Teaching Vocabulary Using Movement in a Kindergarten Classroom

by

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Introduction

Problem Statement:

By the end of second grade, the typical student has attained understanding of over 6,000 words, whereas a struggling reader has only mastered 4,000 words (Biemiller and Boote, 2006). It is estimated that to be successful in high school, students need to know and understand over 40,000 words (Graves, Watts-Taffe, 2008). Lovelace and Stewart (2009) emphasize that in order to be successful on standardized tests in content areas, students need strong vocabulary knowledge. There are many methods for teaching vocabulary including read-alouds, direct instruction using pictures, and adding movement to words to create meaning. Since many students enter school with a large deficit in vocabulary, it becomes necessary for teachers to employ highly effective vocabulary instruction to close this gap.

Unfortunately, there is a well documented gap in vocabulary that begins as early as pre-kindergarten and typically continues through high school. Those students who lack a rich vocabulary as young primary aged children continue to struggle with reading comprehension and content area literacy throughout their school careers (Beck and McKeown, 2007). This seems to suggest that if students receive rich vocabulary instruction during their primary years of school, the gap in reading comprehension and content literacy will begin to close and therefore more students will be successful in reading and in the content areas.

In addition to the documented gap in vocabulary achievement beginning in pre-kindergarten is the lack of recognized best practices for teaching vocabulary. There are countless different methods for teaching vocabulary at all grade levels, but there are few, if any, that are proven to be successful in closing the achievement gap. Unlike other facets of reading such as phonics, phonemic awareness, and comprehension, most school districts do not adopt one philosophy for teaching vocabulary and therefore it does not always occur. More action research needs to be done to see which types of vocabulary instruction work and how they should be best implemented. For this study, I implemented using movement to teach vocabulary to see if this method is effective in helping kindergarten students learn new words.

This study was guided by two research questions. First, does the use of movement as a method for teaching vocabulary engage students more than traditional methods of instruction? Secondly, does student understanding of vocabulary increase when movement is used to teach vocabulary?

Significance of the Problem:

Children are entering school with varying levels of vocabulary knowledge. According to Lovelace and Stewart (2009), knowledge of words is highly correlated to frequency of input. Therefore, students who have had rich experiences will also have larger vocabularies and students who lack life experiences will have deficits in their vocabularies. Since children enter school with various experiences and levels of vocabulary knowledge, teachers need to be prepared to teach vocabulary in a way that

reaches all students and allows them to be successful in reading, in content areas, and as communicators.

According to Biemiller and Boote (2006), students lacking in strong vocabulary knowledge typically begin to struggle in the content areas as early as grade four. Without strong vocabulary knowledge, students will struggle to develop deep understanding of science, social studies, and math. It is critical to increase students' vocabulary during their primary years, in grades kindergarten through second.

Purpose

A rich vocabulary is a critical asset that children need in order to be successful both academically and socially. Understanding words and having a large repertoire of vocabulary to pull from allows children to better comprehend what they are reading and to deepen understanding of math, social studies, and science concepts, as well as have confidence when they communicate with their peers.

There is a marked deficit in vocabulary instruction in the current education system. Biemiller and Boote (2006) point out that "unlike work on decoding and spelling, there is no established method of teaching vocabulary in the primary grades" (p. 44). In order to achieve greater student learning, research is needed to discover best practices for teaching vocabulary as well as the best ways to implement these practices into elementary classrooms. Since the gap in vocabulary begins at a very young age, rigorous and formal vocabulary instruction should begin as early as pre-kindergarten.

Not all children or adults learn the same way. This is particularly true in my kindergarten classroom where some children are ready and enjoy writing and looking at books, while other children learn best through songs or dance. I am beginning to see that many traditional methods for teaching vocabulary require students to sit and quietly listen to a story, or to write or draw about the vocabulary word. This type of instruction only works for a very small number of children in my kindergarten classroom. I realized that I need to try using other methods that appeal to the interests and abilities of a wider number of young children in my classroom.

An early author on this theory of multiple intelligences is Howard Gardner. Gardner (1983) writes that all people possess different forms of intelligence. These include bodily-kinesthetic, interpersonal, verbal-linguistic, logical-mathematical, naturalistic, intrapersonal, visual-spatial, and musical. It can be theorized that if children are taught in their preferred style, they will be more successful.

Favre (2009) expands on Gardner's work, as he took a deeper look at the impact that integrating more kinesthetic teaching strategies had on struggling learners. Favre found that while many children are kinesthetic or visual learners, teachers did not provide instruction often enough that allowed them to learn that way. I am finding the same phenomena in my classroom. There are several students who seem to possess bodily-kinesthetic intelligence that are also struggling learners. Although I have taught some vocabulary using movement in the past, I am not sure if it has a real impact on student learning and engagement. In this study, I began to teach vocabulary using movement with more regularity to see if this had an impact on

the learning of all students, particularly those that are struggling with their language and vocabulary.

In addition to looking at whether or not movement had an impact on their learning, I also looked at the impact the instruction using movement had on their level of engagement. So much of our day at school requires the students to be seated and reading or writing, there seems to be very little time for movement. Therefore, the students who have bodily-kinesthetic intelligence do not have ample opportunity to feel successful in their preferred learning style and appear disinterested or frustrated with the traditional forms of vocabulary instruction. Traditional forms tend to include teacher read aloud, class discussion, and writing and illustrating definitions of vocabulary words. In this study I looked at the engagement level of all students to see if adding movement has a positive impact.

Rationale

The purpose of this study was to implement movement with more regularity when teaching vocabulary in my kindergarten classroom and then to measure the engagement and achievement of five of my most struggling students versus when they are taught only with more traditional methods. Implementing movement in addition to using more traditional teaching methods as defined by leading research in the field should begin to close the gap in language and vocabulary knowledge between the most struggling students and the average or highly functioning students. These traditional practices include using read-alouds and adding illustrations to

vocabulary words. The experimental practice is adding movement to each vocabulary word.

I am already implementing the traditional vocabulary instruction as well as some movement in my classroom; however, I tend to move from one method to another depending on the unit rather than sticking to only one method. Therefore, I am unsure if movement really has an impact on vocabulary development, and if it is worth continuing as an instructional strategy.

In addition, students do not seem fully engaged in the types of activities that have been previously used. I would like to see my students not only understanding the words while we are in the unit, but using the vocabulary words on their own and remembering them after we move on to other units. Additionally, I would like to see a greater percentage of the students actively engaged in the activities used to teach the vocabulary they are learning.

Although I teach kindergarten and do not administer state tests to my students, I can see the importance of building vocabulary knowledge that they can take with them as they continue in their school career. Biemiller and Boote (2006) wrote extensively about the large gap in vocabulary knowledge that students have as they enter school in pre-kindergarten or kindergarten. I can see this gap clearly in my own classroom and it seems to be highly correlated with their life experiences as young children. Those students with rich experiences seem to have a rich vocabulary, and students who lack these experiences seem to struggle with their vocabulary. Using movement should engage more students in their learning, and therefore may lead to

those students making larger gains in their vocabulary understanding and ease of use. Students who struggle with vocabulary and language also tend to have a difficult time communicating with teachers and their peers. As gains in vocabulary knowledge are made, these students should begin to find more ease in communication as well.

Definition of Terms

Vocabulary is defined as knowledge of word meanings (Biemiller and Boote, 2006). For the purpose of this study, I am extending the definition of vocabulary as knowledge of word meanings to include the application of this knowledge to other subject areas and the students' daily lives. This extension of the definition is supported by Graves and Watts-Taffe's (2008) work in which they looked at the benefits of creating a word-rich classroom environment.

Traditional vocabulary instruction includes methods such as teacher read alouds and students' writing and drawing definitions of words. (Beck and McKeown, 2007, Lovelace and Stewart, 2009).

Kinesthetic learners are learners who "remember what they learn with their bodies…evidencing a strength in motor memory" (Favre, 2009, p. 32).

For the purpose of my study, movement will include adding a specific body or hand motion to each vocabulary word.

Summary

It is essential to close the vocabulary gap at a young age. Through this study, I will be working to discover if using movement could be the best practice for closing this gap and beginning to implement it in my own classroom. Although the benefits

of this may not be fully realized until they are in intermediate grades where there is a greater focus on content literacy, it is important to start now. Teachers cannot control the experiences that children bring with them to school; however, teachers can implement rich vocabulary instruction to help all students find success in reading, in the content areas, and in their day to day communication.

I was hoping to find out if using movement to teach vocabulary has an impact on student learning and engagement. I measured if my students are more actively engaged in learning using movement than they are while learning through other methods, as well as measured their achievement on pre- and post-tests.

Chapter 2

Literature Review

A. Multiple Intelligences and Kinesthetic Learners

Howard Gardner (1983) writes that all people possess different forms of intelligence, and that these types of intelligence dictate how they will learn best. These multiple intelligences are found in both children and adults. According to Gardner, multiple intelligences include bodily-kinesthetic, interpersonal, verbal-linguistic, logical mathematical, naturalistic, intrapersonal, visual-spatial, and musical. It can be theorized that if children are taught in their preferred learning style, they will be more successful.

This study focused on one of Gardner's (1983) multiple intelligences which is the bodily-kinesthetic intelligence. This intelligence is evidenced in children and adults who learn best through movement, and who easily remember information they retrieve by interacting physically with their environment.

Favre (2009) expands on Gardner's research on the bodily-kinesthetic intelligence. Favre writes that many children who are kinesthetic learners are described by their teachers as "fidgety, attention deficit disorder, inattentive, restless, overactive, and troublesome" (p. 29). These students are able to find success in their learning when they are offered opportunities to learn in their unique preferred learning style. Often, these learners are labeled with some type of a disability when it is the environment they are in that is limiting their success. According to the author,

it could be argued that these children with learning differences are actually disabled by their environment, rather than possessing a disability that hinders them to learn.

In the school studied in Favre's (2009) research, 70 percent of nearly 1700 students displayed some type of kinesthetic strength. This means these students learn best by being actively engaged in their learning including dance, drama, and field trips. The author also found that at-risk students tended to require more frequent tactual and kinesthetic input to acquire difficult information and concepts. These students master their environment when they are able to actively interact with it.

According to Dunn and Dunn (1993), kinesthetic learners are often misunderstood in the classroom, and are often unnecessarily referred for special education services. These students are fidgety and have a difficult time focusing on tasks that require them to sit still. However, they tend to be good at sports, and quickly learn how to get somewhere they have only been once. In short, they learn and remember tasks and information that require them to move, and actively interact with their environment. Unfortunately, Dunn and Dunn also found that these students are most often given negative attention from teachers when they are unable to sit still during lessons.

Dunn and Dunn (1993) go on to say that "movement is natural and necessary for them to process new and difficult information, but that (this movement) often upsets the teacher" (p. 32). Often, kinesthetic learners try to add movement into their daily lessons because it is the most natural way for them to internalize the information. This is often labeled by teachers as insubordinate or class clown type

behavior. If the kinesthetic learners are allowed and encouraged to learn with movement, their understanding and retention of new information increases.

Grant (1985) completed a study of the success of the kinesthetic approach to teaching as compared to the success of traditional auditory-visual instruction. Forty-four children were studied from the first grade through fourth grades. One group of students was taught using traditional teaching methods which included lessons with both auditory and visual input. The other group was taught using a more kinesthetic approach. Although the scores on the post-test of achievement were not significant when taking the whole sample group into consideration, there was a slight advantage for the students who were in the experimental group which were taught with kinesthetic methods in some areas such as spelling, word study skills, and word meaning understanding.

When the researcher looked only at the at-risk students in the sample, it was found that those students seemed to benefit the most from the kinesthetic methods. In particular, they found great success in writing and letter formation when students were taught with movement.

B. Student Engagement in Learning Activities

Every student has an individual learning style that affects how they learn in all subject areas, including vocabulary. Learning style is related to individual personalities and preferences and how they perceive their environment. These differences impact how engaged a child is in their learning. When teachers are able to tap into students' individual learning styles, more active engagement and deeper

learning takes place. Kazu (2009) points out that one learning style is not better or worse than another learning style, only different. In his research, Kazu synthesizes the main points of many researchers who look at learning styles and the impact learning style has on engagement and motivation to learn.

According to Kolb, 2009 as found in Kazu there are four types of learning styles: accommodator, assimilator, converger, and diverger. An accommodator learns best by doing and experimenting actively with their environment, they tend to be open-minded and flexible. An assimilator feels most comfortable focusing on abstract concepts and creating conceptual models to help understand new concepts. A converger needs to perceive the whole concept both abstractly and concretely before moving on to looking at parts. Finally, a diverger likes to bring different perspectives together and learn through reflection.

Although education is beginning to be more student-centered, there is still a tendency for teachers to teach using their own preferred learning style. Most importantly, Dunn and Dunn write "the student cannot learn comprehensively in an environment in which "teacher" is the only active person and the student is always the passive one" (p. 33). Student engagement in their learning is critical to their understanding of what is being taught.

Kazu concludes that in primary education, many students have not yet fully developed their visual or auditory learning style, and tend to me more tactile or kinesthetic. Therefore, all students would benefit from more learning activities that

allow them to touch and move in their environment in order to learn new concepts. This should increase engagement, and therefore should also increase learning.

Favre (2009) also writes about the importance of student engagement in their learning. Kinesthetic learners require carefully planned lessons that take into consideration both the content and the engagement of the learner. It is estimated that up to 70 percent of students learn best through actively doing and participating in new things. The author recommends simulations and games as suggested activities for engaging this type of learner to help them reach their greatest potential.

Skoning (2008) points out that teachers often teach their students using their own preferred learning style. Often, this means they design lessons that cater to auditory and visual learners. These methods are not the preferred method for many groups of students, in particular those students with learning disabilities. Often, students are classified with learning disabilities due to their struggles with linguistic or mathematical tasks. While these types of activities are critical to creating a well-rounded learner; students need the opportunity to learn in their preferred style in order to maximize their potential.

Skoning found that Gardner's kinesthetic intelligence remains to be the most difficult for teachers to integrate into their classrooms. Often, teachers add quick movement activities into their lessons which fail to connect understanding of the curriculum in a meaningful way for the children. When teachers are able to effectively and meaningfully use movement in their teaching, it benefits all children, particularly those students who struggle with cognitive disabilities.

In Skoning's (2008) research, dance was used to teach several concepts including literature, feelings and emotions, insect metamorphosis, and the water cycle. In all examples, students taught using dance exceeded their peers being taught using traditional methods on post-assessments of understanding of the concepts. The author found that "dance is beneficial for students who have difficulty expressing themselves orally or in writing" (p. 5).

An unexpected benefit of the use of dance to teach concepts was the improvement of student engagement and behavior. The use of movement in a meaningful way changed the disruptive behavior and energy of students and used it positively in a creative way. The author found the most success when she allowed the most disruptive students take the lead in choreographing the movements that would be used in the lessons. Like Favre (2009) and Dunn and Dunn (1993), Skoning found that many of her most difficult students were actually kinesthetic learners who thrived when given the opportunity to learn in the preferred style.

Block, Parris, and Whiteley (2008) also used movement in the classroom to study the effectiveness of using kinesthetic methods to teach reading comprehension. The authors of the study point out that typically, students are asked to read a passage and respond to a list of questions when they finish. Comprehension strategies are rarely explicitly taught, and are typically not taught in way that students are able to understand, remember, and apply independently.

Block, et al. studied 19 experimental and 19 control groups in two urban elementary schools that were described as underperforming schools with low

socioeconomic status, with the lowest levels of comprehension achievement. Teachers and students were randomly assigned to experimental and control groups. Control groups were taught comprehension strategies using traditional methods only. Experimental groups were taught explicit strategies of predicting, inferring, drawing conclusions, and finding main ideas. Experimental groups were taught these strategies using teacher think-alouds as well as adding a kinesthetic movement to each strategy. For example, when something was clarified by the author while reading a text, the students signaled that they notice this by opening both hands to their sides. When the students made an inference during reading, they flattened out one hand near their abdomen. For six days the experimental groups were taught these strategies and given time to practice them during whole group teacher read-alouds. Conversely, the subjects in the control group were verbally taught the strategies but no movement was attached.

The researchers found on the exit assessment that the students taught with the kinesthetic strategies "significantly outperformed treated controls who were taught the same processes without the assistance of the kinesthetic teaching aides" (p.469). The results seem to indicate that attaching kinesthetic movements to process words helps students better understand and remember the comprehension strategies they are expected to use. Since the process words they were learning were new vocabulary for them, it seems to be true that attaching movement to other types of vocabulary would increase understanding and retention as well.

C. Types of Vocabulary Instruction

One type of vocabulary instruction that has received extensive research is using read-alouds to teach new vocabulary in the primary classroom. Biemiller and Boote (2006) conducted a comprehensive study of primary classrooms' vocabulary instruction using various read-aloud strategies. In the first part of their two part study, they looked at whether the number of readings of a text had an effect on student learning of vocabulary as well as whether reading with or without explanations had an effect. The students participating in the study were enrolled in kindergarten, first, or second grade. They were split into two groups for the two different treatments. All subjects were given a pre-test and post-test to measure learning of the vocabulary words chosen by the researchers.

The researchers found that the students who were instructed on word meaning during the read-aloud gained ten percent more accuracy on the post-test than did the students who were not given word meanings during the read-aloud. Additionally, they found only a slight benefit to reading the text aloud verses only two times for kindergarten and first grade students, but reading the text more times actually had a slightly negative effect for the second grade students. The researchers concluded that although multiple readings may solidify understanding, the students also get bored hearing the same text over and over and may begin to have negative feelings toward the new words in those texts.

The second part of Biemiller and Boote's study looked at the effects of extensively reviewing words learned in texts rich in vocabulary. Teachers in the

treatment group instructed students on the word meanings chosen by the researchers, and then followed this up with several review opportunities for the students. Researchers found that the instruction over a period of time increased the length of time the students retained the knowledge of the word meanings.

Brabham and Lynch-Brown (2002) also looked at how teacher read-alouds can impact primary students' learning of vocabulary. In their study, they were focused on the style with which the teacher carried out the read-aloud and what impact this may have on student learning and retention of new words. Three read-aloud styles were studied: reading only, performance reading, and interactive reading. Teachers were given a script they were to follow and instructional texts chosen by the researchers.

In just reading, the teachers were instructed to read the story without asking any questions or making any comments. Following the just reading strategy, students were discouraged from asking any questions and were instructed to write or draw what they learned from the text. In performance reading, the teachers read the text with expression and used scripted comments and questions to target certain words. Following the reading, students were encouraged to discuss the target words with classmates then they acted out the text as a class. Finally, in interactive reading the same method was used as performance reading, but students were encouraged to discuss vocabulary and ask questions before, during, and after the reading of the text and acting out of the story.

The researchers found that the different read-aloud styles produced statistically significant differences in student learning. Vocabulary acquisition was strongest for the interactive style in which students discussed and asked questions throughout. Both performance and interactive styles produced better results than did the read aloud only. This study seems to indicate that reading-aloud informational text is an effective way to teach primary students new vocabulary, and that some styles of this teaching method are more effective than others.

Senechal (1997) also studied how different styles of read-alouds can affect student learning of vocabulary. Senechal stated that there is rapid growth in vocabulary in preschool, with many children gaining as many as 10,000 new words. It is clearly not possible for students to be explicitly taught all 10,000 of these words during the course of the school year. Therefore, the researcher was seeking to find out what was accounting for this rapid growth in receptive and expressive vocabulary. Senechal's research question was whether receptive vocabulary will be affected by multiple exposures to a word. Additionally, she was seeking to find out if expressive vocabulary was more affected by opportunities to imitate correct use of the words.

Similarly to Brabham and Lynch-Brown's (2002) research, Senechal (1997) applied three treatments to the four year old subjects being studied. One group of students was read the book once, one group was read the book three times, and one group heard the book three times and was asked to label pictures of new vocabulary with adult assistance. In her results, Senechal first ruled out the effects of gender, as gender was not statistically significant. Children made more gains when they were

read the book three times versus just one time. Multiple exposures to the words seemed to improve understanding and retention in this study. Also, the group that was asked to assign labels to the photos as they were listening made more gains in the area of expressive vocabulary.

Research in the area of using multimedia programs to teach vocabulary is limited as to its findings on the use and effectiveness for children. Since these types of programs are gaining in popularity, it is important to know which characteristics of these programs are most effective and have the greatest impact on student learning of vocabulary. Acha (2009) studied the effects of three different presentation modes used in multimedia programs designed to teach new vocabulary to students. Acha studied 135 third and fourth grade students. The participants were presented with a short story read to them on the computer. For twelve previously unknown words the students were either presented with verbal annotations, visual annotations, or both simultaneously.

Subjects were all given a pre-test, and then randomly assigned to one of the three treatment groups as described. Students independently completed a computer program designed to teach new vocabulary which lasted about twenty minutes. The results showed that on the post-test, the students who received verbal annotations only performed noticeably better than students receiving visual annotations or both combined. Acha concluded that this was likely because adding the picture expends additional cognitive resources and adds to cognitive load and more confusion for the student. Acha suggests that programs intending to teach vocabulary should be

carefully designed as to avoid this cognitive overload for the students using the program.

D. Factors Affecting Vocabulary Acquisition

Students enter school with wide variations in knowledge and application of vocabulary. According to Lovelace and Stewart (2009), word knowledge in children is directly related to frequency of input. Therefore students who have had a wide range of varied experiences will have a richer store of vocabulary to pull from. Accordingly, "children from low socioeconomic status backgrounds are often limited in experiences needed to build background knowledge for vocabulary growth" (p. 168). The researchers went on to say that in addition to children of low socioeconomic status, many children from multi-cultural homes are at a disadvantage to learning vocabulary as well. Often, these children are exposed to many rich words within the context of their culture, and aligning these cultural meanings with those taught at school can be contradictory and confusing.

Biemiller and Boote's (2006) research is in strong agreement with Lovelace and Stewart's (2009) regarding the deficit with which many socioeconomically disadvantaged children enter school. By the end of second grade, an average student has acquired between 6,000 and 8,000 words, while a student in the lowest quartile has only acquired 4,000. A gap this large is equivalent to two grade levels of learning. In addition to documenting this gap in vocabulary achievement, the researchers also pointed out the lack of an established method for teaching vocabulary in the primary grades. Although No Child Left Behind legislation calls for

vocabulary instruction, unlike decoding and spelling strategies, there are no established strategies for effectively teaching vocabulary.

It is true that differences in vocabulary begin before kindergarten, and Biemiller and Slonim's (2001) research indicated that gaps actually increase during the primary years from kindergarten through the end of second grade. This seems to suggest that reading instruction in the primary grades is not focused enough on vocabulary instruction, or has ineffective practices for teaching vocabulary.

Storch and Whitehurts' (2002) research attempted to explain this widening of the gap in vocabulary knowledge during the primary years. They found that most reading instruction during this time is focused on decoding skills rather than focused and explicit vocabulary instruction. It seems that the premise is students will gain vocabulary knowledge after they can effectively decode unknown words in text. Based on their research, this is not the case. Learning vocabulary meaning is a complicated skill that must be taught. It does not come naturally by reading text only.

The lack of focus on vocabulary instruction in kindergarten through grade two is negatively impacting students' knowledge of vocabulary. The gap in vocabulary knowledge that students enter school with is actually widening as they continue through elementary school. Biemiller and Boote (2006) found similar results from their study and also found that by fourth grade, "many children experience a slump in reading comprehension due to below-grade vocabulary levels" (p. 44).

According to Beck and McKeown (2007), a significant factor in how children learn vocabulary is how much oral conversation they have the opportunity to engage

in. They point out that in order for the oral conversation to positively impact students' vocabulary, the adult needs to purposefully insert new and challenging words into the conversation. Often, oral conversation at school and at home tends to contain only common words that the child already knows and uses fluently.

Similarly, children's books written at their reading level also tend to contain only common words. The authors encourage teachers to choose trade books in which new and rich vocabulary is introduced. These trade books should be read aloud and discussed with students, since "young children's listening and speaking competence is greater than their reading and writing competence" (p. 252). However, Beck and McKeown point out that more focused vocabulary instruction is needed for students to learn and be able to use new vocabulary learned from read-alouds.

Beck and McKeown found that children as young as kindergarten can learn sophisticated vocabulary words if they encounter them frequently and routinely, most often during read-alouds. They found that word learning does not occur easily or automatically, but takes direct and focused instruction. Children also learn words when they are expected to interact with them, think about them, and find ways to use the words on their own. For example, the young children in the study were given examples of the word being used in a paragraph where one was an appropriate use and the other was not. When the children were asked to determine which a correct use was, they seemed to internalize the words easily. Children do not learn new and sophisticated words by an adult telling them the meaning only. They need to interact with the words themselves.

A final factor determining vocabulary acquisition is encouraging children to enjoy learning words as well as fostering a word consciousness in children. Graves and Watts-Taffe (2008) write that "word consciousness integrates metacognition about words, motivation to learn words, and deep and lasting interest in words" (p. 186). They write that children learn and use new vocabulary most easily when they are in a word-rich environment. This includes creating a classroom where new as well as familiar words are posted all around the room, and that a classroom library full of books that are appealing to children's interest is readily available. When children are interested in reading, they will learn new words more easily.

Graves and Watts-Taffe also encourage teachers to discuss new words with children in an exciting and appealing way. When teachers are excited about new words, children are more likely to be excited as well. In addition, teachers should promote wordplay in their students. Providing games for children to play that surround word meanings encourage interest and excitement around learning new words. Finally, allowing children to free-write using the new words they are learning fosters word consciousness and excitement for words.

In short, Graves and Watts-Taffe encourage teachers to make learning new words fun and exciting, as well as a part of day to day life in the classroom. When children are conscious of new words all around them, they will learn and use these words more readily.

Blachowicz and Fisher's (2004) research is in strong agreement with Graves and Watts-Taffe in terms of factors influencing how students learn vocabulary.

Blachowicz and Fisher also encourage children to have opportunities for wordplay because it fosters a love of words, how words sound and what they do and do not mean. Play creates tremendous motivation to learn. "When learning words is fun, students become interested in words and see them as objects they can use and examine" (p. 68). The authors also suggest that teachers deliver explicit, rich instruction to develop vocabulary that encourages children to interact often with new vocabulary words. Explicitly teaching students how to look for word meanings in context creates more independent readers and thinkers. Finally, teachers should provide a wide range of books related to many different topics and genres to encourage a well-rounded vocabulary.

Quality vocabulary instruction is critical to students' development as learners, readers, and communicators. A large repertoire of vocabulary is critical to students' success both in the classroom and in life. "People often consider a strong vocabulary the hallmark of an educated person" (Blachowicz and Fisher, p. 66).

There are few established best practices to teach vocabulary, and therefore teachers do not make it an important focus in their teaching. It is critical for teachers to understand the multiple intelligences of their students and provide them a wide-range of activities to encourage learning of new vocabulary. Rich and focused instruction using multiple modes of instruction is important to students' learning.

This study focused on using the bodily-kinesthetic approach to teaching vocabulary. I studied if this method was engaging and effective to increasing student learning of new vocabulary.

Chapter 3

Applications and Evaluation

Introduction

The purpose of this study was to implement movement with more regularity when teaching vocabulary in my kindergarten classroom and then to measure the engagement and achievement of five of my students who were chosen at random, versus when they are taught using more traditional methods. Implementing movement in addition to using more traditional teaching methods as defined by leading research in the field should begin to close the gap in language and vocabulary knowledge between the most struggling students and the average or highly functioning students. These traditional practices include using read-alouds and adding illustrations to vocabulary words.

All students in my kindergarten classroom were given the pre- and post-test and participated in the vocabulary instruction using movement. I looked more closely at five students that were chosen at random from those students and parents giving consent to be studied.

My goal for this research was to determine if teaching vocabulary using movement has an impact on my students' understanding of vocabulary as well as their engagement in the learning activities. I noticed a gap in the receptive and expressive vocabulary between my students and I was hoping to find an effective way to close this gap as vocabulary is an essential skill. Students should become better readers as well as communicators as their repertoire of vocabulary increases.

Participants

All students in my kindergarten classroom participated in the pre- and post-tests as well as the vocabulary instruction. However, only five students were interviewed and studied using a behavior checklist. In the classroom as a whole, there are twenty-one students. Ten are girls and eleven are boys. They attend a large rural school district in western New York. The students are taught using the Scott Foresman reading series which does not include recommendations for methods of teaching vocabulary. The five students that were studied using interviews and the checklist were chosen at random by putting the participant numbers in a hat and pulling out five.

Of the five students randomly chosen, three were boys and two were girls. Participant Number 1 is a boy who displays some delays in his receptive and expressive vocabulary and although he communicates easily with adults, he struggles to interact with peers. He is easily distracted in traditional types of learning activities, and is reading below grade level. Participant Number 2 is a girl who entered kindergarten with an average vocabulary, but struggles to communicate clearly with adults and peers. She shows some immaturity toward the routines and procedures of school, has a difficult time attending to traditional learning methods, and is reading slightly below grade level. Participant Number 3 is a boy who entered kindergarten with an average vocabulary. He is reading on grade level and is a child who communicates with adults and peers with ease. Participant Number 4 is a boy who has a large repertoire of vocabulary and communicates with ease. He is reading

above grade level, and shows good attention during a variety of learning modes. Participant Number 5 is a girl who entered school with a very large range of vocabulary and was already able to read. She communicates well and shows good attention during all modes of instruction.

The random sample of five students was a good cross section of strengths, areas of weakness, and learning styles. Based on the data collected, I was hoping to get a good idea of whether or not using movement to teach vocabulary has an impact on student learning and engagement.

Procedures of study

All students in my kindergarten classroom participated in a pre- and post-test which measured their knowledge of four new vocabulary words that would be introduced through our reading series. Three units in the students' reading series were covered during the course of this study for a total of twelve words. During each unit, students were taught four new vocabulary words. The first two words were taught using traditional teaching methods as defined by the literature. The second two words were taught using movement during which I assigned a hand or body movement that connected to the meaning of the word. Student engagement and achievement were measured using three different instruments.

The five students who were chosen at random for further study were also interviewed to see how they felt about the two different types of instruction. I also closely watched the group of five students to see their level of engagement in the activities and recorded this engagement on a checklist.

Procedures for instruction of the vocabulary words

This study encompassed three units in the students' reading series with four words being taught in each of the three units. For the first unit, the words were goose, gosling, reflection, and cocoon. Goose and gosling were taught using traditional methods; reflection and cocoon were taught using movement. The traditional methods included reading the word in the text of the story *Farfallina and Marcell*, explaining what the words mean, and showing the students pictures to illustrate the meaning of the words. For the words reflection and cocoon, I added a movement and asked the students to do the movement with me while repeating the word. Then I explained the definition of the word. For reflection, the movement was to put their hands in front of their face as if they were holding a mirror and repeat the word; for cocoon they wrapped their arms in front of their bodies and lowered their heads which repeating the word.

The same process for instruction was repeated for the second and third units. In the second unit, the book used for the traditional instruction was *Seeds.* The words were pod, stem, roots, and pit. Roots and pit were taught using traditional methods; pod and stem were taught using movement. The movement for pod was holding out one hand while using their other hand to pretend to touch the seeds inside; the movement for stem was joining hands in front of their bodies and quickly shooting their arms up over their heads. Finally, the book used for the traditional instruction was *Hide, Clyde.* The words in the third unit were chameleon, hide, jungle, and scampering. Chameleon and hide were taught using traditional methods; jungle and

scampering were taught using movement. For the word jungle, students held their arms up like trees; for the word scampering they pumped their arms back and forth as if they were running.

Instruments for study

The first instrument for measurement was a pre- and post-test (see Appendix A). A pre-test was administered to measure students' prior knowledge of the words. The pre- and post-test included the four words with three picture choices for each. The students were asked to circle the one that most closely matches the definition. The pre- and post-tests were administered to all students in small groups. The words were read to them so that the test was only measuring understanding of the vocabulary, not their reading ability.

The second instrument that was used to gain data regarding the research questions was a list of questions used during interviews with students (see Appendix B). Each of the five students will be interviewed independently of each other. I asked questions to illicit student preference for teaching style (traditional versus movement). The interviews were tape recorded.

The final instrument that was used was a checklist to measure on task, or engaged, behavior during the vocabulary lessons in each unit (see Appendix C). One-half hour before the vocabulary instruction began; I completed a checklist to measure the students' baseline behavior. I also completed the checklist once for each student during the instruction, and then once more one-half hour after the instruction.

Chapter 4

Results

There are several students in my classroom who seem to possess bodily-kinesthetic intelligence that are also struggling learners. Although I have taught some vocabulary using movement in the past, I was not sure if it had a real impact on student learning and engagement. In this study, I began to teach vocabulary using movement with more regularity to see if this had an impact on the learning of all students, particularly those that are struggling with their language and vocabulary.

In addition to looking at whether or not movement had an impact on their learning, I also looked at the impact the instruction using movement had on their level of engagement. So much of our day at school requires the students to be seated and reading or writing, there seems to be very little time for movement. Therefore, the students who have bodily-kinesthetic intelligence do not have ample opportunity to feel successful in their preferred learning style and appear disinterested or frustrated with the traditional forms of vocabulary instruction. Traditional forms tend to include teacher read aloud, class discussion, and writing and illustrating definitions of vocabulary words.

The first method of data collection was the use of pre- and post-tests to measure the students' knowledge of the new vocabulary before, during, and after the instruction. For each unit the students took a pre-test prior to instruction that listed the four new vocabulary words for the unit along with three pictures choices for each word. They were asked to circle a picture that best represented the definition of the

vocabulary word being read to them. The tests were administered in small groups of four or five students. After instruction, all students took an identical post-test to see if they gained knowledge of the new vocabulary.

For each of the four words on each of the three tests I calculated the percentage of students who correctly identified the definition of the word. I then calculated an overall average for each test taking into account student responses for all four words, as well as an average for only the words being taught using movement and included the data in Table 1. The words taught using movement are indicated using italics. Table 1 is found of the following page.

Table 1: Pre- and Post-Test Results Units 1-3

Unit	Words (italic indicates words taught using movement)	Pre-test percentage of students answering correctly	Post-test percentage of students answering correctly
Unit 1	goose	100	93
	gosling	50	86
	reflection	81	93
	cocoon	100	100
	average of all words	83	93
	average of words taught using movement	**90**	**96**
Unit 2	*pod*	35	88
	roots	94	100
	stem	70	83
	pit	94	88
	average of all words	73	90
	average of words taught using movement	**52**	**85**
Unit 3	chameleon	89	93
	jungle	100	100
	hide	94	100
	scampering	89	93
	average of all words	93	96
	average of words taught using movement	**94**	**96**

In each of the units, the students' overall knowledge of the vocabulary increased regardless of the method of instruction. In unit one, the average scores taking into account all words went from 83% at the pre-test to 93% at the post-test; the average scores when taking into account only words taught with movement went from 90% to 96%. In unit two, the average scores taking into account all words went from 73% at the pre-test to 90% at the post-test; the average scores when taking into account only words taught with movement went from 52% to 85%. In unit three, the average scores taking into account all words went from 93% at the pre-test to 96% at the post-test; the average scores when taking into account only words taught with movement went from 94% to 96%.

In two cases, the words goose and pit, the average scores went down from the pre-test to the post-test. Since both of these words were taught using traditional methods including listening to a story and looking at pictures, it is possible that the students' once correct understanding of the words was confused by the representation used to teach the concept. Particularly in the case of the word goose, the book and pictures used to represent the goose were in cartoon form and the pictures on the test were actual photographs. It is possible that using a cartoon representation of a goose confused the students' understanding of what a goose would really look like.

There was an increase in the percentage of students answering correctly for each of the words taught using movement. In some cases the pre-test score for the words showed that a high percentage of students already knew the word before instruction took place, which makes it difficult to determine how much impact the

instruction had on learning. However, in the case of the word pod, the average score increased from 35% to 88% and the scores for the word stem increased from 70% to 83%. These increases in student knowledge between the pre- and post-tests seem to indicate that the instruction was effective for a large percentage of students.

The second method of data collection I used for this study was a checklist of on-task behavior of the five students chosen at random for additional study. I observed these students' behavior one-half hour before instruction, during instruction, and one-half hour after instruction. A plus sign indicated that the student was displaying on-task behavior at the time of the observation which meant they were engaged and fully participating in the activity they were expected to be engaged in at the time. A minus sign indicated that they were not on-task or engaged in the activity. I repeated this checklist before, during, and after instruction for each of the three units of instruction for each of the five target students. Student 5 was absent during the instruction for unit one and therefore that student's data is not available for that unit. A summary of the checklist data can be seen in Table 2 on the next page.

Table 2: On-task behavior before, during, and after instruction

Student	Unit 1			Unit 2			Unit 3		
	B*	D*	A*	B*	D*	A*	B*	D*	A*
1	-	+	-	-	+	-	+	-	-
2	-	+	+	+	+	+	-	+	+
3	+	+	+	+	+	+	+	+	+
4	+	+	+	+	+	+	+	+	+
5	n/p**	n/p**	n/p**	+	+	+	+	+	-

* B=before instruction; D=during instruction; A=after instruction

** Student 5 was not present during instruction

The on-task behavior before and after instruction for each student varied greatly. However, on-task behavior during instruction was consistent for all students for each unit. Each of the students was on-task during the instruction for both units one and two. Four out of the five students were on-task during the instruction in unit three. This data seems to indicate that the instruction using movement was engaging for all of the students studied using the checklist. More meaningful learning takes place when students are engaged in the task, and therefore the high percentage of on-task behavior during instruction may correlate with the greater understanding of the vocabulary on post-tests.

For students 2, 3, 4, and 5, their level of engagement remained high for one half-hour after the movement instruction. They seemed to be highly interested in the activity while they were participating, and continued that interest and engagement into the next learning activity.

Student 1 typically struggles throughout the day to maintain attention and engagement in learning. This is evident in the data which shows he was not engaged one-half hour before instruction in units one and two, and was not engaged one-half hour after instruction for any of the three units. However, the movement instruction was engaging for him as he was on-task during instruction for each of the three units. Although he rarely offers to share ideas during whole group instruction, he stood up and said "I have a great idea for roots!" and proceeded to create his own motion for the new word we had learned. This seems to show that he was excited and interested in what he was learning and that movement was a comfortable mode for him to express what he knew.

The final method of data collection I used during this study was interviewing the five students that were chosen at random for this study. I interviewed each of the five students individually approximately one hour after the instruction for each unit to find out what they had learned and how they felt about both methods of instruction. For each of the students in each of the units I began with the same set of questions, and also asked follow-up questions that I thought of during the interview in order to obtain as much detailed information as possible from each student. The students were

informative and articulate about their feelings and I gained valuable information from their comments that will inform my teaching.

Student 5 was not present during the instruction or interview for unit one, and therefore I have comments from only students one through four regarding unit one. Student one can have a difficult time articulating his feelings and he answered many of the questions with only one or two words. When I asked him how the learning of the new words went today as well as how he felt about learning new words, he responded "good". I asked him what we could do to make the learning easier and more fun, and he responded "I don't know". I was beginning to feel a bit discouraged because although he appeared engaged during the instruction, he did not have a lot of feedback to share. However, when I asked him if he remembered the words we learned, he was able to tell me goose, reflection, and cocoon. When I prompted him, he was also able to show the movements for cocoon and reflection.

Student 2 told me that she had "a lot of fun" doing the movements and remembered the word cocoon along with its movement. Interestingly, she remembered the movement for the word reflection, but told me the word we learned was mirror. Therefore, the movement helped her remember what we had learned, and although it was not an accurate recall of the vocabulary word, she had some understanding of the meaning of the word.

Student 4 said that he loves learning new words because it is "so fun to see what they mean". He accurately recalled each of the words and motions learned with movement, but could not recall the two words we learned with the poster and story.

When I asked student 3 if he liked learning new words he said "not so much". I asked him if he liked the way we learned the words today using the motions and he said "Yes I liked it". When I asked him why, he responded "We get to do stuff, why do you think?" I felt that this was a very telling statement, in that he is saying he learns best when he gets to move around and be actively engaged in what he is learning.

The students' responses for units two and three were very similar. The students typically remembered the words that were learned using movement, and about half of the time recalled the words learned with the story and poster. One notable response in unit two came from student 1 who had previously been unable to verbalize how he was feeling about the instruction. When I asked him how he felt about learning about the words with motions, he said "It's cool and I know something else that's cool, Elvis". Using movement seems to be a comfortable mode of instruction for him and one that seems to be causing him to open up and express himself more freely.

In both units two and three, student 2 struggled to remember the actual vocabulary we had been working on and rather referred to a word she already knew that had a similar meaning. In unit two, she remembered the correct movements for each, but called stem a sprout, called pod seeds, and called jungle a forest jungle. I was glad to see that she was making connections to meaning, but was left wondering how to help her remember the actual words we learned with more accuracy.

Student 5 was the only student to express a negative feeling toward the movement learning, although it is possible that other students felt the same way but were shy to express it. She said that "I don't like learning words that way...I like pictures in books in real life". When I questioned her a bit more, she was able to tell me that she likes looking at photographs that people took with a camera and that she wants to make a real (nonfiction) book using her camera, too.

All three methods of data collection were effective in helping me obtain information regarding the effectiveness of teaching vocabulary using movement. The pre- and post-tests indicated that the movement instruction was effective in increasing students' knowledge of the new words. It should be noted that the traditional instruction also showed some increases in student knowledge as well. The on-task behavior checklists indicated that the instruction was engaging for all students at least most of the time; however it showed mixed benefits in maintaining student engagement after the instruction. Finally, the interviews indicated mostly positive student feelings toward the movement instruction. The students enjoyed the movement and also displayed increased knowledge of the new vocabulary words as a result. It is important to note that not all students found the movement enjoyable or engaging, regardless of the gains in understanding.

Chapter 5

Conclusions and Recommendations

I chose to study teaching vocabulary using movement in response to a need I identified in my classroom. I noticed that many of my students are kinesthetic learners and that they prefer to learn using hands-on methods and activities. As kindergarten continues to become more academically focused, it seems that these movement activities occur less often than they should, in favor of more pencil and paper tasks that require students to sit and work quietly and still. This is particularly true in aspects of language arts including vocabulary, comprehension, and phonics. I wanted to choose an area of literacy that is typically taught using traditional methods and see if using movement instead would have a positive impact on student learning and achievement.

While it is important for students to be proficient in completing tasks quietly and independently using pencil and paper, it is also important for them to be engaged in a variety of learning activities to keep them interested and enjoying learning. Finding ways to incorporate learning activities that appeal to all students' learning styles is important to student success and overall excitement for learning. In this study I focused on kinesthetic learners, but according to Gardner (1983), there are several learning styles. These include interpersonal, verbal-linguistic, logical-mathematical, naturalistic, intrapersonal, visual-spatial, and musical.

I found in my study using a kinesthetic approach to teaching that overall achievement as well as engagement and interest increased during the instruction of

vocabulary. According to the pre- and post-tests, student learning increased regardless of the teaching method, but the increase was more marked when the instruction was delivered using movement. The on-task behavior checklists indicated that students were actively engaged in the learning activity, although there were mixed results when looking at behavior on-half hour after instruction.

I found that the interviews with the students were very informative. Four out of the five students articulated that they enjoyed the movement activities and that they were fun. When students are engaged in learning, their achievement increases as evidenced by their ability to accurately recall the words they had learned and what they mean. Student 5 has a different preferred learning style and therefore did not enjoy the movement, but was still engaged by it and was able to retain what she learned. The ability of all five students to talk about how they like to learn best made me excited that I can tap into these interests in my day to day teaching.

I did not expect that the interviews with the students would be as informative as they were. I understand well that students as young as kindergarten can be very articulate and express their feelings, wants, and needs. However, identifying learning style can be difficult even for adults, and therefore I was skeptical as to how much the children would be able to discuss how they like to learn best. Listening to their responses to my questions about their learning helped me realize that the students can and should be active participants in their learning.

Howard Gardner (1983) wrote that children who are kinesthetic learners are often described as "fidgety, attention deficit disorder, inattentive, restless, and

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overactive" (p. 29). As I read Gardner's research, it occurred to me that these words describe all young learners at least part of the time. Kindergarten-aged children are active, and learn through active play and movement. Gardner's observations are supported by the results of the behavior checklists and interviews in my study. When the students were able to learn through movement, they were actively engaged in their learning and expressed interest and excitement about what they had learned. During the movement they were not fidgety or disengaged as kinesthetic learners can be described.

Kazu (2009) pointed out that there are many different learning styles, and learning through movement is only one example. During the interviews, student 5 pointed out in her own words that movement is not her preferred method and that she would rather learn through taking photographs and creating books. This statement was very informative to me as her teacher in that she was able to verbalize how she wanted to learn. It would not be possible to tap into every individual learning style in each lesson and learning activity; however, it is possible to teach using a variety of methods throughout the day to create opportunities for each child to feel successful in their own style daily.

Skoning (2008) researched the benefits of teaching using dance and found that in addition to students increasing their academic knowledge, students were also engaged and less disruptive. My experience in this study was quite similar. I began the study hoping to notice academic benefits to teaching with movement, which based on the pre- and post-tests occurred. I was unsure if the movement would have

positive implications on students' engagement and behavior or if it would be difficult for them to settle back down and focus. According to the behavior checklists and interviews, students were engaged and interested during the movement activities. Most notably, students who are often disengaged by traditional learning activities were actively participating.

The results of this study will have significant impact on my future teaching. I realize now that students as young as kindergarten can articulate how they like to learn and what methods work best for them. I will ask my students more questions about how they learn best and adjust my teaching accordingly. Based on the results of this research, I can see that many of my students are kinesthetic learners and therefore I will incorporate even more movement into our daily lessons. This is not limited to vocabulary or language arts. There are many ways to incorporate movement into math, science, social studies, and even handwriting.

Based on the results of my research I will not only be incorporating more movement into our daily routines, but other teaching methods as well. As student 5 mentioned in her interview, students enjoy learning through creating their own products through art and photography as well as through music. I believe the most important thing will be to plan a variety of different lessons targeted toward all learning styles. It is unlikely that every lesson will appeal to every student, but it will ensure that each student feels successful in their own style at least once throughout the day. I am confident that teaching using many different styles will have a positive impact on student engagement and achievement.

The information I learned during this study is not limited to how movement impacts student learning. I have also learned about myself as a teacher. I have learned that I truly love teaching young children because of their joy for learning and their curiosity. The fact that they are active and learn best through movement does not frustrate me as reported in so much of the research on teachers that I found in my literature review. Rather, I see it is a welcome challenge. Thinking of new and creative ways to help children learn and succeed in the increasingly more challenging kindergarten classroom is difficult and exciting. Just as all adults do not learn the same way, neither do children. I have learned that children can express what they like and what works for them in the learning process, and if we take the time to listen, our teaching can be targeted to what will aid their learning the most.

In the future, this study could be expanded on in several ways. If this study were repeated, it may be valuable to interview more, if not all students in the class to gain more insight into their feelings and preferences in learning. In this study, I created and taught the movements that the students would be using. It would also be valuable to repeat the study using movements that the students create on their own rather than ones the teacher assigns for them. Additionally, using more than four vocabulary words per unit may yield more data to study, or using words that more students are unfamiliar with could also yield valuable information.

Studying how to use movement to teach other aspects of literacy such as fluency, phonics, or comprehension would be valuable. These are skills and concepts that are often taught exclusively using traditional methods of teaching, and are areas

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in which students struggle when gaining early literacy skills. Studying the impact of movement in other areas would be beneficial as well. Some suggestions may be memorizing math facts, letter and number recognition, life cycles, letter formation, or retelling a story.

The study could also be expanded to study the impact of other teaching styles on student engagement and achievement. Since teachers most often use visual and auditory methods to teach, methods such as musical, naturalistic, or logical-mathematical could be studied. It may also be interesting to study how giving students a choice of learning style would affect their engagement and achievement.

Finally, a study of how to help children identify their learning style would be a valuable suggestion for future research. The researcher could instruct a group of students that everyone learns differently, and that one way is not better than another. Using interviews and rating scales, students could learn to identify how they enjoy learning and how they learn best. Results of the study would have significant impact on teaching.

The results of this study on teaching vocabulary with movement will impact my teaching in all areas. The data in this study indicated that the students' achievement and engagement increased when movement was used. I am also excited to use the knowledge I have gained of my own students' learning styles and look forward to learning more about how children learn best.

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My name is _____ .

1. goose

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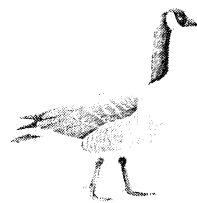
2. gosling

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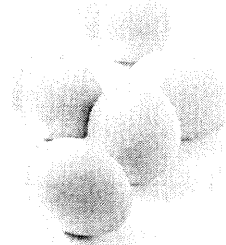
3. reflection
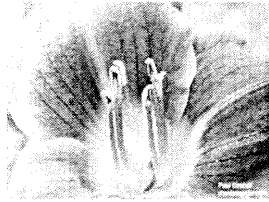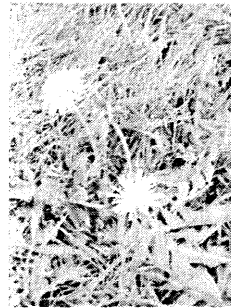

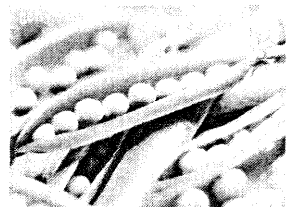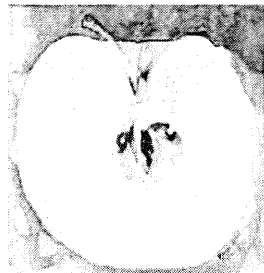--
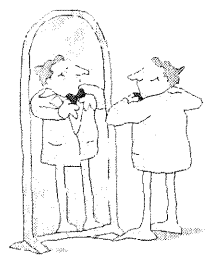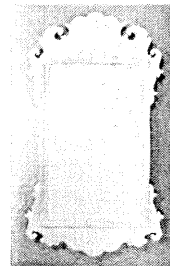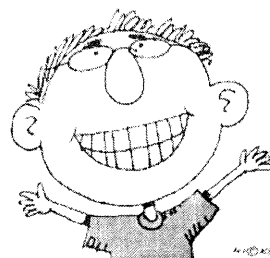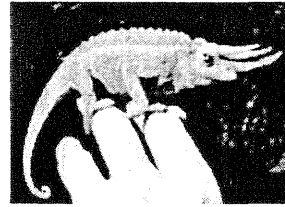
4. cacoon
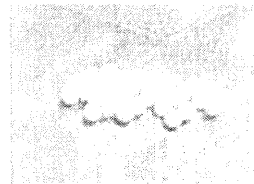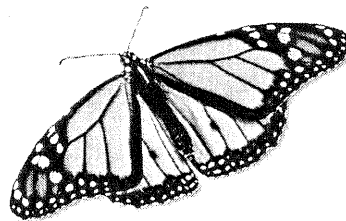
My name is _____ .

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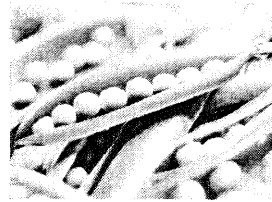
2. roots

3. stem

4. pit

My name is _____ .

1. chameleon

- -
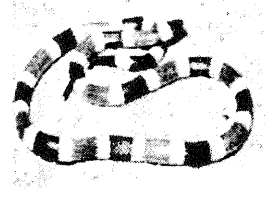
2. jungle

- -

3. hide

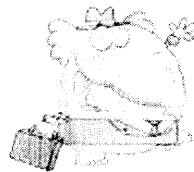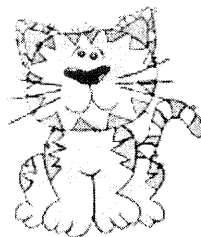- -
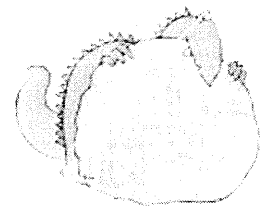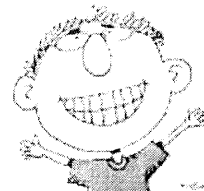
4. scampering

Appendix 2: Checklist of On-Task Behavior

Student number	One half hour before Instruction	During Instruction	One half hour after Instruction
1			
2			
3			
4			
5			

Key:

+ indicates student is displaying on task behavior
(participating according to directions given by the teacher)

- indicates student is not displaying on task behavior (not
participating according to directions given by the
teacher)

Appendix 3: Sample Interview Questions

1. How did learning our amazing words go today for you?

2. How do you feel about learning new words?

3. What can I do to make learning new words easier or more fun?

4. Do you remember what words we learned today?