This report describes a project for improving students' listening and motivation. The action research took place from September 2001 through January 2002. The targeted first grade reading and eighth grade physical education students live in rural, Midwestern, middle- to high-income communities located in central Illinois. The problem was that students lacked skills in listening, motivation, movement, and memory retention. The problem at the action research sites was documented through data from a questionnaire, teacher checklist, and pre-test/post-test. A review of the literature revealed several probable causes for the lack of listening skills and motivation exhibited in the classroom. These included lack of movement, lack of listening skills, memory retention, and motivation. Solution strategies provided the students with opportunities to improve listening skills, increase movement, memory retention, and motivation. The suggested strategies included Gardner's Multiple Intelligence Theory (MI), authentic assessment, and brain-based learning. Pre-test, post-test, checklists, and graphic organizers measured the effects of these strategies/interventions. In conclusion, students' listening skills and motivation notably increased through the use of a variety of teaching strategies. These strategies included MI, authentic assessment, and brain-based learning. Appendixes contain the teacher questionnaire and teacher checklists for listening skills and game play assessment. (Contains 38 references, 11 tables, and 1 figure.) (Author/RS)
IMPROVING LISTENING SKILLS AND MOTIVATION

Sandra Armstrong
Tina Rentz

An Action Research Project Submitted to the Graduate Faculty of the School of
Education in Partial Fulfillment of the Requirements for the Degree of Master of Arts in
Teaching and Leadership

Saint Xavier University & Skylight
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Chicago, Illinois
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Abstract

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TABLE OF CONTENTS

CHAPTER 1 – PROBLEM STATEMENT AND CONTEXT ........................................ 1
   General Statement of the Problem ......................................................... 1
   Immediate Problem Context .................................................................. 1
   The Surrounding Community .................................................................. 4
   National Context of the Problem ........................................................... 5

CHAPTER 2 – PROBLEM DOCUMENTATION ............................................... 8
   Problem Evidence .................................................................................. 8
   Probable Causes ................................................................................... 15

CHAPTER 3 – THE SOLUTION STRATEGY ............................................... 18
   Literature Review .................................................................................. 18
   Project Objectives and Processes .......................................................... 24
   Project Action Plan ................................................................................ 25
   Methods of Assessment ......................................................................... 29

CHAPTER 4 – PROJECT RESULTS .............................................................. 30
   Historical Description of the Intervention ............................................. 30
   Presentation and Analysis of Results ...................................................... 32
   Conclusions and Recommendations ...................................................... 37

REFERENCES .............................................................................................. 39

Appendix A ................................................................................................. 42

Appendix B ................................................................................................. 44
CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

The students of the targeted sites demonstrated a deficiency in listening skills and motivation. Due to these deficiencies the students were exhibiting difficulty in retaining and transferring knowledge. Evidence for the existence of the problem was displayed through an assessment, a teacher questionnaire, and teacher checklists.

Immediate Problem Context

The research from Site A was comprised of a first grade reading improvement group. There were a total of 18 students, 9 boys and 9 girls, in this particular reading group. These students attended this class 25 minutes Monday through Friday for extra guidance in reading. The school day began at 9:05 a.m. and concluded at 3:35 p.m. The students stayed within their classroom except for art and physical education.

Site B was comprised of 21 junior high school physical education students. There were 12 males and 9 females ranging in ages from 13-14. They met daily for 43 minutes Monday through Friday. The students rotated to health education with another teacher during two - two week periods. The school day began at 8:15 a.m. and concluded at 3:10 p.m. There were 9 periods a day that met for 43 minutes. Passing periods were 3 minutes long. There was no public transportation provided for the students.

Site A school was in a unit district. There were 13 elementary schools, 6 junior high schools, one alternative high school and 2 high schools. There were a total of 1335
teachers in the district. The ethnic background and gender of the teachers in the district was 97% White, 1.4% African American, 4% Hispanic, 1% Asian/Pacific, and 1% Native American. The male population in the district was 19.5% and the female population was 80.5%. The average teaching experience for the Site A district was 8.5 years and 57.9% of the district was comprised of teachers with bachelor’s degrees. Teachers obtaining a master’s degree or higher made up 42.1% of the district.

Site B school was in an elementary district. There were three elementary schools and one junior high school. There were a total of 81 teachers in the district and 32 within the Site B school. The ethnic background and gender of the teachers in the district was 97.8% White, 0.5% Hispanic, and 1.6% Asian/Pacific. The male population in the district was 13.5% and the female population was 86.5%. The average teaching experience for the Site B district was 12.8 years and 50.4% of the teachers had a bachelor’s degree. Teachers obtaining a master’s degree or higher made up 49.6% of the district.

Of the total student population in Site A, none came from low-income families. Overall, as a district, the low income increased to 0.9%. Low-income families were eligible to receive public aid, free lunches, and may have been supported by foster homes.

Of the total student population in Site B, none came from low-income families. Overall, as a district, the low income increased to 0.3%. Low-income families were eligible to receive public aid, free lunches, and may be supported by foster homes.

Site A school had an attendance note of 95.9%. The district had a rate of 95.9%, which was 2.0% above the state average. The chronic truants were the students who were
absent from school, without a valid cause, for 18 or more of the last 180 days. Site A school had no chronic truants and the district had 0.2%. Both were better than the state at a 2.4% chronic truancy rate.

Site B school had an attendance note of 96.8%. The district had a rate of 96.8%, which was 2.9% above the state. The chronic truants were the students who were absent from school, without a valid cause, for 18 or more of the last 180 days. Site B school had no chronic truants as well as the district. Both statistics were better than the state at a 2.4% chronic truancy rate.

As reported in the 2000-2001 school report card, Site A district had an operating expenditure per pupil of $6,315. This was below the state average expenditure per pupil of $7,146. The average teacher salary was $41,107 and the average administrator’s salary was $89,699. The averages for the state were $45,766 and $79,017 respectively. The district consisted of one superintendent, two assistant superintendents and several branches for specified areas within the administrative field.

As reported in the 2000-2001 school report card, Site B district had an operating expenditure per pupil of $5,807. This was below the state average expenditure per pupil of $7,146. The average teacher salary was $41,425 and the average administrator’s salary was $83,007. The averages for the state were $45,766 and $79,017 respectively. The district consisted of one superintendent, one assistant superintendent and several branches for specified areas within the administrative field.

Site A housed kindergarten through fifth grade, with full inclusion classrooms. There was one learning disability resource room, two speech pathologists, one social
worker, a bilingual classroom, one psychologist, gifted program, and three reading improvement teachers. Support personnel and non-certified staff members constituted the balance of the staff. Site A was a two-story facility, containing 24 carpeted classrooms, one gymnasium and a separate cafeteria. The hallways and classrooms were enriched with student projects and current school activities.

Site B housed sixth through eighth grade with mainstreamed classrooms. There was a learning disability resource room, a speech pathologist, a social worker, a psychologist, a gifted program, AP mathematics and foreign language, an occupational therapist and a physical therapist. Support personnel and non-certified staff members constituted the balance of the staff. Site B was a two-story facility, containing 30 classrooms, a gymnasium, an activity room and a separate cafeteria. The hallways and classrooms were enriched with student projects and current school activities.

Surrounding Community

In 2000-2001, the total population of the city and surrounding statistical area for Site A was 118,835. According to the United States Census, the median age was 30.9 years. The average family income for the Chicago Metropolitan Statistical Area was $70,716, and ranked 21st out of 257 ranked metropolitan areas. The area housed 29 elementary schools, nine junior high schools, four high schools, five private schools, one junior college, two local four year colleges, three libraries, one hospital, several churches representing all denominations, and a unique downtown situated on a river. The local YMCA provided a before and after school program to aid in academics and physical activities.
In 2000-2001, the total population of the city and surrounding statistical area for Site B was 12,482. The average family income for the area was $93,821. The area housed three elementary schools, one junior high school, two high schools, a private school, a library, and 10 churches representing all denominations. The local recreation facility provided a before and after school program to aid in academics and physical activities.

National Context of the Problem

The problem of motivation and lack of listening skills has generated many concerns at the national level. The amount of time teachers spend re-teaching topics detracts from higher academic learning as well as the quantity of material teachers are able to cover. The Carnegie Foundation (1992) survey of 7,000 kindergarten teachers reported that teachers estimated that 35% of the nation’s children are not prepared to enter school. The survey suggested a gap between research and practice. According to Sousa (2001), the focus on recent brain research can improve the quality of our profession’s performance and its success in helping others learn. Students need a variety of teaching styles to enhance their creativity and to be able to transfer that knowledge to a higher level of thinking.

“In recent years, children have been growing up in a very different environment. The rapidly changing multimedia-based culture and the stresses from an ever-increasing pace of living are changing what the developing brain learns from the world. Children have become accustomed to these rapid sensory and emotional changes, and respond by engaging in all types of activities of short duration at home and in the malls” (Sousa, 2001, p. 28). Many factors influencing children today may include school, peer pressure,
social relationships, and religious influences. Over the past 15 years children are in a completely different environment. Children also deal with family life styles, nutrition, drugs and lack of sleep (Sousa, 2001).

In order for school districts to achieve higher test scores, teachers are encouraged to teach students the maximum amount of information in their subject area. Teachers may tend to spend more time on the quantity compared to the quality of information provided to the students. Recently, efforts have been made to reduce the quantity of instructional time that teachers may spend on providing facts. Teachers are now incorporating more instructional strategies utilizing the Three Story Intellect (Bellanca & Fogarty, 1991).

“A child’s brain cannot develop properly without movement - the two are inextricably linked” (Landalf, 2001, p. 20). Movement has an impact on sensory motor functions, ability to read, conceptualize, and organize information. “Movement is essential to learning. Movement awakens and activates many of our mental capacities. Movement integrates and anchors new information and experience into our neural networks. And movement is vital to all the actions by which we embody and express our learning, our understanding and our selves” (Hannaford, 1995, p. 96).

According to the Centers for Disease Control and Prevention (CDC, 2000), the number of overweight children has more than doubled over the last 30 years. Children today spend a lot of their time in front of a television, video games, or a computer. Not only is the physical health of our children a major concern but also the effects it has on the brain. Through the use of exercise “more oxygen-rich blood nourishes the brain, more
neurotransmitters are released, more endorphins are released, and more neural networks are affected with movement" (Summerford, 2001, p. 6).
CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

In order to document the lack of motivation and listening skills at the Site A reading improvement class, a teacher survey (Appendix A), teacher checklist (Appendix B), and assessment test (Blackwood, 2000) were administered. At the Site B physical education class, a teacher survey (Appendix A), teacher checklist (Appendix B), and assessment test (Appendix C) were administered over a two week period.

Table 1

<table>
<thead>
<tr>
<th>Teacher Questionnaire Data Site A</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus/attentive</td>
<td>0</td>
<td>2</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Eye contact</td>
<td>0</td>
<td>3</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Wait turn speaking</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Begin task</td>
<td>0</td>
<td>2</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Timely manner</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Adaptable kinesthetic</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Bodily/kinesthetic</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Music</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Authentic assessment</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Brain-based learning</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
The teacher survey was distributed to 14 teachers at Site A. Data was collected during the first two weeks of the school year. The questionnaire involved 10 questions the teachers ranked always, sometimes, rarely, and never. On the questionnaire, 9 teachers felt that students were sometimes focused and attentive during instruction compared to 3 teachers who answered always and 2 who answered rarely. Nine teachers answered students sometimes exhibited eye contact with the speaker while two teachers answered always and three teachers answered rarely. The majority of the teachers (8) answered sometimes for students waiting their turn before speaking while 2 answered always and 4 answered rarely. The majority of the teachers (10) felt that students sometimes began the task when directed, 2 teachers who felt that students always accomplished this direction and 2 teachers who felt the students rarely accomplished this direction. Seven teachers felt that students began the task in a timely manner while almost half of the teachers (6) felt that students always began promptly. Three teachers felt their classroom was rarely adaptable for a kinesthetic learner compared to 4 sometimes and 6 always. Three teachers felt they would rarely use bodily/kinesthetic activities in the classroom while 4 would sometimes use activities and 6 always used bodily/kinesthetic activities in the classroom. Two teachers never used music as a teaching strategy, while 4 rarely used music, 4 sometimes used music and 4 always used music in their classroom. Authentic assessment was never used by zero teachers, 4 teachers rarely used authentic assessment, 6 sometimes used authentic assessment, and 4 teachers always used authentic assessment in their teaching. Brain-based learning was never used by zero teachers, 6 teachers rarely used this teaching strategy, 3 teachers rated
sometimes, compared to 2 teachers who always used this teaching strategy.

Table 2

Teacher Questionnaire Data Site B

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus/attentive</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>Eye contact</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Wait turn speaking</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>Begin task</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Timely manner</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Adaptable kinesthetic</td>
<td>0</td>
<td>3</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Bodily/kinesthetic</td>
<td>0</td>
<td>8</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Music</td>
<td>1</td>
<td>14</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Authentic assessment</td>
<td>1</td>
<td>2</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Brain-based learning</td>
<td>0</td>
<td>0</td>
<td>22</td>
<td>3</td>
</tr>
</tbody>
</table>

The teacher survey was distributed to 25 teachers at Site B. Data was collected during the first two weeks of the school year. The questionnaire involved 10 questions the teachers ranked always, sometimes, rarely, and never. On the questionnaire, 17 teachers felt that students were sometimes focused and attentive during instruction compared to 8 teachers who answered always. Twenty teachers answered students sometimes exhibited eye contact with the speaker while five teachers answered always. The majority of the teachers (18) answered sometimes for students waiting their turn before speaking while 7 answered always. Almost half of the teachers (13) felt that students sometimes began the task when directed compared to 12 teachers who felt that students always accomplished this direction. Seven teachers felt that students began the task in a timely manner while the majority of teachers (18) felt that students always
began promptly. Three teachers felt their classroom was rarely adaptable for a kinesthetic learner compared to 19 sometimes and 3 always. Eight teachers felt they would rarely use bodily/kinesthetic activities in the classroom while 16 would sometimes use activities and one always used bodily/kinesthetic activities in the classroom. One teacher never used music as a teaching strategy, while 14 rarely used music, 9 sometimes used music and 1 always used music in their classroom. Authentic assessment was never used by one teacher, 2 teachers rarely used authentic assessment, 17 sometimes used authentic assessment, and 5 teachers always used authentic assessment in their teaching. Brain-based learning was used by 22 teachers sometimes, compared to 3 teachers who always used this teaching strategy.

Table 3

Listening Skills Site A

<table>
<thead>
<tr>
<th></th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>1</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>6</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Repeating for clarity</td>
<td>0</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Take turns</td>
<td>8</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Listens to directions</td>
<td>2</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Follows directions</td>
<td>4</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>

The listening skills pretest was administered to seven different first grade reading improvement groups. It was administered to 18 students at Site A during teacher instruction and student participation in reading readiness skills. One student frequently
exhibited eye contact, 17 students sometimes exhibited eye contact, while zero students did not have eye contact. Six students expressed acknowledgment frequently, 12 sometimes and zero students were at the “not yet” level. Zero students repeated for clarity on a frequent basis while 13 students sometimes exhibited this behavior, and 5 students did not exhibit this behavior. Eight students frequently took turns during the class while six students sometimes took turns and four students were at the “not yet” level. Four students frequently followed directions while 13 students were at the sometimes level, and one student was at the “not yet” level of attaining the skill.

Table 4

<table>
<thead>
<tr>
<th>Listening Skills Site B</th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>9</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>11</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Repeating for clarity</td>
<td>7</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Take turns</td>
<td>10</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Listens to directions</td>
<td>10</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Follows directions</td>
<td>8</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

The listening skills pretest was administered to 21 eighth grade physical education students at Site B during teacher instruction and student participation in a team handball unit. Nine students frequently exhibited eye contact, 10 students sometimes exhibited eye contact, while 2 students did not yet have eye contact. Eleven students expressed
acknowledgment frequently, 10 sometimes and no students were at the not yet level. Seven students repeated for clarity on a frequent basis while 8 students sometimes exhibited this behavior and 6 students did not exhibit this behavior. Ten students frequently took turns during the class while 11 students sometimes took turns compared to no students at the not yet level. Ten students frequently listened to directions while 11 students sometimes listened to directions compared to no students at the not yet level. Eight students frequently followed directions while 11 students were at the sometimes level and 2 students who were at the not yet level.

At Site A, the reading assessment pretest was administered individually to 18 students in the first grade reading improvement class. The test contained eight different subtests: Alphabet Recognition, Story Listening, Phonemic Awareness, One to One Matching, Letter Sounds, Developmental Spelling, Word Recognition and Passage Reading. The average student knew 49 of the 54 letters (91%) in the Alphabet Recognition subtest. After the students heard a story read to them they answered 15 out of 21 (73%) of the comprehension questions correctly. In the area of the phonemic awareness, for example, students were given three different pictures at a time and asked which pictures start like moon, chain, house, or milk. The 18 students average was seven out of 10 or 70% accuracy. In the subtest One to One Matching and Word Naming the teacher read and pointed to each word on a page. Then the student had to point and read the same page. The teacher then pointed to a word and asked what the word was. The students then replied. Out of nine points the average student got six or 63% accuracy. During the Letter Sounds Test, the student had to tell the sounds for each of the letters
when the teacher pointed to them. For Developmental Spelling when given a word the students had to write down what they heard. The average student got 11 out of 27 points or 39% accuracy. The subtest Word Recognition gave 22 different words and the student had to identify the word. The average student got four words correct or 19% accuracy.

For Passage Reading, the student was given a book and the teacher kept a running record on the students' reading. In reading ability, the average student received one point out of 12 or 5% accuracy. The total average of the students was 106 points out of 181 with accuracy of 58%.

Table 5

Game Assessment Site B

<table>
<thead>
<tr>
<th></th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow the rules</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Uses the correct skills</td>
<td>19</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Covers each position</td>
<td>15</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>12</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Encourages others</td>
<td>1</td>
<td>0</td>
<td>20</td>
</tr>
</tbody>
</table>

The game play assessment pretest was administered to 21 eighth grade physical education students during a team handball unit. Twenty one students frequently followed the rules compared to zero in the sometimes and not yet categories. The correct skills were used frequently by 19 students compared to two students who sometimes used the correct skills and zero students in the not yet category. Each position was covered correctly by 15 students on a frequent basis, six students sometimes, and zero students in
the not yet category. Twelve students frequently used communication, two students sometimes used communication, and seven students were at the not yet level of communication. One student frequently exhibited encouragement, no students sometimes exhibited this behavior, while 20 students had not yet exhibited this behavior during game play.

**Probable Causes**

Lack of listening skills and motivation is a problem that is prevalent in many areas of education. There may be numerous reasons student lack listening skills and/or motivation in the classroom. This section will explore some of the possible causes that inhibit student learning. Experts believe that some probable causes may include lack of movement, lack of listening skills, memory retention, and lack of motivation.

“A child’s brain cannot develop properly without movement - the two are inextricably linked” (Landalf, 2001, p. 20). Movement has an impact on sensory motor functions, reading ability, conception, and organizing information.

Movement is essential to learning. Movement awakens and activates many of our mental capacities. Movement integrates and anchors new information and experience into our neural networks. And movement is vital to all the actions by which we embody and express our learning, our understanding and our selves (Hannaford, 1995, p. 96).

According to the CDC (2000), the number of overweight children has more than doubled over the last 30 years. Children today spend a lot of their time in front of a television, video games, or a computer. Not only is the physical health of our children a
major concern but also the effects it has on the brain. Through the use of exercise “more oxygen-rich blood nourishes the brain, more neurotransmitters are released, more endorphins are released, and more neural networks are affected with movement” (Summerford, 2001, p. 6).

“Most people only hear about 50% of the messages they receive and often misinterpret what they do hear” (Adrian, 1993, p. 39). Good listening skills are essential for students to achieve academic success in the classroom. In order for students to attain a higher level of thinking, educators need to emphasize better listening skills. “It is easier to speak than it is to listen because of how the mind works. We listen in order to learn and retain information” (Fracaro, 2001, p. 3).

“Education has traditionally relied on lectures, supplemented by technical handouts, as the main instructional delivery method. This tradition has motivated students to become passive recipients of information, whose only responsibility is to recall what was covered in the lectures and textbook and to use that information in a similar context during exams” (White, 1998, p. 190). Through the use of authentic assessment and MI students are given an opportunity to explore the higher levels of learning and transfer the learning to other areas in their lives.

“Many students, including those with special needs, may experience difficulty when attempting to learn basic facts, retain new information, or generalize knowledge from one setting to another” (Ritchie, 1996, p. 28). Instructors are reducing their instructional time on facts to focus more on comprehension and the higher level of thinking. Regardless of the subject however, blooms taxonomy are based on specific
facts, and they must be understood before higher-level concepts can be grasped (Ritchie, 1996).

“Student motivation is a chronic concern in schools today” (Rinne, 1998, p. 620). Children’s level of motivation changes all the time. Time of day and where they are located are factors that may influence the level of motivation in the students. Reasons for this may include low self-confidence, low effort, lack of sleep, poor nutrition, and dealing with family issues. “Students dealing with a dysfunctional family feel that learning activities are unimportant as they are worried about more pressing concerns at home related to poverty, violence, and possibly child abuse” (Hootstein, 1998, p. 58).
CHAPTER 3
THE SOLUTION STRATEGY

Literature Review

“Memory is extremely important to educators, not only for them personally as they age and worry about failing memory, but most important, for the role that memory plays in the teaching/learning process. Memory, as a concept, often is relegated to a minimal role” (Banikowski, 1999, p. 1). As teachers, we need to help children attain their highest level of thinking. A way to do this is by using different strategies to enhance their dominant area of understanding. Brain-based learning, Multiple Intelligence Theory, and authentic assessment are techniques that can be utilized to reach more students.

“Learning can, of course, take place in the classroom, but most of it doesn’t. Today’s learning has suddenly become everybody’s business. In fact, learning ‘how to learn’ may now be your most critical survival skill” (Jensen, 1995, p. 310).

“According to Henning, Jacques, Kissel, and Sullivan (1997) more oxygen goes to key brain areas; the eyes can relax a moment, which prevents eye strain; and the body gets a break from musculoskeletal tensions” (Jensen, 2000, p. 34). Oxygen is a vital component for human life. Through the use of movement and music, oxygen levels in the brain increase, therefore enhancing the brain’s capacity to increase learning. According to Weinberger (1998), learning and performing music actually exercise the brain - not only by developing music skills, but also by strengthening the connections between brain cells. “Music has the ability to facilitate language acquisition, reading readiness, and general
intellectual development to foster positive attitudes and to lower truancy" (Weinberger, 1998, p. 36). “Play and music are important for the development of children’s mental capacity and intellect. They also form the basis of language building. Games accompanied by songs in a second language can extend the vocabulary of the child in that language” (Van Der Linde, 1999, p. 610). Music helps stimulate the areas in our brain that contain mood, social skills, motivational development, cultural awareness and self-discipline (Jenson, 2000).

Children need to acquire the proper tools to be able to reach their highest potential intellectually, socially, emotionally, and physically. Teachers and parents are the key elements to ensure children are provided with the proper tools to accomplish this task. Movement is a critical key to unlock the many challenges children experience in the educational system. Increasing children’s motor capabilities allow children to expand their movement abilities, promote problem solving through strategies, and increase self-confidence. How children feel about themselves and peers is connected to the success and joy related to early fundamental movement skills (Leppo, 2000). “Incorporating the fundamentals of movement into children’s daily activities can enhance cognitive and affective skills and build a foundation for an active, healthful lifestyle” (Leppo, 2000, p. 146). Students who participate in physical activities show an improvement in self-confidence, peer interactions, and brain function. “Physical activity is essential in promoting the growth of mental functions. Exercises such as spinning, crawling, rolling, rocking, tumbling, swinging, and jumping strengthen the brain’s main
areas: the basal ganglia, the cerebellum and the corpus callosum” (Chan & Petrie, 1998, para. 13).

“Listening is a skill; one that can be learned and improved upon no matter one’s age, gender, education, or previous skill level. Like any skill, if it is allowed to go unused, it will atrophy” (Petress, 1999, para. 12). Communication does not exist without the ability to listen. Acquiring good listening skills allows the listener to accumulate more information and effectively communicate with others. However, if these skills are not continually practiced, it will slowly diminish (Mulvany, 1998). If students exhibit poor listening, they will lack the ability to recall directions, facts, and details of assignments. Student learning will decrease without the proper level of listening. To improve these skills we need to teach, model, and reinforce appropriate listening skills. “What makes a good listener? We have found eight techniques for effective listening: attending, appropriate silences, supporting statements, questions, rephrasing, sharing your experiences, empathy, and labeling no-verbal conflicts” (Mulvany, 1998, p. 20).

“The knowledge, skills, and attitudes related to personal health management, health promotion, and health education are best achieved in programs that are comprehensive and interdisciplinary. Gardner's Multiple Intelligences (MI) theory (Gardner, 1993) can be thought of as (1) the engine that activates learners to develop the knowledge, competencies, and appreciation associated with healthy active living and (2) the magnet that draws subject matter specialists, community agencies, and social supporters together to promote healthy active living. Just as engines get things moving,
MI theory activates students' minds. It also encourages students to think about content beyond the traditional boundaries, and from different perspectives" (Anderson & Weber, 1997, p. 57). When teachers use a variety of teaching skills that support the MI theory the students will have the opportunity to reach higher level thinking skills. “Give positive concrete suggestions. Let children know what to do rather than telling them what not to do. Make sure directions are easy to understand, model good listening skills, share control, make following directions fun, and share books with predictable sequences” (Miller, 2000, p. 34).

“Deeper processing of the information leads to its incorporation into your existing knowledge base. Once this occurs, you are more likely to retain the information for the long term. Elaborative processing increases the number of retrieval cues for any given memory. And since we often don’t know when or in what context we will need a given memory, having multiple and diverse retrieval cues is always better than having just one” (Tigner, 1999, p. 149). Teachers have realized that simply covering material does not always mean that students will remember the facts. Students are given the opportunity to use different strategies to recall these facts. Strategies may include graphic organizers, mnemonic devices, stories and songs, study guides developed by students, and colored pens and pencils (Raebeck, 1999). “Has any music student ever forgotten a mnemonic like ‘every good boy does fine’ as a means for remembering the lines of the musical scale? Having students develop their own forms for memorization can be equally effective” (Raebeck, 1999, p. 49).

To overcome poor text structure textbooks are now incorporating aids to assist
student learning. The aids convey which information is important in outline or graphic form. The graphic organizer helps students to understand the material through a spatially graphic display (Robinson, 1998). Through the use of graphic organizers as a teaching strategy, students will have more of an opportunity to learn at their own MI level.

Teachers often struggle with the predicament of how to assess students appropriately when all students learn in a variety of ways and at different rates. This dilemma continues when teachers have limited access to alternative assessments (Weber, 1998). “So how can teachers begin to rethink their assessment strategies? Where do they begin? Perhaps by simply highlighting a few distinguishing marks of effective assessment tools for brain-based learning, teachers will also begin to discover and adapt quality alternatives” (Weber, 1998, p. 63).

“To be effective educators we must understand how a student learns. Unfortunately, when most of us were in graduate school few courses focused on brain development and brain-base strategies. Only within the last few years has information opened the doors of discovery related to how the brain learns. Professional educators have a responsibility to understand and utilize this information for the sake of our students” (Myrah, 1999, p. 34). Teachers need a variety of teaching strategies; they cannot rely solely on brain-based research. Teachers need to expand their knowledge base in order to reach more students.

Educators need to combine the findings of the brain-mind field with those of other fields to diversify and strengthen the applications. Neuroscience is not the only source for research; it’s an important part of a larger puzzle.
When we synthesize findings in neuroscience with those in sociology, chemistry, anthropology, environmental studies, psychiatry, psychology, education, and therapy, we get powerful applications. The brain is what we have; the mind is how we use it (Jensen, 2000, p. 77).

"Each of the following 15 strategies for motivating students is based on the best available information. Involve students in setting objectives, individualize your objectives, set content priorities, show the relevance of what students are learning, help students learn to learn, make first experiences positive ones, use the familiar to introduce the unfamiliar, appeal to students’ interests and curiosity, program students for success, reward students for success, reward students for effort, model interest in learning, involve students in instruction, use a variety of teaching strategies, and be a caring friend to your student" (Palardy, 1997, pp. 20-22).

"Between the ages of 8 and 10 years old, a child’s reading level changes from a deliberate sounding-out of words to a recognition of words without conscious effort. This progress may parallel a change in brain structure, although which would be cause and which effect is unclear" (Miller, 1995, p. 247). "Although it is difficult to prescribe a ‘one size fits all’ approach to motivating students, research suggests that some general patterns do appear to hold true for a wide range of students. Students’ perceptions of their educational experiences generally influence their motivation more than the actual, objective reality of those experiences” (Anderman, 1998, p. 1).

Student apathy can be reduced if teachers become aware of student attitudes and beliefs about learning. The home environment initially influences a child’s attitude
towards learning. The classroom climate in which a student is placed in also has an effect upon the students’ ability to learn the subject matter. The way material is delivered has the potential to increase or decrease the level of motivation a student has toward learning (Lumsden, 1994). “Everything that we have discovered about the brain in the last 20 years suggests that we need more stimulus, more change, more movement, and more perspectives in the classroom” (Jensen, 1995, p. 104).

The following project objectives and processes, action plans and assessments were developed in the summer of 2001.

Project Objectives and Processes

As a result of the implementation of Multiple Intelligences Theory (visual/spatial, musical/rhythmic, bodily/kinesthetic) during the period of September 2001 to January 2002, the targeted first grade reading class and eighth grade physical education class will increase the level of transfer as measured by pretest and posttest assessments.

As a result of brain-based learning during the period of September 2001 to January 2002, the targeted first grade reading class and eighth grade physical education class will increase the level of motivation, as measured by a checklist and “T” charts.

In order to accomplish the project objectives, the following processes are necessary:

1. Utilize brain-based research, components of multiple intelligences (visual/spatial, musical/rhythmic, bodily/kinesthetic, and interpersonal), and authentic assessments (T-Charts, checklist, graphic organizers, and Venn diagrams).

2. Utilize pretest and posttest assessments, checklists, and T-charts.
Project Action Plan

Site A

Week 1-4

Teacher questionnaire

Assess group using Illinois Snapshot of Early Literacy (ISEL)

Place the data from the ISEL in an Excel spreadsheet to determine what the average is of the whole first grade class (148 students). Decide which students need extra assistance in Reading Improvement.

Review returned parent consent forms and discuss action plan with students

Week 5

Introduce and model good listening skills to students (ground rules)

Introduce words in isolation (bodily/kinesthetic)

Word identification using magnetic letters and dry erase boards (visual/spatial)

Week 6-7

Introduce T-Chart/KWL of good listening skills (authentic assessment)

Continue practicing and modeling good listening skills (listening checklist)

Continue using word identification activity (musical/rhythmic and bodily/kinesthetic)

Introduce words in motion, using 3 to 5 words for that week (musical/rhythmic and bodily/kinesthetic)

Use bar graph to gather data on growth of Dolch word vocabulary
Week 8-9

Sort words using ending sound and sound boxes (bodily/kinesthetic and visual/spatial)

Use Venn diagram to compare word families (authentic assessment)

Continue to use bar graph to gather data on growth of Dolch word vocabulary

Use journal to practice writing the words of the week (authentic assessment)

Week 10-12

Continue practicing and modeling good listening skills and collect data
(listening chart)

Continue using music/movement and word activity (musical/rhythmic and bodily/kinesthetic)

Week 13

Continue practicing and modeling good listening skills and collect data
(listening chart)

Continue using music/movement and rhyming activity (musical/rhythmic and bodily/kinesthetic)

Use journals to practice writing the word of the week and a sentence about the story read in class

Use dictionary to find words of the week (dictionary skills)

Week 14-15

Posttest and final data gathering

Tabulate results of assessment
Assess group using Illinois Snapshot of Early Literacy (ISEL)

Listening skills checklist

Introduce song using the letter sound and object that starts with that sound

(musical/rhythmic and bodily/kinesthetic)

Reading readiness skills checklist

Site B

Week 1-3

Review returned parent consent forms and discuss action plan with students

Teacher questionnaire

Pretest Game Play Assessment

Introduce and model good listening skills to students

Focus lessons with strategies to make students better listeners using a T-Chart/KWL (authentic assessment)

Group Processing handout (authentic assessment)

Week 4

Design and teach offensive and defensive plays (visual/spatial and bodily/kinesthetic)

Listening skills checklist

Week 5-6

Game play assessment (authentic assessment)

Flag football Venn diagram (authentic assessment)

Revisit KWL - what did you learn? (authentic assessment)
Flag football written assessment

Physical fitness testing - weekly journal (authentic assessment)

Week 7-8

Physical fitness testing - weekly journal (authentic assessment)

Listening skills checklist

Design a rope jump routine in a group (visual/spatial, musical/rhythmic, and bodily/kinesthetic)

Week 9-10

Participation (musical/rhythmic and bodily/kinesthetic)

Group processing (authentic assessment)

Complete rope jumping routine design (visual/spatial, musical/rhythmic, and bodily/kinesthetic)

Rope jumping rubric (authentic assessment)

Week 11-12

Listening skills checklist

KWL (authentic assessment)

Week 13

Transfer Journal (authentic assessment)

Revisit KWL (authentic assessment)

Week 14-15

Posttest and final data gathering

Tabulate results of assessment
Methods of Assessment

In order to measure the results of utilizing MI, authentic assessment, and brain-based learning to improve listening skills and motivation, pretest and posttest assessments, checklists, and T-charts will be used.
CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this action research project was to improve student listening skills and motivation. The methods used to achieve the objective were multiple intelligence, authentic assessment, and brain-based learning. The project began by distributing a parent letter explaining the action research project and the goals to improve student listening and motivation. A teacher survey was then distributed to the teachers in each building. The intent of the survey was to determine problem areas within each building. These areas included student focus/attentiveness, eye contact, waiting their turn to speak, beginning the task in a timely manner, integrating the bodily/kinesthetic intelligence, incorporating music, utilizing authentic assessment, and brain-based learning. The students were introduced to listening skills through the use of a T-chart lesson plan and then were later evaluated using a listening skills checklist. The checklist criteria included eye contact, acknowledgment, repeating for clarity, taking turns, listening to directions, and following directions. At Site A, The Illinois Snapshot of Early Literacy (ISEL) was administered to determine which students required additional reading assistance. The test contained eight different subtests: alphabet recognition, story listening, phonemic awareness, one to one matching, letter sounds, developmental spelling, word recognition, and passage reading. At Site B, the pretest game play
assessment was administered to determine if the students followed the rules, used the
correct skills, covered each position correctly, communicated, and encouraged others.

One methodology used to improve student listening and memory skills was the
use of MI activities. The students at Site A used magnet letters, words in motion, wipe off
boards, and journal writing. The students also graphed how many sight vocabulary words
that they knew every week. The students at Site B designed flag football running and
passing plays on paper and then demonstrated the plays to the instructor. The students
also designed a rope jumping routine. The routine was choreographed in a group setting
utilizing movements to music. The routine was graded using a rubric.

A variety of authentic assessments were also utilized during the research project. At Site A, the
students graphed which Dolch Sight Vocabulary words they knew. Brain-based learning
strategies were also implemented through classroom activities, such as,
music to motivate learning, magnetic letters for visual/spatial, graphing words
mathematically, listening skills checklists, ISEL, T-charts to introduce correct listening
skills and a fast word journal.

At Site B, the students used a PMI during team handball; a KWL, a group
processing handout, and a Venn diagram during flag football; a physical education
journal during the fitness unit; a group processing handout during the rope jump unit; and
a KWL in the basketball unit. Brain-based learning strategies were also implemented
through physical activity, music, listening skills checklists, game play assessment, T-
charts, and a comparison alley handout during the basketball unit.
Presentation and Analysis of Results

The researchers used a number of assessment checklists starting in September and concluding in December. At both sites a listening skills checklist was used as a pretest in September, an ongoing checklist during the research, and as a posttest in December. At Site A, an ISEL assessment was used as a pretest in September and as a posttest in December. At Site B, a game play assessment was used as a pretest in September and as a posttest in December.

Table 6
Listening Skills Site A Pretest

<table>
<thead>
<tr>
<th></th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>1</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>6</td>
<td>12</td>
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</tr>
<tr>
<td>Repeating for clarity</td>
<td>0</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Take turns</td>
<td>8</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Listens to directions</td>
<td>2</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Follows directions</td>
<td>4</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>
At Site A, in order to assess the effectiveness of the multiple intelligences, authentic assessment, and brain-based lesson plans, listening skills checklists were administered in September, throughout the research period, and in December. Tables 6 and 7 compare the level of frequently, sometimes, and not yet. The number of times eye contact was exhibited by the students increased dramatically from September to December. The level of showing acknowledgment and repeating for clarity during the lesson increased. Students also displayed a significant increase in eye contact and following directions.

### Table 7

**Listening Skills Site A Posttest**

<table>
<thead>
<tr>
<th></th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>10</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>10</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Repeating for clarity</td>
<td>3</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Take turns</td>
<td>8</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Listens to directions</td>
<td>7</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Follows directions</td>
<td>10</td>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 8

Listening Skills Site B Pretest

<table>
<thead>
<tr>
<th></th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>9</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>11</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Repeating for clarity</td>
<td>7</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Take turns</td>
<td>10</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Listens to directions</td>
<td>10</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Follows directions</td>
<td>8</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 9

Listening Skills Site B Posttest

<table>
<thead>
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<th></th>
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<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>18</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>15</td>
<td>6</td>
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<tr>
<td>Repeating for clarity</td>
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<td>0</td>
</tr>
<tr>
<td>Take turns</td>
<td>18</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Listens to directions</td>
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<td>0</td>
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<tr>
<td>Follows directions</td>
<td>14</td>
<td>7</td>
<td>0</td>
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</tbody>
</table>

At Site B, in order to assess the effectiveness of the multiple intelligences, authentic assessment, and brain-based lesson plans, listening skills checklists were
administered in September, throughout the research period, and in December. Tables 8 and 9 compare the level of frequently, sometimes, and not yet. The number of times eye contact was exhibited by the students increased dramatically from September to December. The level of showing acknowledgment and repeating for clarity during the lesson increased. Students also displayed a significant increase taking turns, listening to directions, and following directions.

Figure 1. At Site A, the Illinois Snapshot of Early Literacy Test was administered as a pretest and posttest. All eight subtests improved over the 15 week period. However, word
recognition exhibited the largest growth increasing from 20% to 69%. Alphabet recognition exhibited the least amount of growth increasing from 90% to 98%. For complete results see Appendix D.

Table 10

**Game Play Assessment Site B Pretest**

<table>
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<tbody>
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<td>0</td>
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<tr>
<td>Uses the correct skills</td>
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<td>0</td>
</tr>
<tr>
<td>Covers each position</td>
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<td>6</td>
<td>0</td>
</tr>
<tr>
<td>correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>12</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Encourages others</td>
<td>1</td>
<td>0</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 11

**Game Play Assessment Site B Posttest**

<table>
<thead>
<tr>
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<th>Frequently</th>
<th>Sometimes</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow the rules</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Uses the correct skills</td>
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<tr>
<td>Covers each position</td>
<td>17</td>
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<tr>
<td>correctly</td>
<td></td>
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<td>Communication</td>
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</tr>
<tr>
<td>Encourages others</td>
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</tbody>
</table>

At Site B, a game play assessment was utilized to evaluate the students' game play levels during physical education activities. The students followed the rules of the
game at the same high rate exhibited during the pretest. Students increased slightly using the correct skills during game play. Covering the position correctly during game play also increased slightly. The students showed a significant increase in communication and encouraging teammates during game play.

Conclusions and Recommendations

Based on the presentation and analysis of the data of listening skills, ISEL, and game play assessment, the students showed a significant improvement. The listening skills during class activities showed improvement in acknowledgment, repeating for clarity, and taking turns. Eye contact, listening to directions, and following directions showed the most dramatic improvement. At Site A, all eight subtests of the ISEL assessment improved over the 15 week period. However, word recognition exhibited the largest growth increasing from 20% to 69%. At Site B, game play assessment displayed the most significant improvement in the communication and encouragement areas.

Through the incorporation of multiple intelligence, authentic assessment, and brain-based learning strategies into the curriculum, the researchers broadened their knowledge and increased the level of student learning. The students increased significantly in their listening and communication abilities. Many of the strategies used during the research project improved student memory and retention of the information delivered.

At both sites we feel that the use of multiple intelligence strategies beyond the bodily/kinesthetic area provided opportunities in other intelligence areas. The students
were given opportunities in the visual/spatial, musical/rhythmic, interpersonal, and the intrapersonal intelligences. Because of this, student learning and memory increased.

The use of authentic assessment has always been incorporated at both school sites. At Site A, the researcher utilized graphic organizers, bar graphs, T-charts, KWL, journals, and Venn diagrams. At Site B, the instructor went beyond the realm and increased the variety of assessments used in the class. Utilizing T-charts, KWL, PMI, group processing, journals, Venn diagrams, and rubrics significantly improved the listening skills of students. Students felt ownership and control during the use of these strategies. We feel transfer was at a higher level of thinking during these activities.

Brain-based learning tends to overlap with multiple intelligence strategies and authentic assessments. Many of the strategies we utilized reflected upon brain-based learning. Applying the different areas of multiple intelligence, especially the bodily/kinesthetic and musical/rhythmic areas, increased student learning. Implementing authentic assessment strategies also reflected upon brain-based learning through the use of graphic organizers and rubrics. The students were able to reflect upon their learning through the use of graphic organizers and even compared one activity with another activity. Through the use of a rubric, students in a group were able to work towards a common goal.

In conclusion, we the researchers, feel that student listening skills and motivation can significantly increase through the use of multiple intelligence, authentic assessment, and brain-based learning strategies.
References


APPENDICES
Appendix A

We are doing our masters’ thesis on improving retention and transfer of knowledge. To help us focus our research, we need your assistance. Please rate the following statements and circle the rating according to your classroom environment. When completed, please return to my mailbox. Thank you.

Sandy Armstrong, Tina Rentz

Teacher Questionnaire

1. Students are focused and attentive during instruction.
   
   Never    Rarely    Sometimes    Always

2. Students exhibit eye contact to the speaker.

   Never    Rarely    Sometimes    Always

3. Students wait their turn before speaking.

   Never    Rarely    Sometimes    Always

4. Students begin task when directed.

   Never    Rarely    Sometimes    Always

5. When directed students begin the task in a timely manner.

   Never    Rarely    Sometimes    Always

6. Is your classroom adaptable for a kinesthetic learner?

   Never    Rarely    Sometimes    Always

7. Would you use bodily/kinesthetic activities in your classroom?

   Never    Rarely    Sometimes    Always
8. Do you use music in your teaching?

   Never       Rarely       Sometimes       Always

9. Do you use authentic assessment (graphic organizers, Venn diagrams, etc) in your teaching?

   Never       Rarely       Sometimes       Always

10. Would you use brain-based learning in your classroom?

    Never       Rarely       Sometimes       Always
Appendix B

Teacher: ___________  Class: ___________  Date: ___________

Target Skills: Listening skills

Ratings: + = Frequently  √ = Sometimes  0 = Not yet

<table>
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<td>listens to directions</td>
<td>follows directions</td>
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Appendix C

Target Skills: Game Play Assessment

Ratings: + = Frequently  √ = Sometimes  0 = Not yet

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<th>Students</th>
<th>Follows the rules</th>
<th>Uses the correct skills</th>
<th>Covers each pos. correctly</th>
<th>Encourages others</th>
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First Grade ISEL Site A

![Bar chart showing percentage improvements across subtests from pretest to posttest.](chart.png)

- **Subtest**: Alphabet Recognition, Story Listening, Phonemic Awareness, One To One Matching, Letter Sounds, Developmental Spelling, Word Recognition, Passage
- **Pretest** and **Posttest** shown separately.
Title: Improving Listening Skills And Motivation

Author(s): Armstrong, Sandra Rentz, Tina

Corporate Source: Saint Xavier University

Publication Date: ASAP

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