



# Bags Balls & Brains



## Physical Approaches to Learning

Shirley Kelley and Linda Faste received a Palo Alto Partners in Education grant to execute their Bags, Balls and Brains class in a middle school special day classroom, during the spring of 2006.

The students in this program were all severely impacted by their special needs, which include autism, bi-polar disorder, and developmental delays among others. Shirley and Linda worked with the children and their teachers, in their classroom setting, for ten weeks, two hours each week.

Several tools were used as a pre and post project evaluation. The findings are as follows:

### Slosson Oral Reading Test

This test is a single word reading test and the scores are based on a 9 month school year. All the children showed an increase in their reading abilities in this test after completing our ten week Bags, Balls, and Brains Project. The smallest increment was a 3 month improvement and the largest increment of improvement was 7 months – almost a full school year’s growth.

### Oral Reading into a Tape Recorder

Students were asked to read aloud both before and after the project. These are the changes noticed by the Examiner.

Pronunciation of words had more clarity and there was more inflection in their voices. Reading pace was slower, more melodic, rhythmical and expressive. Students were able to focus and concentrate for a longer period of time without prompting from the Tester to refocus. Students seemed to be less perturbed by interruptions and more easily transitioned back into the task.

### Draw A Person

Each child was asked to draw a picture of him/herself before the project started, and again after the project was completed. Some of the significant changes in the post-drawings were:

- A considerably larger body size than the first drawing
- Inclusion of a body, as compared to just a head drawn in the pre-project drawing
- A highlighting of hands

Additional observations include:

- Figures and other elements appeared more correctly proportional with each other
- Figures were grounded, i.e. actually standing on ground (green grass) vs. floating in space in the pre-project drawing
- There was more differentiation in terms of color and decoration of clothing in some of the figures
- More detail in limbs, i.e., drawings had hands and feet instead of just arms and legs; the hands and feet included fingers and toes.
- One post-project drawing seemed significant in that it portrayed a boy rather than a “gang member” or cartoon character with hat and scowl on his face.



**A seventh grade student is tracking the flight of the bag with his eyes. He is performing a two bag juggle.**



**Racquet balls used for rhythmic bouncing and catching exercises.**

This is a picture of me.



This is a picture of me.



**Student 1, above**  
**Student 4, below**

This is a picture of me.



This is a picture of me.



Since this project involved tossing and catching sandbags and racquet balls, the inclusion of large hands and fingers in the post-project drawings implies that the children were very aware of this tactile and kinesthetic sensory input into their bodies. Drawing the body in a larger scale, as well as including a body, implies a better proprioceptive sense of their own bodies. This awareness can translate into better academic skills, such as fine motor control for handwriting tasks. In addition, a sense of their own boundaries, personal containment, and proprioceptive sense of their own center, will facilitate their ability to sit still without the need to wiggle, move around and extend limbs in random directions.

**Two copies of pre and post drawings are included:**

#### **Student 1**

Student has a fuller sense of her body, is taller, and body awareness is more differentiated and serves as a container for her. She is more integrated and has more positive energy.

#### **Student 4**

First picture shows a head only as a rudimentary line drawing of a face. There are dots for eyes and nose and an upward curved line for the mouth. There is a "thought picture" of her dog inside her head. Perhaps she and her dog are one and developmentally they are merged as the same, no differentiation. In the second post-project drawing, the dog is outside of herself. She is separate from her dog, which is an object outside of herself and available for relationship. She has a body and hands and feet which are differentiated, she has hair, ears, and mouth that's open and appears to be joyful.

### **Writing Sample**

In this writing sample the students were asked to write about something they like to do. This task was to both assess their ability to verbally communicate in writing, and to assess fine motor skills. Some of the significant changes were an increased length and expanded content of the spontaneous writing, and a better use of the English language. For some children, fine motor skills have improved. For example, less pressure was used while holding the pencil and there were fewer erasures. Letter forms were smaller and fit on the lines and were spaced more appropriately.

#### **Examples:**

##### **Student 4**

Pre-project sample: "I walk to Emma Bear. I play on the Stanford"

These are either incomplete sentences or do not make sense.

Post-project sample: "I like to walk Emma Girl. I like to wash dishes. I play with Emma Girl."

This sample has complete sentences and differentiates the different things she does with her dog (walk and play). She also lists a second activity that she enjoys.

##### **Student 6**

Pre-project sample: "I like to do draw it help me to focus on my Art."

This is a run-on sentence.

Post-project sample: "I like to play with my friends and brothers and Zaggy. I like to read a book with my mom."

This sample has more complete sentences with more elements. He includes people and his dog with whom he likes to do things. His smaller, better formed letters indicate improved fine motor control. There is less pressure on the pencil and paper which denotes a more relaxed hand and pencil grip.



These participants are learning the fundamentals of tossing and catching a sandbag on the midline separating the left and right sides of their bodies. This exercise is done in unison to a rhythmic beat to improve eye-hand coordination and auditory processing skills.

### Subjective Evaluation of Social and Emotional Behavior

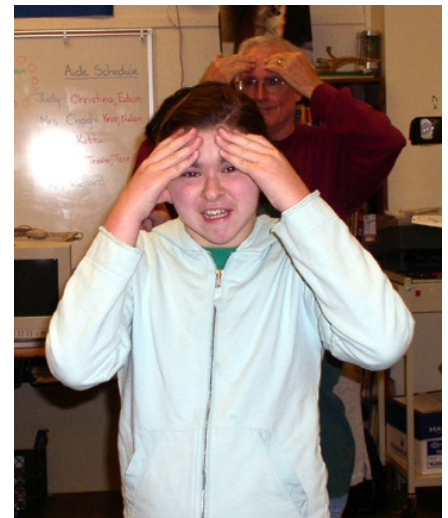
In the beginning of the project, several children actively disliked each other and some were afraid of others. That shifted. Because the children were next to each other during the Bag and Ball activities, and sometimes even partnering with each other, they have all learned to be comfortable with each other. They are now spontaneously helping one another. The children have started relating to each other rather than competing. They are more aware of other's needs. A sense of community and caring has developed.

The children's ability to focus on a task improved as well as their ability to continue focusing for a longer period of time. The students were able to stay within the circle and perform the activities even if they momentarily lost their focus. At the beginning of the project sometimes some of them would wander off and leave the group. By the end of the ten week session, even if they started to leave the circle, they returned. They were also able to easily and efficiently transition from a circle, into parallel lines, and back into a circle.

They were able to do group patterns that required listening skills, rhythm and timing. All of the children were able to do, at some level of success, even the most advanced patterns offered to them.

The whole tone of the classroom changed. There was less frenzy and erratic behavior. The teacher learned some positive and helpful strategies to use to help children when they get stuck in a negative behavior pattern. In fact, there were some children who spontaneously stood in front of the Brain Gym® charts and did the movements for themselves when they needed to.

When asked how they felt about the project some of the children responded. One child said her classmates were "less wild now." Another said he thought it was fun. A third student said he does some of the exercises at home, before he plays a video game.



This student demonstrates "Positive Points," a Brain Gym activity which helps the whole body to relax.



Student is quieting down with "Hook Ups," a Brain Gym activity.



Participants are doing “Brain Buttons,” to improve eye-tracking skills. This allows easier tracking of the sandbags and racquet balls with both eyes working together.



Shirley Kelley and student are doing an exercise (part two of “Hook Ups”) to increase attention and focus.

In summary, the children improved in the following skills:

- Attention and focus
- Rhythmic cadence while reading aloud
- Social awareness
- Calmer behavior
- Ability to process verbal instructions
- Better eye tracking and eye teaming
- Visual discrimination of details
- Controlled body movements
- Physical coordination
- Eye hand coordination
- Self confidence

**For more information about student and adult classes see**  
<http://www.bags-balls-and-brains.com>

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Hook-ups, Brain Buttons, and Positive Points are registered activities of the Educational Kinesiology Foundation.



**LINDA FASTE, M. Ed, M.A.**, is a certified Brain Gym® Instructor/ Consultant, and a credentialed school teacher. Her two Master’s Degrees are in special education and child development. Linda draws on over 35 years of teaching experience and presently has a private practice for students with learning disabilities. Linda teaches Brain Gym classes both locally and abroad.

**SHIRLEY KELLEY, M.S. Ed.**, is a State of CA credentialed educator, Body-Mind Centering Practitioner® and Registered Somatic Movement Educator/Therapist<sup>SM</sup>. She has been teaching, in a variety of settings and with people of all ages, since 1965. Shirley maintains a private practice in movement therapy in Palo Alto, and teaches in the Bay Area.

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The Balls, Bags and Brain gym class that was taught at Jordan school this past spring was a wonderful experience for me and for the students. As a parent volunteer, I saw first-hand how these activities can change the dynamics in a classroom.

When instruction began, the class was disorganized and noisy. The students had difficulty working in a circle, standing calmly and working together. Shirley Kelley and Linda Faste introduced simple patterns using sand bags and racquetballs which clearly challenged the students' abilities to track and to work in a rhythmic way. Some of the students didn't even want to join the group.

Shirley and Linda persisted, however, and their patience paid off. By the last third of the program, I noticed that students who had resisted joining the activities gladly came to the circle. Others, who had been disruptive with the balls or bags, were now calmer and focusing on the patterns. And what I found very exciting, was that the students were working as a group, they did the patterns together with an amazing sense of rhythm that I had never suspected they would achieve. Often they did them quietly, which was a huge shift from the beginning.

I hope that Linda and Shirley will return to the classroom to continue the progress they have achieved. The students enjoyed the program and were often smiling at their achievements. They have learned that with persistence and patience, they can do what they may have thought was not possible.

Regards,  
Carol Scott Ferkol  
parent