

B R A I N C H I L D[®]

Extended Learning for Higher Achievement

Army JROTC

PILOT STUDY

Purpose

This study was completed to determine whether a high school population of struggling learners would raise their academic achievement through the use of Brainchild handheld tutors. Students from 44 schools nationwide participated during a 2-month period. JROTC instructors recorded the scoring information.

Methodology

ASVAB (Armed services vocational aptitude battery) exam preparation software was used. ASVAB measures high school students' academic aptitude, and is used for entry to the armed forces or work programs in high schools. Progress report forms were issued to the 44 locations with directions on conducting the pilot program research. Pretests for lessons were taken and scored on the Brainchild unit, which were then recorded on provided progress report forms. Two of the lessons addressed reading comprehension and two addressed mathematics skills. Mastery was defined as a score of 90%. If the pretest score was less than 90% students engaged in up to three self-directed study sessions on the lesson, each followed by a post test. All scores were written on the pilot progress report forms. The study measured the percentage of students already achieving mastery on the lessons before using Brainchild for self-paced study, versus the percent of students who attained mastery after using Brainchild to learn and reinforce concepts.

Results

Seven of the 44 schools returned the forms. Five of the schools' forms met all the standards for inclusion of the study, with the results from a total of 92 students. The two schools' forms not used were incompletely or improperly filled out.

Significant gains were experienced through self-paced study with the Brainchild device. An added benefit reported by instructors was using Brainchild for rapid diagnosis of various skill areas, student by student, enabling systemic change. An example would be the results for the Fractions lesson, which showed that just 11.2% of students attained mastery on the pretest, 51.6% achieved mastery at the end of the self-paced study sessions, leaving 48.4% of students unable to achieve mastery in the five schools. This pointed out the need for more concentration on fraction instruction.

Pretests showed how many students could perform at mastery level (90%) for the four academic skills shown below. Brainchild was used to learn and reinforce knowledge over a period of two weeks and post tests were given. The post-test questions were randomized from a larger bank, to test the same concepts with different questions.

Subject Area	% of Students at Mastery Before Brainchild	Students at Mastery After Brainchild
Comprehension; Main Idea	54.5%	90.9%
Comprehension; Details	57.4%	90.8%
Decimals	31.5%	85.8%
Fractions	11.2%	51.6%

Army JROTC/Brainchild Two-Week Pilot Program

Students were given a pretest in each subject area. Students not attaining mastery used Brainchild handheld tutor to study the content for one week per subject area. The following week, they were given a post-test.

Reading; Main Ideas	Able High School	Baker High School	Charlie High School	Delta High School	Epsilon High School	Totals	Mastery Percent
Total Students	20	20	21	20	7	88	
Mastery on Pretest	10	8	14	12	4	48	55%
Mastery on Post Tests	17	19	18	19	7	80	91%
Mastery not Achieved	3	1	3	1	0	8	

Reading; Details	Able High School	Baker High School	Charlie High School	Delta High School	Epsilon High School	Totals	Mastery Percent
Total Students	20	20	20	20	7	87	
Mastery on Pretest	11	11	11	16	1	50	57%
Mastery on Post Tests	15	20	18	20	6	79	91%
Mastery not Achieved	5	0	2	0	1	8	

Math; Decimals & Money	Able High School	Baker High School	Charlie High School	Delta High School	Epsilon High School	Totals	Mastery Percent
Total Students	21	21	20	20	10	92	
Mastery on Pretest	1	10	8	7	3	29	32%
Mastery on Post Tests	17	20	16	16	10	79	86%
Mastery not Achieved	4	1	4	4	0	13	

Math; Fractions & Percents	Able High School	Baker High School	Charlie High School	Delta High School	Epsilon High School	Totals	Mastery Percent
Total Students	21	20	20	20	8	89	
Mastery on Pretest	0	0	2	7	1	10	11%
Mastery on Post Tests	11	3	7	18	7	46	52%
Mastery not Achieved	10	17	13	2	1	43	

