioral improvements: making fewer careless errors, memory, grasping new concepts, communication with parents, peers and teachers.
Autism Study ⁸ Winter 2006 -- Spring 2007	<ul style="list-style-type: none"> • 33 ASD children ages 5.5 to 16 	Behavioral Rating Scale and Autism Rating Scale (CARS)	<ul style="list-style-type: none"> • Increases in Sensorimotor Skills, Perceptual Processing Skills, Attention Skills, Thinking, Life Management • Improvements in relationships and less frustration observed. 	<ul style="list-style-type: none"> • 52% rate of completion of study among participants -- not all ASD children will respond well. • Asperger's Syndrome and High Functioning Autism had highest success rate. • 9 years and up had the highest success rate.
Whitney Center ⁹ Case Study Spring 2006	Two of the Center's most challenged students: <ul style="list-style-type: none"> • Case 1: 12.4 year old testing at 7.5 years • Case 2: 9.11 year old testing at 9.0 years. 	Subset of Woodcock-Johnson III Cognitive Battery	<ul style="list-style-type: none"> • Case 1 improvement = 2.2 years • Case 2 improvement = 5.4 years 	<p>Case 1: Parent reports he is paying better attention to directions now and he can work at things for longer without giving up or getting frustrated.</p> <p>Case 2: Parent reports better decision-making, working at a more reasonable pace, and completing his school work both in class and at home much more quickly and confidently.</p>

7. Coleman Academy is one of the schools within Indianapolis Public Schools (IPS).

8. Study performed in conjunction with Carole Richards of North Coast Educational Services, Solon, OH. NCES is a center that specializes in helping children with learning disabilities like those with an ASD diagnosis.

9. Carolyn Gibb, owner and founder of The Whitney Center in Richmond, IN. The Whitney center is a tutoring center that specializes in reading remediation.



Study Identifier	Subject Details	Measures	Results	Additional Information
The Gap School ¹⁰ 2006-2007 School Year	<ul style="list-style-type: none"> • 7 severely challenged students • IQ range 70 to 80 • Average age of 14 • Very low cognitive and academic ability 	Subsets of the Gibson Cognitive Battery and Detroit Tests of Learning Aptitude	<ul style="list-style-type: none"> • 9 months cognitive improvement on average • Typical interventions with these students results in either a decline or no improvement over the 8-month school year 	<ul style="list-style-type: none"> • Each of the 7 students exhibited at least one area of significant growth. • BrainWare was not easy for these students. • High numbers of attempts were needed to pass even the lowest levels. • Level of fun increased motivation so their level of frustration was moderated more than paper-based interventions.

10. This study was implemented/tested entirely by the staff at the Gap School in Sarasota Florida. For more information check out their website: <http://www.thegapschool.com>.