

THE EFFECTS OF A LEARNING STRATEGY, BAL-A-VIS-X, ON DIBELS READING SCORES, SCHOOL YEAR 2005-2006

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INTRODUCTION

In an effort to determine if movement stimulates or enhances brain function, two teachers from the Haverhill Public School System (Massachusetts, USA) conducted a study during the school year 2005-2006 using a movement based learning strategy called Bal-A-Vis-X (BAVX). It was posited that enhanced brain function would result in improved academic abilities as measured by a standardized test.

STUDENTS AND LEARNING STRATEGY — HOW CHOSEN

12 first grade and 12 second grade students (24) were chosen after a review of overall academic scores on standardized tests. The criteria used was that the children were in the general education classes rather than special education classes and appeared to be “almost ready” to achieve the scores that typically marked the median of performance for the specified grade level although they were not progressing as expected. It was hypothesized that without this specific learning strategy, BAVX, the students would fall significantly below grade level as they progressed in their school careers.

In addition to the 24 students who used the named strategy, 24 different first and second grade students, who had demonstrated similar level of accomplishments on their standardized tests, were chosen as the control group. This control group received the same classroom instruction and had the same teachers in their classrooms, the only significant difference being the intervention of BAVX.

RATIONALE FOR CHOSEN LEARNING STRATEGIES

The rationale for choosing BAVX is that this learning strategy uses simple movement to enhance brain functioning. That is, brain-based learning has been researched to validate movement-based learning strategies. (Jensen, 2001; Hannaford, 2005) BAVX is a series of Balance / Auditory Vision / eXercises of varied complexity, most of which are deeply rooted in rhythm. (Hubert, 2001) Since both of the teachers who conducted this study were interested in improving reading abilities, and rhythm is seen as an integral part of the reading process, BAVX was chosen.

STANDARDIZED TEST USED

The standardized tests used were from the Dynamic Indicators of Basic Early Literacy Skills, commonly referred to as **DIBELS**. More specifically, **DIBELS Nonsense Word Fluency** was used for the students in the first grade while the students in the second grade used the **DIBELS Oral Reading Fluency**. **DIBELS** was chosen for this study because this is a standardized test that is widespread in the public school district in which this research had taken place.

DESIGN

By design, the study is quasi-experimental with a non-equivalent control group. Thus it has widespread, pragmatic implications as well as containing perfect experimental replicability.

METHODOLOGY

From September 2005 through March 2006, 12 first grade students and 12 second grade students were chosen per academic standing as stated above. These students attended a 45-60 minute period to learn BAVX once every six school days, an average of 3.5 times per month, throughout this research period. During this time, a specific sequence of BAVX exercises was used. The sequence included a) the use of a VisTAR Ball, a method for assessing and remediating visual tracking deficiencies; b) sandbag exercises; and c) ball exercises. Chart 1 specifies the BAVX exercises used during the 45-60 minute class periods.

CHART ONE: BAL-A-VIS-X EXERCISES USED

This Chart identifies the specific Bal-A-Vis-X exercises used, how often they were done, and the purpose for their use.

Chart # 1

<u>BAL-A-VIS-X EXERCISES</u>	<u>How Often</u>	<u>Purpose</u>
Readiness Exercises VisTAR ball training Two –hand catch One-hand catch: Right One-hand catch: Left Double Toss: 2 hands	27 /27 sessions	Brain & Brain-Body integration for visual/auditory focused attention, enhanced creativity, improved self-esteem, reading abilities, and all academic performance.
Bag Exercises Individual Partners Group <u>Ball Exercises</u> <u>Individuals</u> Partners Group Rhythm	13 / 27 sessions Beginning of and intermittently throughout sessions 13 / 27 sessions Middle to end of 27 sessions	

COMPARISON OF COLLECTED DATA AND TEST RESULTS

The following three charts illustrate the increase in the students' reading performance based on the test scores of the **DIBELS** data system. A benchmark is the expected average score determined by the developers of the standardized test, which in this case is the **DIBELS**.

**CHART TWO: COMPARISON OF READING PERFORMANCE NONSENSE
WORD FLUENCY & ORAL READING FLUENCY**

This chart illustrates the percentage of Grade One students above the benchmark, for the subtest titled *Nonsense Word Fluency* who were both in the BAVX group and the control group to be at 25% in September 2005.

For the subtest, *Nonsense Word Fluency*, by March 2006, of the first grade students who were in the BAVX group, 88% had reached benchmark as compared to the control group where 50% reached benchmark.

For the subtest *Reading Fluency*, 75% of the first grade students who used the BAVX learning strategy reached benchmark as compared to the control group where 56% of the first grade students reached benchmark.

**CHART THREE: COMPARISON OF READING PERFORMANCE ORAL
READING FLUENCY**

This chart illustrates the percentage of Grade Two students above the benchmark, for the subtest titled *Oral Reading Fluency*. In September 2005, 0% of the students in the BAVX group and 0% of the students in the control group had reached the expected benchmark.

By March 2006, 73% of the students in the BAVX group had reached the expected benchmark in the subtest titled *Oral Reading Fluency* as compared to the control group where 9% reached benchmark.

CHART FOUR: SIX MONTH COMPARISON OF READING PERFORMANCE
This chart illustrates the six-month comparison of both the BAVX group and the control group.

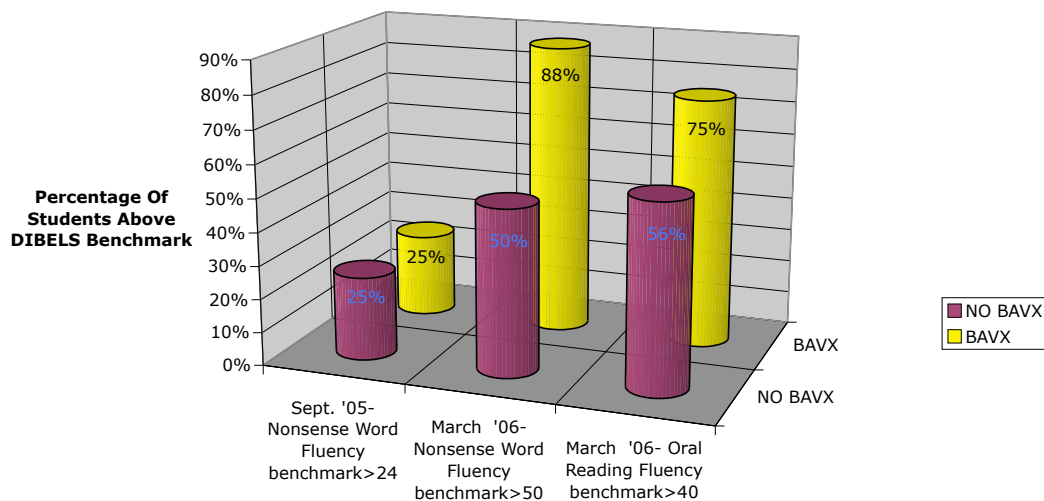
By March 2006, students in Grade One, on the subtest titled *Nonsense Word Fluency*, 88% of the BAVX group had reached benchmark while 50% of the control group had reached benchmark.

In March 2006, students in Grade One, on the subtest titled *Oral Reading Fluency*, 75% of the BAVX group had met benchmark while 50% of the control group had met benchmark.

In March 2006, students in Grade Two, on the subtest titled *Oral Reading Fluency*, 74% of the BAVX group had met benchmark while 9% of the control group had met benchmark.

chart # 2

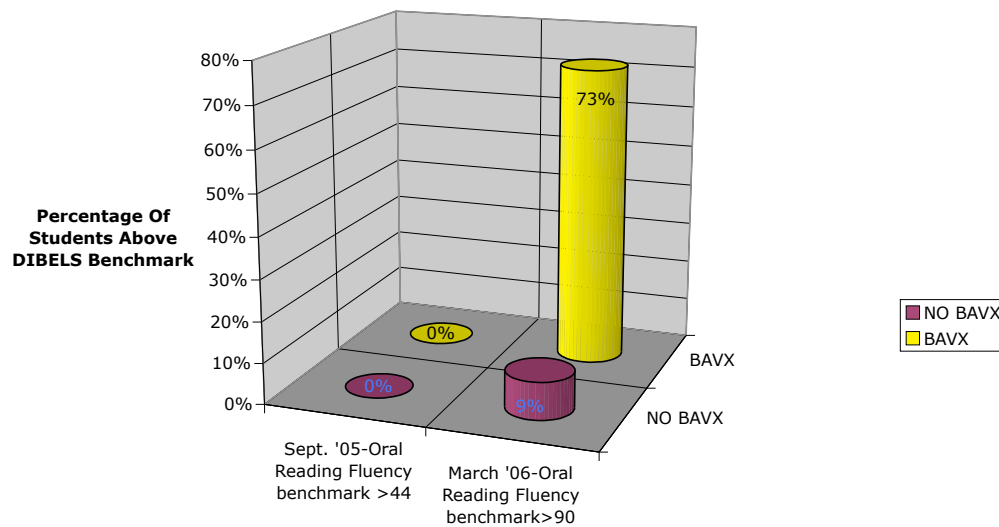
Grade 1 Comparison of READING Performance Nonsense Word & Oral Reading Fluency



	Sept. '05- Nonsense Word Fluency benchmark>24	March '06- Nonsense Word Fluency benchmark>50	March '06- Oral Reading Fluency benchmark>40
NO BAVX	25%	50%	56%
BAVX	25%	88%	75%

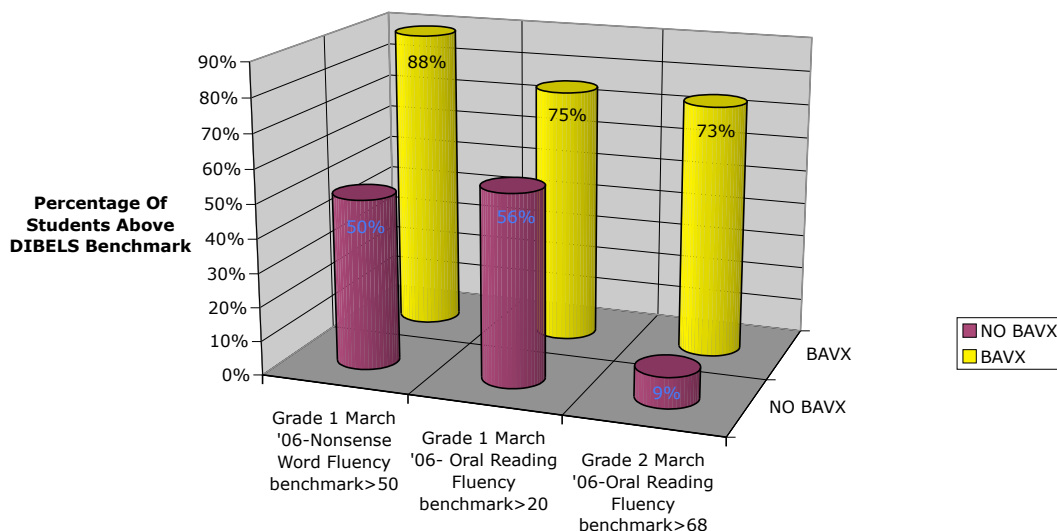
chart # 3

Grade 2 Comparison of READING Performance Oral Reading Fluency



	Sept. '05-Oral Reading Fluency benchmark >44	March '06-Oral Reading Fluency benchmark>90
NO BAVX	0%	9%
BAVX	0%	73%

chart # 4
Six Month Comparison of READING Performance



	Grade 1 March '06-Nonsense Word Fluency benchmark>50	Grade 1 March '06- Oral Reading Fluency benchmark>20	Grade 2 March '06-Oral Reading Fluency benchmark>68
NO BAVX	50%	56%	9%
BAVX	89%	75%	74%

SUMMARY AND CONCLUSION

The goal of this research study was to determine if using a movement-based learning strategy known as Bal-A-Vis-X (Balance, Auditory, Vision eXercises) would make a difference in reading abilities for a group of students in the first and second grades as determined by an increase in reading test scores. This learning strategy was chosen because it uses simple movement that is believed to enhance brain functioning. In addition, since brain-based learning has been researched to include movement-based learning strategies, the intention of this research study was to demonstrate the effectiveness of this particular strategy as measured by the scores on a standardized test. The **DIBELS Nonsense Word Fluency** and the **DIBELS Oral Reading Fluency** were used and scores were compared over a six month period (September 2005-March 2006) to measure the difference in the tests scores of the students in the first and second grades who participated in the BAVX group and a control group who received the same classroom instruction but did not participate in the BAVX activities.

The scores indicate that using BAVX as a learning strategy caused a rise in test scores. It is the belief of these researchers that test scores, as a stand-alone determinant, are limited in their ability to clearly express a child's reading abilities. However, this research demonstrates that movement-based learning strategies, and more specifically, Bal-A-Vis-X, does enhance reading abilities. This has been determined by the increase in test scores of the BAVX group as compared to the control group, who did not participate in the use of this learning strategy, the reports from the teachers, and a positive shift in the

children's behaviors. The hypothesis that students who did not use the selected learning strategy of BAVX would fall significantly below grade level needs further study.

In addition, the sense of accomplishment the students experienced while participating in BAVX resulted in positive feedback and self-esteem that became progressively self-reinforcing.

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