



Educational Kinesiology Foundation

To enhance living and learning through the science of movement

Research Report

Including

- Experimental Research on Educational Kinesiology
- Field Studies on Educational Kinesiology
- Anecdotal Research on Educational Kinesiology
- Theory Behind the Edu-K Process

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Experimental Research on Educational Kinesiology

Compiled by Josie M. Sift, Ph.D.

Understanding the Value of Research

Josie M. Siff, Ph.D.

The interpretation of research may pose challenges for those readers not accustomed to the technical language of scientific inquiry. The basic concept of research is to examine a situation and decide if the situation studied is unusual or as one might have expected. All research begins with a question or a hypothesis. An educated guess is made based upon the existing knowledge in the area being studied. Then a procedure (methodology) is established whereby the investigator can examine the question posed in an unbiased manner. It is particularly important that the individuals studied (subjects) be selected in such a manner that they will truly be representative of others in the specific population to which the results will be generalized. This means that the researcher can then suggest that these conditions would produce the same results if another similar group (sample) of subjects were studied. This is termed the “generalizability” of the findings.

To complicate matters more for the novice reader of research, there are different categories of scientific inquiry. Most commonly discussed in research classes are analytical, descriptive, experimental and qualitative research. The major distinction between these research designs is in the type of information (data or observations) which is collected during the investigation.

Analytical research attempts to explain complex phenomenon by evaluating all available information. For example, historical research looks at pertinent information from the past and critically examines it for its authenticity and accuracy. A researcher today might examine the information presented in the past about the Battle at Wounded Knee with regard to the accuracy of the presentation. Another type of analytical inquiry, meta-analysis, attempts to examine existing research findings from a variety of sources and come to some conclusion about the findings by equating the findings on a common scale and then running some statistical procedures. One example of this is evaluating all of the research on cholesterol and deciding if there are common results which point to similar conclusions.

Descriptive research is the type of research most frequently encountered by the general public. This category includes questionnaires, interviews, job analysis and the like. We may be stopped in shopping centers or called on the telephone to answer questions for someone conducting surveys or market research on topics such as TV viewing, views on health care and voting preferences.

In **experimental research**, the research studies a specific condition while controlling all other relevant variables, usually in a laboratory setting. Data, usually quantitative, are recorded and analyzed statistically to see whether the results can be said to be due to something other than chance. That “something” is the situation or condition studied. For example, a researcher might study three groups, given differing amounts of caffeine, in order to determine the effect of caffeine on reaction time.

The final category, **qualitative research**, is characterized by first-hand observation in a natural setting. For example, an anthropologist goes to the rainforest to study a particular group of people being affected by the destruction. Case studies are another popular qualitative method for examining behaviors of individuals in certain real-world situations, for example, children's responses to children of a different culture in a play situation.

All of these methods provide researchers with valuable information for enhancing our understanding of the world around us. The type of procedure used depends upon the available information and the nature of the research question asked by the investigator. Fundamental to good research is the objectivity of the researcher and the care taken not to generalize beyond the population studied or the conditions of the study.

Overview of Experimental Research

The following is a compilation of professional publications and research abstracts from presentations at various conferences dealing with the experimental research which has been completed utilizing Educational Kinesiology techniques in controlled situations. Each reference is followed by a brief summary of the information contained within the longer work.

Publications

Khalsa, Guruchiter Kaur, Morris, G. S. Don, & Sift, Josie M. (1988). Effect of Educational Kinesiology on static balance of learning disabled students. Perceptual and Motor Skills, 67, 51-54.

This publication is the short research journal report of the first experimental study conducted using Educational Kinesiology techniques. The study was conducted by Guruchiter Kaur Khalsa as a Master's thesis in the Department of Health, Physical Education, and Recreation at the California State Polytechnic University.

Khalsa, Guruchiter K. and Sift, Josie M. (1988). The effects of Educational Kinesiology upon the static balance of learning disabled boys and girls. (ERIC Document Reproduction Service No. ED 289 835)

This publication is the hardcopy of a presentation made to the American Alliance for Health, Physical Education, Recreation and Dance National Convention in Las Vegas, Nevada in April of 1987. The presentation provides detailed information on the first experimental study conducted using Educational Kinesiology techniques, including some Brain Gym® activities and Dennison Laterality Repatterning. The full publication is available from Educational Resources Information Center, or on microfiche.

Sift, Josie M. (1990). Educational Kinesiology: Empowering Students and Athletes Through Movement. (ERIC Document Reproduction Service No. ED 320891)

This publication is the hardcopy of a presentation made to the American Alliance for Health, Physical Education, Recreation and Dance National Convention in New Orleans, Louisiana, in April of 1990. The presentation provides an overview of Educational Kinesiology, an explanation of some of the Brain Gym activities, and a report of the research to date. The full publication is available from Educational Resources Information Center, or can be viewed on microfiche at the library.

Sift, Josie M. and G.C.K. Khalsa (1991). Effect of Educational Kinesiology upon simple response times and choice response times. Perceptual and Motor Skills, 73, 1011-1015.

This publication is the short research journal report of the second experimental study conducted using Educational Kinesiology techniques. The study was done with university students to see whether Brain Gym activities and Laterality Repatterning would influence the response times to a visual stimulus. The results indicated that both Edu-K groups were superior to the control group and that the Repatterned group improved twice as much as the Brain Gym only group.

Research Abstracts

"Effect of Educational Kinesiology upon the Static Balance of Learning Disabled Boys and Girls," Khalsa, Guruchiter Kaur and Sift, Josie M. American Alliance for Health, Physical Education, Recreation and Dance National Convention, April, 1987, Las Vegas, Nevada.

This study was completed with 60 elementary students who were classified as learning disabled. An equal number of boys and girls were divided into three groups: Repatterned E-K¹, E-K movement, and a Control. The results indicated that the Repatterned E-K group showed a greater improvement in static balance than the E-K movement group, who in turn performed better than the control group. The findings also suggest that E-K can be used effectively in a coeducational setting.

"Effect of Educational Kinesiology Upon Simple and Four-Choice Response Times," Sift, Josie M. and Khalsa, Guruchiter Kaur. American Alliance for Health, Physical Education, Recreation and Dance Southwest District Convention, March, 1989, Salt Lake City, Utah.

This study completed with university students compared a control group with two experimental groups, one using only Brain Gym activities, and the other experiencing Dennison Laterality Repatterning and the Brain Gym activities. The results indicated that the Edu-K groups were superior to the control group in their response time to a four-choice visual light display. The repatterned group improved by twice the amount of the Brain Gym only group.

"Effect of Educational Kinesiology on Hearing," Sift, Josie M. and Khalsa, Guruchiter Kaur. California Association for Health, Physical Education, Recreation and Dance Regional Conference, December, 1990, Long Beach, California.

This study was completed with 16 elementary school teachers who served as their own control. Each teacher was tested on the Pure-tone audiometer before and after each movement experience. The movement experiences were 10-minutes of random movements about the room or a series of 5 Brain Gym activities. The results indicated that the hearing of the teachers was better after the Brain Gym activities than after the random movements.

"Effect of Educational Kinesiology on Response Times of Learning Disabled Students," Khalsa, Guruchiter Kaur and Sift, Josie M., unpublished manuscript.

This study was completed with 52 children selected from Special Day classes. The Brain Gym group performed a sequence of activities, while the Control group engaged in random movements for about 7 minutes. All children were tested for visual response time before and after the movement activities. The results indicated that those children exposed to the Brain Gym movements improved on the response time task, while those in the Control group did not.

Revised December 9, 1991

¹ E-K was originally used as an abbreviation for Edu-K

PUBLICATION

Khalsa, Guruchiter Kaur, Morris, G. S. Don, & Sift, Josie M. (1988).
Effect of Educational Kinesiology on Static Balance of Learning Disabled
Students. Perceptual and Motor Skills, 67, 51-54.

See reprint included in the research packet.

This publication is the short research journal report of the first experimental study conducted using Educational Kinesiology techniques. The study was conducted by Guruchiter Kaur Khalsa as a Master's thesis in the Department of Health, Physical Education, and Recreation at the California State Polytechnic University.

PUBLICATION

Khalsa, Guruchiter K. and Sift, Josie M. (1988). The effects of Educational Kinesiology upon the static balance of learning disabled boys and girls. (ERIC Document Reproduction Service No. ED 289 835)

The purpose of this study was to determine whether Educational Kinesiology integration movements and/or repatterning have an effect upon the static balance of learning disabled students. Sixty elementary school students from the Chino Unified School District in California participated in the study. There was an equal number of boys and girls ranging in age from seven to eleven years. The parents of each child were informed about the testing procedures, and consented to their child's participation in the study prior to the beginning of the program. The subjects were matched on age and gender, and they were assigned to one of three groups: 1) Repatterned E-K, 2) The E-K movement group, or 3) the control group. Individuals in the repatterned E-K group participated in a special movement analysis session prior to the treatment program. The students in the repatterned and E-K movement groups utilized E-K exercises for five minute periods, twice a day, five days a week for six weeks. The control group was not involved with E-K at all. Static balance in all three groups was measured using the modified stork stand of Arnheim and Sinclair (1979) before and after the six-week program. The gain scores of the students were analyzed using a 2 X 3 (gender X group) analysis of variance. The results of the analysis indicated a significant difference at the .0001 level between the three groups. Out of a possible 40 seconds, the groups showed the following improvements: Control=.34 (s=2.47), E-K movement=4.91 (s=2.37), and Repatterned=7.62 (s=4.88) seconds, respectively. A Scheffe *post hoc* analysis indicated that the results of the groups were significantly different from one another. The repatterned group showed a greater improvement in static balance than the E-K movement group, who in turn showed a greater improvement in balance than the control group. There was no significant difference between the improvement of the boys and girls, or in the interaction effect between gender and group. The results of this study support the notion that Educational Kinesiology is an effective treatment program to improve static balance of the learning disabled child. The results also suggest that E-K exercises are effective in themselves for improving balance, but that repatterning before the treatment program provides an even greater level of improvement than the movements alone. Finally, the results indicate that E-K can be used effectively in a co-educational setting.

This publication is the hardcopy of a presentation made to the American Alliance for Health, Physical Education, Recreation and Dance National Convention in Las Vegas, Nevada, in April of 1987. The presentation provided detailed information on the first experimental study conducted using Educational Kinesiology techniques, including some Brain Gym® activities and Dennison Laterality Repatterning. The full publication is available from Educational Resources Information Center, or on microfiche.

PUBLICATION

Sift, Josie M. (1990). Educational Kinesiology: Empowering Students and Athletes Through Movement. (ERIC Document Reproduction Service No. ED 320891)

This workshop is designed to provide teachers and coaches with hands-on experiences regarding the field of Educational Kinesiology (Edu-K) and its influence on learning and performance. Edu-K is a practical and dynamic method which utilizes simple body movements to integrate the functioning of the brain. It was designed by Dr. Paul Dennison in 1981 by utilizing techniques and information from many different fields, including yoga, acupuncture, growth and development, and brain research. Dennison suggests that when the individual is under stress, the body tends to act from only one hemispheric mode, thus eliminating the proper balance needed for optimal functioning. Edu-K activities, called "Brain Gyms" are used to balance the hemispheres, thereby allowing them to work more efficiently. They reduce the blockages caused by stress and allow the body to function in its optimal state. Recent studies regarding Edu-K have indicated positive shifts in learning and performance in the areas of reading, writing, mathematics, balance, and response time as a result of utilizing the Brain Gym activities.

This publication is the hardcopy of a presentation made to the American Alliance for Health, Physical Education, Recreation and Dance National Convention in New Orleans, Louisiana, in April of 1990. The presentation provided an overview of Educational Kinesiology, an explanation of some of the Brain Gym® activities, and a report of the research to date. The full publication is available from Educational Resources Information Center, or can be viewed on microfiche at the library.

PUBLICATION

Sifft, Josie M. and Khalsa, G.C.K. (1991). Effect of Educational Kinesiology upon simple response times and choice response times. Perceptual and Motor Skills, 73, 1011-1015.

See reprint included in the research packet.

This publication is the short research journal report of the second experimental study conducted using Educational Kinesiology techniques. The study was done with university students to see whether Brain Gym® activities and Laterality Repatterning would influence the response times to a visual stimulus. The results indicated that both Edu-K groups were superior to the control group and that the Repatterned group improved twice as much as the Brain Gym only group.

RESEARCH ABSTRACT

EFFECT OF EDUCATIONAL KINESIOLOGY UPON THE STATIC BALANCE OF LEARNING DISABLED BOYS AND GIRLS. Khalsa, Guruchiter Kaur and Sift, Josie M. Presentation to the American Alliance for Health, Physical Education, Recreation and Dance National Convention, April, 1987, Las Vegas, Nevada.

The purpose of this study was to determine whether Educational Kinesiology integration movements and/or repatterning have an effect upon the static balance of learning disabled students. Sixty elementary school students from the Chino Unified School District in California participated in the study. There was an equal number of boys and girls ranging in age from seven to eleven years. The parents of each child were informed about the testing procedures, and consented to their child's participation in the study prior to the beginning of the program. The subjects were matched on age and gender, and they were assigned to one of three groups: 1) Repatterned E-K, 2) The E-K movement group, or 3) the control group. Individuals in the repatterned E-K group participated in a special movement analysis session prior to the treatment program. The students in the repatterned and E-K movement groups utilized E-K exercises for five minute periods, twice a day, five days a week for six weeks. The control group was not involved with E-K at all. Static balance in all three groups was measured using the modified stork stand of Arnheim and Sinclair (1979) before and after the six-week program. The gain scores of the students were analyzed using a 2 X 3 (gender X group) analysis of variance. The results of the analysis indicated a significant difference at the .0001 level between the three groups. Out of a possible 40 seconds, the groups showed the following improvements: Control=.34 ($s=2.47$), E-K movement=4.91 ($s=2.37$), and Repatterned=7.62 ($s=4.88$) seconds, respectively. A Scheffe *post hoc* analysis indicated that the results of the groups were significantly different from one another. The repatterned group showed a greater improvement in static balance than the E-K movement group, who in turn showed a greater improvement in balance than the control group. There was no significant difference between the improvement of the boys and girls, or in the interaction effect between gender and group. The results of this study support the notion that Educational Kinesiology is an effective treatment program to improve static balance of the learning disabled child. The results also suggest that E-K exercises are effective in themselves for improving balance, but that repatterning before the treatment program provides an even greater level of improvement than the movements alone. Finally, the results indicate that E-K can be used effectively in a co-educational setting.

This study was completed with 60 elementary students who were classified as learning disabled. An equal number of boys and girls were divided into three groups: Repatterned E-K, E-K movement, and a Control. The results indicated that the Repatterned E-K group showed a greater improvement in static balance than the E-K movement group, who in turn performed better than the control group. The findings also suggest that E-K can be used effectively in a coeducational setting.

RESEARCH ABSTRACT

EFFECT OF EDUCATIONAL KINESIOLOGY UPON SIMPLE AND FOUR-CHOICE RESPONSE TIMES. Sifft, Josie M. and Khalsa, Guruchiter Kaur. Presentation to the American Alliance for Health, Physical Education, Recreation and Dance Southwest District Convention, March, 1989, Salt Lake City, Utah.

The purpose of this study was to determine whether Educational Kinesiology integration movements and/or repatterning have an effect upon the response times of college students to a visual stimulus. Ten men and ten women were randomly assigned to each of the three conditions: control, "Brain Gym", or repatterned "Brain Gym". Each subject had 20 practice trials on the simple visual response time task followed by 20 practice trials on the 4-choice task. Then, the subject had 30 trials on each task to determine the mean pretest scores. Performance on each trial was recorded in milliseconds. Following the pretest, subjects in the control group sat quietly for 10 minutes. The movement group utilized five "Brain Gym" activities. Subjects in the repatterned group experienced Dennison's Laterality Repatterning prior to doing the same Brain Gym activities. All subjects were then retested to determine any changes in performance using 30 trials of each task. Statistical analyses indicated significant differences ($p < .05$) in improvement between the groups on the 4-choice task, with the repatterned group showing greater change than the "Brain Gym" only group, who in turn showed greater improvement than the control group. The groups improved by 6%, 3 1/2%, and 1% respectively. No group differences were significant on the simple task, although a similar trend was indicated. Males responded faster than females in both tasks. However, the rate of improvement was similar for both.

This study was completed with 60 university students and compared a control group with two experimental groups, one using only Brain Gym activities, and the other experiencing Dennison Laterality Repatterning and the Brain Gym® activities. The results indicated that the Edu-K groups were superior to the control group in their response time to a four-choice visual light display. The repatterned group improved by twice the amount of the Brain Gym only group.

RESEARCH ABSTRACT

EFFECT OF EDUCATIONAL KINESIOLOGY ON HEARING. Siftt, Josie M. and Khalsa, Guruchiter, Kaur. Presentation to the California Association for Health, Physical Education, Recreation and Dance Regional Conference, December, 1990, Long Beach, California.

Educational Kinesiology is a movement-based program designed to enhance learning and performance. Past research has indicated significant changes in a variety of motor tasks as a result of utilizing the Brain Gym® activities. The purpose of this study was to determine whether the Brain Gym movements influenced the hearing of teachers as measured by the school nurse using the Pure Tone audiometer. Sixteen subjects serving as their own controls were pre and post tested for hearing in both ears at six different threshold levels. Subjects were tested individually, and the treatment consisted of five Brain Gym movements which lasted a total of ten minutes. Results of the Treatment X Ear X Threshold Repeated Measures ANOVA on the gain scores indicated a significant difference between the Brain Gym and Control condition. No significant differences were found by Ear, Threshold, or the various interactions.

This study was completed with 16 elementary school teachers who served as their own control. Each teacher was tested on the Pure-tone audiometer before and after each movement experience. The movement experiences were ten minutes of random movements about the room or a series of 5 Brain Gym® activities. The results indicated that the hearing of the teachers was better after the Brain Gym activities than after the random movements.

RESEARCH ABSTRACT

EFFECT OF EDUCATIONAL KINESIOLOGY ON RESPONSE TIMES OF LEARNING DISABLED STUDENTS. Khalsa, Guruchiter Kaur and Sift, Josie M.

The purpose of this study was to determine whether the Brain Gym® activities in Educational Kinesiology have an effect on the response times to a visual stimulus of learning disabled students. Fifty-two students were selected from the Special Day classes in the Chino Unified School District and were randomly assigned to either the Brain Gym or Control group. The students were tested on an individual basis in a room without distractions. Each subject was given 10 practice trials followed by 2 blocks of 10 trials on the response time task, which served as the pretest. The task consisted of moving the hand from a designated point 6 inches to the response button when the light was illuminated. Performance on each trial was measured in milliseconds, and the average of the 20 trials was used as the individual's score. Following the pretest, the Brain Gym subjects performed the following: Brain Buttons, Balance Buttons, Thinking Caps, Lazy 8's, Calf Pumps, and Cook's Hook-up. Subjects in the Control group moved randomly about the room for about 7 minutes. All subjects were then retested to determine any changes in performance as a result of the movements. The statistical treatment of the data consisted of dependent and independent t-tests on the group averages. The dependent t-tests for the two groups separately indicated a significant improvement ($p < .001$) for the Brain Gym group between the pretest and the posttest, while the control group did not show any improvement ($p > .05$). The independent t-test on the gain scores of the two groups showed a significant difference ($p < .001$) between the Brain Gym and Control group, with the mean improvement of the Brain Gym group being 78 milliseconds, while the control group mean was -1 millisecond. These results suggest that the performance of the learning disabled children on a simple response time task was enhanced by the use of the Brain Gym movements.

This study was completed with 52 children selected from Special Day classes. The Brain Gym® group performed a sequence of activities, while the Control group engaged in random movements for about 7 minutes. All children were tested for visual response time before and after the movement activities. The results indicated that those children exposed to the Brain Gym movements improved on the response time task, while those in the Control group did not.

**Field Studies
on
Educational Kinesiology**

Field Studies

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Field Studies Using Brain Gym® in Education

Educational Kinesiology (Edu-K) is a movement-based program designed to enhance academic performance by improving visual, auditory and motor skills. This packet contains representative articles written by teachers and Educational Kinesiology instructors describing the use of Edu-K procedures and Brain Gym® (the basic Edu-K movements) in classrooms and in educational settings around the world. These non-experimental studies suggest topics for experimental research: the results reported indicate that Edu-K works. Our desire in making these reports available to the public is to share the observed results of using Edu-K in the classroom or with special populations.

While there is need for more experimental research in education, using control groups and double-blind studies, there is also a valid argument for non-experimental research such as observational/descriptive field studies and other types of qualitative research. Such techniques as ethnographic case studies, anecdotal accounts, or the use of participant/observation, allow the researcher to observe and document variables present in the teaching/learning environment. The researcher then hypothesizes: what is occurring here? how do students make sense of what they are learning? what are the variables (e.g., age, stage of development, economic class, sex, general health, etc.) affecting their learning? and finally, what are the implications for teaching these students?

Anthropologists using their observational skills in education maintain that human behavior, symbolic interactions and language can only be understood within their settings (Hymes 1976). Especially studying students labeled LD (Learning Disabled) or ADD (Attention Deficit Disorder), their emotions, language, development and self-esteem are three examples of context-dependent phenomena which often affect these young people as they interact with their environment (Lenk, aka Carroll, 1981). Arguments for research which looks at learners in their own ecosystem comes out of research and theory-building from various fields: ecological psychology, educational ethnography, family systems theory, social psychology, sociolinguistics, and the wholistic movement in education (Bartoli & Botel 1988, p. 29).

Studying students in the context of their own learning systems, taking into account the whole picture as well as the variables, has two distinct advantages:

- 1) teachers can relate directly to the results; they often have students who resemble those studied
- 2) implications for change can be hypothesized by the researcher and applied by the educator to his/her own teaching and learning environment

Research practices which acknowledge the learner's ecosystem can yield critical information for educators to use in meeting the wide variety of needs of their students.

The studies included in this packet employ such qualitative measures as teacher and researcher observations, language experience stories, researcher's retrospective, etc., as well as quantitative measures such as test scores, teacher-made test scores, tests of visual-motor integration, etc.

Using such rich resources culled from actual learning and teaching contexts, the studies reported in this packet indicate that Brain Gym has a wide range of applications not only in classrooms but in the wider educational community as well.

Dorothy H.L. Carroll, Ed.D.
May 1992

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- Hymes, D. *Language in Education: Forward to Fundamentals*. University of Pennsylvania, Graduate School of Education Working Papers in Education No. 1., 1976.
- Lenk, D. *Tommy and Jose: Ethnographic case studies of two boys labeled learning disabled and their interaction with reading/language arts*. Unpublished doctoral dissertation, University of Pennsylvania, 1981.
- Bartoli, J., and Botel, M. *Reading/learning disability: An ecological approach*. New York: Teachers College Press, 1988.

Overview of Field Studies on Educational Kinesiology

1. Effects of Brain Gym in a District-Wide Field Study, Canada (1991)

Summary: Nancy McGovern, District Physiotherapist for the Dept. of Special Services, implemented a pilot program in School District 24, Kamloops, British Columbia, Canada. The purpose of this study was to determine the possible inclusion of Brain Gym® movements in the curriculum for students labeled "learning disabled." Originally, 9 schools, 12 teachers, 15 key students and 3 "Sensory-Motor" P.E. groups were involved. Interest in this program generated the involvement of 1 additional school, 21 teachers and 12 key students. Approximately 600 total students in 10 schools were involved. Perceptual tests, parents' feedback and teachers' and students' observations comprised the evaluation. Results indicated many improvements for individual students and for whole classes; suggested elements to consider further in terms of implementation were presented.

2. Effects of Edu-K on Computer-Related Eye and Muscle Strain of Adults (1990)

Summary: This pilot study was completed by Joan Spalding, M.S., Mancato State University, in partial fulfillment of the requirements toward her Master's Degree. The project was conducted over a 6-week period. The purpose of the study was to determine whether Edu-K Brain Gym and Vision Gym™ activities have an effect on eye and/or muscle strain or other physical symptoms, as generated by use of computer video display terminals. Ten subjects from 29 to 50 years who use the video display terminal (VDT's) as a principal part of their work (four or more hours daily) punctuated each hour of computer time with a five minute break of Edu-K movements. Results indicated that computer breaks for Edu-K activities contributed to a lessening of visual and muscle-related stress, but had no measurable effect on other physical symptoms.

3. Effects of Edu-K on Academic and Social Skills, High School, Israel (1989-90)

Summary: Jeanette Primost, Educational Kinesiologist, used Edu-K with high school students in Tel-Chai, Israel. She saw each pupil weekly for 6 or more sessions. The first session began with a Wonder Balance for eyes, ears, writing, and whole body movement. She let the students direct her as to what they needed, using the Edu-K balance format from both basic and In-Depth processes. This report was co-authored by Jeanette and Chana Shar'abi, head of the learning centre, who gathered data on student's learning skills, motivations and personal feelings from exams, teachers, parents and students themselves. Results indicated that 7 pupils out of 12 benefited noticeably.

4. Effects of Combined Brain Gym and Mountaineering Experiences on Teen and Pre-Teen Scholastic Achievement (1989)

Summary: Under the supervision of teachers George and Colleen Gardner, pre-teens and teenagers learned and implemented Brain Gym for reading, communication and mountaineering skills in a 14-day wilderness program in Colorado. Pre- and Post-Test results from each two-week program suggest that most participants initially performed up to one grade level below their true potential. After learning and implementing the Brain Gym activities, participants were able to perform at an average level of six to eight months higher.

5. Effects of Edu-K in a Remedial Summer School Program (1989)

Summary: Educational Kinesiology and Char-L Intensive Phonics, a joint program implemented the summer of 1989 at Brimfield Public Grade School, Brimfield, IL, was funded by a Chapter One Federal Grant. The program was directed by Helen Cox, owner of Options in Health and Education Learning Center, and Dr. Al Milliren, author of reading and math programs used. Results on Slosson tests showed greater increase in math and reading skills than would be expected in a 6-week program.

6. Correlates of Edu-K Repatterning Pre-Checks with At-Risk Population (1988)

Summary: From 1987-1990, Robert Eyestone, M.S., Educational Psychologist with the Weber County Mental Health Department, Weber, Utah, conducted three studies using the Edu-K Repatterning Pre-Checks to determine whether specific populations were using one-sided or cross lateral processing of visual and/or motor information. In the 1987-88 study, 257 of 270 participants tested from a population defined as "at risk" tested one-sided; 37 of 310 participants in the group not defined as at risk tested one-sided. In the 1988-89 study, 539 of 552 participants from at risk populations tested as one-sided processors. In the 1989-90 study, 202 of 204 participants from at risk populations tested as one-sided; 1 of 97 participants in the group not defined as at risk tested one-sided. This study was conducted specifically for the purpose of measuring the effectiveness of the screening device to determine ease of processing. Highly significant correlates were found between those tested as using homolateral processing and those in Resource, Handicapped or Juvenile Detention Centers. Results suggest that the Dennison test for laterality may be an effective tool for screening individuals for further testing.

7. Effects of Edu-K on Psychometric Measures of Achievements of Special Ed Elementary Students (1987-88)

Summary: Educational Kinesiologist Lark Carroll supervised this study in a Berkeley, California public school Special Day class. The study was funded with a \$500 grant from Berkeley Public Education Foundation. The purpose of this study was to determine whether Repatterning and Brain Gym used over an 8-month period would affect the word recognition, hand-eye coordination and self-esteem skills of 10 students in 2nd and 3rd grade. Results showed greater improvement on the standardized tests than would normally be expected.

8. Effects of Edu-K with Special Ed. 5th Grade Students (1989-90)

Summary: Carla Hannaford, M.A. educator and neurophysiologist, implemented a year long program in Hawaii School District, incorporating Brain Gym® in the classroom with 19 5th graders in Special Education. Pre- and post-tests were completed using the Brigance Inventory of Basic Skills. Results showed a 1-2 years growth for all students on the reading and comprehension test and a 1 or more years growth for more than 50% of the students on Math Scores, greater than might have been expected for Special Ed. students. Behavior patterns also improved.

9. Effects of Edu-K in the Classroom on Beginning Language Skills (1987)

Summary: Twenty-two first graders in Pennsylvania, under the supervision of educator Dorothy H.L. Carroll, Ed.D. and classroom teacher Mary Ann Wittle, took part in this 8-week program. The program consisted of Repatterning in the 3rd and 8th week and about 15 minutes a day of Brain Gym activities. The purpose of this study was to determine whether the Edu-K techniques would affect students' recognition and reproduction of letters or numbers, their auditory and visual discrimination of sounds and words and/or their ability to match and reproduce designs as assessed by standardized tests. The results indicated that nearly all of the children who made errors on the pre-tests improved their performances on those same tests 10 weeks later.

10. Longitudinal Perspective on Edu-K; Outcomes with Special Ed Students, Australia (1986-87)

Summary: Peter Whetton, Senior Special Education instructor at Christies Beach High School, Australia, implemented this informal project over three terms. The purpose of this project was to determine whether the inclusion of Brain Gym movements would have an effect on the attention span or academic skills of high school students in a Special Education classroom. In part one of the study, 12 students were divided equally and assigned to four groups: the Brain Gym group or one of 3 control groups. The results showed that the Brain Gym group improved markedly in all areas; the two control groups using movement showed small areas of improvement; the control group with no movement showed no improvement. In part two of the study, all students chose to do Brain Gym only for the 9-week period. Results showed continued improvements. In part three, Brain Gym was not used in the classroom for the 8-week period. Results showed that skills and behaviors declined until Brain Gym was reintroduced. A 1990 retrospective of participants is included.

1. Effects of Brain Gym® in a District-Wide Field Study, Canada

Nancy McGovern

Summary: In June, 1991, Nancy McGovern, District Physiotherapist for the Dept. of Special Services, implemented a pilot program in School District 24, Kamloops, British Columbia, Canada. The purpose of this study was to determine the possible inclusion of Brain Gym Movements in the curriculum for learning disabled students. Originally, 9 schools, 12 teachers, 15 key students and 3 "Sensory-Motor" P.E. groups were involved. Interest in this program generated the involvement of 1 additional school, 21 teachers and 12 key students. Approximately 600 total students in 10 schools were involved. Perceptual tests, parent feedback and teachers' and students' observations comprised the evaluation. Results indicated many improvements for individual students and for whole classes; suggested elements to consider further in terms of implementation were presented.

Project Overview

- 15 informational meetings were held to introduce the program to parents and educators.
- 85 visits to classrooms were made to demonstrate Brain Gym movements and discuss their relevance to academics and daily activities.
- Key students, with only 4 exceptions, were not singled out for specific intervention. Rather, they participated as individuals within the classroom.
- 3 schools incorporated Brain Gym with their established school-based exercise programs, thereby providing some extra smaller group reinforcement.

Method of Evaluation

- Teacher observations and checklists related to student's behavior, attitude, productivity, organization, ability to settle and focus, work skills.
- Beery Developmental Test of Visual Motor Integration.
- Motor-Free Visual-Perception Test.
- Feedback from parents.
- Surveys of students.
- Surveys requesting feedback, relating to Brain Gym experiences and recommendations were provided by 27 teaching staff participants and 6 District Division Co-ordinators.

Results

Teacher's Observations of 12 Key Students:

The following list is a summary of 13 teachers' observations of changes in 12 key students.

- Improvement in printing and spacing of work.
- Increased focus during group times.
- Increased self-awareness.
- Calmer, happier, less moody.
- Increased confidence in spelling, math, writing.
- Improvement in reading.
- Improved organization and productivity in seat-work assignments.

Five of these teachers noted no changes in key students. However, all of them indicated an interest in using Brain Gym in the future, as they felt the pilot's time frame was too short to be conclusive. One student was withdrawn from school to be taught at home as her parents' religious beliefs precluded her from participating. One other student was not allowed to participate due to her parents' wishes, though she remained in the classroom.

Results (cont'd.)

Observations of Whole Classes:

13 of the 30 teachers surveyed provided observations related to the effects of Brain Gym on their classes as a whole. These include:

- Improved ability to focus and to relax.
- Calmer, more positive atmosphere.
- Sense of joy and willingness surrounded the program.
- Several teachers noticed little change or did not provide comments.
- 3 classes of intermediated-aged students indicated they do not want to continue.
- All other classes, with only a few students resisting, indicated a desire to continue using and learning Brain Gym.

Analysis of Data:

The strength of the outcomes lies in the definite acceptance and interest of the 30 educators involved. All report an interest in using these strategies in the future. Many are requesting support to continue next school year. In studying the results and feedback provided from a variety of sources, the following conclusions can be drawn:

- Students are more accepting of this program at the primary age level.
- Teachers need and want strategies such as these to help meet the diverse learning requirements of students.
- This program can teach children life long learning skills.
- All students can benefit, thereby avoiding the singling out of specific students where this situation is undesirable.
- Any aged student has the ability to benefit if there is a willingness to change.
- Teachers report benefits to their own lives.
- Some children may not be allowed to participate due to their parents' personal beliefs about acupressure.
- The name "Brain Gym" bothered some teenagers who were in intervention classes. Some teachers referred to the movements as "motor skills."
- Many educators and parents remain skeptical and/or negative about such programs.

2. Effects of Edu-K on Computer-Related Eye and Muscle Strain

Joan Spalding, M.S.

Summary: In 1990, this pilot study was completed by Joan Spalding, M.S., Mancato State University, in partial fulfillment of the requirements toward her Master's Degree. The project was conducted over a 6-week period. The purpose of the study was to determine whether Edu-K Brain Gym® and Vision Gym™ activities have an effect on eye and/or muscle strain or other physical symptoms, as generated by use of computer video display terminals. Ten subjects from 29 to 50 years who use the video display terminal (VDT) as a principal part of their work (four or more hours daily) punctuated each hour of computer time with a five minute break of Edu-K movements. Half the subjects were male; half female. Half were entrepreneurs; half, salaried employees. Results indicated that computer breaks for Edu-K activities contributed to a lessening of visual and muscle-related stress but had no measurable effect on other physical symptoms.

Background

Repetitive Strain Syndrome

One of the most common physical complaints of computer terminal users is described by the term "repetitive strain injuries" or RSI. Reports of these injuries have doubled in the last two years and caused RSI to become the fastest growing occupational disease. RSI, claims Roger Stephens, industrial engineer for OSHA, the Occupational and Safety and Health Administration, will account for half of all worker's compensation money spent on work-related disorders in the United States. (Hembree, 1989)

Eyestrain

In the United States, other physical concerns of using the VDT (Video Display Terminal) are reported. Eyestrain is commonly cited by workers in surveys addressing health problems. At the University of California, Berkeley Optometry School's Video Display Terminal Clinic, it was discovered that large numbers of patients had trouble focusing their eyes. Out of 150 patients who worked on terminals six or more hours a day for four years, two thirds, including 41 patients in their twenties and thirties, had focusing problems. (New York Times)

Methodology

Pre-Test

Each of 10 participants was asked to fill out a pre-test evaluation¹ for one week prior to beginning the Edu-K activities. In addition, each was asked to note anecdotally any special problems they encountered in their own use of the computer. (See charts #1 and #2.²)

Test

Participants were asked to keep a daily record³ of physical observations (See Chart #1). Participants were instructed to note the number of hours they spent on the computer each day. The second part of the study asked the participants to record the number of times they did the Brain Gym®⁴ and Vision Gym™ with a check mark each time they completed a series of five activities.⁵ At the end of the study, all participants received post anecdotal forms with a series of questions to record their impressions of the study and any physical differences they may have noted.

¹ This evaluation was identical to the form used in the six week study.

² A third pre-test, "physical symptoms" is not included in this report, as outcomes indicated no change of statistical significance.

³ The instrument used to record the data was a modified Likert survey from. The categories in the instrument were based on the most relevant physical symptoms cited by computer operators in numerous studies researched by the author.

⁴ Brain Gym activities (*Brain Gym*) included Neck Rolls, Arm Activation, The Owl and Double Doodle. The Vision Gym Movements (*Visioncircles*) included Wake-Up Points, The Necklace, Heliotropic Breathing, Digging for Gold, Stroboscopic Lights, The Magnet, Bracelets, Circuits, Soft Edges, Knee Hugs and Infinity 8's. The exercises used throughout the study were developed by Dr. Paul Dennison and Gail Dennison of the Educational Kinesiology Foundation, who teach vision and movement exercises to educational and health professionals worldwide.

⁵ Each series of five exercises included addressed the areas of eye relaxation, eye circulation, convergence, eye motility, binocularity, peripheral vision and visual recovery as well as musculoskeletal relaxation and visualization skills. In addition, the participants were told to stand up away from the computer while they did the exercises.

The participants evaluated the state of their vision and muscles at the end of each day by rating the following statements according to 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree.

Chart #1

Evaluation — Physical Effects, Use of Computer

1. Eyes

My eyes are red.

My eyes are clear.

My eyes feel tired and strained.

My eyes see spots.

My eyes focus easily.

My eyes are blurry.

Chart #2

2. Muscles

My wrists and hands feel cramped.

My lower back is sore.

My neck feels comfortable.

My wrists and hands feel relaxed.

My upper back is sore.

My shoulders feel tight and stiff.

My back feels comfortable.

Results

Chart #3

Comparison of Pre- and Post-Test Scores

Eye Segment

Group	Ss	Mean	SD	t	p
1	10	11.04	3.354	2.354	.02
2	10	14.24	2.214		

Muscle Segment

Group	Ss	Mean	SD	t	p
1	10	10.54	3.591	3.591	.007
2	10	15.48	2.500		

These results suggest that eye strain and muscle strain related to use of computer video display terminal were relieved by the use of Brain Gym® and Vision Gym™ activities. The positive results of this small study would warrant a larger study with a greater number of participants in an office environment where a control group could be established with random samples.

Discussion

The null hypothesis for this study states that regular breaks and specific exercises for physical symptoms encountered while working on the computer *do not* contribute to a lessening of these physical symptoms. From having used a one tailed t test with dependent variables, the scores generated by the use of the exercises showed improvement with a statistical significance of ($p < .02$) for the eye segment and ($p < .007$) for the muscle segment. A third section "other physical symptoms" (Chart not included in this article) showed no improvement of statistical significance.

3. Effects of Edu-K on Academic and Social Skills of High School Students

Jeanette Primost and Chana Shar'abi

Summary: In 1989 and 1990, Jeanette Primost, Educational Kinesiologist, used Edu-K with high school students in Tel-Chai, Israel. She saw each pupil weekly for 6 or more sessions. The first session began with a Wonder Balance for eyes, ears, writing, and whole body movement. She let the students direct her as to what they needed, using the Edu-K balance format from both basic and In-Depth processes. This report was co-authored by Jeanette and Chana Shar'abi, head of the learning centre, who gathered data on student's learning skills, motivations and personal feelings from exams, teachers, parents and students themselves. Results indicated that 7 pupils out of 12 benefitted noticeably.

Background

Jeanette Primost, a specialist in the Edu-K system, has been working with pupils in the High School for two years in workshops, each consisting of a minimum of six sessions. The majority of the pupils recommended for the programme are learning centre pupils. Recommendation was made by the teacher and counsellor/psychologist, Dr. Muli Lahad. Parental permission for participation in the programme was requested in writing and the home-room teacher was informed.

Method

Jeanette spoke with each pupil and diagnosed him or her in different learning areas: coordination, dyslexia, dysgraphia, etc. Students also completed a questionnaire to determine areas of difficulty. Individual 45 minute sessions were carried out on a weekly basis, emphasizing two planes.

- 1) General: systematic work in areas to which the system related. Integration of the brain to reception, sound, sight, brain/body coordination which were found to be problematic and a weekly check of change and improvement relating to these areas.
- 2) Specific: Subjects specific to each pupil which arise during the work and receive attention (examination anxiety, sensitivity to noise, etc.)

Each pupil underwent a regular evaluation which included contact with parents, teachers, homeroom teachers, and feedback from the pupil himself. A closing session was held at the conclusion of the procedure, attended by Jeanette P., Chana S. and Dr. Muli Lahad, the attending Psychologist. Results were examined and recommendation for further treatment was given where necessary. Some pupils, by recommendation, continued beyond the six sessions of the workshop. Follow-up related to three main areas:

- 1) Learning improvement (grades, concentration, study functioning).
- 2) Motivation.
- 3) The pupil's personal feeling.

Results

In general, it can be said (Individual details in appendix), that 7 pupils out of 12 benefitted noticeably from the work, and some acquired the tools to assist them in handling their problems. There were pupils whose learning progress was very impressive: Roni, Ganot and Ziv and others; in the process of improvement, like Aviv and Dana. Still others themselves felt an improvement in self-confidence, concentration, inner calm and the ability to take on responsibility.

Recommendations

- 1) We arrived at the conclusion that a six-week workshop was generally insufficient and that each case should be judged individually.
- 2) We are interested in continuing in the present form in 1992 and expanding activity if there is a demand.
- 3) We are interested in presenting the programme before all of the teachers of the Junior and Senior High Schools and also in widening the involvement of special education teachers. We believe that pupils in special education (with their special difficulties), on the one hand, and pupils in Senior High (who are facing exams), on the other hand, would benefit from the programme.

Appendix

Personal detail of each of the pupils who have undergone a programme of Educational Kinesiology.

Pupils June - September 1990

- 1) Ganot 7th grade. Six sessions.
Work in study and emotional areas.
Results: Great improvement in reading ability, reading comprehension, learning functioning, achievement and self-confidence.
- 2) Dana 7th grade. Six sessions.
Subjects: Relaxation, ability to concentrate in noisy conditions.
Results: A considerable rise in learning ability areas in the third quarter and improved ability in handling assignments under conditions of stress. At the end of the year, a certain fall in grades.
- 3) Yaniv. 7th grade. Six sessions.
Subjects: All areas connected with brain/body coordination, written expressions and handling of exam pressures.
Results: At the conclusion of six sessions no discernible benefit was seen.
- 4) Roni 8th grade. Part of 1989 and sessions during the whole of 1990.
Subjects: Study and social.
Results: Very great improvement in study subjects and later also in social/emotional areas.
- 5) Aviv 8th grade. four sessions.
Subjects: Study and emotional.
Results: Improved learning functioning. Started to prepare homework. Feels that programme helps him. There will be continuation.
- 6) Dotan 8th grade. 1989, six sessions, 1990, eight sessions.
Subjects: Concentration in noisy conditions, functioning under pressure—exams.
Results: In 1989, great improvement in learning ability. 1990, great regression at beginning of year. In second half of year, again directed to Educational Kinesiology, but by end of year, no improvement either in achievement or learning capacity.
Jeanette's update: Returned in 1991 and improved greatly; now is doing very well.
- 7) Lior 8th grade. Thirteen sessions.
Subjects: Writing, coordination, low self-image, lack of self-control and inability to function within a framework.
Results: According to parents, improvement at home—takes responsibility for achievements and failures.
Learning areas: no improvement in functioning or achievement.
Jeanette's update: Lior had failed 7 subjects last year. He returned for sessions in 1991. He had only 1 failure and is getting good results in other subjects. He now also has the strength to get home help for studies in order to catch up.
- 8) Liav 9th grade. Five sessions.
Subjects: Coordination, learning motivation.
Results: No conclusions as yet.
- 9) Ziv 9th grade. 1989, nine sessions. 1990, nine sessions.
Subjects: Coordination, writing, examinations, confidence and self-image.
Results: Considerable improvement in both areas: learning and personal.

Pupils June - September 1989

- 1) Amir 8th grade.
Subjects: Integration, organization, exam preparation, self-confidence.
Results: No real improvement in achievement or learning functioning, but child feels personal improvement.
Jeanette recommended a different type of treatment to the family, but they were not interested.
During final review, 1990, a number of months after conclusion of treatment, most of the areas on which Jeanette had worked were found through muscle checking to have remained strong (integrated).
- 2) Ronen 8th grade. Nine sessions.
Subjects: Coordination, centres of order and organization, release from excess tension and sensitive subjects.
Results: In the period of work in 1989, there was an improvement in concentration, in inner calm and in the ability to handle pressure situations (exams).
In 1990, Jeanette recommended continuation, but the family was not interested.
- 3) Ronen 10th grade. Six sessions.
Subjects: Coordination, writing, release from excess tension, reading comprehension.
Results: In 1989, there was progress in the learning area and also in 10th grade, good functioning.
At the evaluation session in 1990, the areas in which Jeanette had worked were found to be satisfactory.

4. Effects of Combined Brain Gym® and Mountaineering Experiences on Teen and Pre-Teen Scholastic Achievement

George and Colleen Gardner

Summary: In 1989, under the supervision of teachers George and Colleen Gardner, pre-teen and teenagers learned and implemented Brain Gym® for reading, communication and mountaineering skills in a 14-day wilderness program in Colorado. Pre- and Post-Test results from each two-week program suggest that most participants initially performed up to one grade level below their true potential. After learning and implementing the Brain Gym activities, participants were able to perform at an average level of six to eight months higher.

Methodology

Tabor Mountain School¹ offers a specialized Brain Gym I and II course to 12 through 15-year olds. The course is held in the Colorado Rockies over a 14-day period. Students use Brain Gym activities to facilitate ease in learning the new skills essential to living and traveling safely in the back country. Students learn to rock climb, rappel and ascend 14,000 foot peaks. Reading time is included during rest breaks in the mountain meadows. Problem solving, decision making, active listening and effective communication skills are addressed daily in the wilderness classroom. Brain Gym activities and Brain Gym Action Balances are used the only intervention beyond the standard program.

During the summer of 1989, the school offered three wilderness courses for both girls and boys. This is the first summer that pre- and post- testing in the academic areas was implemented. The Nelson-Denny Comprehension Reading Test, Wide Range Reading Test on Vocabulary, and Northside Learning Lab, an observational, non-standardized measure, were used.

Results

On the post-test, some students increased their scores in math, reading and comprehension. By living the Brain Gym material over a two week period, the majority of students were able to show an increase in grade level on standardized tests. The average reading gain for these students was .77 (almost eight months), which is greater than might be expected for a two-week program. The average math gain was .62 (about six months). See chart.

¹ Previously known as the Integration Bound Program.

Tabor Mountain School Testing Results - 1989

Course #6 (June 29 - July 12)

SS	Math		Vocabulary		Comprehension		Reading		Reading Gain (Yrs/Mos)
	pre-	post-	pre-	post-	pre-	post-	pre-	post-	
1	5.7	6.1	<7.0*	11.2	9.3		6.5	6.9	+0.4
2	8.5	8.0	8.8	9.2	<7.0	<7.0	8.0	8.8	+0.8
3	6.5	6.5	9.9	8.7	7.2	10.9	8.5	10.8	+2.3
4	2.9	4.9	7.3	<7.0	<7.0	<7.0	4.8	5.4	+0.6
5	4.4	5.7	8.3	8.0	7.5	7.0	8.4	10.1	+1.7
6	6.1	6.5	10.4	8.2	<7.0	<7.0	9.3	9.8	+0.5
7	6.7	6.7	9.0	8.7	<7.0	7.7	6.1	7.3	+1.2
8	7.1	6.5	8.3	9.2	9.3	10.5	8.8	8.7	-0.1
Ave.	6.0	6.4	8.8	9.0	7.4	8.2	7.6	8.5	+0.9

Course #7 (July 26 - Aug. 8)

9	4.9	6.5	10.9	8.5	8.4	10.5	10.8	10.8	+0.0
10	7.1	7.7	11.3	8.7	8.4	8.6	10.7	11.8	+1.1
11	6.5	8.0	11.6	11.0	7.0	9.1	11.0	12.6	+1.6
12	6.5	6.7	9.4	8.5	<7.0	<7.0	7.9	7.5	-0.4
13	7.4	7.7	11.6	12.4	<7.0	8.6	13.4	14.4	+1.0
14	4.4	4.4	n/a	—	n/a	—	7.3	8.1	+0.8
15	6.9	6.9	n/a	—	n/a	—	9.6	10.0	+0.4
16	2.9	3.9	8.3	8.0	10.2	8.2	9.8	10.6	+0.8
17	3.9	6.9	9.6	9.7	7.9	7.2	13.0	13.2	+0.2
Ave.	5.7	6.5	10.3	9.5	7.9	8.5	10.4	11.0	+0.8

Course #8 (Aug. 17 - 30)

18	4.9	6.5	11.3	12.7	10.7	12.4	10.1	11.7	+1.6
19	10.1	8.0	11.9	11.0	11.9	10.0	10.1	11.7	+1.6
20	6.3	6.7	9.9	9.7	8.9	9.6	7.0	8.0	+1.0
21	2.9	3.4	<7.0	<7.0	n/a	—	4.8	4.9	+0.1
22	3.9	6.1	10.4	11.9	8.4	12.8	10.5	10.8	+0.3
23	3.9	4.4	<7.0	7.0	9.3	8.2	4.5	4.8	+0.3
Ave.	5.3	5.8	9.5	9.8	9.8	10.6	7.8	8.6	+0.8

Grand Ave. .62

Ave. Gain 0.77

Tests used:

Nelson-Denny Comprehension Reading Test

Wide Range Reading Test (vocabulary)

Northside Learning Lab (observational, non-standardized)

(* <7 = below seventh grade reading level)

5. Effects of Edu-K in a Remedial Summer School Program

Helen Cox

Summary: Educational Kinesiology and Char-L Intensive Phonics, a joint program implemented the summer of 1989 at Brimfield Public Grade School, Brimfield, IL, was funded by a Chapter One Federal Grant. The program was directed by Helen Cox, owner of Options in Health and Education Learning Center, and Dr. Al Milliren, author of reading and math programs used. Results on Slosson tests showed greater increase in math and reading skills than would be expected.

Method

The participating group, consisting of 23 students, grades one through four, had been recommended for summer school experience due to moderate or significant academic difficulties during the preceding school year. Initial testing consisted of Diagnostic Screening Tests by Slosson in Reading and Math, video filming of eight movement coordination exercises and Edu-K muscle checking for dominance patterns. Three dimensions of brain/body movement were checked with Edu-K procedures including laterality checks for left and right brain integration, centering checks for top and bottom integration and focusing checks for back to front brain integration. All students were then repatterned using DLR¹. Five students did not finish the program.

Dr. Al Milliren authored the reading manual combining class structure and Brain Gym® activities and Char-L Intensive Phonics. The Math and Thinking Skills manuals were similar. The teachers also included computer software in their classes. The program was scheduled for three hours each morning, four days a week for four weeks. All children attended Math class for one hour and Reading class for one hour. The third hour consisted of various activities and movements from Brain Gym, repatterning of one-sided muscle groups and Thinking Skills tasks on alternate days. Each class contained up to four students.

Results

- 1) DST² - Slosson, Reading Forms A & B – 1.05 overall average gain in grade equivalent.
- 2) DST - Slosson, Math Forms A & B – .73 overall average gain in grade equivalent.

Most of these children would not have been expected by the school district to have made this kind of progress in Reading and Math following 48 hours of instruction.

- 3) 5.4 of 8 movement coordination skills were improved.
- 4) 6 of 10 children needing balancing for laterality maintained their gain.
7 of 14 children needing balancing for centering maintained their gain.
1 of 9 children needing balancing for focus maintained their gain.³

Teacher Alberta LaFollette best summed it up: "My disbeliefs have changed to praise for the efforts of the program and the results I have seen develop. The slumped shoulders and hung heads now walk tall with confidence; the jumping minds have calmed with self-composure as the (previously) inarticulate children communicate joyfully a wealth of new information. Parents are pleased to see their children ready for a much less frustrating school year, and I'm anxious to use what I have learned in substituting. I feel summer school at Brimfield was a complete success."

¹ DLR (Dennison Laterality Repatterning)

² Diagnostic Screening tests

³ Findings were published in Brain Gym Magazine, Vol. III, No. 2, 1989.

6. Correlates of Edu-K Repatterning Pre-checks with At-Risk Population

Robert Eyestone, M.S.

Summary: From 1987-1990, Robert Eyestone, M.S., Educational Psychologist with the Weber County Mental Health Department, Weber, Utah, conducted three studies using the Edu-K Repatterning Pre-Checks to determine whether specific populations were using one-sided or cross lateral processing of visual and/or motor information. In the 1987-88 study, 257 of 270 participants tested from a population defined as "at-risk" tested one-sided; 37 of 310 participants in the group not defined as at-risk tested one-sided. In the 1988-89 study, 539 of 552 participants from at-risk populations tested as one-sided processors. In the 1989-90 study, 202 of 204 participants from at-risk populations tested as one-sided; 1 of 97 participants in the group not defined as at-risk tested one-sided. This study was conducted specifically for the purpose of measuring the effectiveness of the screening device to determine ease of processing. Highly significant correlates were found between those tested as using one-sided processing and those in Resource, Handicapped or Juvenile Detention Centers. Results suggest that the Dennison test for laterality may be an effective tool for screening individuals for further testing or intervention.

Method

Two symbols, an "X" and "II"¹ were shown separately to participants. A muscle response test was used to indicate stress while looking at the symbols. Participants who were stressed by the X symbol and comfortable with the II were identified as one-sided processors at the moment of the test. These symbols were chosen under the hypothesis that they are indicative of skill at visual fusion or binocularity and completion of developmental visual/motor correspondances (X: crosslateral processing); visual stress and incompletion of visual/motor patterns (II: one-sided processing). Three studies were completed including populations defined as "at-risk" as well as those not defined as at-risk. The at-risk populations were composed of individuals from Resource, Juvenile Centers, Intellectually Handicapped Programs, chemical or alcohol dependency programs, and others (see chart).

Results

The following results show a high correlation between those testing as one-sided processors and those in programs oriented to stress, addictions, delinquency or learning handicaps. Dr. Eyestone feels, as do many other professionals using the Edu-Kinesthetic techniques, that the screening could be used as one tool to identify students who may need special help at an early age. Dr. Eyestone currently serves as a consultant to Weber County Human Services. He uses the Dennison Laterality Repatterning procedure with clients there who test as one-sided processors, as determined by the screening procedure described. He reports that therapists there find clients progress more smoothly as a result.

Note: Dr. Eyestone used the X and II for screening purposes, without "skills" goals. The high correlation shown here between one-sided processing and individuals "at-risk" correlates with existing data on high percentages of one-sided visual processing, far sightedness and mixed dominance among the juvenile delinquent and prison population.

¹ Based on Dr. Dennison's theory of visual integration.

Cross Lateral vs. One-sided Processing

1987-88 School Year	#	Cross	%	1-sided	%	X-Sig
<i>Population not Defined At-Risk</i>						
5th & 6th grade normal students	262	229	87.4	33	12.6	ns
Mental Health Staff	48	44	92.0	4	8.0	ns
<i>At-Risk Population</i>						
Nova; Moweda Detention Juvenile Center-- 2 Centers: one with kids incarcerated; one an alternate school program	28	1	3.6	27	96.4	108.3
Ogden Elementary Resource	110	2	1.8	108	98.2	241.1
Middle School Resource	54	4	7.3	50	92.6	147.9
Intellectually Handicapped & Mentally Retarded (w/ IQs 75 or less) 1 elementary school, 1 high school	30	1	3.4	29	96.6	113.8
Morgan Elementary & High School students that were referred for testing by administration	48	5	10.4	43	89.6	129.9

1988-89 School Year	#	1-sided	%	X-Sig
<i>At-Risk Population</i>				
School Resource Students	113	110	97	Highly Significant beyond .001 for groups
Special Ed. Students	23	22	96	
Students Psy. Eval	79	76	96	
Young Mothers (15-18 yrs)	35	34	97	
School Support Groups	37	36	97	
Millcreek ¹	27	27	100	
DUI Groups ² (6)	102	102	100	
Stress Groups	10	10	100	"
Chemical Dependency	10	10	100	
Alanon	18	18	100	
Half Way House	15	13	87	"
PAAG ³ Group #1	23	22	96	
Group #2	31	30	97	
Group #3	29	29	100	

June 1989 - 12 March 1990	#	1-sided	%	X-Sig
<i>Population Not Defined At-Risk</i>				
Webster High Psy. classes	97	1	01	Not Significant
<i>At-Risk Population</i>				
DUI Groups (4)	45	44	90	Highly Significant beyond .001 level
DUI Groups (5)	57	56	98	
Halfway House (2)	27	27	100	
Halfway House (1)	17	17	100	
PAAG Group #1	29	29	100	"
Group #2	29	29	100	

¹ Millcreek: a prison program for teenagers

² DUI: Driving Under the Influence of Alcohol

³ PAAG: a halfway house for men returning to public life following incarceration plus others who were alcohol offenders

Additional Grant inclusions

The grant also funded:

- A two-hour in-service, voluntarily attended by the principal and seven other teachers, several of whom used the exercises with their classes during the school year.
- *Brain Gym* books, by Dennison and Dennison, for each student in the class, with suggestions to parents for home use.
- Brain Gym II class for the teacher, to support her classroom work.
- A copy of *Brain Gym*®, *Edu-K for Kids*, and *Personalized Whole Brain Integration*, by Dennison and Dennison, for school use.

Comments

There were three events in the second half of the year that contributed to the students' stress: the much-loved principal left suddenly mid-year, the teacher's aide (also well-loved) suffered an auto accident and left mid-year (and the new aide did not achieve as good rapport with either students or teacher); and one child, who entered class late, was consistently, physically aggressive.

Also, for many of these children, school is the main source of emotional support (e.g. only one parent attended sessions offered for Brain Gym home use). Considering these factors, both the teacher and the consultant were very pleased with the students' progress.

7. Effects of Edu-K on Psychometric Measures of Achievements of Special Ed Elementary Students

Lark Carroll

Summary: In 1987-88, Educational Kinesiologist Lark Carroll supervised this study in a Berkeley, California public school Special Day class. The study was funded with a \$500 grant from Berkeley Public Education Foundation. The purpose of this study was to determine whether Repatterning and Brain Gym® used over an 8-month period would affect the word recognition, hand-eye coordination and self-esteem skills of 10 students in 2nd and 3rd grade. Results showed greater improvement on the standardized tests than would normally be expected.

Method

The group consisted of 10 students in a 2nd/3rd grade Special Day class. After initial testing, all were Repatterned. Two students out of 10 moved away and did not complete the project. Two additional students entered the classroom after the Repatterning and did daily exercises only (their test scores have been deleted). Four Brain Gym exercises were done daily by the group, as well as on special occasions (e.g. pre-test-taking or for calming down). Standardized tests (WRAT, Slosson and Draw-A-Man) were given at the beginning of the school year, in January and in June.

Results

1. Wide Range Achievement Test (WRAT) word recognition:

Child	Oct 87	Jan 88	Jun 88	Gain (.6 avg.)
B	1.9	2.5	3.3	1.4
D	1.1	2.0	1.6	.5
C	1.1	1.4	1.5	.4
GH	2.1	2.5	2.2	.1
GP	1.8	2.1	2.1	.3
K	4.1	4.5	5.1	1.0
N	2.2	2.5	2.4	.2
Y	1.2	1.9	2.1	.9
S	1.0	moved		
J	.9	1.8	moved (note .9 gain)	

Most of these children would not have been expected by Special Education to make this kind of progress in eight months.

2. Slosson Drawing Coordination Test (tests spatial relationship accuracy and attention to detail in drawing skills):

The students showed an increase in both attention to detail (shapes deleted in the first test were included in the second and third), and awareness of spatial relationships. The children tackled the June testing with more competence and enthusiasm (e.g. asking to do more complicated shapes in June, compared to complaining about doing simple shapes in October).

3. Draw-A-Man

The students showed more attention to detail in the June testing. They included their environment in June; in October, most drew only themselves or their family. One exception was a child who made excellent progress on WRAT, but showed emotional turmoil in Draw-A-Man post-testing.

8. Effects of Brain Gym® with Special Ed 5th Grade Students

Carla Hannaford

Summary: In 1989-90, Carla Hannaford, M.A. educator and neurophysiologist, implemented a year long program in Hawaii School District, incorporating Brain Gym® in the classroom with 19 5th graders in Special Education. Pre- and post- tests were completed using the Brigance Inventory of Basic Skills. Results showed a 1-2 years growth for all students on the reading and comprehension test and a 1 or more years growth for more than 50% of the students on Math Scores, greater than might have been expected for Special Ed. students. Behavior patterns also improved.

Background

Students in the Special Ed program in Hawaii School District were involved in a year long program, developed by educator Carla Hannaford, that incorporated Brain Gym. Prior to beginning the program, students exhibited one or more of the following behavior patterns:

- a) Hyperactivity
- b) Attention Problems
- c) Disruptive
- d) Learning Difficulties
- e) Inability to control behavior in alignment with social norms
- f) Marked discrepancy between seemingly high verbal skills and inability to communicate effectively
- g) Erratic, non-graceful or poorly controlled movements

Method

Nineteen Special Education 5th grade students completed the Brigance Inventory of Basic Skills for Reading, Reading comprehension and Math at the beginning and again at the ending of a school year. During that year, a basic program was initiated that included Brain Gym several times during the day for a few minutes each time, with individual Brain Gym work as the learner called for it. With individual learners, muscle checking was used to decide the specific activity program needed, which varied from child to child.

Results

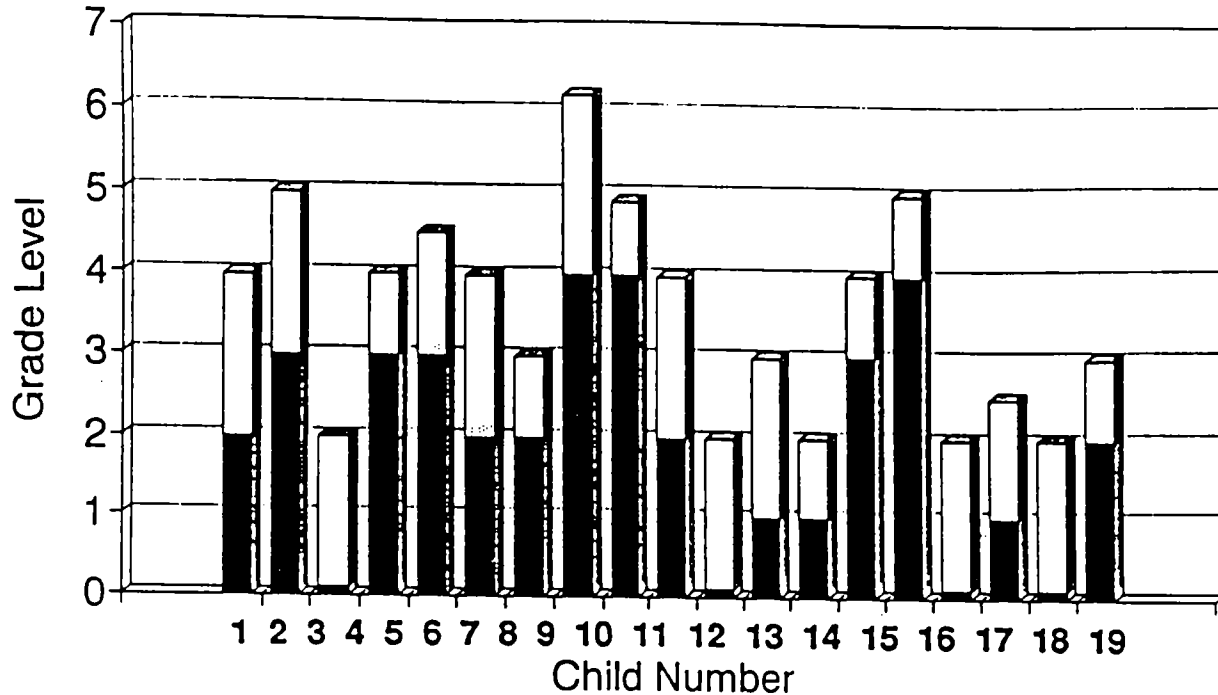
All students showed one to two years growth in reading and comprehension; most also showed one or more years growth in math. The changes in Cognitive Skill development were dramatic, especially considering that these are certified Special Ed. Students considered to have limited potential to make academic progress. From an observational standpoint, these students were able to

- 1) relax and have fun in the classroom, enjoying the learning process
- 2) carry on intelligent conversations about something important to them
- 3) focus their attention on a task for a long enough period to complete it
- 4) show care and concern for the other students in the class, their teachers and themselves
- 5) listen quietly as others shared ideas
- 6) work well with other students on projects
- 7) come to an equitable understanding following a fight
- 8) stand up for themselves in a confident, positive way when being abused by others
- 9) confidently express their creativity in a myriad of ways
- 10) appropriately express affection
- 11) exhibit some use of inner speech for deductive reasoning and control of their own behavior
- 12) experience success and celebrate the success of others

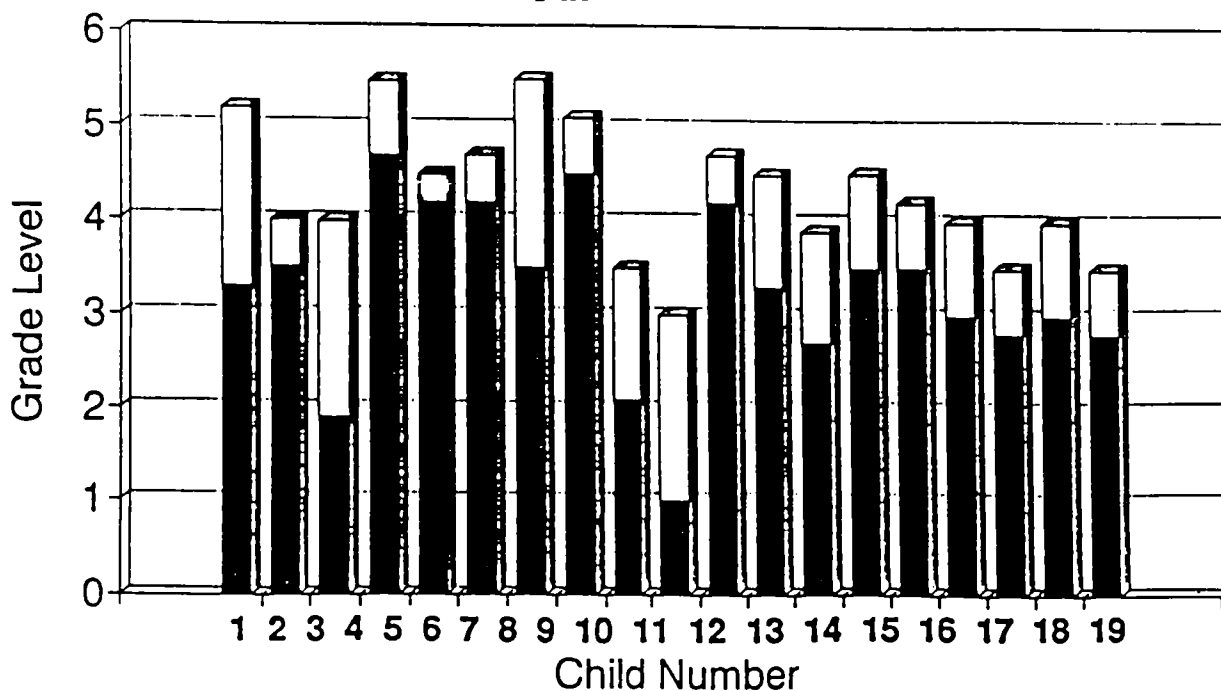
Comments: In keeping with the need to first relax the survival priorities, I have found acceptance and unconditional honoring of each individual to be inherent in the Brain Gym process itself, along with all important, supportive touch. The honoring allowed them a greater perspective of self, and of those around them and altruism toward the world in general. The movements appeared to stimulate hemispheric integration allowing greater ease of learning and a more complete perspective of all the options available for their lives.

Brigrance Inventory of Basic Skills

Reading & Comprehension



Math Scores



Pre-test Post-test

SOME BACKGROUND ON BRAIN GYM

I am greatly indebted to Dr. Paul Dennison, who, in his struggle to find a way through his own dyslexia and visual difficulties, put together the Brain Gym program. His integrity, depth of understanding, and love for children and for learning shine through in his elegant work. Paul Dennison developed Brain Gym in the 1970's at the Valley Remedial Group Learning Center in California, where he had been helping children and adults for nineteen years. As an educator all his professional life, his discoveries were based on an understanding of the interdependence of physical development, language acquisition, and academic achievement. Brain Gym grew out of his background in curriculum development and experimental psychology at the University of Southern California, where his research focused particularly on beginning reading achievement and its relationship to covert speech skills.

For more than seventy years, pioneers in sensory-motor training, applied kinesiology and developmental optometry had provided statistical research relating the effects of movement to learning. Dennison began his synthesis of this work in 1969. Over the years, he incorporated Dr. Constance Amsden's Malabar Reading Project, the breakthroughs of Drs. Doman and Delacato,⁴ the work of Dr. Louis Jacque and Dr. Samuel Herr, O.D. (leading pioneers in vision training), the work of optometrist Dr. G.N. Getman, Doctor of Chiropractic Richard Tyler and sports kinesiologist Bud Gibbs. Dennison adapted this research, particularly as it related to children with specific language disabilities, into quick, simple, task-specific movements that benefit any learner.

Since establishment of the Educational Kinesiology Foundation in 1987, research projects using Brain Gym have sprung up worldwide with remarkable results. My first attempt to quantify the effects of Brain Gym occurred in 1989 with nineteen fifth grade Special Education students. Their teacher used the Brigance Inventory of Basic Skills test to pre- and post-test these students at the beginning and end of a one year school period. Each student was repatterned and used approximately 5 to 10 minutes of Brain Gym daily. As you will note from the graphs in Figure 7.2 on the next page, the results showed a one to two year average gain for all students on the reading and reading comprehension test and an average gain of at least a year for more than 50% of the students on math. These results, especially in reading, were highly unusual for a whole class of special education

*from Smart Moves
by Dr. Carla Hannaford*

- 6) 16 children improved in matching designs; 6 already had perfect scores in the pre-checks, 7,8,9). The remaining three measures (language experience stories, photographs, and copying figures) were not reliable because other variables made them difficult to score.

By far the most outstanding effect of the 8 week Edu-K Program was the students' improvement in reversals in letters and numbers. Such a marked improvement over such a short period of time is significant in most teachers' experience. We can conclude, therefore, that something changed in the students' learning system, making them more efficient learners, as a result of the 8-week Edu-K Program.

Although educators have taken the attitude that children's reversals will disappear somewhere around second grade, for first graders struggling through their first year of school figuring out which way to write a letter or a number, there is certainly a great deal of stress and frustration. If Edu-K is a method to mitigate this stress in any way, it should be explored further.

* See Glossary

** See Appendix

Appendix

In reading, reversals are also prevalent, especially when children are having trouble. Many 5th and 6th graders still read 'was' for 'saw'. Adults show reversals under stress: e.g., we reverse words when speaking, letters when typing, and numbers when dialing the phone or balancing the checkbook. Reversals are a sign of stress in the learning system, and need to be taken seriously.

In what ways do Brain Gym® activities set the stage for more efficient learning? These movements are, in fact, designed to reduce stress in the learning system. Movements for crossing the midline of the body (Cross-Crawl, Lazy 8's, Elephant, Cook's Hook-Ups, Dennison Laterality Repatterning) make it possible for the system to integrate linguistic processes, bilaterally. The muscles, eyes, ears, and the right and left hemispheres all work better crossing the midline. Stimulation of the electrical energy lines in the body (Brain Buttons, Earth Buttons, Space Buttons, Thinking Cap, Cook's Hook-Ups) wakes up all parts of the system, encouraging cooperation among the different parts of the mind/body, including the backbrain, midbrain, and forebrain.

Before reaching age six, young ones have learned everything in their lives through movement. Once they turn six, they go to school where they are expected to sit still, be quiet, and learn mainly through their eyes and ears. Movement stimulates the brain and helps to integrate learning. Children need positive movements which they can associate with the joy of learning.

Suggestions for learning through movement have been a regular feature of educational innovation from turn of the century Finger Plays, through learning to read kinesthetically, to recent ideas for Body Writing and Body March. The results of this research suggest that introducing specific Brain Gym movements into the classroom may not only reduce stress in the physiology, but also free up the learning system.

- (1) Dennison, P., & Dennison, G. *Brain Gym: Simple Activities for Whole-Brain Learning*. Glendale, CA: Edu-Kinesthetics, Inc., 1986
- (2) Dennison, P., & Hargrove, G. *Edu-K for Kids!* Glendale, CA: Edu-Kinesthetics, Inc., 1985
- (3) Harris, A. & Sipay, E. *How to Increase Reading Ability* (7th ed.) New York: Longman, Inc., 1980, p. 426
- (4) Dennison, P. *Switching On*. Glendale, CA: Edu-Kinesthetics, Inc., 1981
- (5) Thie, J. *Touch for Health*. Marina del Rey, CA: DeVorss & Company, 1979
- (6) Pearce, J. *Magical Child Matures*. New York: E.P. Dutton, 1985, p.33.
- (7) Poulsson, E. *Finger Plays*. Norwood, MA: D. Lothrop Company, 1893; Fernald, G. *Remedial Techniques in Basic School Subjects*. New York: McGraw-Hill, 1943; Armstrong, T. "Bodywise: Making Learning Physical." *Mothering*, 1988, Winter.

9. Effects of Edu-K in the Classroom on Beginning Language Skills

Dorothy H.L. Carroll, Ed.D.

Summary: Twenty-two first graders in Pennsylvania, under the supervision of educator Dorothy H.L. Carroll, Ed.D. and classroom teacher Mary Ann Wittle, took part in this 8-week program. The program consisted of Repatterning in the 3rd and 8th week and about 15 minutes a day of Brain Gym® activities. The purpose of this study was to determine whether the Edu-K techniques would affect students' recognition and reproduction of letters or numbers, their auditory and visual discrimination of sounds and words, and/or their ability to match and reproduce designs as assessed by standardized tests. The results indicated that nearly all of the children who made errors on the pre-tests improved their performances on those same tests 10 weeks later.

Mary Ann Wittle, classroom teacher, and Dorothy H.L. Carroll, project organizer, met with parents to discuss the implementation of this Edu-K Pilot Project, which the principal and parents had authorized for the first grade classroom. Mary Ann Wittle had been using Edu-K with her students for two years, and she believed that they were learning better as a result. This group, however, was entering first grade for the first time and had not previously been exposed to Edu-K.

Method

Twenty-two first grade students, ranging in ages from 5 to 7 years, participated from September to November in the 10 week Project. The children represented a cross-section of the Lionville, Pennsylvania, multi-ethnic community. In the first week of the study, using the teacher-made tests which Ms. Wittle had developed over her years of teaching, pupils were assessed on their skills at recognition and reproduction of letters and numbers, auditory and visual discrimination of sounds and words, and matching and reproducing designs. Photographs of the children were used as a stimulus for dictating language-experience stories.

The Edu-K Program started the second week and included the following Brain Gym: 3 Buttons (Brain Buttons, Earth Buttons, Space Buttons), Thinking Cap, Lazy 8's for eyes and writing, the Elephant, and Cook's Hook-Ups. The third week the children learned Cross Crawl, and Dennison Laterality Repatterning was done as a group each Monday after the 2nd week. Two children were Repatterned again in the 4th week. The whole class repeated the Repatterning with the goal "to have more fun in school" in the 8th week.

Each morning of the 8-week Program started with a different activity, either the 3 Buttons and the Thinking Cap, or Cross-Crawl and Brain Buttons. Before reading groups, the children did Lazy 8's and Brain Buttons; after lunch, Cross-Crawl and Cook's Hook-Ups. The program was marked by variety, consistency and brevity; after learning the movements, the children spent a total of about 15 minutes a day in Brain Gym activities.

At the end of 8 weeks, the post-checks were done exactly the same as the pre-checks.

Results

- 1) 20 children out of 22 improved in their ability to print letters without making reversals; the other 2 children made no errors in pre- or post-checking.
- 2) 19 children out of 22 improved in their ability to print numbers without making reversals; the other 3 children made no errors.
- 3) 7 children out of 22 improved in their ability to recognize words without making reversals (e.g. ded for bed); 12 made no errors; 3 still reversed, but with only one word.
- 4) 22 children out of 22 improved in their auditory discrimination ability, as measured by this test: the child, when shown a letter, made the sound of the letter (buh for b); when given the sound, the child named the letter. September errors ranged from 3-33; November errors ranged from 0-9.
- 5) 16 children improved in alphabet recognition (child circled a letter on a paper when read the letter); 2 had perfect scores in September, 3 were the same, and 2 made more errors.

10. Longitudinal Perspective on Edu-K Outcomes with Special Ed Students, Australia

Peter Whetton, Senior Special Ed. Instructor

Summary: In 1986-87, Peter Whetton, Senior Special Education instructor at Christies Beach High School, Australia, implemented this informal project over three terms. The purpose of this project was to determine whether the inclusion of Brain Gym® movements would have an effect on the attention span or academic skills of high school students in a Special Education classroom. In part one of the study, 12 students were divided equally and assigned to four groups: the Brain Gym group or one of 3 control groups. The results showed that the Brain Gym group improved markedly in all areas; the two control groups using movement showed small areas of improvement; the control group with no movement showed no improvement. In part two of the study, all students chose to do Brain Gym only for the 9-week period. Results showed continued improvements. In part three, Brain Gym was not used in the classroom for the 8-week period. Results showed that skills and behaviors declined until Brain Gym was reintroduced. A 1990 retrospective of participants is included.

REPORT 1 - TERM 3 - 1986

Initial Experiment

Peter Whetton, a metropolitan high school teacher in an adaptive remedial program in Australia, describes his experience with Edu-K and implementation of an informal research project:

I had seen students make seemingly outstanding progress after Brain Gym intervention, especially students who, despite good teaching practices, had made little or no previous progress. I decided to look into this new educational aid to see if it had any application to my teaching in Special Education. Having taught for 20 years, I was skeptical. I needed to see if it really worked, or if some other reason led to the changes, if indeed there were any. I completed a basic E-K¹ course and decided to test the concepts in my classroom.

Method

Students were tested in the following areas: reading fluency, reading comprehension, time spent on task, and hyperactive behavior. Students in the adaptive remedial program at Christies Beach High School, Australia, participated in the 3-part study. Twelve high school students were divided into 4 groups. Three groups did movements daily for 20 minutes. Students did their exercise program for a period of 4 weeks. The control group did their contract work during the two 10-minute exercise periods each day. All students earned points for their activities for the class token economy.

Group A	3 students	yoga exercises
B	3 students	aerobic exercises
C	3 students	Brain Gym
D	3 Students	no exercise program (control group)

Results

The results surpassed my expectations:

Group A - yoga group - These students showed a small level of progress in reading comprehension with considerable improvement in reduction of hyperactive behavior.

Group B - aerobic exercise - These students showed a small level of progress in reading comprehension, but no other change.

Group C - Brain Gym - These students showed remarkable changes in all areas measured and also in other observable areas. Reading fluency showed a marked improvement with sentences flowing rather than word-by-word as shown before Brain Gym. Reading comprehension at the students' reading age showed a substantial 60% improvement over pre-test levels. Time on task improved from 30% average to 60% each day for the week following the Brain Gym. Hyperactive behaviors were reduced a great deal and, in fact, the total attitude of the students was markedly different. All three students spoke of a changed "feeling", of being "charged up" and feeling better about themselves and their work.

Group D - control group - This group showed no observable change in any area checked.

¹ E-K is the abbreviation for Edu-K in Australia.

REPORT 2 - TERM 1 1987

All students in the adaptive education class asked to be part of the Brain Gym® study, having seen the difference in the three boys using it in term 3, 1986.

Method

Students were assessed in the following areas before and after the Brain Gym study: reading fluency, reading comprehension, time on task, hyperactive behavior in all classes, positive relationships with other students in class and self-esteem (quite obviously, some of these can only be judged subjectively). All students did Brain Gym for 9 weeks for 10 minutes, morning and afternoon. They had access to fresh rain water. Students were able at any time to contract out if they so wished. None did this.

Results

All students spoke of feeling better with Brain Gym, and on days when it was not done, the students complained of feeling low. All students made progress in all areas judged; some changes were dramatic.

Student A had spent considerable time in term 1 learning time from a clock without success. In a time test in week 1, term 1, he scored 1 out of 20 on the clock fact test; 4 weeks later, with no more lessons on time, he scored 20 out of 20. He had managed to gain access to what he already knew.

Student B, who had been very "hyperactive," finished very little work and was late with every contract, suddenly began to hand in work on time, neatly presented with better spelling.

In the 6 tested areas, all students improved.

At parent interviews, 4 of 9 parents spoke of dramatic changes at home in the students' attitudes. All parents had noticed the difference in academic areas with homework. Other teachers noticed the changes and asked for a Brain Gym session so that they could use it. At my first workshop, on a day of many other meetings, some 48 teachers attended. Many more have asked for the introductory workshop to be run again. In October, a number of staff will attend a half-day workshop.

From my own point of view, Brain Gym has helped me to relax and to enjoy my work more than I have for years, and to feel that I am able to do more for my students than ever before.

REPORT 3

I followed a third stage, which was the withdrawal of Brain Gym activities, to observe if any changes occurred. It must be remembered that none of these students has been Repatterned; the only Edu-K input has been Brain Gym.

Method

Following the two week holiday, no Brain Gym was introduced for eight weeks. Observation was made of the ten students with emphasis on changes in the following:

- Behavior
- Positive language use
- Positive relationships
- Hyperactivity
- Self esteem statements
- Reading fluency
- Study habits
- Coordination
- Time on tasks

Results

For the first 4 weeks, no change was obvious in any of the students. Two students continued to do Brain Gym at home. As week 5 and 6 set in, small changes in all areas began to be noticed. In 6 of the students, reading fluency fell back quite drastically, and hyperactive and negative behaviors increased (not to the pre-Brain Gym® point, but certainly to a level that was very obvious). By week 8, six of the students had decreased their time on tasks from a high average of about 85% to 60%. Brain Gym was quickly reintroduced at the students' request, and, within 6 sessions, all the students had gained back their previous behaviors and reading abilities.

Retrospective, written in 1990

I have now completed a long term study of outcomes on these students. I do not claim this research as anything more than subjective, for, after the initial experiment with four groups, including a control group, all the students quite strongly wanted to be part of the Brain Gym. This left me with no control group.

I have had a second group with whom I did no Brain Gym, but as they were part of our new expanded team-teaching class system, they did not face quite the same input as the original group. However, the differences between these two groups have been very noticeable. This second group has recently been introduced to Brain Gym.

Of the original twelve students, three have left us to move interstate, two have joined standard year level classes and are now in our year 12. All of the remaining students have now left school. Their outcomes were very good. Of the seven, four are in open employment having obtained jobs in competition with better academically skilled students. Two are running their own window cleaning business very successfully, and one has moved into his own flat and has confidence and excellent life skills. It seems very likely that he will become a trainer in his area of employment.

Special Outcomes

Academic Progress: Well beyond expectation, especially in reading and mathematics.

Self-Esteem: In comparison with other students I have met in Special Education, our students have made huge progress. They have become confident young people with excellent life skills. They have taken the "dis" out of disability.

Confidence: All have great confidence in themselves and in their ability to progress towards their goals.

Behaviour: Negative behaviour ceased to be an issue long ago with one exception. This boy had a difficult home background, and at one stage, he attempted suicide. His continued use of Brain Gym helped him to pull through a major life crisis and to ultimately take charge of his life in a positive and resourceful way.

Social Relationships: Students' abilities to relate successfully in social situations improved dramatically.

Some Figures:

Average age growth over period of study:

Reading	+ 5.6 years	Comprehension	+ 7.6 years
Maths	+ 4.6 years	Spelling	+ 4.3 years

Time: Time spent on task from an average of 30% to a high of 85%.

Behaviour: Anti-social acts in a school setting went from a level of 12 per week to 3 per month.

Coordination: 7 students progressed from a special Physical Education class for the clumsy to their appropriate year level.

Hyperactivity: Declined from a major problem to something which did not exist.

Negative Statements: Put-downs to self and to others have reduced by 95%. Positive statements have increased by 70%.

For the Future

All the students in our unit are now using Brain Gym®. We have evolved an Adler system of cooperative discipline and have expanded our students' active involvement in the learning process. We have added human relationship training which includes child care and environmental awareness. We demand a high level of intellectual input from the students and this is working well.

Our unit is an oasis of care, fun and leaning. The staff find working in the unit, which we call a learning centre, fulfilling and rewarding. The success of the programme has been good for our professional self-esteem. A number of our school staff are now choosing to do a Brain Gym course, and I am convinced they will become more positive, innovative and experience less stress as teachers.

I am now introducing an enhanced learning course to students who feel they are under-achieving. It includes Brain Gym as its foundation, and it is already showing dramatic results. Our feedback from parents has been very positive, and there have been requests for students to join our programme. Our numbers have grown to the point where we cannot take any more students. Visitors from outside agencies are as excited about what is happening as we are.

I thought I had better find something which was not a positive in this report and could not. I will say, however, that these few students could have been joined by thousands of others. I look forward to the day when Brain Gym is incorporated into the school curriculum. Education can be a joyful experience when we allow children full participation and value them as unique human beings with unlimited potential. That the students, switched on by Brain Gym and an holistic education, will play an important part in the future of our society and subsequently our globe, I have no doubt.

I dream of a time when our schools have become exciting learning institutions which allow students to grow and develop as positive and responsible human beings. I am proud to have played a part in that dream.

Pete Whetton

E.K. Consultant, Instructor, Teacher

Reprinted by permission, *E.K. Centre Newsletter*, Glen Osmond, Australia, June 1990.

Vision, Movement and Learning Research from Related Disciplines

Badian, Nathalie. (1986) "Nonverbal Disorders of Learning: The Reverse of Dyslexia?" Annals of Dyslexia. 36, 253-269.

- 1) Non-verbal learning disorders are more difficult to diagnose and often are not diagnosed.
 - 2) High non-verbals with left brain dysfunction seen as sociable and responsible whereas low non-verbals showed low motivation, poor social skills, inability to work independently, low tolerance of criticism, disorganized, messy, socially inept, clumsy, poor at sports.
- assumed - right brain dysfunction
 - poor visual-perceptual - motor skills

Bishop, D.V.M. (1990) "Handedness, Clumsiness and Developmental Language Disorders." Neuropsychologia. 28, (7), 681-690.

Abstract—Hand preference and relative hand skill were assessed in 83 8 1/2 year-olds who had first been enrolled in a longitudinal study of specific language impairment at 4 years of age. There was no evidence that hand preference or relative skill of the two hands differed from normal in this population, although skill of both hands was poor in children with persisting language difficulties.

Bracewell, R.M., Husain, Masud, and Stein, J.F. (1990) "Specialization of the Right Hemisphere for Visuomotor Control." Neuropsychologia. 28, (8), 763-775.

Abstract—The accuracy of saccades directed towards the *remembered* positions of targets in left (LVF) or right (RVF) visual hemifield was measured. The majority of right-handed subjects were found to be more accurate at directing their gaze to locations in the LVF than in the RVF, suggesting that the right hemisphere is superior to the left in oculomotor control. Even after completion of a corrective saccade following the primary saccade, subjects systematically undershot target direction and overshot target depth, suggesting that visual feedback normally plays an important role in the fine guidance of gaze after the completion of a primary saccade.

Fletcher, James. (1991) "Qualitative Descriptions of Error Recovery Patterns Across Reading Level and Sentence Type: An Eye Movement Analysis.:

Purposes of the present study included describing a variety of error recovery patterns based on eye movement (EM) measures of sentence parsing across reading level and error type. A qualitative pattern analysis of EM mappings was completed for students with reading disabilities (n = 10) and nondisabled students (n = 10) who were parsing control and erred sentences. Independent variables included error type (syntactically ambiguous, semantically anomalous, and control sentences) and reading proficiency level. Dependent variables consisted of seven eye movement measures. Results suggest that the error recovery strategies deployed by both groups were similar in pattern and frequency: patterns were largely organized, strategic, and efficient, as predicted. Strategies tended to be error "reanalysis" (vs. "recovery") heuristics, in that readers from both groups used regressions to reanalyze regions of inconsistency rather than regions of disambiguation. Earlier conclusions regarding disorganized processing and individual differences among adolescents with reading disabilities are discussed.

Garzia, R.P, Nicholson, S.B. (1990) "Visual Function and Reading Disability: An Optometric View-point." Journal of American Optometric Association. 61, 88-97.

This paper discusses traditional concepts and provides an extensive literature review. The impact of processing deficits on reading performance is discussed based on meta-contrast masking and foveal-parafoveal sequential attention models of reading. Clinical implications of transient system function in other clinical entities are also provided, accommodation dysfunction, reduced nearpoint acuity, hyperopia and anisometropia are associated with poor reading performance.

Haddad, H.M., Isaacs, N.S., Onghena, M.S. (1984) "The Use of Orthoptics in Dyslexia." Metabolic Ophthalmology-Pediatric and systemic. 8, (1), 3-5.

In 73 children with reading difficulty, evaluation showed that 18 had overt refractive errors, 18 had dyslexia and no ocular anomalies, and 37 impaired fusional amplitudes, 24 of whom were dyslexic. The orthoptic exercises improved reading in patients with poor fusional amplitudes but no others.

Hardman, P.K., Clay, J.A., Lieberman, A.D. (1989) "The Effects of Diet and Sublingual Provocative Testing on Eye Movements with Dyslexic Individuals." Journal of American Optometric Association. 60, (1), 10-12.

A double blind study was conducted utilizing the EDL/Biometrics Reading Eye Camera to determine if poor diet and altered reactions could have a detrimental effect on the eye movements of a group of dyslexic individuals. The results indicate that a diet high in sugar (and a provocative challenge of cane sugar) produced erratic eye movements in dyslexia.

Hoffman, L.G., Rause, M.W. (1987) "Vision Therapy Revisited: A Restatement." Journal of American Optometric Association. 58, (7), 536-9.

This review provides a description of vision therapy and a review of literature supporting the efficacy of vision therapy. It concludes that vision therapy is appropriate treatment for children with visual deficiencies whether or not related to learning disabilities.

Hynd, George W., Hynd, Cynthia R., et al. (1987) "Regional Cerebral Blood Flow (v. CBF) in Developmental Dyslexia: Activation during Reading in a Surface and Deep Dyslexic." Journal of Learning Disabilities. 20, (5).

- 1) For controls, significant right central-posterior activation resulted from reading a narrative text.
- 2) Less brain activation was noted during reading bilaterally in the deep dyslexic; in the right hemisphere in the surface dyslexic.

Hynd, George W. and Semrud-Clikeman M., et al. (1991) "Corpus Callosum morphology in Attention Deficit-Hyperactivity Disorder: Morphometric Analysis of MRI." Journal of Learning Disabilities. 24, (3), 141-145.

- 1) Attention Deficit-Hyperactivity Disorder children may have a smaller right frontal region.
- 2) Attention Deficit-Hyperactivity Disorder children had a smaller corpus callosum especially in genu and splenium.
- 3) Deviations in normal corticogenesis may underlie behavior in this disorder.
- 4) These deviations may relate to disturbances in anterior and posterior regulatory and attentional processes.

Korshner, John and Stringer, Ronald. (1991) "Effects of Reading and Writing on Cerebral Laterality in Good Readers and Children with Dyslexia." Journal of Learning Disabilities. 24, (9), 560-566.

- 1) Dyslexia is not related to incomplete lateralization or failure to inhibit verbal processing in the right hemisphere.
- 2) Reading increased lateralization in dyslexics and had negative relation to arithmetic.
- 3) Writing caused a decrease in lateralization—linked to deficits in phonological decoding and visual word recognition.
- 4) Dyslexics suffer from left hemisphere interference from the attentional and processing demands of some school tasks (an environmentally sensitive disorder).
- 5) Reading caused a decrement in left ear recall—all.
- 6) Writing depressed right ear recall in dyslexics only.

Ladavas, E., Nicoletti, R., Umiltà, D., and Rizzaslati, G. (1984) "Right Hemisphere Interference During Negative Affect: A Reaction Time Study." Neuropsychologia. 22, (4), 479-485.

Abstract—Two experiments are described in which simple reaction times (RTs) to lateralized visual stimuli were measured in normal subjects during negative affect and during recollection of everyday life scenes. In both experiments, the mental activity produced a remarkable increase of RTs with respect to a control situation without interfering activity. During production of the negative affect, there was a selective lengthening of RTs mediated by the right hemisphere. The role of the right hemisphere in producing emotions is discussed.

Levinson, Harold. (1989) "Abnormal Optokinetic and Perceptual Span Parameters in Cerebellar-Vestibular Dysfunction and Learning Disabilities or Dyslexia." Perceptual and Motor Skills. 68, 35-54.

Summary: To measure the ocular fixation and sequential scanning dysfunction assumed responsible for the visual reading symptoms which characterize dyslexia or learning disabilities, an optokinetically based tracking method was devised. This method quantitatively demonstrated significantly reduced fixation, tracking, and perceptual or visual-span scores as well as "movement illusions" for 70 cerebellar-vestibular dysfunctioning persons with learning disabilities vs. 70 controls. Such data tended to validate the hypothesis that cerebellar-vestibular-determined fixation and tracking mechanisms predispose dyslexic or learning disabled individuals to visual reading disorders. Moreover, a newly revised method is presented which may prove useful in rapidly screening and diagnosing cerebellar-vestibular-determined reading and learning disorders from those of other origins. Additional independent studies using significantly larger samples and asymptomatic or "normal" controls are required for further validation and development of the method.

O'Kusky, John, Ph.D., Strauss, Esther, Ph.D., et al. (1988) "The Corpus Callosum is Larger with Right-hemisphere Cerebral Speech Dominance." Annals of Neurology. 24, 379-383.

When measurements were compared among 44 patients whose speech dominance was determined by intra-carotid injection of sodium amytal, the area of the corpus callosum was significantly greater in the right hemisphere cerebral speech dominance by 109 to 159 square millimeters (18-28%) as compared to that of left-hemisphere speech dominance or bilateral speech representation. This amounts to 37 to 54 million additional callosal axons in patients with right hemisphere speech dominance.

Optometric Extension Program, "The Cheshire Study: Changes in Myopia Following Program of Intervention," originally published by Springer-Verlag. Santa Ana, CA.

This study was designed to investigate whether environmental factors have significant effects on the incidence of school age myopia. The test population was made up of 822 sixth grade students in the Cheshire School District, all from the same general socio-economic status, with similar I.Q. scores. Teachers included 1/2 hour a day of pre-designed activity emphasizing motor learning and motor-sensory development for the group in the Perceptual Skills Program. This group showed significantly less incidence of myopia, particularly among girls, than either of the two control groups. Behavior variables were also tested at earlier grade levels, and showed statistically significant changes in self-control, self-concept and classroom attitude, especially for boys. Boys demonstrated behavior changes while girls demonstrated visual changes in response to the intervention program. There was a high correlation between increase in myopia and grade level achieved. Findings showed an earlier manifestation of myopia in girls than in boys.

Optometric Extension Program, Foundation, Inc. "Vision and Juvenile Delinquency; Statistical Results of Optometric Intervention." Santa Ana, CA.

Summarizes studies relating prevalence of visual difficulties among juvenile delinquents conducted by various behavioral optometrists between 1965 and 1978. Studies indicated a large incidence of visual problems (95% in one study) among juvenile delinquents in several detention facilities throughout the country. Insufficient visual skills cited included near and far vision, visual accommodation, eye aiming, and eye pursuit. Recidivism dropped to 6% after correction of visual anomalies, compared to normal recidivism of 55%.

Rattan, G., Dean, Raymond & Lowrie, R. (1987) "Inducing Comprehension in the Bilateral Poor Reader." International Journal of Neuroscience. 36, 67-73. (United Kingdom)

Results were consistent with findings of Cromer (1970) and Zaugewill and Blackmore (1972) that visual-spatial organization of prose material and backward scanning, respectively, improved reading comprehension for the bilateral poor reader.

Rosner, Jerome. (1973) "School Achievement as Related to IQ and Perceptual Skills: A Comparison of Predictors." Journal of American Optometry Association. 44, (2), Feb., 142-4.

IQ scores are compared to perceptual skills scores as predictors of school achievement. The latter, in this study, explains far more of the variance in school achievement than do the former.

Shennum, William A. (1987) "Experience Activity Therapy in Residential Treatment Effects on Children's Behavior in the Treatment Milieu," Child and Youth Quarterly. (Summer), 16, (2), 81-90.

Examined the effects of art and dance/movement therapy program on the behavior of 42 emotionally disturbed 6-12 graders. Results of a 6-week experiment indicated that greater amounts of expressive activity therapy reduced student's level of emotional unresponsiveness and acting out problem behavior.

Sherman, Arnold. (1973) "Relating Vision Disorders to Learning Disability." Journal of American Optometric Association. 44, (2), 140-141.

From evaluations of visual disorders among 50 children diagnosed as "learning disabled," certain frequently occurring vision deficiencies were discovered. Although many children had 20-/20 acuity, ocular-motor, binocular fusion, and eye-hand coordination insufficiencies may have inhibited academic performance.

Simons, H.D., Grishan, J.D. (1987) "Binocular Anomalies and Reading Problems." Journal of American Optometric Association. 58, (7), 579-87.

This paper reviews and evaluates the research literature on the relationship of binocular anomalies to reading problems. The weight of evidence supports a positive relationship between certain binocular anomalies and reading problems, especially exophoria at near fusional vergence, aniseikonia, anisometropia, convergence insufficiency and fixation disparity. The superiority of monocular readers over readers with binocular anomalies suggests that compensation through suppression may have taken place.

Stolzberg, M.E., Retty, J.M., Cohen, A., Lieberman, S. (1989) "Effects of Ocular Functioning and Time upon Reading Proficiency." Journal of American Optometric Association. 60, (2), 122-6.

This study was designed to determine whether people with fusional and accommodative problems will tend to "not concentrate for any length of time in the near-point situation" due to fatigue of extraocular and ciliary muscles. It was found that such individuals do show increased errors over time on a prolonged reading task.

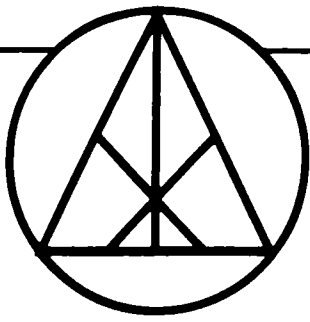
Wolf, Maryanne. (1986) "Rapid Alternating Stimulus Naming in the Developmental Dyslexias." Brain and Language. 27, 360-379.

A rapid, alternating stimulus (RAS) naming measure was designed to study the developing ability in dyslexic readers to direct attention to contextual patterns while performing a rapid serial naming task. The results from a 3-year longitudinal investigation of 98 children indicate three trends. (1) RAS performances differentiate both average from impaired readers and dyslexic subgroups from each other. (2) The largest, most impaired subgroup cannot complete the RAS tasks in kindergarten; the smaller subgroups have little name access speed deficits. (3) Early RAS performances are highly predictive of later reading, particularly at the single-word reading level. Implications for understanding the development of automaticity and the relationship between retrieval speed and reading are discussed.

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**Anecdotal Research
on
Educational Kinesiology**



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PEAK PERFORMANCE LEARNING

ELOISE HANBY

We all want to perform at our best. When we need to learn new information, we would like to do it easily, in a short period of time, and to be able to recall it perfectly when appropriate. This is an important skill for success, and the need for it continues through our entire lives.

In the June 15, 1998 *Newsweek*, Geoffrey Cowley and Anne Underwood, authors of "Memory," asserted that we are now having a mental-fitness boom. Memory is the Baby Boomers' new life-crisis issue. People are buying memory programs such



Eloise Hanby

as "Mega Memory" and taking handfuls of pills in hopes of boosting brainpower. Cowley and Underwood pointed out that we can put things into long-term memory simply by practicing them. The hippocampus, a small, two-winged structure deep in the center of the brain, decides to store or discard information based on whether it has any emotional significance or relates to something we already know. For data retention, the brain needs to make associations.

How we practice does make a difference. Several years ago, I took a seminar taught by June Jackson, entitled Peak Performance Teaching. It applied Neuro-Linguistic Programming (NLP) techniques to education. We spent five days working with students on spelling, reading, and math skills. As a classroom teacher, I found the techniques to be very useful for some students. Yet there were others—like me—who did not seem to benefit from them. Then I discovered that I could use the balances in the Dennisons' Creative Vision training to switch into high gear* for visual memory.¹

To back up a bit, "Neuro" pertains to the neurological pathways of thinking. "Linguistic" pertains to the unconscious selection of specific language that tells us what area of the brain

we're using at a specific time. "Programming" is the process of assisting people to combine or reorganize the sequence of steps in the thinking process to bring about positive change.

Innovators Richard Bandler and John Grinder developed NLP during the early 1970s in California. Bandler, a mathematician and computer expert, conceived that, like a computer, each person's mind has its own program, and that a person could become more resourceful by changing the steps in the program. Grinder, a transformational linguist, was interested in the ways that language seems to affect people's behavior and thinking processes.

Observing eye movement is an important part of the NLP process. For the typically organized, right-handed person, pointing the eyes up and to the left triggers the visual cortex to access remembered pictures, stored exactly as they were seen. Eye movements directed up and to the right trigger the visual cortex in a way that assists in creating new images.

Horizontal eye movements, pointing in the direction of the left or right ear, correspond with internal auditory processing. Eye movements to the left can access memories of sounds we've heard before. Movements to the right can activate the ability to construct sounds (as we do in everyday speech when we take stored words and rearrange them to say something new).

Eye movements directed down and to the left occur as we talk to ourselves (often referred to as internal dialogue). Eye movements directed down and to the right enable us to become aware of feelings, tactile sensations, or movements.

NLP has been used to track the thinking sequences used by excellent learners for different academic skills. It has

*THE WEEK FOLLOWING HIS
BALANCE, A TEN-YEAR-OLD
NONREADER FINISHED
READING HIS FIRST BOOK.*

been determined that a facilitator can redirect a person's gaze during instruction, thus activating new patterns of thought and behavior as different areas of the brain became more responsive. Supporting new patterns in a

person's physiology is one way of inviting him or her to change a poor thinking strategy to a more resourceful one. NLP is easily taught. The eye movement for accessing visual memory is the most important one for teaching skills of spelling, vocabulary words, and math facts. The eyes are open and pointing up to the left at the 11 o'clock position. (For a left-handed person, this position may be reversed.)

Each person needs to find a comfortable visual distance at which to practice memorizing the materials he or she wants to

¹I strongly recommend the Creative Vision Course because so many more eye points can be tested with this training.

store. When training with June Jackson, this is where I became frustrated. I couldn't seem to find that comfortable point of focus, and ended up with very sore eyes. It wasn't until a year later, during a Creative Vision balance*, that I had my inspiration: I could combine the NLP and Creative Vision processes for myself. After exploring this possibility, I realized that I could use the strategy for my own learning. Since then, I also developed the process and used it with many children, with consistent success.

IMMEDIATE RESULTS

One girl who was averaging only 40 to 50 percent on her spelling tests achieved 90 percent after just one hour-long Edu-K balancing session. The week following his balance, a ten-year-old nonreader, who had been having difficulty remembering letter sounds, finished reading his first book. He moved from a pre-primer level to a strong first-grade level in two months, after only one two-hour balance and training session. In another case, a teenager who read at the fourth-grade level before his balance advanced two levels in word recognition in his post-test evaluation. In addition to the balance, we had taken a few minutes to discuss some useful phonics rules. Our two-hour session gave the boy renewed hope and excitement about reading. The results of the Edu-K balancing process have been extremely exciting for my clients and me.

When vision training comes up as the correction for an Edu-K In-depth balance, in addition to checking the circle, I check the numbers in the pre- and post-checks by making a large circle to include all three visual-access positions. Consistently, I have found that the 11:00 position is in low gear for those struggling with academic skills.² Along with the traditional Edu-K testing for the colors red and blue, I've also learned that it's useful to test for purple and black, which are often used in reading materials in the schools. Many people are low gear* for these colors, creating additional stress during reading. Tracking, which is usually tested in a straightforward position, can also be checked in a reading position to see if there is additional stress with the eyes down.

SPELLING STRATEGIES

Once I have balanced for a goal such as "I am able to spell words easily," I go on to teach the NLP learning strategy that applies to the related skill. With spelling, I use a bold color to print each word on its own card. I use a variety of colored markers so that the right side of the brain has a different color association for each word. During the training, I hold the card we're working with in my right hand. In the classroom, I usually have students sit on the floor with chalkboards on their laps, while I hold up each spelling card at my shoulder level. (This method works just as well at a table, as long as the trainer holds the card

up above his or her head to allow the children to access visual memory.) The following is a step-by-step outline that any teacher can use to implement some of the techniques that have worked for me.

1. Ask the students to pronounce the word. It is important for them to know how to define it and use it in a sentence, so they can make connections to what they already know.
2. Ask the following questions, having the students respond to each by naming the letter or letters involved:
 - "With what letter does the word begin?"
 - "With what letter does the word end?"
 - "Are there any letters that extend above the line?"
 - "Are there any letters that extend below the line?"
 - "Are there any twins?" (double letters such as "oo")
3. Instruct the students to trace over each letter with their eyes. (For the first word, discuss how eyes are like a camera and can record a word.)
4. Instruct the students to "snap a picture of the word" and then write it down. Remove the card, giving the students another look (if they need it) while writing out the letters.
5. After the word is written, instruct the students to look up. Hold your hand where the card was and ask, "Can you see or imagine the word where the card used to be?" They usually answer, "Yes."
6. Have the children spell the word out loud while you point to imaginary letters where the card previously was.
7. If the students have a good visual picture, they will also be able to spell the word backwards, which is your next request. (This is the impressive step.)
8. Instruct the students to spell it forwards again.

When this process has been completed, move on to the next word. For multisyllabic words, ask the five questions about each syllable before having the children look at the whole word. For retention, it is useful to repeat the process. For review, simply have them look at it again.

MATH STRATEGIES

To teach math facts, I use a triangular card: the two addends are written in the bottom corners of the triangle, with a plus sign between them, and the sum is written at the top. For subtraction, simply substitute a minus sign for the plus. The following procedure works well.

1. Hold up the card in the visual memory field at 11 o'clock, instructing the students to look at all the numbers on the card, pointing to them, and making number sentences. (For example: $7 + 8 = 15$, $8 + 7 = 15$, $15 - 7 = 8$, $15 - 8 = 7$.) It is important for the children to orally practice the complete number sentences and not just say the answers.
2. Cover one corner and make the remaining numbers into a math fact. For example: $7 + 8 = 15$ (the 15 is concealed). Or: $7 + ? = 15$ (covering the 8).
3. For subtraction, start at the top and cover one of the bottom two numbers. For example: $15 - 7 = ?$ (the 8 is concealed). Or: $15 - 8 = ?$ (covering the 7).

²The Dennisons teach the clock positions as part of their Creative Vision course. Many other eye points may be tested, as well, and can also provide extremely useful educational information.

4. For kinesthetic involvement, it is also very useful to write down the four related number sentences that show the number families. It is very easy to notice relationships this way.

Using this method, it is best to study only a few new cards each day. Remember to review the previous day's work to reinforce retention. (Commercially made cards are available from Trend Enterprises, Inc.)

VOCABULARY AND OTHER INFORMATION STRATEGIES

Reading vocabulary can be presented on word cards similar to the spelling cards. In addition to individual words, common phrases can be written onto cards to be practiced before they are read from the book. Discussions of word meanings are essential to improve reading comprehension. Discussing phonetic rules can also be very useful.

In today's world we have volumes of information available on how to learn. As Don Campbell writes in *The Mozart Effect*, twenty-two minutes of classical violin music is excellent preparation for learning new information. Dharma Khalsa, M.D., in his book *Brain Longevity*, emphasizes using multiple associations, attaching emotions, encoding with more than one of the senses, and "chunking" the information down into smaller pieces since most people can remember only seven bits of information at one time—hence the seven-digit telephone number. It also gives a sense of accomplishment as each segment of information is learned. His four-part program to improve memory and

diminish the effects of age-associated memory loss includes: (1) nutritional therapy, (2) stress management, (3) exercise therapy, and (4) pharmacology. Brain Gym movements can assist in a very targeted exercise and stress management program. Brian Tracy, in *Accelerated Learning Techniques*, reminds us that it takes fifteen to thirty exposures to put information into our permanent memory. At first, we need daily exposure; then we can space it out to weekly and eventually monthly exposures.

To access visual memory after a vision balance and to improve learning and retention, remember to place materials up and to the left. If no partner is available, posting information on a bulletin board or on the bathroom mirror are useful techniques for achieving peak performance while learning.

Eloise Hanby is a member of the newly-formed North American Brain Gym Reading Team, and presents teacher in-services. She has a private Edu-K practice in Utah and is certified to teach Brain Gym, Visioncircles, Switched on Selling, and Touch for Health. Eloise is a retired classroom teacher who used Brain Gym during the last twelve years of her thirty-two year career. She is past president of Delta Kappa Gamma, a teachers' honorary society. ▲

*REFERENCE LIST OF EDU-K TERMS

alternating one-sided — a variable homolateral movement, i.e., involuntarily choosing to access only one cerebral hemisphere, and thereby blocking integrated thought and movement.

balance, balancing, balance process — utilizing Edu-K's 5 steps to learning which help regulate disparities between posture and effective movement or performance.

brain-organization profiles — in Edu-K, an individual's specific pattern of sensory-motor interrelationships that occur especially in response to new learning (see dominance).

Creative Vision balance — a balancing process that addresses perceptual challenges to vision in academic activities.

Dennison Laterality Repatterning (DLR) — a 5-step process that simulates key stages of laterality from infancy through walking, thereby helping to free compensatory visual or postural habits. See *Edu-K for Kids* by Dennison and Dennison.

Dimensions — in Edu-K, communication pathways between various areas of the brain and postural system (Laterality Dimension, left/right; Centering Dimension, top/bottom; focus Dimension, front/back), along with their functions.

Energy Exercises — a series of Brain Gym activities designed to facilitate an awareness of the body as the central reference for all directional movement, thus providing a kinesthetic bridge for skills of organization and abstract thought.

eye tracking — the ability to move the eyes across the midline from the left to the right visual field and back.

high gear — (used interchangeably with switch-on) in Edu-K, the known and familiar, learning by association; also, any anchor to a whole context (see also **low gear**).

Laterality Dimension — the communication pathways between the left/right areas of the brain and postural system.

Lengthening Activities — a series of Brain Gym activities designed to facilitate the ability to cross the back-front midline of the brain and postural system, thus integrating meaningful intention with habituated movement responses.

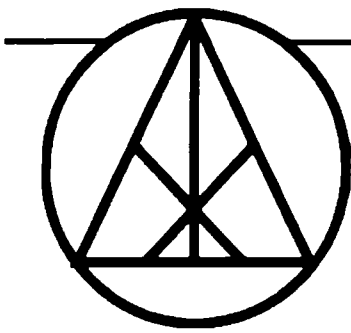
low gear — in Edu-K, the new and unfamiliar; also, any anchor to differentiation. Extreme low gear, without the high gear context, results in fragmentation and stress (see also **high gear**).

Midline Movements — a series of Brain Gym activities designed to facilitate the ability to cross the midline of the body for improved reading, writing, listening and coordination skills.

muscle-checking — in Edu-K, used for two purposes: 1) to measure the relative strength of a muscle for the purpose of inferring brain functions relevant to educators, 2) to anchor or positively reinforce newly integrated learning.

Tendon-Guard reflex — A physiological response to stop, retract the tendons, and freeze when it is not safe to move or take action. When the tendons are chronically tight, the muscles foreshorten and lose flexibility.

Three-Dimension Repatterning — a variation of Dennison Laterality Repatterning applied to the integration of the back/front, top/bottom, and left/right brain hemispheres.



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CALMING STUDENTS WITH ADHD AND AWAKENING THOSE WITH SPECIAL NEEDS

CECILIA K. FREEMAN, M.ED.

"I can see what you *can't* do. Let's discover what you *can* do." This is what I invite every parent, teacher, or therapist working with someone who has special needs to say to that child or adult. This simple statement offers an honest acknowledgment of the individual's present level of functioning as well as an invitation to reach for new learning.

I also encourage the use of easy-to-do Brain Gym® activities, which can help anyone to access the state of calm, focus, and curiosity that is necessary for new learning. The Brain Gym program provides an ideal framework to support every child or adult in reaching beyond what is familiar.

Since 1979, I have worked intermittently as a special education teacher in the public school system. For the last three years, I worked with children who had been labeled as severely handicapped, with diagnoses such as cerebral palsy, Angelman's syndrome, and Attention Deficit Disorder. Some of these children were deaf, blind, seizure-prone, and/or sensorially disorganized.

The joys and frustrations of creating a cooperative learning model while taking into consideration each child's unique needs led me to write *I Am the Child: Using Brain Gym With Children Who Have Special Needs*.¹ I wanted to give others an opportunity to imagine the daily joys and frustrations faced by each student in my classroom. I wanted to communicate the depth of knowledge and understanding that is possible through authentic interaction with individuals who have multiple challenges. Their stories are both heartwarming and inspirational.

I Am the Child was born of anecdotal records and a daily personal journal that I maintained, which detailed the



Cecilia K. Freeman, M.Ed.

experiences that led me to better understand the needs and gifts of each child in my classroom. When I was faced with the bewildering responsibility of developing an educational program that could accommodate individuals with varying and intense needs, I discovered how effective Brain Gym can be with this population.

I began with the intention of learning what each child in my classroom could do. Gradually, and with no preconceived expectations, I introduced Brain Gym activities. The following brief accounts relate the experiences of two of my students, who as months went by and fears dissolved, became more comfortable in their bodies. An awakening took place, allowing each of them the opportunity to participate in life more fully.

ANDREW

Andrew came to me as a happy five-year-old with a contagious smile. He is a dark-haired, brown-eyed little boy whose walking gait is a bit awkward—his mild cerebral palsy

causes him to shuffle and hold up his arms (bent at the elbow) for balance. Andrew is a source of joy for anyone who comes in contact with him. He is also seizure-prone.

When I started to work with him in September of 1997, his mother, Doreen, approached me with her concerns about Andrew's level of activity—he was *always* on the move! Andrew was usually able to focus or stay with one particular task for just about six seconds. Doreen explained that Andrew had been diagnosed with Attention Deficit Hyperactive Disorder (ADHD). The pediatrician had



Andrew's ability to focus his attention on a specific task has increased markedly.

prescribed medication to calm him, but she was reluctant to use it because of the interaction it might have with the

IT TURNED
OUT THAT
ANDREW
NEVER NEEDED
THE MEDICINE

¹ With Gail E. Dennison. See book review, page 8.

medicine Andrew was already taking for seizures. I requested that Doreen give me three months with Andrew before revisiting the idea of giving him drugs to treat the ADHD.

As I learned to work with him, Andrew showed me with his actions and facial expressions that he really wanted to slow



Creative projects with a tactile emphasis help Andrew develop his fine motor skills and coordination.

down. He simply had no idea how to accomplish this seemingly insurmountable task. I did the Homolateral Crawl* with him to help him experience the two sides of his body as distinct, yet interconnected. We did Lengthening Activities to relax his tight muscles and tendons and improve his spatial proprioception. We did Energy Exercises to enhance his balance and equilibrium. Then I cautiously moved into the Cross Crawl movements to explore Andrew's tolerance for crossing the midline of his body.² Throughout the year I also facilitated four In Depth Balances* with Andrew.

It turned out that Andrew never needed the medication.

By the end of the school year—a mere nine months later—he was able to focus on a given task (such as playing in the body sock,³ exploring string beads, taking apart an object, playing with shaving cream, or watching and listening to a video) for as long as eighteen minutes. This shift in his attention span from six seconds to nearly twenty minutes has helped him to relax, and now everyone around him is more relaxed too! His mother and father say that they will be forever grateful, and continue to use Brain Gym with Andrew on a daily basis.

JIMMY

When I first met Jimmy, I saw he was a five-year old, freckle-faced boy with big brown eyes and long, long eyelashes. He sat in his wheelchair silently watching everyone and everything in the classroom. Cerebral palsy caused Jimmy's body to be very rigid, which impeded his movement, and especially his eating skills.

At the beginning of the school year, I asked Jimmy's mom and dad if we could work together to set up an extensive Brain Gym program for him. They excitedly agreed. Our intention was to invite Jimmy into a different learning process—to help him to achieve a new experience of comfort in his body. Jimmy's father, David, agreed to do Dennison Laterality Repatterning (DLR)* with him every evening. Jimmy's mother,

Cindy, told me that she was especially interested in helping him to move out of the tonic neck reflex pattern⁴ in which he seemed to be stuck. This goal was important, as Jimmy would always go into this reflex pattern while eating. It was then necessary to physically turn his head to continue feeding him.

Throughout the year, David did the DLR at home, and I did Brain Gym activities with Jimmy in the classroom. We did Energy Exercises and Lengthening Activities. My intent was to “back up” to developmental patterns that were incomplete so that he could integrate them and move forward into new learning. In addition to his eating difficulty, Jimmy was unable to sit comfortably in his wheelchair or lie on a mat on the floor. Both the Energy Exercises and the Lengthening Activities enabled Jimmy to relax his muscles so that new neurological connections could be made. These new connections allowed him to learn new responses, rather than staying stuck in his old, inhibiting reflex patterns.

In essence, Brain Gym prepared Jimmy to learn new physical skills. By the end of the school year, Jimmy could eat with greater ease. The asymmetric tonic neck reflex had almost disappeared, and he thrust his tongue out with much less frequency when chewing.

Jimmy's awakening was simply remarkable. Needless to say, Jimmy's parents became advocates of Brain Gym. They now warmly invite everyone they know to learn this method.

“Why isn't every teacher and therapist who works with children who have special needs trained in Brain Gym?” Cindy often asks.

THE FACILITATOR'S ROLE

I have found that the key to working with children and adults who have special needs is to begin with myself. When I feel centered, grounded, and ready to move forward—or sometimes simply willing to stay present in the process of discovery—I am able to invite others to reach beyond the familiar. Since many of my students are unable to voice their own goals, my ability to notice and create an informed goal



Jimmy now enjoys activities that support visual, tactile, and kinesthetic coordination in the midfield.

² With a child or adult who is seizure prone, it is extremely important to proceed with care and caution into cross patterning, as any movements that cross the midline of the body have the potential of bringing on a seizure.

³ A body sock is a large sock of see-through, stretchable fabric that the child can put over his body and use to explore his tactile, spatial senses.

⁴ The asymmetric tonic neck reflex is a one-sided developmental position (characterized in this case by holding the head to the side). Ideally, after three to eight months, the pattern shifts to an emphasis on a symmetrical reflex, where the visual midfield is emphasized. Two-eyed (binocular) vision is concomitant with the ability to view objects as separate in space, and increased autonomy.

for them is often the beginning of the process. With a little patience and persistence, small beginnings can lead to life-changing awakenings. Once again, I encourage parents, teachers, and therapists to say to the child or adult with special needs, "Okay, I can see what you *can't* do. Let's discover what you *can* do."

Then together—joyfully—you can explore and discover.

Cecilia K. Freeman, M.Ed., is the author, with Gail E. Dennison, of I Am the Child: Using Brain Gym With Children Who Have Special Needs, a collection of inspiring stories about Cecilia's experiences using Brain Gym in the classroom. A certified Brain Gym instructor, Cecilia developed the Educational Kinesiology course "Brain Gym for Special Education Providers." She teaches and lectures internationally, and offers private consultations.

*REFERENCE LIST OF EDU-K TERMS

Dennison Laterality Repatterning (DLR) — a 5-step process that simulates key stages of laterality from infancy through walking, thereby helping to free compensatory visual or postural habits. See *Edu-K for Kids* by Dennison and Dennison.

Homolateral Crawl — Movement of the arm and leg on the same side of the body, alternating from one side to the other. Emphasizes dominance of one cerebral hemisphere at a time, a neurological pattern necessary for developing the ability to stop and think for new learning.

in-depth checks — a series of educational "before" and "after" sensory/perceptual evaluations of neurological responses.

∞

BRAIN GYM® JOURNAL is published three times each year by the Educational Kinesiology Foundation, 1691 Spinnaker Dr., Suite 105B, Ventura, CA, USA, 93001. Phone from the USA and Canada: 800-356-2109; from other countries: 805-658-7942. The Educational Kinesiology Foundation is an I.R.S. 501(c)3 approved California public-benefit corporation dedicated to the research and dissemination of information regarding Edu-K's effects and impacts on learning abilities, business and industry, wellness, physical activity, sports, and theater arts.

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FOR JR. HIGH STUDENTS: PROJECT TURNAROUND

BECKIE BALLARD

In 1994, fresh out of college and ready to teach, I was given the opportunity to work in an alternative learning program called Project Turnaround. My job would be to instruct seventh-grade students who had been designated as being "at risk." The students in the program are targeted by truancy, poor grades, evidence of low self-esteem, a difficult family history, and withdrawn behavior in the classroom. There are three classrooms like mine in the county, one at each high school.

When I was hired, the school administration had already decided that all faculty working in the program would be required to take Brain Gym®. Accordingly, I agreed to take a Brain Gym course as part of my training in learning to deal with these students. Little did I know that the workshop would set off a chain of events that would change my life and my work forever.

I am certified to teach English at the middle school and high school levels. As a recent college graduate, I felt confident that I had a few effective tricks up my sleeve that I could use to get through to these students who were not making it in the regular classroom setting. During the first two weeks, I quickly learned that my sleeve was getting shorter and that I was running out of options, not to mention going home at my wits' end, searching desperately for answers as to how to work successfully with these students. It was then, at the end of the third week, that I learned Brain Gym.

During the training, I experienced so much personal growth that I knew, with Brain Gym, my students would be able to meet the challenges many of them had faced for years. After noticing the differences in myself—my ability to think more clearly, to read and comprehend information better, and to stay focused on one thing at a time—I knew that this was exactly what I had been searching for. College had taught me many things about education, and one of the most important was that there are always options . . . there is something that will work. Now I had found that something.

Since then, I have used the Brain Gym activities in my classroom every day, as part of the curriculum. From 8:00 to 8:30 each morning, we do Brain Gym. For 10 minutes after lunch, we use some of the movements to get back on task. And the students are always allowed to do any of the movements if they notice a need for them.

I have encountered more success using Brain Gym with my students than I have found through any other workshop, professor, or strategy. For example, I have four

eighth-grade students among my class, and last year their writing test scores skyrocketed. One girl's scores doubled in one year. I do balances* with the students whenever they need them, and at the time of the test we had done balances with goals for writing abilities throughout the previous week.

Now some of the students beg me for balances! Sometimes I'll do a group balance with the whole class, if the children feel that they're not focused on what we're learning. They're in charge . . . and they love it. I have a sheet on which the students can sign up for personal balances; I set aside an hour a day to do these with them. The students love Brain Gym not only because it gives them an opportunity to move, but because it helps them with their learning.

The progress that this group of students has made has created a willingness to learn. I have no discipline problems with this group, even on field trips; I've had only one referral to the office all year. Every student's behavior has improved: the constant fighting that used to go on has diminished considerably.

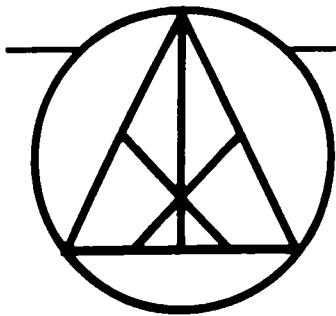
For the first time in their lives, these children are experiencing success in their schoolwork, which really builds their self-esteem. They're even doing well on tests. The smiles that light their faces in the mornings, when they enter the classroom, tell me that they like school. The reassurance and support that they give one another tells me that they're learning more than a textbook will ever teach.

Brain Gym has allowed these children to feel success as they could never have felt it had I used other strategies. As a result of these successes, one high school and one elementary school have contracted with my private practice business to tutor their at-risk students throughout this summer, using Brain Gym activities and balances.

Of all the systems that I have learned about in my years of education, Brain Gym accomplishes the most with the least effort. Won't it be a wonderful day when every child and every teacher uses Brain Gym and can share such classroom success stories?

I have discovered that all children want to learn; I believe it is their frustration with themselves that makes learning difficult for them. That is why I love Brain Gym; because it makes my job more fulfilling. When I'm showing my students how to use the tools that they already have, I'm doing the best that I can for them. Every day, the smiles that I see reinforce my confidence in Brain Gym's effectiveness. I feel that all of our classrooms would be filled with those smiles, and all of them would be running more smoothly, if all students had the opportunity to use Brain Gym.

Beckie Sue Ballard is a Brain Gym Instructor who teaches "at-risk" students at Beaver Creek High School in Ashe County, North Carolina. Beckie will be happy to answer any questions that Journal readers may have for her or to speak with anyone regarding her room setup and the role Brain Gym plays. Her office telephone number is (910) 246-7289. ▲



BRAIN GYM®

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RESEARCH:

BRAIN GYM® IN BRITISH COLUMBIA PUBLIC SCHOOLS

SUSAN DIAMOND, PH.D.

Since 1993, my colleagues and I have completed several projects exploring the effects of using Brain Gym® in British Columbia public schools. The scope of our efforts varied considerably—from training to intervention, from one-on-one to group projects. The many different environments and measures of progress utilized may suggest to other Edu-K instructors new ways to introduce or use the Brain Gym activities. Our experiences may also make it easier for others to see opportunities for involving their schools and to anticipate some of the challenges that may arise.

In my work, I emphasize several important elements that seem key to achieving success: assessing the needs of a school district; using Edu-K brain-organization profiles* with students; engaging in preparatory work with kindergarten children; employing multimethod techniques to enhance learning; promoting understanding of the neural basis of Brain Gym's effects; and working to improve the Edu-K research base.

My research involving Brain Gym includes:

1. A Structure of Intellect and Balance Board study in an elementary school, 1994.
2. Individual Brain Gym work in a learning-assessment lab setting, 1995.
3. A private-school learning-assessment program, 1996 to present.
4. Consultant work at First Nations School, 1996.
5. Private-clinic work, 1995 to present.

I'll describe the first two in detail.

A MULTIMETHOD INTERVENTION

My first involvement with an Edu-K research project took place in an elementary school in a middle-to-lower-income neighborhood. There were four hundred fifty students and twenty-seven teachers and teaching-support staff members. In 1993 I trained the entire school staff, including the janitor and several parent volunteers, in the Brain Gym program! This involved meeting one afternoon per week for eight weeks—a total of thirty-two hours. I received a contract with the school for this Brain Gym inservice, and it was made part of the professional development program offered to the teachers. This commitment to using Brain Gym would not have been possible without the vision of the school principal.

Some of the teachers felt a limited appreciation for the Edu-K balance* process, and consequently spent more time on the Brain Gym menu. All of the teachers developed an understanding of how to use the Brain Gym tools in their classrooms, and subsequently introduced them to the entire school population. As a result, the Learning Assistance Program at this school benefited enormously.

In 1994, out of this initial work, the school developed a research study (unpublished) that involved twenty-four students in grades one through four. These children had been designated to take part in the Learning Assistance (L.A.) Program. In order for a child to enter the L.A. program, he or she needed to have achievement scores two standard deviations below the norm, or to test two grade levels behind in reading, spelling, language, or math. The criteria included the requirement of an I.Q. score above ninety.

The study involved twenty-four students whose parents

had given their permission for the youngsters to participate. These students had all received WISC tests, and the Canadian Achievement Test was used as a dependent measure. The students were randomly divided into two groups of twelve. One group was to receive techniques drawn from Brain Gym (Dennison/Dennison), the Balance Board (Belgau), and Structure of Intellect work (Guilford/Meeker). The control group would participate in the

NOTICEABLE
IMPROVEMENTS
IN SPELLING AND
MATH-FACT SKILLS
WERE OBSERVED
IN NINE OF THE
TWELVE CHILDREN

usual Learning Assistance program. The study would run for twelve weeks, and would include pre- and post-testing.

The intention of the study was to measure the effects of the additional activities on the students in the multimethod group, and to compare their progress with that of the control group. Because the L.A. teacher was a professional with twenty-five years of experience, and one whose work was highly respected, there seemed to be no great expectations among the staff for better performance by the students in the group that would do the additional activities.

Study activities included use of the Balance Boards while doing target practice, Brain Gym Lazy 8s or the Elephant, and beanbag tossing. The students also received individual work with Edu-K eye tracking.* These sessions took place for about twenty-five minutes at a time, usually three times per week. The school's Learning Assistants usually did the training.

Six weeks after the study began, it was apparent that the

students in the Brain Gym/Balance Board/Structure of Intellect group were advancing considerably faster than were those in the control group. According to the plan, it was time to test the participants in the multimethod group and then switch the programs of the two groups. This proved to be difficult. The L.A. teacher, observing the improvements in the multimethod group, wanted to simply extend the project to include the control group. In addition, many parents phoned the principal and the school district offices to resist the change. They didn't want their children switched to the usual L.A. program activities, thus losing the benefits of being in the multimethod group. As a result, all of the students were given the enriched L.A. program, and the formal study ended.

Some classrooms included students from each of the two groups, and the differences in growth were quite visible. Noticeable improvements in spelling and math-fact skills were observed in nine of the twelve children in the multimethod research group. (In addition, one of the three students in the "few or no changes" category continued the enriched work over the summer and made considerable gains at that time.) Fine-motor improvements were shown by some, as were academic improvements on Gates and Durrell reading tests. The school principal noted that doing the work in segments throughout the day was especially effective, and some students were even able to leave the school's L.A. and Social Development programs as a result of the Brain Gym/Balance Board/Structure of Intellect program.

One of the lessons that I drew from this experience is the awareness that combined programs addressing several learning activities simultaneously may be the most effective. I also find it interesting that parent volunteers have continued doing Brain Gym with students in the "Elephants Group," which meets after school for thirty-minute intervals, twice each week.

A ONE-ON-ONE PROGRAM

In another academic year at the same elementary school, I was invited to work one-on-one with children whose ages ranged from six to seventeen. The L.A. teacher selected students, and their parents (who had been given information about Brain Gym) signed forms permitting them to participate. On eight occasions throughout the school year, I spent one full day working with the children, seeing them individually for about thirty minutes.

I did a brief assessment for each child by watching him or her closely as we did Brain Gym activities that involved crossing the body midline in three dimensions*. We did the Cross Crawl, the Elephant, and Lazy 8s. I interpreted a child's difficulty in doing the frontal Cross Crawl to indicate a need for the Midline Movements* (to activate the Laterality Dimension*). An open, arm-up/leg-out-to-side Cross Crawl indicated a need for the Energy Exercises* (to activate the Centering Dimension). I interpreted the tapping of the alternate foot

behind the Cross Crawl to indicate a need for the Lengthening Activities* (to activate the Focus Dimension). I did not use muscle checking*, choosing instead to emphasize noticing of the ease or difficulty of movement.

In most cases, I would then repattern the child on the mat, using the Three-Dimension Repatterning* technique. One practice that I used was to hold the child's head and neck steady throughout the repatterning process (gently, and with permission). I always worked with other adults present, involving the parents as much as possible to help keep the students on track with the alternating one-sided* and two-sided tasks of a Three-Dimension Repatterning. Before beginning, I explained each activity to parent and child.

Many of the students initially showed signs of chronic stress: tight trapezius muscles, an engaged tendon-guard reflex*, or "spaced-out" inattention. Many of them were quite unaware of their own habits of tension. I watched closely to spot the moment of change when the eye movements were uncoupled from the head-turning movement, or when the Cross Crawl became automatic and tensions of the head and neck were released.

School aides, along with the L.A. teacher, practiced the Brain Gym movements with the students between my visits. I invited the parents to participate further by following my recommendations for Brain Gym activities to do at home, and many of them did so.

Some great success came out of this program. A seventeen-year-old boy in the Special Education program gained much better balance and increased his verbal skill and clarity of expression, as well as improving his

*MANY OF THE STUDENTS
INITIALLY SHOWED SIGNS OF
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WERE QUITE UNAWARE
OF THEIR OWN HABITS
OF TENSION.*

social interaction skill and self-confidence. A first-grade student struggling to keep up quickly learned to read after gaining eye-tracking skill with Lazy 8s.

The difficulties I encountered included my being unable to devote time to full balances and the students' unfamiliarity with

the activities, which sometimes prevented them from recognizing their own progress.

I find it useful to offer a two-hour introductory presentation, during the evening for parent groups and during the day as professional development for teachers. In these sessions, participants learn up to twelve Brain Gym activities and notice the differences in how they feel after doing them. I also present the history of Brain Gym, offer research support, and explain the neurological reasons for Brain Gym's success. This often results in referrals of individual students to my practice.

The following are some suggestions for encouraging the use of Brain Gym activities in schools:

- Offer the Brain Gym movements as a way to enhance the development of self-regulation skills

*PARENT VOLUNTEERS
HAVE CONTINUED
DOING BRAIN GYM
WITH STUDENTS IN THE
"ELEPHANTS GROUP."*

- Support parental involvement, often an avenue into other school activities
- Take advantage of the success of the multimethod programs
- Acquire further research to validate Brain Gym's effectiveness and measure your success!

Susan Diamond, Ph.D., a Brain Gym educator in British Columbia, holds a doctorate in educational psychology. She is in private practice as an educational consultant, doing academic testing and remedial activities with elementary students who have attention and learning difficulties. Her program includes EEG neurotherapy, audio-visual stimulation, and sensorimotor integration activities. ▲

*REFERENCE LIST OF EDU-K TERMS

alternating one-sided — a variable homolateral movement, i.e., involuntarily choosing to access only one cerebral hemisphere, and thereby blocking integrated thought and movement.

balance, balancing, balance process — utilizing Edu-K's 5 steps to learning which help regulate disparities between posture and effective movement or performance.

brain-organization profiles — in Edu-K, an individual's specific pattern of sensory-motor interrelationships that occur especially in response to new learning (see dominance).

Creative Vision balance — a balancing process that addresses perceptual challenges to vision in academic activities.

Dennison Laterality Repatterning (DLR) — a 5-step process that simulates key stages of laterality from infancy through walking, thereby helping to free compensatory visual or postural habits. See *Edu-K for Kids* by Dennison and Dennison.

Dimensions — in Edu-K, communication pathways between various areas of the brain and postural system (Laterality Dimension, left/right; Centering Dimension, top/bottom; focus Dimension, front/back), along with their functions.

Energy Exercises — a series of Brain Gym activities designed to facilitate an awareness of the body as the central reference for all directional movement, thus providing a kinesthetic bridge for skills of organization and abstract thought.

eye tracking — the ability to move the eyes across the midline from the left to the right visual field and back.

high gear — (used interchangeably with switch-on) in Edu-K, the known and familiar, learning by association; also, any anchor to a whole context (see also **low gear**).

Laterality Dimension — the communication pathways between the left/right areas of the brain and postural system.

Lengthening Activities — a series of Brain Gym activities designed to facilitate the ability to cross the back-front midline of the brain and postural system, thus integrating meaningful intention with habituated movement responses.

low gear — in Edu-K, the new and unfamiliar; also, any anchor to differentiation. Extreme low gear, without the high gear context, results in fragmentation and stress (see also **high gear**).

Midline Movements — a series of Brain Gym activities designed to facilitate the ability to cross the midline of the body for improved reading, writing, listening and coordination skills.

muscle-checking — in Edu-K, used for two purposes: 1) to measure the relative strength of a muscle for the purpose of inferring brain functions relevant to educators, 2) to anchor or positively reinforce newly integrated learning.

Tendon-Guard reflex — A physiological response to stop, retract the tendons, and freeze when it is not safe to move or take action. When the tendons are chronically tight, the muscles foreshorten and lose flexibility.

Three-Dimension Repatterning — a variation of Dennison Laterality Repatterning applied to the integration of the back/front, top/bottom, and left/right brain hemispheres.

NHC Natural Health Care

Jeannette Franck, BSc, CNC, Stress Release Instructor, Brain Gym Instructor
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July 9, 1997

Dr. John Tamiazzo
PO Box 3396
Ventura, CA 93006-3396

Dear Dr. Tamiazzo,

In response to our phone conversation on Tuesday the 8th, I am sending you the information on how Brain Gym has helped my son Jared. He was just an average kid that was functioning below grade average. I feel that is the case with most of our children. I strongly believe in Brain Gym and Edu-K techniques. That is one reason why I would like to open a Learning Center up here in the Anza area.

I would appreciate any help or direction you can give me on obtaining funding from the State or Federal level for this center. We are in a financially depressed rural area and most of the parents cannot afford to send their children to us for additional academic and/or emotional help.

You can see from the enclosed information that I am not just trained in Brain Gym, and I really believe that I can run a successful Learning Center. I just need the funds. I will bring in two other instructors as well to assist if we have the response. You indicated that applying for a grant isn't that difficult. Would you be willing to help me in that direction?

Take care and thanks for your help.

Sincerely,



Jeannette Franck

P.S. Since writing this letter I spoke w/ a counselor at the State Dept. of Education who was very interested in what I want to do. He gave me a lot of direction & asked for info on Brain Gym - I'm mailing him a packet today -

11


Documentation for Jared D. Franck using Brain Gym

Second grade (95-96 school year)

Note report card (copy enclosed) indicates he is functioning below grade level

ITAS scores show he is below the State average for most students

He hated homework, and it was a daily battle to get him to do it. I finally stopped insisting he do it because I didn't want to add to his stress and create a child that hates school work.

Learning at that time was stressful for him. If learning becomes stressful, learning stops.

Summer of '96 (between 2nd & 3rd grades)

He decided at the last minute that he would go to summer school. However, he missed many days, because he just didn't want to go. Learning wasn't fun anymore.

I had received a letter from the District that Jared qualified as a Title I student for 3rd grade as he was tested reading two grade levels below what he should be. And was also two grade levels below in math. (I didn't keep the letter. I now wish I had!)

In August I began training in Brain Gym with the Edu-K Foundation. By December I was certified as a Brain Gym Instructor. I began having regular Brain Gym sessions with Jared.

Third Grade Begins ('96)

He began 3rd grade in September. In October I was notified by letter that there was a meeting for all the parents of Title I students. After the meeting I went for a conference with his teacher. She let me know where Jared stood academically. I was a little confused. She said he was reading at grade level and doing very well. Even his math was at grade level. I told her about the letters I received that he was two grade levels below in reading and math and he qualified to be in Title I. She informed me that they had re-tested, she looked at the scores and confirmed that he was now at grade level.

I went to the Title I class and questioned them. Betty Russell took out his file and confirmed that he had been re-tested and no longer qualified.

I was amazed. By the time he had been re-tested he had been doing Brain Gym for only one month! By November he was in the School Spelling Bee and won third place of the whole schools third grade students! Knowing a short time prior he had been functioning at First Grade Level we were ecstatic that he just qualified to be in the Spelling Bee! We never expected him to actually place! He was so jazzed!

Needless to say, we never had a problem with him doing his homework that entire year! He would often finish it on the bus on the way home. Or come right in and sit down and do it without having to be told.

I have to attribute most of his progress to the positive effects of Brain Gym. Some documentation of this is enclosed.

Student Grade Report Card for Grades One & Two
 Hemet Unified School District • 2350 West Latham Avenue • Hemet, CA 92345 • (909) 765-5100

Student: Jared Franck

Grade: 1 (2)

1995- 1996

School: Hamilton

Telephone: 763-1840 Teacher: Boevers

SPECIAL SERVICES

- | | |
|------------------------------------|-----------------------------------|
| ☐ BILINGUAL | ☐ RESOURCE |
| ☐ CHAPTER I | ☐ SDC |
| ☐ ESL | ☐ SPEECH |
| ☐ GATE | ☐ _____ |
| ☐ LEP/NEP | ☐ _____ |

Subject Area	Trimester						Subject Area	Trimester			Comments:
	1		2		3			1	2	3	
	Below	At	Below	At	Below	At					
Language Arts							Work/Study Habits				<i>Jared appears to have adjusted to a classroom environment and seems happy.</i>
Effort	S+		S				Uses time wisely	S	S		
Reading	S+		S				Follows Directions	S	S		
Written Expression	S		S				Listens Attentively	S	S		
Oral Expression	S+		S+				Completes Homework	S	S-		
Spelling	S			S+			Accepts Responsibility	S	S		
							Completes Class Assignments	S	S		
Mathematics							Social/Emotional Development	S			
Effort	S+			S			Displays Self Control	S	0		
Computation	S			S			Works/Plays Cooperatively	S	0		
Understands Concepts	S			S			Respectful/Courteous to Others	S	0		
Uses Problem Solving Concepts	S			S-							
	1		2			3	Grading Key: O = Outstanding S = Satisfactory M = More development needed N = Needs improvement ☐ = Not applicable				
Social Science	S		S								
Science	S		S								
Health	S		S								
Physical Education	S		S								
Handwriting	S		S				Comments 1 = Follows directions 2 = Positive attitude 3 = Shows improvement 4 = Uses time wisely 5 = Displays leadership 6 = Please supervise homework completion 7 = Completed classwork will improve grade 8 = Efforts to improve self-discipline will improve performance 9 = Regular attendance will improve grade				
Fine Arts											
Music	S										
Visual Arts			S								
Performing Arts											
Electives											
COMPUTER	S		S								

☐ Enrolled three weeks or less 1st 2nd 3rd trimester.

☐ Promoted in grade _____ for the _____

Teacher _____

Attendance	Trimester		
	1st	2nd	3rd
Days Enrolled	10	57	



Combined Student Skills Analysis Report
ITAS: Second Grade Edition

DISTRICT: Hemet USD
SCHOOL: Hamilton Elem

STUDENT: Franck, Jared
ID/GRADE: 0593881828 / 2
REPORT DATE: June 07, 1996
TEST DATE: Spring 1996

The INDIVIDUAL TESTS OF ACADEMIC SKILLS (ITAS), Second Grade Edition, were administered this spring as part of your district's testing program. These tests provide information about skills included in California's English/language arts and mathematics frameworks. They also provide information about thinking skills.

The performance of this student is summarized below. For each test taken, the number of questions measuring each skill is given, followed by the number and the percentage of these questions the student answered correctly. For comparison purposes, the average percentage answered correctly by all students in the district is given. An estimate of the student's achievement among second graders nationally is also provided (NPR).

Reading		Items	Number	Percent	District
Skill Description		on	Correct	Correct	Avg. %
		Test			Correct
I. Word Identification		8	4	50	79
II. Vocabulary		8	4	50	71
III. Reading Comprehension		21	9	43	66
A. Literal		(13)	(8)	(62)	(66)
B. Inferential		(8)	(1)	(13)	(66)
NPR = 19		Total:	37	17	46
					70
Thinking Skill Description					
1. Knowledge and Comprehension		18	11	61	70
2. Application		6	2	33	75
3. Analysis, Synthesis, and Evaluation		13	4	31	66
		Total:	37	17	46
					70

HEMET UNIFIED SCHOOL DISTRICT
2350 West Latham Avenue • Hemet, CA 92545 • (909) 765-5100

TRIMESTER PROGRESS REPORT Grades 3-8

Student's Name Jared Franck Grade 3 Year 1996-97

School Hamilton Telephone 763-1840 Teacher Swain

This report indicates your child's achievement for the first six weeks of each trimester.

SUBJECT AREA	1 st Trimester					2 nd Trimester					3 rd Trimester				
	Excellent Progress	Above Average Progress	Average Progress	Needs Improvement	Comments	Excellent Progress	Above Average Progress	Average Progress	Needs Improvement	Comments	Excellent Progress	Above Average Progress	Average Progress	Needs Improvement	Comments
LANGUAGE ARTS		✓					✓					✓			
Reading		✓					✓					✓			
Written Language		✓			4		✓			4		✓			
Spelling		✓				✓					✓				
MATHEMATICS		✓					✓			2		✓			
SOCIAL SCIENCE		✓			2		✓					✓			2
SCIENCE		✓					✓			1		✓			
HEALTH		✓			1		✓					✓			1
SOCIAL & EMOTIONAL DEVELOPMENT		✓					✓					✓			
WORK & STUDY HABITS		✓					✓					✓			

Comments:

- 1 = Follows directions
- 2 = Positive attitude
- 3 = Shows improvement
- 4 = Uses time wisely
- 5 = Displays leadership

- 6 = Please supervise homework completion
- 7 = Completed classwork will improve grade
- 8 = Improved test scores may improve grade
- 9 = Regular attendance will improve grade
- * = Indicates student may fail subject

(Please tear off and return to school)

Parent's Signature _____ Date _____ Do you wish a conference? _____

Jared

1 toadstool

2 under

3 shelter

4 dormouse

5 tugged

A

6 trembled

7 invented

8 umbrellas

9 lamented

10 toppled

11 gracious

12 holding

ACADEMIC ACHIEVEMENT AWARD



PRESENTED

TO

Jared Frank

IN RECOGNITION
FOR
OUTSTANDING
ACADEMIC ACHIEVEMENT
IN

Accelerated Reader

Swain

TEACHER

**SUMMARY REPORT
SEATTLE ALLIANCE FOR EDUCATION
SCHOOL IMPROVEMENT GRANT**

**VAN ASSELT ELEMENTARY SCHOOL - JANUARY 2, 1996
CROSS-AGE TUTORING: A MODEL FOR CREATING SAFE SCHOOLS
September 1 - December 1, 1995**

The purpose of this program was to demonstrate significant improvement in student behavior through the use of integrative movement, called Brain Gym®. This report will show how this purpose was achieved, while also demonstrating marked improvement in learning ability. The model consisted primarily of on-going training with students (four 5th graders and four kindergartners) in the use of integrative activities.

A Brain Gym Instructor worked with the four 5th grade students twice a week for a total of six weeks. An adult trainee participated in some of the sessions and received additional training. The instructor explained to the fifth graders that they would learn integrative movements in order to help kindergartners with their problems. Each student was trained during five individual sessions. Sessions consisted of students working on their specific behavior challenges and practicing the activities. During this time the kindergarten teachers recommended four students who were struggling with behavior and learning difficulties. Their parents also completed permission forms. At the sixth session the 5th graders were matched with a kindergartner and began teaching them Brain Gym activities. The older students worked with the younger students for three weeks or five sessions.

Both kindergarten teachers noticed dramatic behavior and learning improvements in their four students. They stated that they felt the use of Brain Gym activities played a direct role in these improvements. The changes they documented occurred at a greater speed and depth than would normally be expected. Among the changes the teachers noticed were improved focus, interest, cooperation, confidence in learning, as well as improved ability to empathize, less impulsivity and restlessness and an improved ability to actually learn.

The 5th grade students felt they improved their behavior and learning. On a checklist, all four students checked that they argue with other students less, fight with other kids less, and get their school work done more. Three of the four felt that they get into trouble at school less, pay attention in class more, enjoy school more, are less restless and fidgety in class and feel better about themselves at school. They all noticed several other individual improvements as well.

Kindergarten Teachers' Comments Upon Completion of Brain Gym:

Kindergarten Student A

She likes school better. She is more enthusiastic to learn. She use to say, "I can't do it, or would you do it?" She doesn't do that anymore. She is more able to listen and is less impulsive. Before she was very impulsive and had to do it her way. This has improved. Now she is more confident and is learning things easier. I really see an improvement in her behavior. She is more cooperative. Brain Gym has definitely helped her. Her mother told me that "she is much more helpful at home, listens better and helps out with the baby now."

Kindergarten Student B

His greatest progress is that he is now confident in his learning. He can focus much better. He works hard to sit still, listen and pay attention. His level of fear has gone way down. He's making gains, moving forward. His ability to learn is going up -- a major breakthrough. I'm seeing definite growth in his learning.

Kindergarten Student C

He has improved in cooperating with me and the other children. He is more focused and is more interested in what is going on. A big improvement is that he no longer talks back to me. This has really changed. Now he is working at listening and sitting still. I sense that he is just beginning to empathize and feel for others. After he came back from Brain Gym was the first time I ever saw him really happy and smiling.

Kindergarten Student D

He is more confident. He is more a self-evaluator and not nearly as afraid. This is a big change. He is confident he can learn now. In the beginning he couldn't connect with what was going on. Now he is more focused and tries harder to listen. He is not as restless. He sees and comments on his own improvements. For instance, just recently he said, "Teacher, look how much better I do this now."

Kindergarten Student G (had two Brain Gym sessions with facilitator)

On 12/7/95, after her Brain Gym session, the following improvements were observed: She seemed more focused on the task at hand. She was able to go back to her seat and redo her assignment correctly. She also did not disrupt others' work and seemed more confident in her own work. Because she has just started to make improvements, I would like to see her Brain Gym sessions continue so that she also may benefit from the full six weeks of Brain Gym. Her improvements should be significantly increased as a result.

5th Grade Teacher Comments Upon Completion of the Brain Gym Program:

5th Grade Student #1

He is focusing much better. His reading has improved and now he has really thoughtful observations. He is doing much better in spelling, getting 100's for the first time. He is paying more attention on what we're doing. He still talks a lot, but he is not as rude. Teacher #1

He is much more capable of paying attention. Now he sits still and listens. He is not as outspoken as he used to be. He has softened. He is the same spontaneous kid, but the edge is gone. Teacher #3

5th Grade Student #2

She has become more personable. She use to be very shy, but now when she sees me in the hall she'll greet me. She's more outgoing. Teacher #3

She smiles more now. She looks up at you and holds her head up. She seems to be coming out of her shell and really blossoming. Teacher #2

5th Grade Student #3

He is more positive and on task. Both his writing and reading have improved. He pays more attention, is better focused and not as jumpy. I'm glad to see improvement in him. He is doing much better. Teacher #1

He seems to be more in control of himself. He's more attentive and responds better to direction. I don't see as much aggression towards other students as before. He is much more pleasant with me and his classmates. Teacher #3

5th Grade Student #4

He is still not completing his work on time and seems to have a focusing problem. However, he is not as fidgety and doesn't bother others as much. He works well with his classmates. Teacher #1

I don't see him bugging kids like he use to. He is more into what is going on and does not seem as easily distracted. Teacher #3

5th Grade Student Comments Upon Completing Brain Gym:

5th Grade Student #1

Spelling is much easier. I'm much better in a lot of things. I get along better with my teachers. I don't fight as much.

5th Grade Student #2

I was about to get into a fight and got myself out of it by talking to him. I feel better about myself. I feel more confident now.

5th Grade Student #3

I get along better with other kids. I don't get in as many fights. My reading is easier.

5th Grade Student #4

I like math better now. I'm getting my work done a little better. I like working with little kids and teaching them instead of someone always teaching me.

**FINAL REPORT
READINESS TO LEARN PROJECT
CITY OF SEATTLE DHHS**

**Fairview Interagency School
Kinesthetic Integration Project
February 15, 1996 - May 15, 1996**

The purpose of the project was to demonstrate that students can improve their behavior and academic performance through a kinesthetic integration approach, called Brain Gym®. This report will show how this purpose was achieved (see student and teacher comments). The project was funded by the City of Seattle DHHS through its Readiness to Learn Project.

A Brain Gym Instructor worked with six students individually for one class period per week (fifty minutes) for a total of eight weeks. Each week, each student chose his or her goal(s) for the class period after discussing what changes they wanted to make in their behavior or learning. Students were then guided through Brain Gym activities (specific physical movements that release stress and develop or open neural pathways to integrate subsystems of the brain). Through the Brain Gym activities students kinesthetically anchored their goals in their brain/body system enabling them to successfully reach their goals. Eventually they learned how to use Brain Gym activities so they could work with issues on their own.

Initially the Brain Gym Instructor met with the staff to explain Brain Gym and receive referrals for those students to be included in the project. Subsequently, the Brain Gym Instructor interviewed each student individually, selecting the first six students who agreed to be in the program. Six of the first seven students interviewed chose to take part. One student dropped out after one session so another student was interviewed and agreed to be in the program. The ages of students ranged from fourteen through sixteen. Ethnically, the students consisted of two African-Americans, two Caucasians, one Hispanic and one Korean-American. Most of the students live in shelters or group homes for teenagers. All were either on juvenile parole, probation or recently removed from one or the other. One student left school about three-quarters of the way through the project. Those who participated in the program were cooperative and self-motivated during the sessions and experienced significant progress toward their goals.

The students chose a wide variety of issues with which to work. These included behavior challenges (anger problems, oppositional behavior, difficulties with teachers, peers, and family members, poor communication, impulse control issues, putting others down, addictive behavior, fighting, etc.) and learning challenges (reading, writing, listening, math memory, homework, paying attention in class, staying on task, artistic ability, study problems, etc.) The key concept the students learned is that they can make significant changes for themselves, improve their learning abilities and change their behavior in order to be more successful.

STUDENT AND TEACHER COMMENTS AFTER BRAIN GYM®

Student #1 Age 16

Brain Gym helped me do better at school, work better with counseling and parole. It helped me to be able to move back in with my family. I feel better about talking about my life now. After Brain Gym this teacher didn't make me mad anymore. I felt more relaxed. I like Brain Gym because you can get rid of something without talking about it over and over. When you keep talking about it, it just brings it back up. I know how to use it (Brain Gym) when I need to. Student #1

He has improved dramatically over the past couple of months. He used to be real aggressive, pushy, wanting to fight other kids. He's not like that anymore. He also improved in doing his school work. He used to say, "No I won't do it." He doesn't do that anymore. That has changed. He has a better attitude. In the beginning he would just go after other students, but he hasn't been doing that anymore. In fact, in potentially violent situations he has actually had teachers intervene. Teacher #1

He still plays around, but he is not as physical or aggressive. Now, he comes in the classroom without griping. He starts right up working. He takes direction better. He's more relaxed. Teacher #3

He is more compliant and less belligerent. He communicates better and more appropriately. He is less nasty and insulting. He used to be very insulting. He's softened and is more considerate and respectful. He is also friendlier and more communicative than before. Teacher # 4

When he came he had malicious behavior. Overall, he's not as malicious. He can do independent work better. He's better able to work through problems. Teacher #5

Student #2 Age 14

Now, I'm more aware of what's going on. I pay attention better. Brain Gym has helped me stay focused. I'm a lot better in thinking ahead before I do things. I'm less stressed in school since doing Brain Gym. This helps me when I have a lot of things I have to get done. When I do Brain Gym I'm more relaxed, feel less stressed and can reason with teachers better. I do Brain Gym on my own about three times a week. Brain Gym has definitely helped my self-esteem. I'm glad I took it. Student #2

He does seem calmer. Now he thinks out things better before he acts. He still has outbursts. He needs more work to make greater progress. Teacher #2

He has made overall progress. It seemed as if he took two steps forward and one step back. He has regressed lately. He still seems very angry. Teacher #3

He's striving to improve and wants do better, yet he is struggling with his anger and focusing difficulties. He is capable but finds it difficult to stay on track. Teacher #6

When I first came, before Brain Gym, he would literally scream into my face or grab me from behind. He would fidget constantly and never sit down. He would try to write on everything. Now, he is aware of his behavior. Because he has grasped what is acceptable and can control his impulses better, he can adapt his behavior to what is acceptable. He's calmer. Now he can sit still, look me in the eye and carry on a conversation. He couldn't do that before. I've noticed remarkable changes in him. He still needs work, but he has come a long way. Teacher #7

In class he used to throw things, wrestle, yell out. Now he just sits in the corner and does his work. He's quiet. Classmate

Student #3 Age 15

I'm using sarcasm less. I'm not as loud and noisy and impulsive as I used to be. Things have been really good. I have an A average for my cottage behavior. Now I am able to sit down and do my homework when I could be doing more fun things. My room is spotless. I get up and do things on time. I don't procrastinate as much. I've been using Brain Gym for personal problems on my own. I wasn't sleeping good. Now, even when I feel stressed I sleep good. I used mostly the listening activities and hook-ups. I've also used Brain Gym to quit smoking. I've stopped feigning for them. Overall my behavior has been wonderful. I attribute 70% of my positive changes to Brain Gym. I feel this has been a very worthwhile experience. Brain Gym could really help teenagers with their anger problems and their rebellion. Student #3

In the beginning he was an instigator of trouble -- trying to prove himself. At the end he didn't do that anymore. He no longer was confrontational. Before he would say, "Why do I have to do that?" And then would refuse to do it. He just wouldn't do his work. He stopped that behavior. Later when an assignment was given, he just did it and turned it in. Actually, he began asking for more work. He would be the first one writing. The quality of his work also improved. Teacher #1

I've noticed a definite shift in his behavior. He is more positive and he improved his attitude. He has more appropriate and meaningful communication. Teacher # 4

He has been far less argumentative. Usually when students leave the home they fall apart, but he has handled his leaving extremely well. Program Supervisor

Student #4 Age 16

I'm concentrating better in class. I'm getting my school work done a little better now. I feel like I get along better with the teachers. It seems easier to sit still in class and pay attention. At first when I came I stayed by myself. I feel more relaxed in school. I've learned some good things. Student #4

He has opened up more. Before he was real quiet and would not participate with the group. Before he seemed in his own world. Now he's more involved with others. He's connected more with the staff and other students. He used to be very distant. Now he isn't. Teacher #2

I've noticed some improvements. Before he seemed totally shut down. Now he will communicate with me. He's not blowing up and shutting down like he used to. Teacher #4

He was doing better. Lately he hasn't seemed as trusting. Teacher #5

At first he seemed without hope. Now he seems to have a glimmer of hope. He went from not talking to me to expressing some feeling. He still has a long way to go. Teacher #7

Student #5 Age 14

This student left unexpectedly three-quarters of the way through the program. There was no opportunity to record her comments about Brain Gym before she left.

In the beginning she would just go off -- both verbally and physically. That changed. She was doing wonderfully before she left. She was a hundred times better than before. She changed in her ability to control her anger. Her whole attitude changed.

Teacher #1

With her there has been a drastic change -- a mass improvement. She has more self-control and more awareness of her own behavior. I haven't seen angry outbursts like before. She's corrected some things. She is more self-motivated and is able to sit down and complete assignments and follow through on her work now. Brain Gym has definitely helped her. Teacher # 2

She is not as volatile with the staff. She is more aware of consequences and seems less angry than before. Teacher #3

She is in major turmoil and needs to work her way through things. At the time she left she was out of control and verbally abusive to everyone. Teacher #5

Student #6 Age 15

It's easier to stay focused, stay on task, pay attention. I'm more cool with some of the students -- now I just kick it with them. I'm not fighting as much. I used to stay away from my grandmother. I couldn't understand her. She kept saying, "What?" Now I just talk with her -- whatever. I get along with her better -- my aunt, too. In class I just be quiet, others talking. I try to be quiet. Whatever the teacher says, it's easier to know what she's talking about. I used to not know what she was talking about. I take the time to hear what she's got to say, to understand her. Sometimes I would be doing things without thinking -- I think ahead now, but not all the time. I never used to do my homework. Before I didn't take the time to do it. Now I do. As soon as I get home or during the night time, I go in my room and do it and turn it in the next day. Brain Gym has helped me focus, pay attention to what is said and stay on task. It's helped me.

Student #6

He doesn't goof off as much as he used to. He doesn't get sidetracked as much. He is more focused. He used to get distracted, but now he keeps working until he completes his assignment. He is still the same, happy go-lucky guy but he has improved. Teacher #2

He's more appropriate in his behavior and is more compliant. He's made gains in his ability to communicate. He smiles more and connects more one-on-one. Now he approaches me and is more open. Teacher # 4

His personality has mellowed out. He handles things better, without blowing up. He's listening better. I definitely see improvements in him. Teacher #5

BRAIN GYM: WHAT IT DOES

It is critical that all subsystems of the brain work together to create optimal learning and behavior. If neural pathways between subsystems have become blocked or damaged, then learning and behavior become difficult and haphazard. According to brain research, movement builds neural net development and integration. Recent research indicates that very specific movement (such as the activities of Brain Gym) build or open neural connections between subsystems that have not previously been synchronized.

Research has demonstrated that youth who are impulsive, restless, lacking in focus and easily distracted have less neural activity between the limbic system (emotional centers) and the prefrontal lobes (decision making, critical thinking, ability to focus). When youth do Brain Gym activities, more neural activity is developed between these systems. When this occurs, behavior and learning improve because in more fully integrating the whole brain, the individual is better able to release stress, focus, think of consequences and control impulses. In 1990 the National Learning Foundation named Brain Gym as a key learning innovation of the 1990's and beyond. Brain Gym is currently being used in thirty-nine countries around the world and has been translated into nineteen languages.



STATE OF WASHINGTON

DEPARTMENT OF SOCIAL AND HEALTH SERVICES

L17-5 • 500 Fairview Ave N • Seattle WA 98109-5506
(206) 464-7700 • FAX (206) 464-7812 • TDD (206) 464-5318

February 18, 1997

To Whom It May Concern:

This letter is written in support of Brain Gym work that Jon Pederson has done with several clients of Juvenile Rehabilitation Administration. Four of our clients were provided services by Jon while they were attending Fairview School. A program that provides services to juvenile offenders and is operated by Seattle Public Schools.

The youths were provided a series of six to seven sessions over a two month period of time. Each youth volunteered for the sessions and appeared to enjoy their time with Jon. The youths had varying levels of issues and skills to deal with. Because I do not directly supervise the youths my information is second from teachers, parole counselors and through my observation of youths at the parole office. One youth was very disturbed and was unable to complete tasks in the classroom or stay on task for even a short period of time. He made the most dramatic progress. His teachers noted that he became focused in class, and has continued to make steady progress so that one year later he is attending a regular public high school. His parole counselor and group care facility also noticed a marked improvement in his behavior. He reported to his parents (he was not living with them at the time) that he had seen a movie and actually understood what people were feeling. This was unusual enough that the parents reported this to the parole counselor.

Another youth was a very angry young man who challenged and was rude to adult female authority figures. After his work with Brain Gym he seemed much more in control of his emotions and is currently maintaining a position at the Job Corps.

Another young man has worked very hard with Jon Pederson and has stabilized in a placement after many years of living on the streets. He too has made strides in dealing with his anger.

I have found that Jon has been truly interested and committed to working with difficult clients. When his grant ended at Fairview School, he continued to maintain contact with these youths and further assisted them if they needed it. His level of follow up was very important to each youth and I am convinced that he made lasting changes in each of them. I only wish all youths could have the opportunity to do Brain Gym work.

Sincerely,

Karen McBeth
Program Manager
Juvenile Rehabilitation Administration



BRAIN GYM® REPORT

Marshall Alternative High School, October – December, 1996

Improving Test Scores and Behavior Through Kinesthetic Movement

This report demonstrates that significant academic improvement and behavior change can be achieved through using integrative, kinesthetic movement. These specific integrative movements, called Brain Gym, assist students in clearing learning blocks and making positive behavior changes. Youth who develop patterns of low academic achievement and disruptive behavior need specific assistance so these ineffective patterns can be changed. This report shows how a process for creating such positive change has been demonstrated at Marshall High School.

Brain Gym has been recognized by the National Learning Foundation as one of the key learning innovations of the 1990's. Youth respond to movement and feel comfortable learning kinesthetically. Brain Gym activities have been solidly researched in the field of education, they are based on thirty years of scientific brain studies and they have been used with success with other programs. The bottom line is this: ineffective and destructive behavior and learning patterns can be changed so that youth utilize their innate abilities and intelligences to achieve their full potential.

Brain Gym Results at Marshall

During the first semester a Brain Gym Instructor, Debra Gevaart, met with five Marshall students. She worked with students at Marshall once a week for eight weeks. The total number of sessions per student ranged from two to six, lasting about fifty-five minutes each. Almost immediately, teachers began to notice a remarkable change in attitudes, attendance and academic improvement. The students began to develop self-confidence where once there was little. The students started to make positive choices and replace their negative attitudes with a new zest for learning. They began replacing their hostilities with enthusiasm and experienced success! They also noticed improvement in their learning, particularly test scores. For instance, one student made the honor roll for the first time, one passed one of his GED tests and another greatly improved his grades. (see comments from students and teachers).

Comments From Students and Teachers After Brain Gym Marshall Alternative High School, January, 1997

Student #1 Age 16

"Now I feel good about myself and I like being in school. I am so much calmer and I don't get triggered by other people like I used to. I can handle my anger. I am getting good grades in school now, C's and B's. I like Brain Gym. I wish it was offered every day in school."

“Before Brain Gym he would actually address me by screaming in my face. It was disturbing. Now he communicates appropriately. After he completed the Brain Gym program, he has not only improved his own behavior, but he has showed concern about other students’ behavior. Before, he totally resisted getting remedial help. After Brain Gym he embraced it. He is more open and is making plans for his future. When I first met him he seemed without hope. He’s starting to believe in himself” Teacher #1

“My feeling is that one improvement over the past two months is that he is more aware of himself and his actions. His self-confidence is greatly enhanced. In one respect his confidence has grown so much that he sometimes picks on other students when he has done well in PE class and they have not.”

Teacher #2

“What have you been doing with him? He is so much calmer. I can’t get to him like I could before.”

Classmate

Student #2 Age 15

“Brain Gym has changed my life. Now, I want to do something with my life! I feel a lot calmer and more relaxed. I like coming to school now. I am less stressed as I take a test and I made the honor roll for the first time, ever. Brain Gym also helped me improve my basketball game. Brain Gym is a good routine. I can use it by myself.”

“Brain Gym assisted him in improving his attitude and clearing learning blocks so that he has greatly improved his academic performance and test scores. He also improved his athletic ability which has allowed him to do well on a varsity athletic team. His relationships with others has greatly improved and he makes better choices. He seems much happier now.” Teacher #1

“The most notable improvement in both students this past cycle has been one of attitude. This has carried over into their school work, classroom behavior and has improved their attendance.”

Teacher #3

Student #3 Age 18

I am able to stay focused better and now I am more relaxed when I speak. I like doing the hook-ups (a Brain Gym activity) because it makes me feel calm. I passed my GED math test. Now, I am able to understand sentences when I read. I have noticed changes in the other students who have been doing Brain Gym, too. That’s pretty cool.”

“Before the Brain Gym program, when I first met him, he seemed to have very low self-esteem. That has really improved. Now he accepts himself more fully, which has allowed him to let go of much of his anxiety and stress. Brain Gym has helped him to be able to pass tests successfully, which he could not do before his Brain Gym sessions. I have also noticed that he has developed more awareness about what is most appropriate for him in terms of career choices. His experience with Brain Gym has benefited him tremendously.” Teacher #1

Student #4 Age 19

“The main thing I’ve noticed from Brain Gym is that I am able to stay focused when I am taking tests and that it is much easier to do my homework.”

“I noticed some good changes with her after the Brain Gym program. Before Brain Gym she did not seem aware that she could make positive choices for herself. She had difficulty relating to other people. She learned that it is within her power to make far better decisions for herself. This has really helped her. I’ve noticed that she was really withdrawn before, but now she is open and confident enough to relate better to other people.” Teacher #1

Student #5 Age 19

The Brain Gym Instructor was able to complete two sessions with the following student: She was unable to get comments from her about Brain Gym before this student left school.

“Before she experienced Brain Gym she seemed really blocked and without any direction. She did not seem to have a sense of herself. Even though she only had two Brain Gym sessions, I noticed she was able to make far better life decisions for herself. Consequently she was able to feel much more successful. In fact, she was able to secure a job and do well with it for the first time in her life. This seemed to be really what she needed to do in her life.” Teacher #1

Benefits of Brain Gym

Brain Gym activities help learning and behavior challenged students by releasing stress and creating more neural development between all subsystems of the brain, thus improving the ability to learn and change old patterns of behavior. As students develop more neural pathways and integration between brain subsystems, they are better able to control impulses, think about consequences and respond better in stressful situations. Their ability to think and solve problems improves. In many cases, destructive behavior can be linked to learning difficulties. In these situations, youth can be assisted in clearing specific learning blocks. When these learning blocks are greatly reduced or eliminated, students retain their natural ability to learn. This is why test scores can be dramatically improved through an effective program of Brain Gym. In experiencing Brain Gym activities, students also master some basic tools which they can use as difficulties and blocks arise. Anyone who has the desire can learn Brain Gym activities to benefit themselves or others.

Kindergarten Alphabet Recognition Test
Upper & Lower Case (possible 52)

<u>Student</u>	Sept. 5 Testing Begins	Oct. 26 Beginning of Brain Gym	Dec. 1 Completion of Brain Gym
Student A (test was not taken)			
Student B	4	11	40
Student C	7	49	52 (mastery)
Student D	0	3	13

(Due to the visual processing difficulties of the following two students the instructor worked with them in three brain gym sessions).

Student E	0	13	52 (mastery)
Student F	0	5	13

Students began taking the test once a week beginning in September at the start of school. Each number represents the number of letters of the alphabet, upper and lower case, that the student was able to identify. The students took the weekly test for seven weeks before they experienced Brain Gym. Then they did Brain Gym activities for about four weeks before the program was completed.

When the program began, three of the students had severe tracking and focusing difficulties. Because of the results we observed during the four week period, we believe that with additional on-going Brain Gym sessions we can assist these children in making even greater progress and eventually moving through their visual, auditory and kinesthetic blocks.

CONCLUSION

During the program, as students enhanced their ability to focus, listen, attend and learn more successfully, they disrupted the class less, fought with other children less and cooperated far more with their teacher and classmates. Based on the results achieved, we know that children with learning and behavior challenges can be greatly helped with on-going, one-on-one integrative movement. These individual activities will assist children in moving through self-destructive patterns before they become chronic.

Children who are impulsive, restless, lacking in focus and easily distracted have less neural activity between the limbic system (emotional centers) and the prefrontal lobes (decision making, critical thinking, ability to focus). When a child experiences the specific movements of Brain Gym, greater neural activity develops between these two systems. When this occurs, behavior and learning improve because in more fully integrating the two systems, the child becomes better able to focus, delay gratification, think of consequences and control impulses.

Olympia



School District

"Helping kids invent their lives..."

1113 Legion Way S.E. ♦ Olympia, Washington 98501 ♦ (360) 753-8850 ♦ Dr. Albert R. Cohen, Superintendent

Lincoln Elementary School

213 E. 21st
Olympia, WA 98501
(360) 753-8967

Cheryl Kazda-Petra, Principal

Feb. 24, 1997

Mr. Douglas Gill
Director of Special Education
P.O. Box 47200
Olympia, WA 98504-7200

Dear Mr. Gill,

I am writing in support of funding a 3 month pilot project using Brain Gym, a system of integrated movements, which has proven very powerful and effective in helping children release academic and behavior blocks to learning. This project, facilitated by Ms. Elizabeth Markell and Mr. Jon Pederson, will include training for Lincoln School Staff and Parents on effective interventions using Brain Gym. It will also include weekly one to one work with 8 Special Education children on self managing their academic and behavioral learning based on Brain Gym strategies.

We are fortunate to have Ms. Markell, a skilled practitioner of Brain Gym, on our staff who will be the Project Leader. Her schedule will be altered to allow full implementation of the project. We have several staff members who are eager to study Brain Gym strategies and implement them in their work with children.

Self management and personal responsibility for choices are core values of our program at Lincoln. This project provides tools for children and adults to take more effective control of their learning, choices, and lives. We also believe in providing learning experiences that honor the many ways learners are intelligent. We understand and value kinesthetic activities commensurate with children's learning and development. We know the power of integrating Brain Gym movements into our program. We are eager to use this tool to support the academic and emotional growth of our children.

I believe the Lincoln learning community will benefit from this project where parents, children and staff learn together. The relationships developed through the learning will support and ensure successful implementation of these tools.

I fully support this proposal and believe it will help us understand how "all children can learn". Thank you for your careful consideration of our proposal. Please call me at 360-753-8967 with questions or for further information.

Sincerely,

Cheryl Kazda Petra, Principal

Van Asselt
Early Childhood
Model

7201 Beacon Avenue South
Seattle, WA 98108
(206) 281-6780



The
Seattle Public
Schools

August 21, 1996

To Whom It May Concern:

During the 1996 Seattle Summer School Program we were fortunate to have several Brain Gym Instructors work with our first and second grade students. Having the children learn Brain Gym helped them really make some wonderful progress. For example, I saw the children improve in their ability to focus and calm down. In the beginning it was really difficult to keep the children's attention. By the end of the session I saw a dramatic difference. I also noticed a big improvement in the children's listening and reading skills. It amazed me how after doing Brain Gym the children were able to pick up words and other information so easily.

Many children benefited from Brain Gym. For example, initially one of our students was extremely negative about herself, constantly putting herself down and making comparisons. After her experience with Brain Gym, she succeeded in her work and enjoyed doing her best. Her whole attitude changed. Another student was quite angry and would become very defiant. After working with Brain Gym, she became eager to work hard and cooperate.

The Brain Gym Instructors were gracious and flexible. After coming back from their Brain Gym sessions, the children would be very different from when they left. It was wonderful to see them clear whatever they were angry about. The Brain Gym Instructors were able to be effective within an environment of high activity. They were very caring and child-centered, as well as being highly skilled, patient and fun to be around.

The children enjoyed Brain Gym and loved going to each session. During the final week, when they read their essays to the entire school, the children reminded everyone to do their Brain Gym activities. They definitely remembered how to use Brain Gym.

I saw the students make tremendous progress. I marveled at all the beautiful people who came to help the children make such wonderful changes.

Sincerely,

A handwritten signature in cursive script that reads "Sheila Mae Bender".

Sheila Bender, Elementary School Teacher
Seattle Summer School Program

*Celebrating 125 Years
of Putting Students First*

John Marshall
High School

520 NE Ravenna Boulevard
Seattle, WA 98115
(206) 281-6115



The
Seattle Public
Schools

January 15, 1997

To Whom It May Concern:

As a special education teacher in the Seattle Public Schools I have had the opportunity to observe the use of a process called Brain Gym with some of my students. In two situations, first at Fairview School and most recently at Marshall Alternative High School, I have seen remarkable improvement in students after their experience with Brain Gym. During the fall of 1996 I was fortunate to work with a Brain Gym Instructor, Debra Gevaart, who met regularly with five of my students. She worked with them individually at Marshall once a week for eight weeks.

Almost immediately, I began to notice a remarkable change in attitudes, attendance and academic improvement in these five students. I began to see self-confidence where once there was little. The students started to make positive choices and replace their negative attitudes with a new zest for learning. They began replacing their hostilities with enthusiasm and experienced success! I also noticed an improvement in learning, particularly in their ability to do much better on tests. For instance, one student made the honor roll for the first time in his life and one passed one of his GED tests, which he was unable to do before Brain Gym. Another student stated, "The main thing I've noticed from Brain Gym is that I am able to stay focused when I am taking tests and that it is much easier to do my homework."

For one of my students, who was experiencing severe behavior and academic challenges, his working with Brain Gym activities had a profound impact on him. This is what he said after the program was complete, "Now I feel good about myself and I like being in school. I am so much calmer and I don't get triggered by other people like I used to. I can handle my anger. I am getting good grades in school now, C's and B's. I like Brain Gym. I wish it was offered every day in school."

I have seen the use of Brain Gym address the key challenges of students by changing old, limiting patterns. It is time to expand the use of Brain Gym so that many more students can begin to recover their inherent abilities and reach their full potential.

Sincerely,

Ms. R. Stell

Ruby Stell, Special Education Teacher

Feb. 20, 1997

To Whom It May Concern,

The Brain Gym program has been extremely helpful to my son Kyle (age 7). He is very active, intelligent and creative. He had a hard time when he started kindergarten because he needed to move around so much. Elementary school classrooms are a very structured place to be and he had a very difficult time adjusting to sitting still while in school. His social skills needed a lot of improvement. He was bringing home "blue slips" regularly (school rule infraction notices). He tended to use his body more than his words to communicate, for example: when he was frustrated he would hit or push other kids, he had a hard time standing in line next to other children without touching them. He wanted to make friends but didn't know how. He had trouble focusing in the classroom and was very easily distracted, often he did not finish his work or even start it. He called himself "stupid" when he was frustrated or didn't know how to do something. At home he showed very little impulse control, often hitting his older brother instead of using words to communicate.

In April of 1996 he started participating in Brain Gym at school. He had one hour-long session per week one-on-one with Jon and/or Debra for 8 weeks. I could see marked improvement after 2 weeks. He was able to communicate in words more often when he was frustrated. The frequency of hitting his brother decreased and he seemed more relaxed at home. After 4 or 5 weeks he was doing better in school, getting along better with other kids both at school and in our neighborhood. Many people told me how different he seemed to them. The neighbors said he was better behaved, my brother said Kyle was much more enjoyable to be around. I felt it was much easier to go out in public with him knowing he had better control over his emotions.

Kyle loves Brain Gym. He says it makes him feel good. When he is in a situation where he needs to be calm and quiet, on his initiative he will use some of the Brain Gym exercises to calm himself. His self awareness and impulse control has increased dramatically. His ability to focus in school has improved his performance both academically and socially. He learned to read this fall and loves to challenge himself. He is more motivated to try new things. He earned an "Honor Level Achievement Award" for not receiving one blue slip this school year. He has made new friends at school this year and likes school. Brain Gym has CHANGED his life and I am so grateful that he had this opportunity. He is a happy, spirited child who is feeling successful in his endeavors. One year ago, the counselors at school wanted to test him for ADD and ADHD. I knew he wasn't but the behavior made him look like that way and he was close to being labeled for life. Brain Gym is an alternative form of intervention that is non-intrusive and non-chemical. It is so effective and should be available to all children who need help.

Sincerely,

A handwritten signature in cursive script that reads "Susan E. Torngren". The signature is written in dark ink and is positioned above the printed name.

Susan E. Torngren

RETA

**Reading Excellence
Through the Arts**

**A SIG of the International Reading
Association**

**Peg McCaughey,
Dr. Sue Snyder,
co-chairs - 1997-99**

**5 Lancaster Drive
West Norwalk, CT 06850**

(203) 847-7955

FAX (203) 847-0613

e-mail: SueRS@aol.com

January 25, 1999

Congratulations! Educational Kinesthetics has been selected as the 1997-98 recipient of a RETA award, one of four annual awards honoring an individual, group or program exhibiting excellence in the pursuit of literacy through the arts. Your award is in the category of educational program involved in reading excellence through the arts, and includes a cash prize of \$500.00.

We hope you or a representative will attend the 1999 International Reading Association conference in San Diego, to receive your award and present your award-winning program. The RETA special interest group session will be held Tuesday, May 4, from 2-4:45 PM. You will share this session with the other three recipients. Unfortunately there are no available funds for travel or expenses, but we hope the cash award will help defray some costs. You may bring materials to sell, and publicity brochures to distribute. We will also advertise your work and materials in the RETA News and Views - our SIG newsletter.

Please call Sue Snyder at 203/847-7955 to let us know that you accept this award, and work out details for the presentation. Congratulations again on this award, and for the exemplary work you do on behalf of children, teachers, literacy and the arts.

Sincerely,

Peg McCaughey
Peg McCaughey

Dr. Sue Snyder

co-chairs, RETA





**JERRY
TEPLITZ
ENTERPRISES, INC.**

The Bottom Line Impact of the Switched-On Selling Seminar

In evaluating any sales training seminar, you really want to know its bottom line effectiveness. Did the seminar result in salespeople changing their attitudes? If attitudes don't change, then it's unlikely behaviors will change.

My proposition is that the Switched-On Selling Seminar will have an immediate and positive impact on changing a salesperson's attitude and that difference will be noticeable and measurable by the end of the seminar day.

To make these attitudinal measurements, the participants complete a pre-class questionnaire prior to starting a **Switched-On Selling Seminar**. This questionnaire was based on the materials covered in the seminar and was developed in consultation with several sales people and trainers. At the end of the day, the participants again complete the same questionnaire as a post-class questionnaire.

This allows us to judge the person's view of themselves in the selling process prior to the start of class and immediately afterwards.

The results are in, and they're great!

We randomly analyzed 149 questionnaires for pre and post-class results. Analysis was done on the 18 questions. (See Appendix A for the complete questionnaire.)

The most dramatic change occurred on the following questions:

"I handle rejection well."

"It is easy for me to make cold calls in person."

"I am comfortable asking for the order and closing the sale."

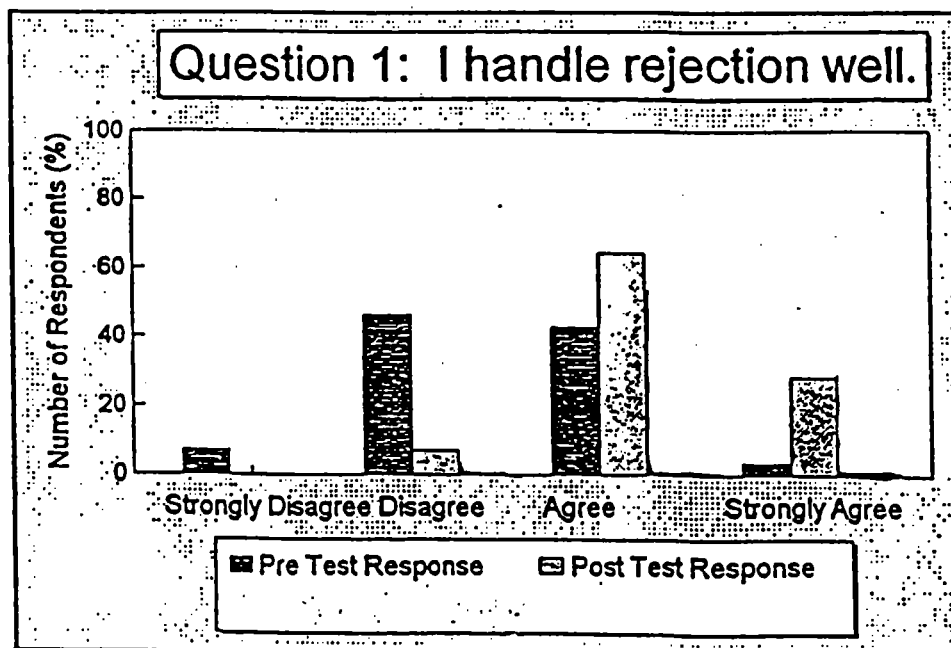
"I view myself as prosperous."

Let's analyze several of these statements more closely so you can understand the changes that occurred.

"I handle rejection well."

On the pre-questionnaire, only 44% responded "agree" or "strongly agree" with this question. On the post-questionnaire, 91% responded "agree" or "strongly agree" with the question.

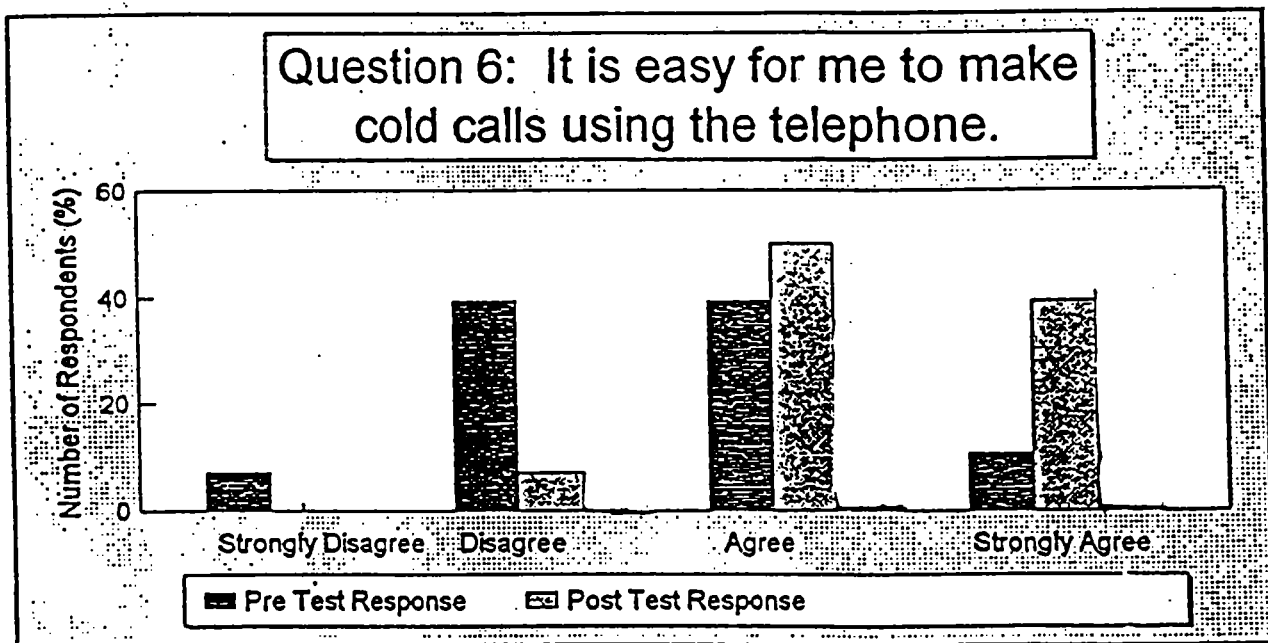
The number of salespersons disagreeing or strongly disagreeing dropped from a beginning percentage of 56% on the negative side to only 8% in the end.



"It is easy for me to make cold calls using the telephone."

On the pre-questionnaire, only 42% responded "agree" or "strongly agree" with this question. On the post-questionnaire, 90% responded "agree" or "strongly agree" with the question.

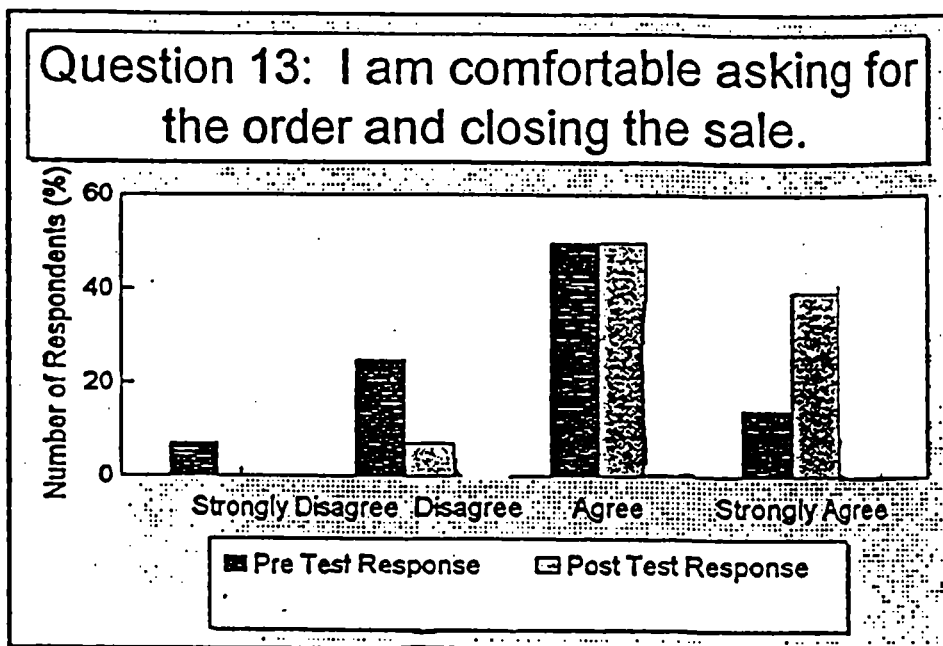
The number of salespeople on the negative side disagreeing or strongly disagreeing dropped from 48% to only 9%.



"I am comfortable asking for the order and closing the sale."

On the pre-questionnaire, 60% responded "agree" or "strongly agree" with the

question. On the post questionnaire, 92% responded "agree" or "strongly agree" with the question.



The number of salespeople disagreeing or strongly disagreeing dropped from 33% to only 7% on the negative side.

(See Appendix B for all the graphs.)

Salespeople changed dramatically from taking the Switched-On Selling seminar.

Your next question might be, how do these changes correlate into bottom line dollars?

A separate study of the **Switched-On Selling Seminar** was conducted by the **South Carolina Farm Bureau**, an insurance company, examining field performance. The Farm Bureau had part of their sales force attend the **Switched-On Selling Seminar** and part

took on the role of control group by not attending the Switched-On Selling Seminar. The company tracked everyone for four months after the seminar and compared last year versus this year figures. Salespeople who attended the **Switched-On Selling Seminar** increased sales 39% over those who did not and they also increased premiums 71% over those who did not attend.

Conclusion:

The **Switched-On Selling Seminar** can very positively affect the attitudes of salespeople. What was difficult to do at the beginning will feel like it is easy to complete. And the South Carolina Farm Bureau's separate study shows that people who go through Switched-On Selling will report an increase in Bottom Line Sales.

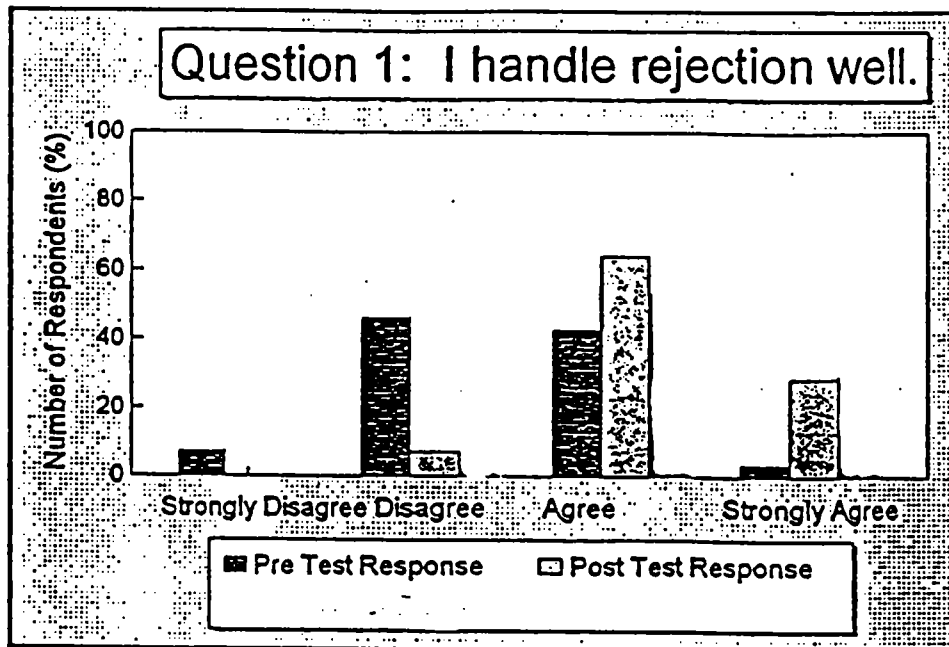
APPENDIX A

Name _____	Code
Address _____	_____ Pre Course
City _____	_____ Post Course
State _____ Zip _____	_____ One Month After Course

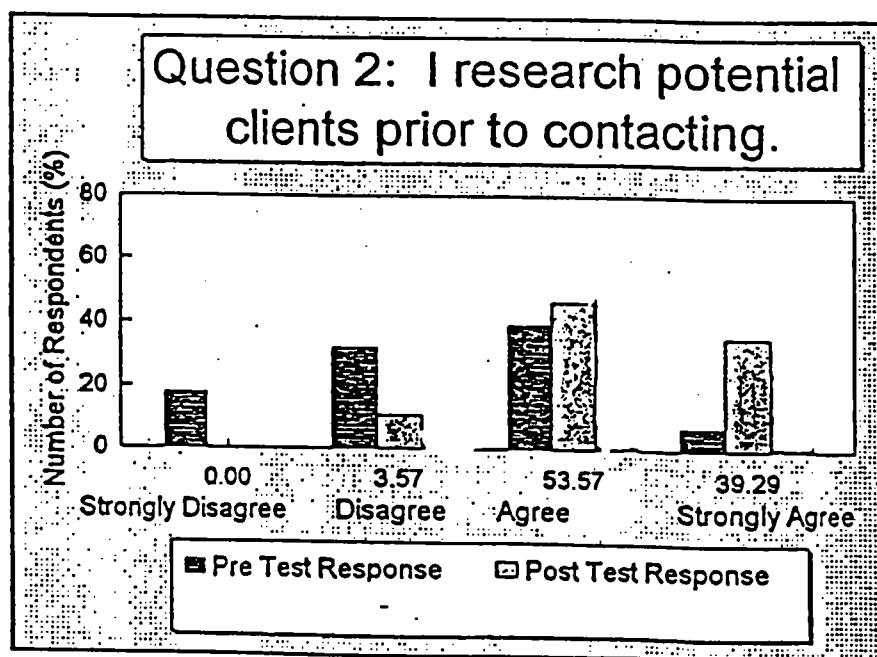
SOS Pre & Post Course Questionnaire

1. I handle rejection well.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
2. I research potential clients prior to contacting.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
3. I enjoy selling.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
4. I am effective as a salesperson.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
5. I view myself as a successful salesperson.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
6. It is easy for me to make cold calls using the telephone.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
7. It is easy for me to make cold calls in person.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
8. I am comfortable talking on the telephone.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
9. I am comfortable with face to face visits.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
10. I develop a rapport quickly with a client.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
11. I effectively begin the presentation.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
12. I effectively answer objections and questions.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
13. I am comfortable asking for the order and closing the sale.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
14. It is easy for me to write proposals.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
15. I provide effective customer service.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
16. It is easy for me to ask my clients for referrals.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
17. I offer my clients other opportunities.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree
18. I view myself as prosperous.
☐ Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

APPENDIX B

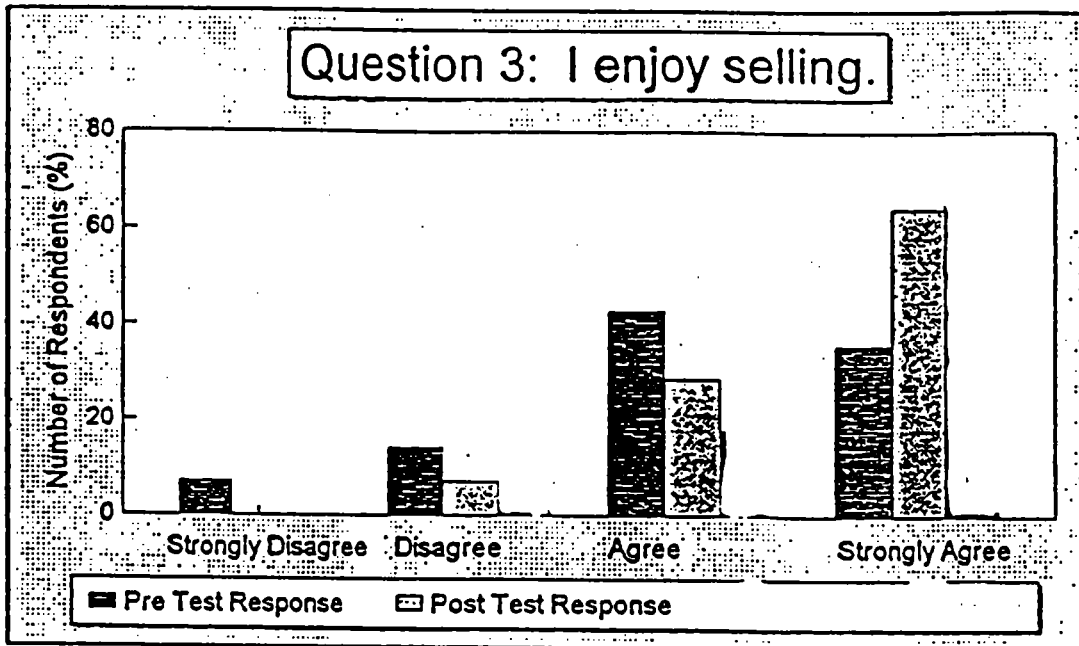


One month later, only 3% still had difficulty with rejection.

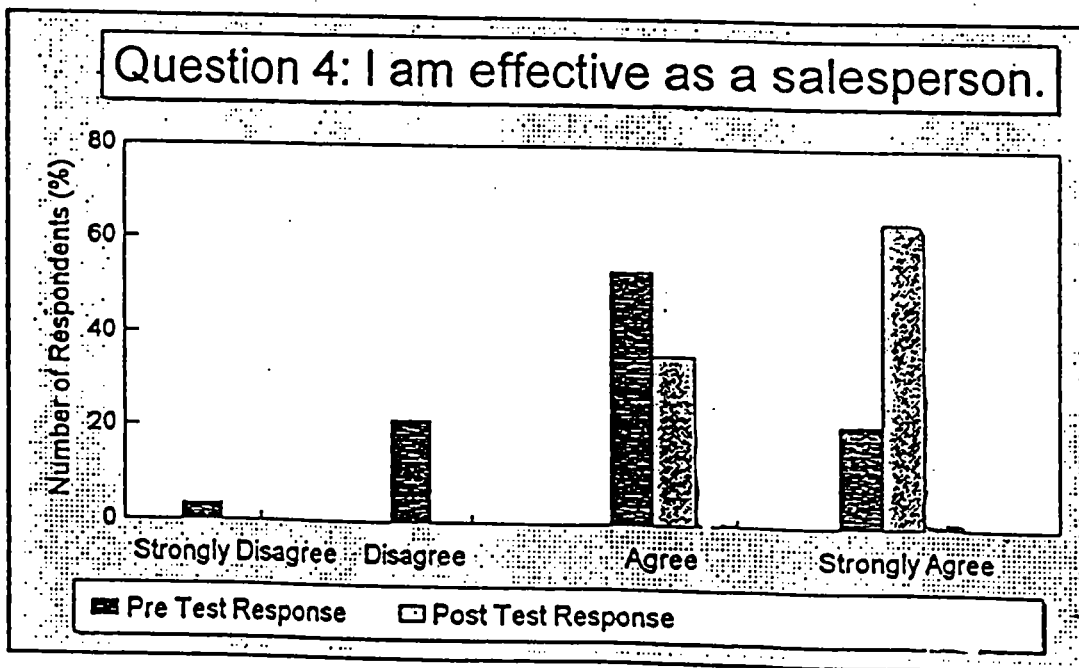


One month later, only 3% still had difficulty researching potential clients.

APPENDIX B

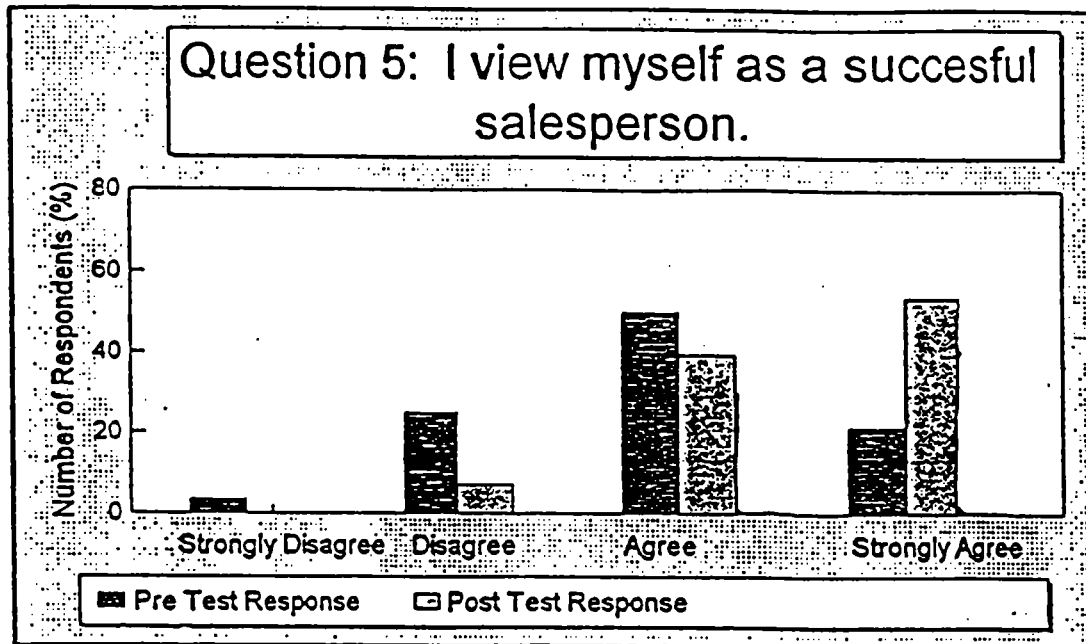


One month later, only 7% still did not enjoy selling.

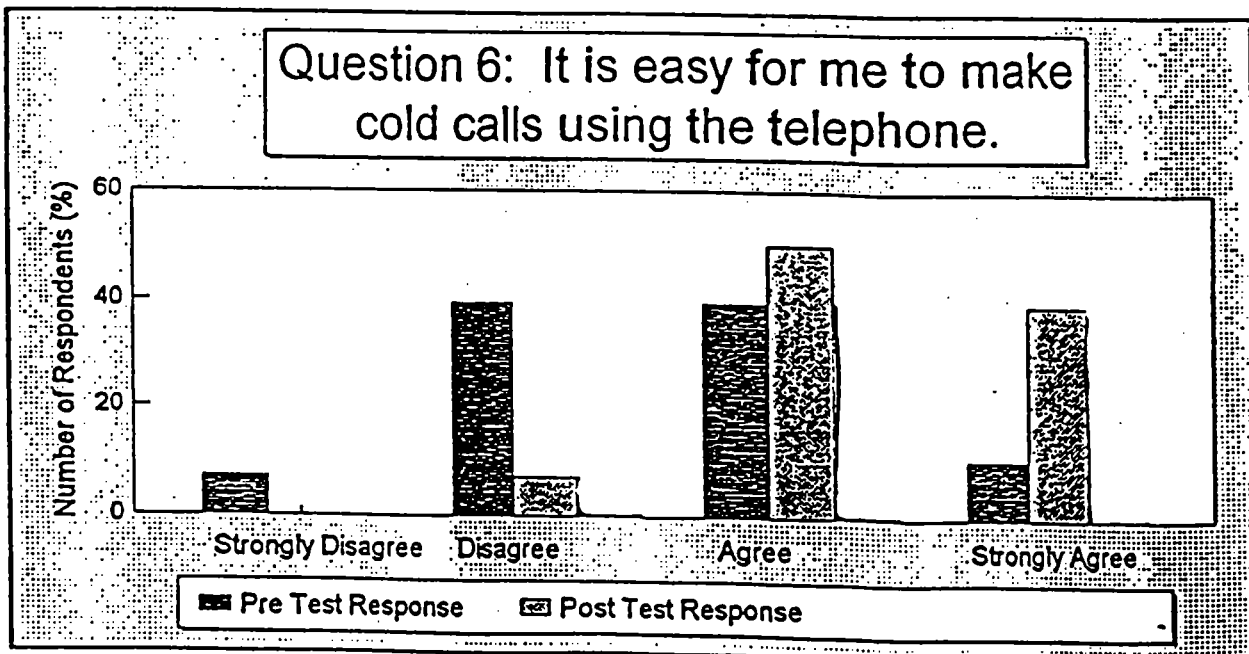


One month later, all felt effective as salespeople.

APPENDIX B

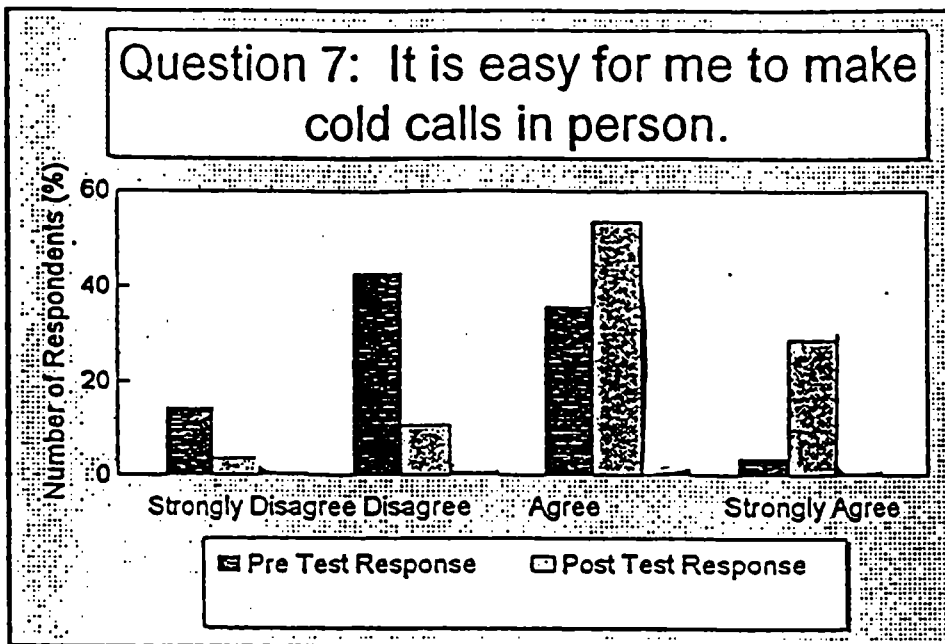


One month later, all viewed themselves as successful salespeople.

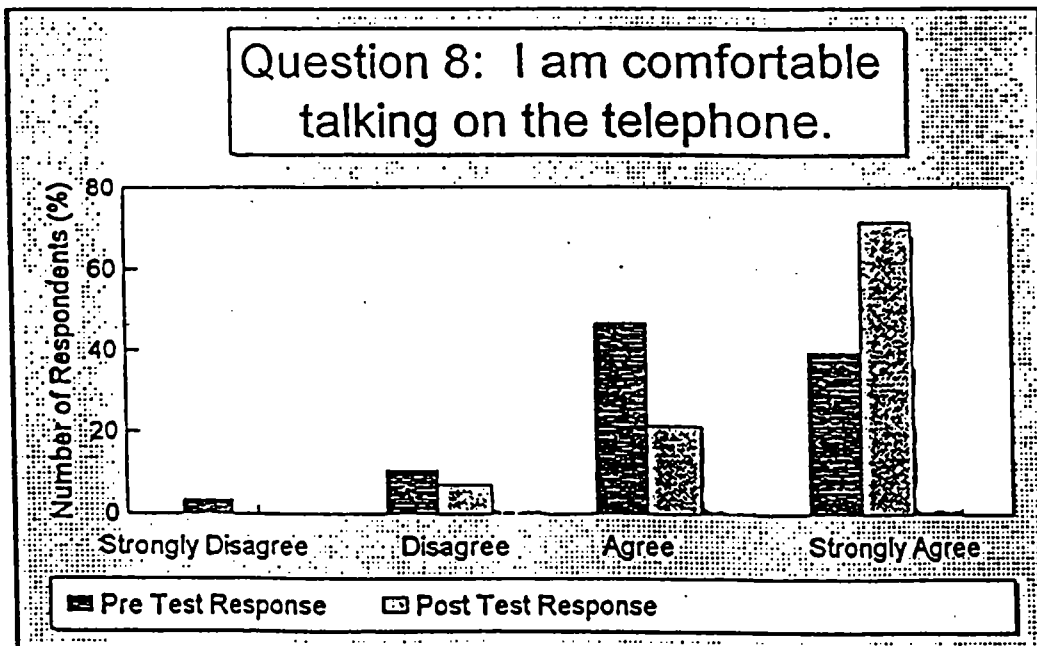


One month later, only 7% still had difficulty making cold calls using the telephone.

APPENDIX B

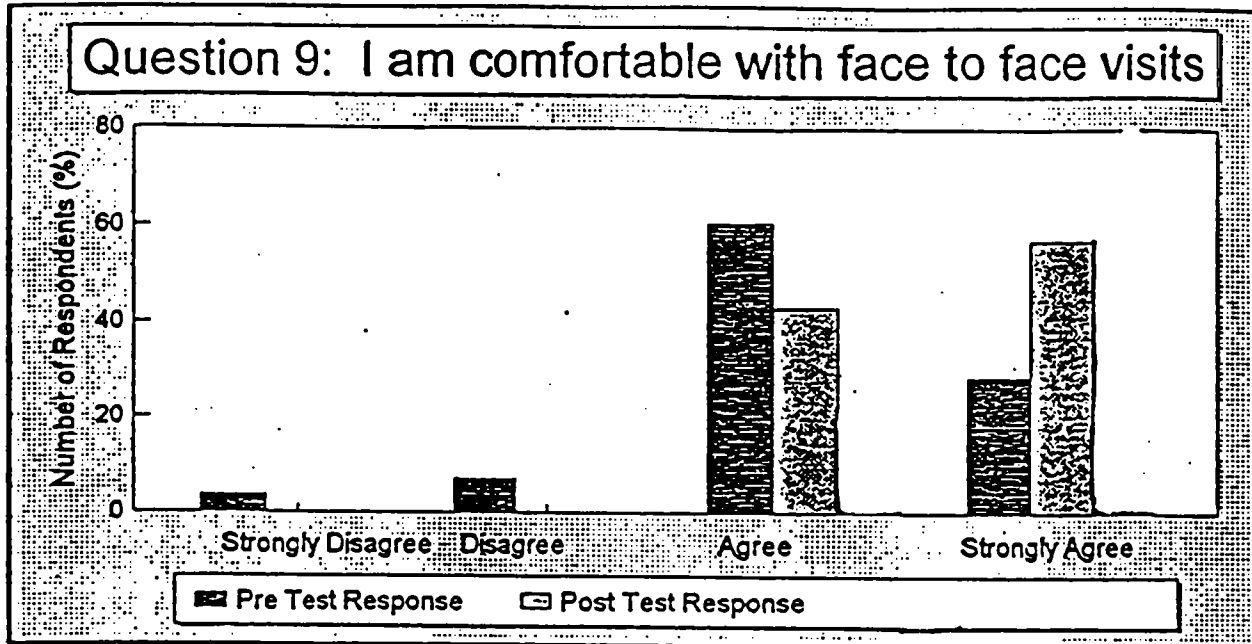


One month later, only 6% still had difficulty making cold calls in person.

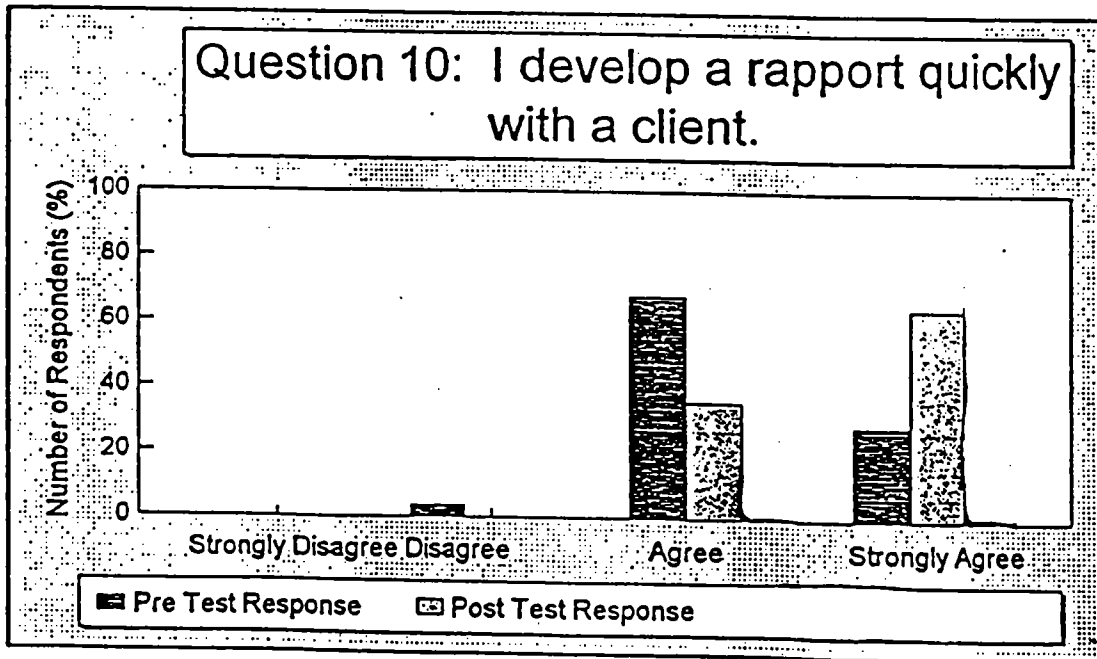


One month later, only 3% still were uncomfortable talking on the telephone.

APPENDIX B

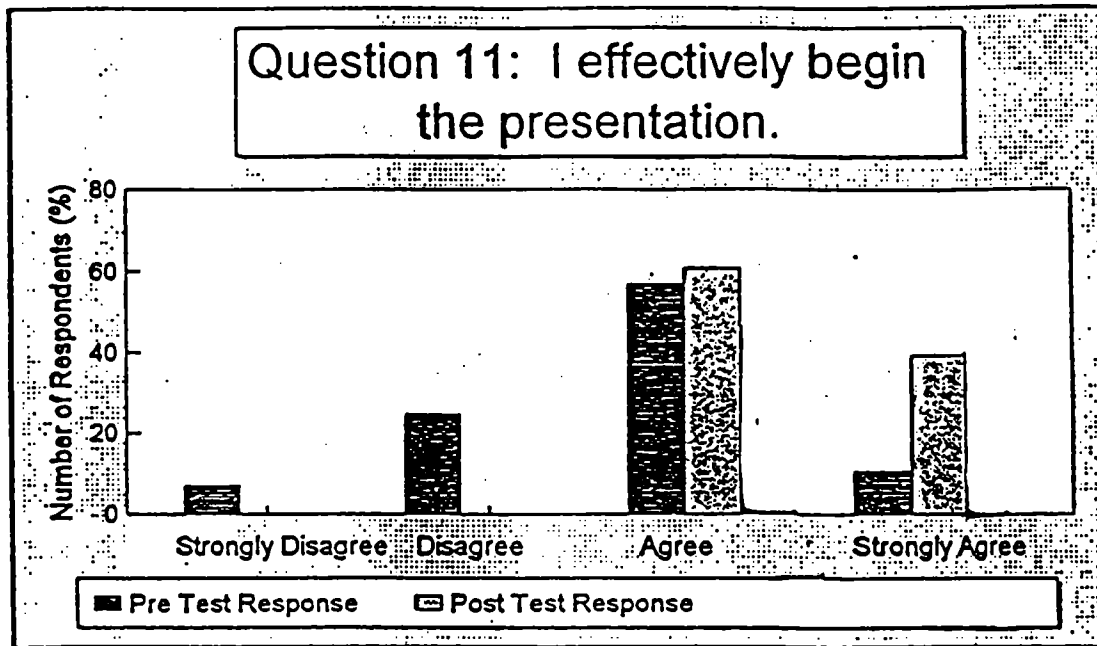


One month later, all were more comfortable with face to face visits.

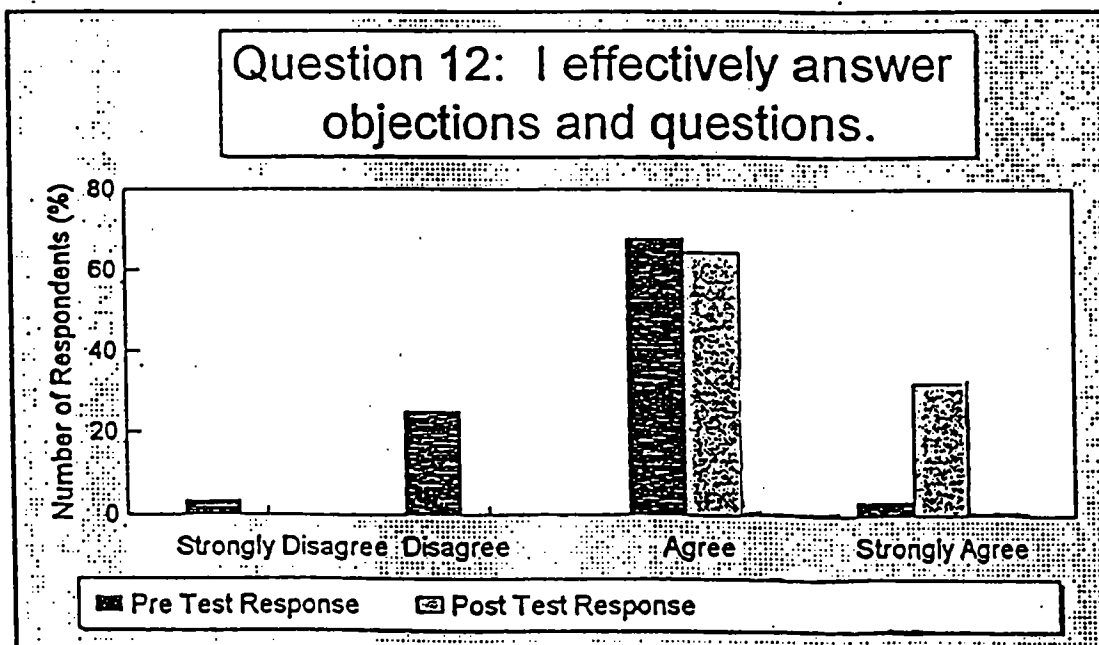


One month later, 65% were even better at developing a rapport quickly with a client.

APPENDIX B

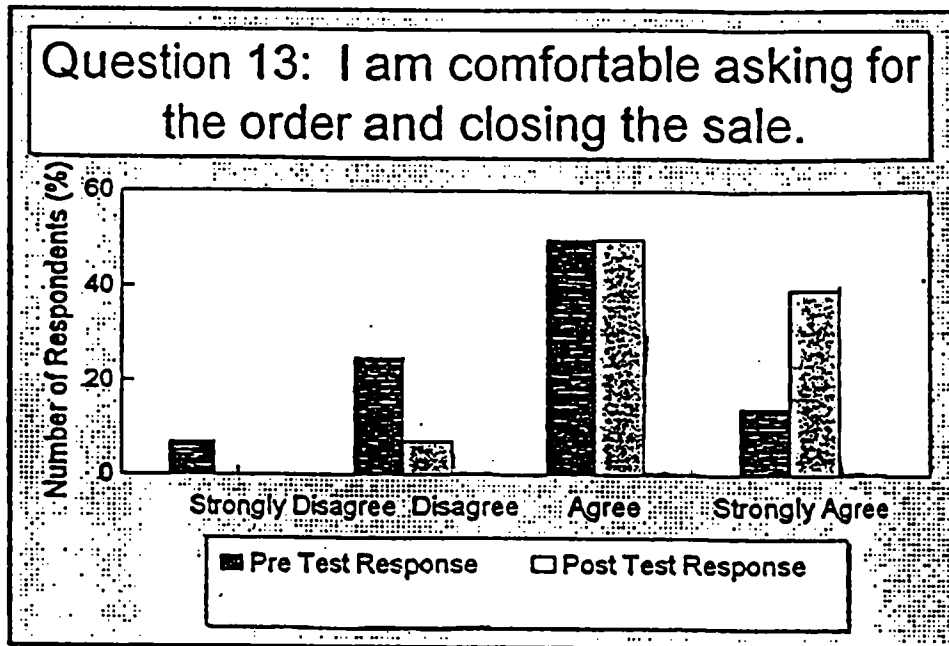


One month later, 40% were even better at effectively beginning the presentation.

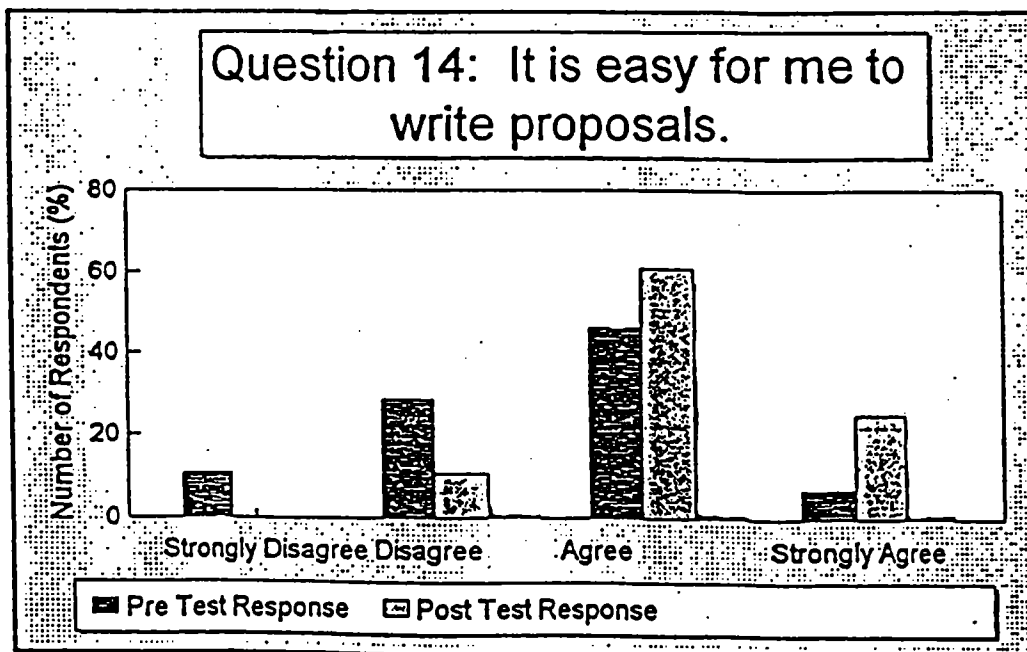


One month later, only 3% still had difficulty effectively answering objections and questions.

APPENDIX B

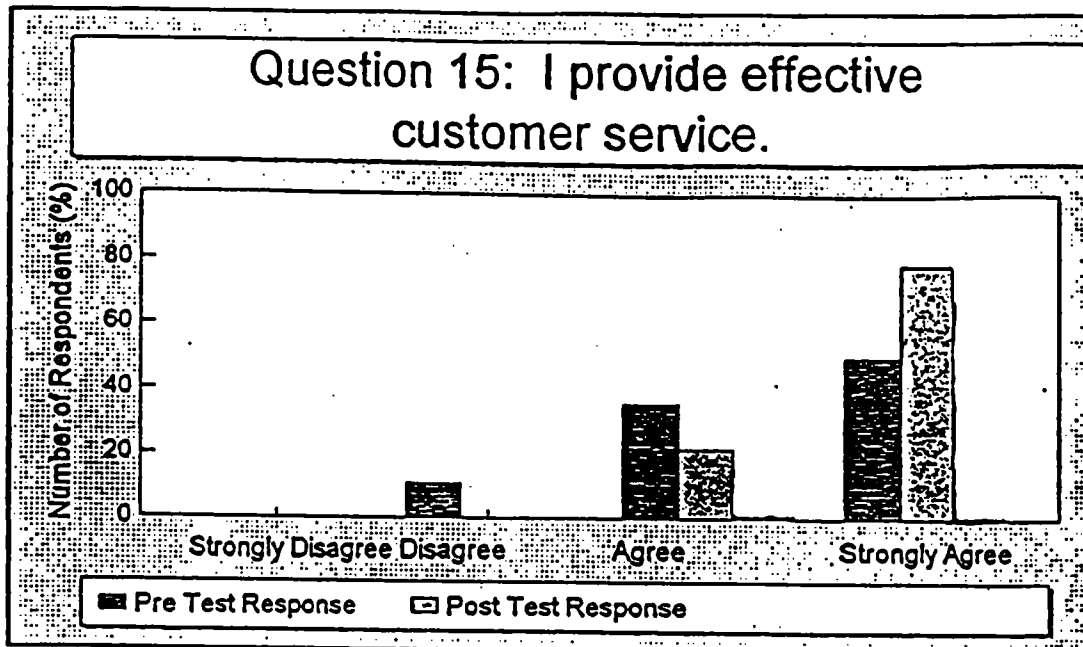


One month later, only 3% still were uncomfortable asking for the order and closing the sales.

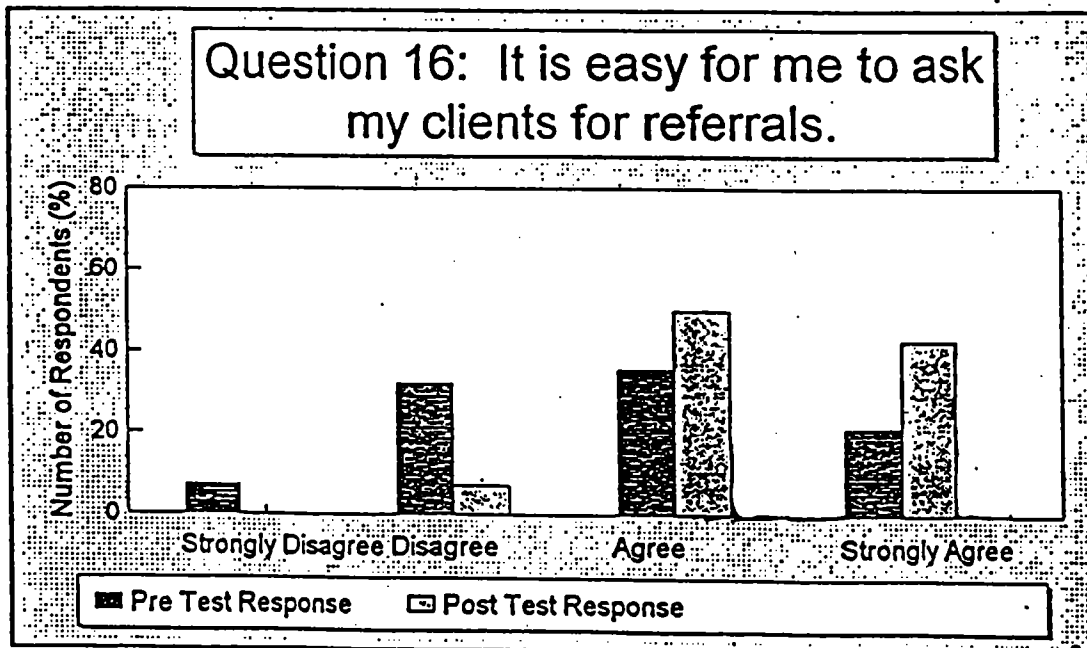


One month later, only 3% still had difficulty writing proposals.

APPENDIX B

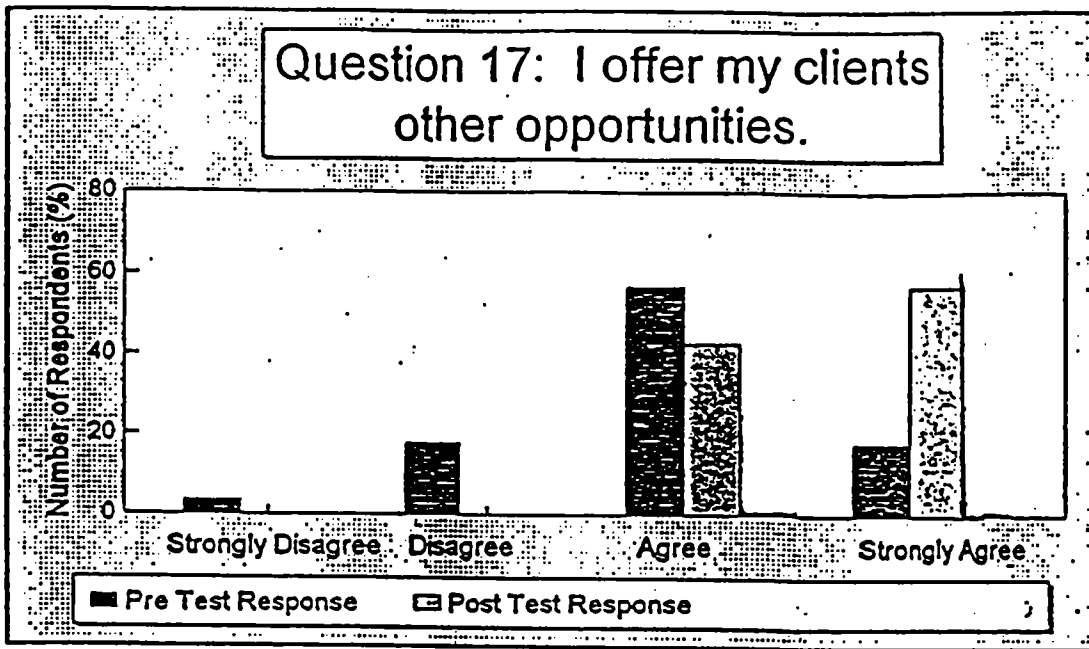


One month later, all provided effective customer service.

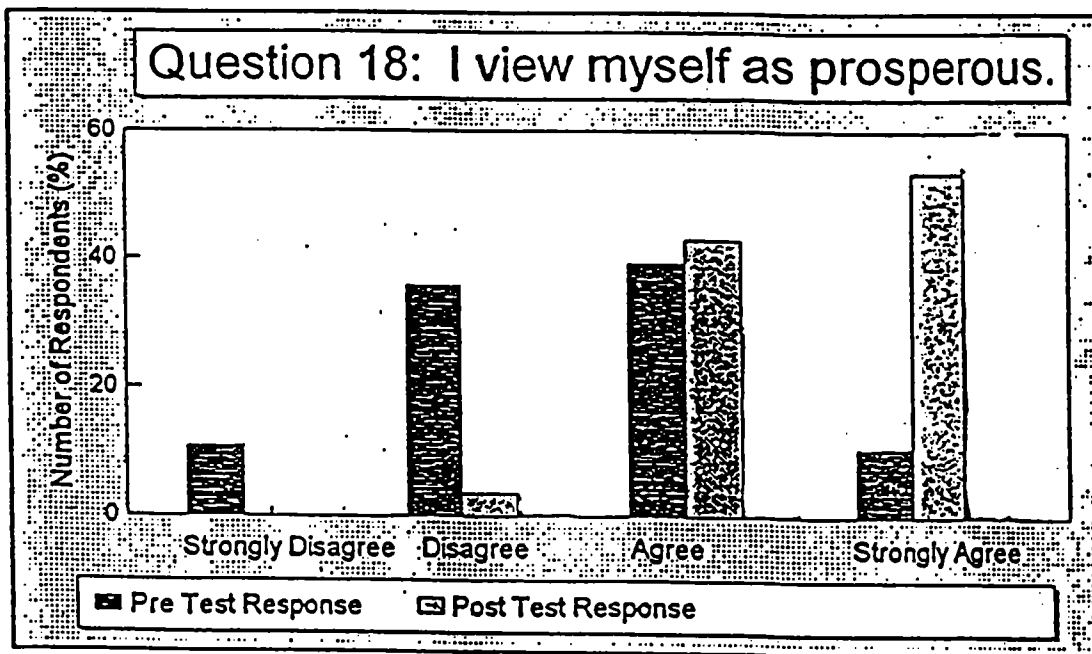


One month later, all were better able to ask for referrals.

APPENDIX B



One month later, all were better able to offer clients other opportunities.



One month later, only 3% still had difficulty viewing themselves as prosperous.

Theory Behind the Edu-K Process

Theory Behind the Edu-K Process

How Children Learn to Use the Whole Brain

Infants are in a natural state of learning. They are totally responsive to their immediate and care-giving surroundings, taking in tremendous amounts of information and transforming it into speech and action in a remarkably short period of time. If the infant is free to move, explore, see and make sounds, learning occurs to the extent that the child receives the love and feedback which reward its efforts. The infant's brain is in an open and receptive state. Through this whole-to-parts process, discriminations can be made, modified and internalized.

Movement is the child's first teacher. The child moves instinctively in response to the unspoken question; *where am I in space?* The answer to *where* is achieved through coordination of muscle proprioception and brain receptors in the inner ear. The child's eyes and hands open to the surrounding world. *Where am I in relation to objects in my environment?* Only through movement can the body store the spatial mapping information that will answer this question. *What is it?* the child asks. To know with ease, the *what* must build on *where*. The visual, auditory and tactile senses must work together in concert with the kinesthetic intelligence. As these questions are answered through movement experiences, the child can free his or her intelligence to explore *who am I?*

How Brain Gym® Supports Whole Brain Learning

Brain Gym movements are offered in four categories, each addressing a different function of the brain and a different one of these four developmental areas of awareness: *Where am I?* *Where am I in relation to objects around me?* *What is it?* *Who am I?* Brain Gym can help the learner to reactivate the innate visual, auditory and motor patterns that make learning easy and natural.

How Children Learn One-sided Behaviors

The child is uniquely designed to be either bilaterally integrated (two-sided) or homolaterally specialized (one-sided). Our two-sidedness for seeing, hearing or hand-eye coordination allows us to compensate with one side when the other side is lost or injured. If a child relies too much on one side alone, instead of two sides together, unnecessary and stressful demands are placed upon the whole system.

When learning is acquired under stress, the lateralized brain recalls only the one-sided aspects of that learning. When this situation is repeated and reinforced, the learning is anchored to stress, and the "teachable moment" for integration is lost. Brain Gym movements re-establish the natural learning pattern and return automatic, integrated movement to a whole brain state.

The Challenge of Two-Dimensional Activities

One of the most common ways that children learn one-sided habits is through excessive visual involvement in two-dimensional activities. Such activities involve using the eyes to watch a flat surface, like a T.V., video game or a book. If these activities occur before the child has developed the visual skills necessary to shift back to the three-dimensional vision of everyday living, or if they lull him into ignoring his depth perception skills, chronic stress may result. Even under such stress, learning continues. Once this one-sided visual pattern is learned, it becomes difficult to "unlearn," and the child becomes stuck in a stress response.

The developmental response to integrate visual, auditory and motor correspondences may be incomplete due to physical or emotional trauma, lack of water or nourishing foods or excessive exposure to environmental pollutants. Long-term sitting, which interferes with the natural use of back and leg muscles, is another modern challenge to integration. Both activity and relaxation are natural states for muscles. When the child cannot access either activity or relaxation, stress results. Only through movement that integrates visual, auditory and motor patterns can the child return to a stress-free state of learning. *Brain Gym fills the need for such specific movement.*

Brain Gym® Primary Aims and Outcomes

Brain Gym is Edu-K's readiness program. It prepares students of all ages to practice and master the skills for the mechanics of learning. The program includes a simple teaching format, a language for stress-free learning and a series of movements for integrating learning into the physiology. Brain Gym offers the learner a self-directed system with which to pace individual learning needs, building self-esteem through successful mastery of skills.

This program is distinctive in that it addresses the physical (rather than mental) components of learning. It builds on what the learner already knows and does well; it meets the learner just as he is, without any judgment of his capabilities; it teaches the student key elements of learning theory that he or she will be able to apply. Brain Gym requires little additional training for the classroom teacher, no testing, no technology, and it enhances (rather than replaces) current curriculum. The program is used as effectively in business, sports and the arts, as in the classroom.

Brain Gym outcomes for student or worker include

- 1) increased self-esteem
- 2) the ability to harness motivation
- 3) skills to identify and avoid stress
- 4) increased awareness of and respect for one's own intelligence, body and personal space
- 5) unique tools for building team thinking and cooperation

Specific strategies for improving reading, writing, spelling, math, communication and organization skills are included. Patterns of stress or addiction are explained in terms of the brain and physiology. Tools for alleviating these stresses are included.

Edu-K Terminology

- analytic** - Refers to the ability to perceive reality as isolated, separate parts without attention to their context as a whole.
- anchoring** - Reinforcement of learned processes or material; the association between a pleasant event and a new learning.
- balance** - Equilibrium; the regulation of motion; also, the Edu-K balance process that regulates conflicts between structure and function.
- balance point (or position)** - A low gear point that represents needed learning at the level of the physical structure.
- bilateral** - The relationship of the two (lateral) sides of the body and the two cerebral hemispheres.
- binaural** - The relationship of the two ears in listening.
- binocular vision** - Eye teaming or fusion so that two visual systems interpret a singular visual experience as one.
- binocularity** - The ability of the two eyes to work together as one moves attention around the visual environment; the two messages, one from each eye, being integrated into one composite perception.
- blending** - The synthesis of separate parts, such as phonetic speech sounds, into longer, more meaningful, wholes.
- Brain Gym** - A series of specifically conceived movements which activate the brain and body for specific skills of learning (i.e., visual, auditory). See Brain Gym by Dennison and Dennison.
- cerebrospinal fluid** - The serumlike fluid that bathes the lateral ventricles of the brain and the cavity of the spinal cord. When the body reflexes are working properly, the natural movement of the feet, calves, sacrum and occiput all create a gentle action that moves the cerebrospinal fluid. This fluid acts as a shock absorber, removes toxins, transports hormones and nutrients and cools the temperature of the brain so that it can work to its optimal potential.
- challenge** - Method of testing a circuit to see if it will remain connected under particular circumstances.
- compensatory approach** - The approach to education for learning disabilities which emphasizes that children must accept their situation and learn to adjust to it by maximizing a strength and compensating for any weaknesses.
- convergence** - The ability to point the two eyes so that the visual axes of both eyes lie on the image being fixated. This ability makes binocular fusion possible.
- Cross Crawl** - Any contra-lateral movement whereby one side of the body moves in coordination with the other side, requiring bi-hemispheric brain activation.
- cross dominance** - The inherited predisposition to be dominant with one hand, usually the right, and dominant with the alternate eye and/or ear at the same time.
- decode** - The analysis of any symbolic language into a meaningful message.
- Dennison Laterality Repatterning (DLR)** - A movement experience which gives the individual permission to move without tension and to think without stress. See Edu-K for Kids by Dennison and Dennison.

dimensions - The body's reaction to learning with both functional and structural aspects.

dominance - The inherited preference for one cerebral hemisphere over the other for handedness, eyedness, earedness, etc.

dominance patterns - The natural style of learning toward which the learner gravitates when manipulating objects, especially, the pattern as affected by the bilateral use of the cerebral cortex (including use of eyes, ears and hands).

dyslexia - The inability to decode the printed symbol due to the inhibition of the receptive centers of the brain. Broadly, any learning disability which causes confusion and requires compensatory behaviors.

Edu-Kinesthetics - The application of kinesthetics (movement) to the study of right brain, left brain, and body integration for purposes of eliminating stress and maximizing full learning potential.

Educational Kinesiology - The study of the musculature system of the body and its relationship to whole brain learning.

encode - The expression of meaning and language through the use of written symbols.

fixation - The moment when the eyes stop movement in order to process information.

focus - The ability to concentrate on one part of one's experience, differentiating it from the rest through awareness of its similarities and differences.

gestalt - The ability to perceive reality as a whole or totality without attention to analysis of its separate parts.

goal (integrated) - The process of becoming ourselves more fully.

goal (unintegrated) - The unstated physical, mental and emotional drive that moves us to action.

high gear - (used interchangeably with switched-on, learned) The known and familiar, learning by association.

homeostasis - Regulation of heat/energy exchange to maintain a stable environment.

homolateral (ipsilateral) - The involuntary choice to respond with one side of the brain and body when in "low gear." Also, the involuntary or "reflex" choice to access only one hemisphere at a time, inhibiting the other, thus blocking integrated thought and movement.

impulse - The response by the autonomic nervous system to a situation, without mediation through language or analytical thought.

integration - The life long process of realizing one's physical, mental, and spiritual potential, the first step being the simultaneous activation of both cerebral hemispheres.

intuition - Knowing something without knowing how it is known, or without being able to describe how the knowing occurred.

learning - Changed behavior.

low gear - (used interchangeably with switched-off, not learned) The new and unknown, learning by discrimination.

midfield - The area where one visual and hemispheric field overlaps the other for integrated learning.

midline - The line which separates one visual field and hemispheric awareness from the other when there is incomplete integration.

movement - The process of changing positions, including the rests or stillness; rhythm.

muscle checking (testing) - In Edu-K, used for two purposes: 1) To measure the relative strength of a muscle for the purpose of inferring brain functions relevant to educators. 2) To anchor or to reinforce positively all integrated processing.

noticing - Sensing and feeling attention to one's state of being; self observation.

outcomes - New possibilities for seeing, hearing, feeling, thinking, acting, are anticipated through an integrated focus.

overfocused - The extreme state of attention wherein one loses the ability to keep the issues in his life in perspective.

PACE - An acronym for establishing familiar boundaries through movement, including Positive, Active, Clear and Energetic states or attitudes.

percept (perception of meaning) - Activation of the midbrain allows us to attach meaning to the original receipt through emotions and sensory stimulation.

personal space - The physical, mental and emotional space that innately belongs to a person.

"reflex" - To act without conscious thought and with self-preservation as the primary motivation. Used as a verb in Edu-K to suggest the movements initiated by the gestalt brain when one is homolateral and not yet integrated.

saccades - The movements of the eyes between fixations where vision takes place.

self-directed learning - Learning which builds on personal inquiry.

self-esteem - The ability to respond from intrinsic choice based on self-knowledge and self-respect.

simultaneous processing - The ability to access both cerebral hemispheres at the same time, maximizing hemispheric integration and reducing stressful learning.

stress (negative) - Chronic and excessive loss of familiar boundaries (unintegrated low gear).

stress (positive) - The excitement of the new and unknown as familiar structures and boundaries are lost (the integrated low gear in an integrated high gear context).

switched-off - The involuntary inhibition of one cerebral hemisphere in order to better access the other, due to stress or lack of integration.

switched-on - The simultaneous processing of information by both hemispheres (integrated high gear).

teachable moment - Any moment that the whole brain is in high gear and experiences an appropriate focus.

transposed - The inherited, neurological organization of the brain, whereby the language, speech centers are located in the right cerebral hemisphere instead of the left where they are found in 85% of the population.

underfocused - The extreme state of gestalt behavior wherein the individual is unable to pay attention or make discriminative responses.

visual accommodation - The automatic adjustment of the focal length of the lens of the eye to see objects at various distances.

visual convergence - The turning inward of the eyes in focusing on something very close to them.

visualization - The ability to create mental imagery from memory or by abstraction.

walking gait - The reflex to move forward on two feet, shared by primates.