Visual literacy in kindergarten: How can visual literacy be used as a tool to promote student learning in the kindergarten classroom?

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VISUAL LITERACY IN KINDERGARTEN: HOW CAN VISUAL LITERACY BE USED AS A TOOL TO PROMOTE STUDENT LEARNING IN THE KINDERGARTEN CLASSROOM?

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Interdisciplinary Studies

by
Arcelia Anguiano
June 2004
VISUAL LITERACY IN KINDERGARTEN: HOW CAN VISUAL LITERACY BE USED AS A TOOL TO PROMOTE STUDENT LEARNING IN THE KINDERGARTEN CLASSROOM?

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June 2004

Approved by:
Robert London, Education

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ABSTRACT

The purpose of this project was to create a guide for planning effective lessons in kindergarten that include the effective use of visuals. Recent studies demonstrate the effectiveness of using visuals in classroom instruction, including the fact that English language learners benefit from using this tool. The five topics reviewed in this study to better assist in developing the guide for planning effective lessons for kindergarten students were how the brain learns, learning modalities, graphic organizers, English language learners and visual assessment.

As part of this project, nine questions were identified that served as a guide to plan a thematic curriculum unit for kindergarten students. As a product of this project, and unit was developed, using the guide, to better assist students in their learning. Feedback from expert professors and kindergarten teachers assisted in the development of the effective unit.
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CHAPTER ONE

INTRODUCTION

Purpose and Overview

As a kindergarten teacher for the past four years, my work with English language learners has made me realize how important it is to use visuals in my teaching. The majority of students who start school at the age of four and five come to schools with very limited academic experiences and knowledge. Therefore, the best possible way to assist these young students in gaining more knowledge is by showing them a variety of visuals that assist them with their learning needs. My project researches the use of visual literacy with English language learners. By using principles of visual literacy, I believe I will become a more effective teacher.

Since I started teaching kindergarten, I have noticed that students from various backgrounds have a difficult time learning different concepts, especially English language learners who struggle with the understanding of the English language. English language learners tend to be timid, and are afraid to take risks
in classroom discussions. They have a difficult time socializing with their peers and many times they do not ask for the teacher’s help during classroom work time. For these reasons, many times they fall behind academically compared with the English only speaking students (Flores, 1998, p. 5). English language learners’ vocabulary is very limited, but they can describe illustrations. English language learners can learn new vocabulary by looking at visuals especially from big books. Students can describe with simple vocabulary a picture, and in small groups they are not afraid of participating. Once students feel comfortable with the knowledge of some English words they can start socializing with their peers. Visual literacy is a great assistance for student learning, and students can learn many concepts with the use of visuals (Gersten & Baker, 2000, p. 454 & 463). These observations have this has made me realize the importance of using visuals in my teaching with kindergarten students. Students at the kindergarten level are able to start learning English from the beginning, such as letter recognition, sounds, and sight words. These are very simple concepts to learn but are the foundation for the development of the English
language. It is important to reach the needs of these students early to make them succeed in life and not fall academically behind.

In general, kindergarten students need all kinds of learning experiences, which involve using their five senses, but more importantly their visual learning. In order for them to grasp or master a concept, they must see many types of visuals (Gersten & Baker, 2000, p. 454 & 463). By seeing these visual artifacts, they can make connections to their own lives, and if they cannot make connections at least they can learn by seeing it. Students at this age are usually unable to read any kind of text; however they can describe pictures (Flores, 1998, p. 2). It is rewarding to see these students by the end of kindergarten reading pattern stories and writing simple sentences in English. It is amazing how fast they can learn new concepts in a different language that is different from their own primary language. In most cases everything is new for them including attending school; therefore, it is great to be able to give them various learning opportunities in the classroom that are likely to be effective.
Currently, the California Department of Education (2001) has standards for every subject area at each grade level. The expectations have changed and increased in the last ten years. There are many requirements that students need to accomplish before they can be promoted to the next grade. The new law, No Child Left Behind, is putting great pressure on teachers to have all students at grade level by the end of the school year (p. 2). My project identifies ideas concerning how to help kindergarten English language learner students with their language learning challenges. It has ideas for planning effective lessons with the proper use of principles of visual literacy. The sample unit developed for this project assists students with their different learning modalities and gives them the opportunity to explore important concepts. This unit meets many of the California standards and facilitates students learning for many subjects.

Our commitment as teachers is to push our students to their potential and help them succeed in school. Every student has the right to have the best education and opportunity to be anything they want in life. Educators have the responsibility to assist the needs of
every student in their classroom. Every student has different learning modalities, and therefore the teacher needs to accommodate those needs to help each student succeed. Teachers need to modify their teaching style and try various methods to teach students new concepts. Conferences, workshops, in-services, staff meetings, grade level meetings and classes are important resources for teacher to keep themselves updated with the new ideas in education. There are always new ideas on how to teach new concepts to students and how to better assist them.

If a teacher does not know the native language of a student, there are individuals who can help the teacher. For example, teachers can rely on colleagues, school committees, or bilingual assistants to help these students with their learning. As mentioned before students can describe illustrations without knowing English. There are no reasons why a student should not participate because the teacher does not speak the student’s native language.

Goals

The main goal of this project was to develop a process for developing a curriculum unit emphasizing
visual learning for kindergarten students. The unit includes thematic lessons, which meet most student learning modalities. Based on the review of the literature, seven questions were identified as important in planning effective units. The questions were shown to expert teachers and professors for feedback, and their suggestions were very valuable in creating the unit. They suggested adding more questions to the list to better develop lessons. The unit was developed and involved approximately three weeks of instruction. In addition, some questions were created to assess the unit. Again, teachers and professors used these questions to assess the unit. Their input was significant and meaningful in planning an effective unit. The unit was then revised and additional lessons were added to the unit. Some components of the unit included an emphasis on visual literacy, learning styles, graphic organizers, and visual assessments. The revised unit involved a four week period. The end product was beneficial for teachers as well as students.

The following paragraphs explain what each chapter in this project addresses and how the process was developed. This project required extended time in
researching new data, gathering teachers and professors’ feedback, and obtaining the guidance of experts in education. Each chapter was completed with careful dedication and work. Hopefully, this hard work will be helpful for educators, especially at the kindergarten level.

In chapter two, based on the review of the literature, seven questions were created to give the development of a sample unit. The review of the literature included five important topics: (1) how the brain processes information; (2) how different learning styles impact learners; (3) how graphic organizers influence learning; (4) the challenges that English language learners face in learning a second language and (5) how to assess student learning when using visuals. These five topics target the importance of visuals in teaching, as well as developing an effective process for planning a curriculum unit.

In chapter three, the methodology, an explanation is given on how the review of the literature guided in developing a process for planning a sample unit. A checklist of questions served as guide to plan a curriculum unit in kindergarten. The methodology
explains the steps in developing a curriculum unit for kindergarten students. The sample unit showed thematic lessons using the topics from the literature review. Three kindergarten teachers and two professors gave their feedback on how to make the lessons more effective. Some teachers suggested adding more questions and lessons for developing this unit. Their feedback made the unit meaningful and useful for kindergarten teachers.

The central concept of chapter four deals with the results of implementing the methodology described in chapter three. It reviewed provides feedback from three kindergarten teachers, and their suggestions for the final project. Moreover, six questions were developed to assist teachers in evaluating the effectiveness of the curriculum unit.

In chapter five, the conclusions are presented and a discussion about the teachers' feedback from the evaluation is also given. Moreover, suggestions for further research for this topic are discussed.
CHAPTER TWO

LITERATURE REVIEW

Introduction

This review of the literature explores the recent research in the area of visual literacy. Studies have shown that students learn better when the teacher uses visuals in a lesson. Research supports the hypothesis that the use of visuals is an excellent strategy to use in teaching new concepts in any content area. Visual learning is an important component of how children acquire new information in their everyday lives. Children at a very young age see different vehicles of visual communication such as posters, television, photographs, slides, computers, motion pictures, books, transparencies, and drawings. These types of visual communication are capable of showing and explaining concepts rather effectively. As Kepes (1995) stated,

... visual learning is universal and international: it knows no limits of tongue, vocabulary, or grammar, and it can be perceived by the illiterate as well by the literate. (p.13)

In education, visuals can make it easier for students to understand new concepts in any subject area, and visuals
can effectively complement oral or print instruction, if used effectively. In this review of the literature, I will discuss the processes concerning how the brain learns, learning styles, graphic organizers, English language development, and how to assess visual learning.

**How the Brain Processes Information**

There are many research studies examining the influence of visual literacy on the brain. One of the first important things to consider is how the brain processes information. A human's brain is divided into two spheres, the right and left hemispheres, each having its own function in retaining and using new information. The left hemisphere of the brain processes language and cognitive development. The left hemisphere tends to learn by linear, explicit, analytical, sequential, and verbal procedures (Stein, 1987, p. 165). A learner primarily utilizing the left hemisphere is intellectual, remembers names, prefers solving problems by breaking them into smaller parts, responds to verbal instruction, and likes to talk and write (Huck & Rosenblum, 1984, p. 8).
In many instances, the right hemisphere of the brain processes new information differently than from the left hemisphere. It employs visual imagery and visual processes (Brooks, 1980, p. 248). The right brain processes information symbolically, holistically, nonverbally, artistically, and emotionally (Stein, 1987, p. 165). In 1977, Ornstein concluded that, "painting, sculpting, dancing are examples of right brain activities" (Youngblood, 1979, p.44). Furthermore, the right brain is intuitive, remembers faces, interprets body language, relies on illustrations, likes drawing, prefers using manipulatives, and solves problems by looking at the whole (Huck & Rosenblum, 1984, p.8).

In many cases, newborn children are right brain oriented; for example, according to studies 80 percent of babies channel sounds into the right hemisphere. As a result, the first means of communication used by infants are nonverbal, using their right brain more. When children enter school, their right brain orientation is dominant and they have a difficult time transferring to the left hemisphere learning process, which is emphasized in many school settings. Students are encouraged to drop their sensory imaginative talents and develop verbal
skills (Sonnier & Kemp, 1980, p. 64-65). Consequently, numerous students feel handicapped in learning many concepts because they learn best through the contribution of the right brain, which is visual learning.

The following studies explain how babies or infants process new information and retain the knowledge. The fetal brain develops rapidly starting from the ninth week forward when the brain is almost the size of the entire fetal body. The baby is able to respond to external sounds and vibrations from the womb (Languis, 1998, p. 39). When babies are born, they can scan their whole environment to gain a perceptual context and focus on specific details (Hubbard, 1989, p. 5). Sternberg and Williams (1989) concluded that children learn by observing television, illustrations, books, teachers, computers, and the behavior of their parents. Children learn how to behave by imitating these role models, and this is called observational learning or social learning (p. 37). According to Dr. Knoell (2002), early childhood life learning takes place through the eyes and ears of the child, which means that they learn visually and auditory. Children use visual and verbal language as tools to help them understand, sort out, and cope with
their world. In addition, they use pictures and words to be able to communicate their needs and inner desires (Hubbard, 1989, p. 144).

There are some theories that explore how the brain actually processes information. Recent studies provide new information concerning how the brain learns: It is a complicated dynamic system, intrinsic incentive enhances the brain to learn, emotions stimulate learning, and the brain works together with the mind since they are not isolated from each other. Furthermore, the brain needs to be exposed to touching, seeing, hearing, doing, smelling, and tasting to ensure that it can recall information. The brain needs various experiences to make connections to real life situations, and needs repetition to insure learning (Saunders & Vawdrey, 2002, p. 44). Research suggests that both cerebral hemispheres process information at different rates and the external form appear logical or holistic (Youngblood, 1979, p. 47). It is complex because each student handles information in a unique way. However, both hemispheres work better in unison, instead of in isolation, to deal with information. Every individual will use his/hers mental abilities in the best way they know how (Brooks, 1980, p. 13).
Sonnier and Kemp (1980) suggest, "teach the left brain and only the left brain learns---teach the right brain and both brains learn" (p. 68).

Learning Styles of Students

A widely held assumption is that each student has a different learning style. Therefore, a teacher has to try to accommodate a variety of teaching modalities to help insure that each student succeeds. Flaherty (1992) describes four major modalities that each individual utilizes in learning: (1) Visual learners need to see everything in print, such as in illustrations, overheads, handouts, books, and papers. To these students "a picture is worth 1,000 words" (Flaherty, 1992, p. 33). They are imaginative and emotional, and information has to be personal and meaningful. Students that favor this modality learn better by listening and sharing their ideas (Huck & Rosenblum, 1982, p.10). (2) Kinesthetic learners are talented when working with hands on activities and projects and will "read to get meaning such as consulting a manual on how to assemble a car." (Flaherty, 1992, p. 32). (3) Auditory learners need to read aloud to comprehend the material. Typically, this
type of student may talk often (Flaherty, 1992, p. 33).

(4) Tactile learners are alert to non-verbal communication and they can interpret its meaning. In addition, they are the best readers and "learn best in an environment where they have respect and regard for the teacher" (Flaherty, 1992, p. 33).

Again, it is assumed that all students learn differently. Hence, the teacher has the responsibility to attempt to adjust to each student's learning modality. One interesting study asked teachers to complete a checklist. The checklist contained questions, such as what modality they liked to learn by and which method they used to teach. About 84.2 percent of teachers prefer teaching with visuals and 70 percent preferred learning with visuals. The least preferred teaching style was the kinesthetic, which was 5 percent (Stensrud, 1983, p. 414). In many cases, the preferred modality of teachers can influence the achievement of students. Educators should vary their teaching modality to more effectively reach every student. Many students, when they first come to school, are more oriented to the visual learning style (Stensrud, 1983, p. 414).
When children start kindergarten, they are able to generate and share meaning with different types of symbol systems (Hubbard, 1989, p. 3). According to the California Department of Education in the section on Visual Arts Content Standards (2001) in primary grades, the definition of visual thinking is that it includes thinking and communication:

Visual thinking is the ability to transform thoughts and information into images; visual communication takes places when people are able to construct meaning, from the visual image. (p. 162)

Students have to examine visual clues, symbols, and features if they are to learn and master skills and academic knowledge (Knoell, 2002, p. 1). In a pictorial book, the images express the meaning of the story with minimal assistance from the text. Illustrations grasp the moment and present the precise details of who, what, when, where, why, and how of an occasion better than terminology (Knoell, 2002, p. 3). Furthermore, Schallert (1980) found out that pictures facilitate students learning from text. Students must be able to relate to what they see to what they already know (Hittleman, 1985, p. 34). However, “Pictures and words need to reinforce
each other; neither could really stand alone and depict what the other had in mind” (Hubbard, 1989, p. 35).

Influence of Graphic Organizers on Learning

There are many tools to assist students with their learning process and one great visual method is the graphic organizer. What is a graphic organizer? It is a visual mode of developing schemata for different subject areas (Suhor & Little, 1988, p. 472). Webs, Venn diagrams, and graphs are just a few examples of graphic organizers. These graphic organizers assist students in learning, remembering, organizing important information, getting the main idea, and internalizing thinking skills (Cassidy & Hossler 1992, p. 75). These organizers represent the thinking process of the mind more clearly. In addition, a graphic organizer is a visual representation of data; it builds information, and arranges ideas into a pattern by using labels (Egan 1999, p. 641).

Graphic organizers are suitable for various class-learning environments such as in paired groups, cooperative groups, and individual work. Using graphic organizers can promote social interaction, and self-
satisfaction as well as enhancing learning (Egan, 1999, p. 643-644). Implementing graphic designs in the classroom involves some important steps, including analyzing the concepts and the learning process, arranging data to show patterns, and introducing vocabulary to promote active reading. The teacher explains the concepts with the use of visuals, gives the opportunity for students to respond, makes connections with past learning, gives a preview of new upcoming text information, and reinforces previously learned information (Merkley & Jefferies, 2001, p. 351-352).

Some theories examine how children retain and recall information by using visuals. Crowder (1976) states that memory is one important cognitive function that is able to retain and retrieve information about experiences (p. 4). Paivio's Dual-trace theory suggests that individuals are able to represent information in the form of mental images and propositions. In education, students are more likely to retain meaningful information if it is presented to them as words and as pictures (p.18). Howe and Vasu (1986) concluded that the,
Self-generated verbal description did not increase the amount of information recalled and represented when children were told, 'form a picture in your mind' and draw a familiar object." (Vasu & Howe, 1989, p. 401). In contrast, "the perceptional mode of presentation led to greater retention and recall, in both images and words, than verbal presentation of the same information. (p. 401)

Mental imagery is when we create an object that resembles an experience or event. Sternberg and Williams (1998) explain that “If you have seen a beautiful sunset, and then imagine the sunset in your mind, you may well form a mental image of what the sunset looked like” (p.18).

Symbolic representation is when the object is not related to whatever is being presented. For example, the "word dog bears no physical resemblance to a dog, despite the fact it represents the concept of a dog" (p.18). In early childhood, students learn the alphabet letters and sounds effectively if the letters are represented through an image that would help them learn to recognize the sound and letter. Some schools are using a program called Zoo-phonics, which has assisted primary grade students in learning their letters. Each letter is represented with an animal name, and that animal makes the sound of the letter. For instance, "a" is represented by alli alligator, "b" by bubba bear, "c" by catina cat and so on.
(Bradshaw, Clark, and Wrighton, 1999). In upper grades, students are encouraged by teachers to create their own mental images by drawing their ideas or information through illustrations and meaning (Sternberg & Williams, 1998, p.39). This helps students learn the information more easily. Interactive images refers to images that link “together items that would otherwise be isolated.” (p. 39). For example,

Students need to learn the names of major exports and to use another method to help them remember, let’s suppose exports of a given country are wine, cheese, automobiles, and designer dresser. Students can imagine a bottle of wine driving an automobile, wearing a designer dress, and eating a piece of cheese. Or students may come up with their own images. (Sternberg & Williams, 1998, p. 39).

This interactive imagery is very useful in learning and remembering information and can be used in different ways (Sternberg & Williams, 1998, p.39). The majority of declarative knowledge is stored in images. Declarative knowledge stores facts in semantic and episodic memory. Semantic memory holds long-term memory that sustains general knowledge of the world. Episodic knowledge stores long-term memory that holds personal experiences, events, or episodes (p. 62).
The Importance of Color and Detail in Illustrations in the Learning Process

These are some other characteristics that visuals need to possess in order to be effective in the classroom. A significant aspect of visual learning is the colors that the illustrations contain which makes it valuable in the children's learning. What does color provide? The California Department of Education in Visual Arts standards (2001) indicates that color theory has three properties hue, value, and intensity (p. 159). These properties show a strong value or meaning in illustrations. For example, according to Hans and Shulamith Kreitler (1972), in our daily lives, "colors are bound up with forms, objects, meanings, situations, memories, any or all of which may determine the pleasure or displeasure we feel when seeing colors" (p. 132). For this reason, children are able to recall information from their experiences that result in pleasant or unpleasant feelings. Sometimes decorative color can give a deceitful idea of an event or how objects really look in reality, and result in students concentrating on unimportant details (Hittleman, 1985, p. 34). In addition, Stern (1955) states that colors and emotions
are closely linked together; therefore, images and language are also positively correlated (p. 133). When students color their drawings, it helps them show detail of their experience, demonstrate the mood they are feeling, and generate metaphors, which assist them in communicating an observation. Students discover that when they use color in their pictures they are able to communicate and express their feelings more effectively. Furthermore, Guilford’s (1995) theory implies that the choices of selecting certain colors are biologically determined and students choose them consciously and intentionally (p. 4 & 129). Color is an important element in a photograph and in a drawing it makes it very interesting to the viewer. Overall, color is effective in getting the attention of the student and helping retain information. Therefore, color visuals are important to incorporate in our teaching.

Finally, when using visuals in teaching, it is very important to consider the significance of the amount of information an illustration contains in the image. The images that contain too much or too little instructional stimuli negatively affect student learning. If the picture shows too much information, then the student will
experience a difficult time distinguishing the most significant learning cues and may not pay attention to them. Therefore, the students will not learn the desired information. If the illustration has too little stimuli, then the student will be at a disadvantage because there is not enough information from which to learn (Dwyer, 1978, p. 6). One important feature about illustrations is the quantity of information a picture is trying to convey to students. Teachers should consider what type of information they wants their students to learn from the illustration and how much detail the picture possesses. In spite of everything, "shapes and color show more than words" (Ernst, 1994, p. 56) and "a picture is worth a thousand words" (Hittleman, 1985, p. 32).

The Benefits of Using Visuals

The benefits of using illustrations in our classroom settings are immense because students will gain knowledge by observing the images. It is imperative that the teachers know how to use these visuals effectively and choose appropriate illustrations for the intended audience. Visual can have a great impact on student learning.
Why are visuals so important in improving and explaining new information? Dywer (1978) identifies a variety of reasons that benefit the student’s learning in the classroom, including increased learner interest, concentration, motivation, and curiosity. They also span linguistic barriers, and grant the learner the experience to perceive various situations from a different point of view. Furthermore, visuals can facilitate the retention of knowledge, provide instructional feedback, stimulate discussion, and raise meaningful questions. Pictures can clarify information, while also reinforcing oral and printed communication. Visuals can increase the reliability of communication, which makes the learning more precise and accurate. Pictures bring inaccessible processes, events, situations, material, and phase changes in either time or space into the classroom (p. 12).

Positive Effects of Visual Literacy for English Language Learners

Students from different backgrounds benefit from observing illustrations in the classroom everyday. Picture books can be an important tool in developing
proper observing skills and making connections with their prior knowledge. In addition, picture books show a sequence of illustrations with the presence of print, alone, or together to provide a better understanding for students' learning (Kiefer, 1988, p. 261). A study made by Applebee (1978) asked a group of kindergartners about how pictures made them feel, and the most common response was "happy". Marantz (1977) argued that an illustration in a picture book reinforces the meaning of print, and pictures are what tell the story (Kiefer, 1988, p. 264-65). In addition, students utilize their verbal and visual experiences to form meaning when reading or viewing a story (Day, 1996, p. 154).

Picture books are also valuable for students who are acquiring a new language. English language learners (ELL) "rely on illustrations and graphic clues to attach meaning to printed material" (Cooper & Pikulski, 2001, p. 8). Many teachers use picture or wordless books to enhance English for the ELL learner. Picture books tell stories through images by conveying storytelling experiences. In addition, picture books: expand student knowledge of narrative format by presenting a story through illustrations, allowing students to create an
oral text; help students draw pictures based on their personal experiences and knowledge to interpret the stories and create meaningful stories; and are less intimidating, resulting in students being more willing to take risks in predicting. In addition, students observe the detail in an image as cues to create text in the order of events (Flores, 1998, p. 2).

The following procedure in using wordless books facilitates student learning (Flores, 1998, p. 3-4). The teacher encourages students to look at the picture book from start to end before creating a narrative text. When students have discussed the picture book, they can then begin communicating orally to the group and the teacher. With the teacher's direct guidance and instruction, students can more in depth comprehend the story. Each session can take approximately twenty to thirty minutes, which is the optimum time for this procedure. It usually takes a whole week to complete an entire wordless book with the whole class. Instructors can choose a picture book per week or according to the thematic unit the class is using. Students draw and create their own wordless pictures related to the themes. Furthermore, student
versions of their stories can be tape-recorded and "re-read" with their picture books.

One benefit of using wordless picture books is that it provides English language learners with the experience of understanding spoken and written language in both languages. Students are willing to share their own wordless picture stories aloud during sharing and reading time with their peers. Students will take risks, make predictions, and are more aware of narrative text. Children often use their prior knowledge to make connections with the story (Flores, 1998, p. 5). Dr. Flores (1998) summarizes the benefit of using wordless picture books:

This social interplay of oral and written language around mutually constructing a story together from pictures particularly enhances children’s awareness of the elements of narratives, as different children focus on different aspects of the story. Receptive control (understanding) precedes productive control (expected native or adult use); therefore, the second language learner’s developmental production is continuously respected as he/she learns. (p. 5)

These descriptions, procedures, and benefits follow closely the California Standards. For instance, in the beginning stage of English Language Development,
according to the California Department of Education (2001):

Students should be able to respond to simple directions and questions by using physical actions and other means of non-verbal communication (e.g., matching objects, pointing to an answer, drawing pictures) (p. 2).

According to the California Department of Education (2001), English Language Learners show significant growth in learning English with wordless books. Photography is another source that provides students from different ages and developmental levels the opportunity to use pictures as a direct experience. Students are able to rearrange the images to organize their thoughts for their writing. On the other hand, teachers should use white boards, overheads and chart paper to show illustrations and in words what she is trying to teach (Cooper & Pikulski, 2001, p.6). Teachers need to use visuals to reinforce vocabulary, concepts, implement cooperative learning, and building new vocabulary as a curriculum anchor. Visuals are useful in assisting students to visualize the abstraction of the English language development and increase learning (Gersten & Baker, 2000, p. 454 & 463).
Assessing Students with Primarily Visual Methods

There are some benefits to assessing students visually versus through verbal and printed material. Laftkowitz (1978) has identified several advantages of visual testing, including: (1) A pictorial exam is more precise and easier to comprehend, decreasing the emphasis on reading material; (2) visual tests are useful in asking effective questions about things that cannot be described in words and are interesting to students; and (3) a visual test takes less time to implement and is less clumsy. In addition, it can be given to any group size and is cost effective because there is equipment required to set up (Dwyer, 1978, p. 233). This kind of pictorial testing has been proven reliable, valid, and capable of being successfully administered (Dwyer, 1976, p. 235). For primary grades, the use of visual examination is very useful since students are barely learning new vocabulary before beginning to write and read.

In summary, based primarily on this review of the literature, I consider the following questions to be important when planning a unit for kindergarten students:
1. How can visuals be used effectively in teaching new concepts?
   a. Are the visuals appropriate for students' level of understanding and developmental stages, and do students find the visuals meaningful?
   b. Do the visuals have the right amount of information to be effective? (neither too much, nor too little)
   c. How can visuals be used to effectively assist students in acquiring new vocabulary in English?
   d. Do the visuals effectively use color to facilitate student learning?

2. How can learning modalities be used in lesson planning?

3. How can visuals be incorporated in the process of assessing student learning?

4. Does the unit offer a variety of experiences that would be meaningful to students?

5. Does the unit address general themes that integrate a variety of subject areas?
6. How graphic organizers be effectively integrated in the unit?
7. How can cooperative groups be used effectively in this unit?

These questions form the basis for the methodology discussed in the next chapter.
CHAPTER THREE

METHODOLOGY AND PROCEDURES

 Procedures

The purpose of this project is to develop and evaluate a process for creating effective units for kindergarten students that effectively utilize visuals in the instructional process. In order to achieve this purpose the methodology consists of the following steps: (1) reviewing of the relevant literature, (2) developing a process for planning learning opportunities for kindergarten students based on the review of the literature, (3) receiving feedback on the draft of the process from appropriate experts, (4) revising the process based on the feedback from the experts, (5) the development of a sample unit using the process, and (6) evaluating the effectiveness of the process for planning learning opportunities by submitting the process and sample unit to experts for feedback. The rest of this chapter will describe in more detail each step of the methodology.
Rationale for Unit Development

The five topics guiding unit development, as previously discussed in the review of the literature are how the brain learns, the learning styles, the use of graphic organizers, English language learners, and assessing using visuals. The first topic deals with how the brain processes information, including visuals, when acquiring new data from the environment. In addition, this section explores how the left and right hemispheres process visuals. The second topic focuses on the various learning styles, such as visual, kinesthetic, auditory, and tactual learners. According to the research, these modalities have special functions in each student’s learning style. The third topic discussed was the influence of graphic organizers as visual tools to facilitate students learning, such as Venn diagrams, webs, and graphs. The fourth principle describes English language learners and how these students can benefit from seeing visuals in the learning process of a new language. The last section describes the advantages and disadvantages of assessing students with visuals in a classroom setting.
Process for Planning Learning Opportunities

A draft of a process for planning learning opportunities for kindergarten students was developed, taking special notice to English Language Learners students, and having proper alignment to the principles identified in the review of the literature. Based on the review of the literature and specific topics, a checklist for kindergarten teachers will be developed to plan effective lessons. Feedback regarding the draft was received from teachers.

The process was submitted to two professors and three kindergarten teachers for feedback. Before submitting the draft of the process to the experts, questions were developed to accompany the draft that was reviewed for feedback. Revisions were made based on the feedback from the two professors and three kindergarten teachers, resulted in the final form of the process.

Evaluating the Process for Planning Learning Opportunities

A sample unit developed based on a unit previously taught using some of the principles. The topics for the original unit were related to the spring season and the
original unit contained seventeen thematic lessons (See Appendix A). Each lesson takes about twenty to forty minutes to complete and the entire unit took approximately four weeks to complete. The original unit was revised based on the developed process for planning units. The effectiveness of the process for planning learning opportunities was evaluated by submitting the process and the sample unit to experts for feedback. At least three kindergarten teachers evaluated the sample unit. The questions that were developed for the experts to address concerning the process:

1. In your opinion would the unit be effective for a kindergarten class with English Language Learners?

2. Were the principles of using visuals effectively applied well in this unit?

3. Do the lessons address a variety of learning styles?

4. Does each lesson have an effective evaluation procedure?

5. Any suggestions considering improving the process or unit?
The collected data was analyzed for implications concerning the effectiveness of the project. In the following chapter the results based on the methodology are addressed.
CHAPTER FOUR
RESULTS

The goal of this project was to develop a process for planning effective lessons for kindergarten students. More specifically, this project enabled me to develop a process for creating effective units for Kindergarten students that effectively utilize visuals in the instructional process. This chapter details the results of implementing the methodology for developing the process for planning effective lessons: (1) reviewing of the relevant literature, (2) developing a process for planning learning opportunities for kindergarten students based on the review of the literature, (3) receiving feedback on the draft of the process from appropriate experts, (4) revising the process based on the feedback from the experts, (5) the developing of a sample unit using the process, and (6) evaluating the effectiveness of the process for planning learning opportunities by submitting the process and sample unit to experts for feedback.

As described in the previous chapter, the review of the literature consists of five important topics: (1)
how the brain learns, (2) the various learning styles, (3) the use graphic organizers, (4) English Language Learners, and (5) how to assess using visuals. Seven questions were identified based on the review of the literature for the first draft of the process for planning effective units.

1. How can visuals be used effectively in teaching new concepts?
   a. Are the visuals appropriate for students' level of understanding and developmental stages, and do students find the visuals meaningful?
   b. Do the visuals have the right amount of information to be effective? (neither too much, nor too little)
   c. How can visuals be used to effectively assist students in acquiring new vocabulary in English?
   d. Do the visuals effectively use color to facilitate student learning?

2. How can learning modalities be used in lesson planning

3. How can visuals be incorporated in the process
of assessing student learning?

4. Does the unit offer a variety of experiences that would be meaningful to students?

5. Does the unit address general themes that integrate a variety of subject areas?

6. How graphic organizers be effectively integrated in the unit?

7. How can cooperative groups be used effectively in this unit?

Questions 1 and 1a were derived from the sections on how the brain processes information. When babies are born they are right brain oriented, which means that they learn by observing, because they are non-verbal. When students enter school their right hemisphere is more dominant than the left hemisphere. Therefore, students use their right brain more and learn visually more effectively. Questions 1b and 1d came from the topic of the importance of color and detail of illustrations. Shulamith Kreitler (1972) explains that in our daily lives "colors are bound up with forms, objects, meaning, situations, memories" (p. 132). Question 1c related to the topic of the positive effects of visual literacy for English language learners. Visuals are useful in
assisting students to visualize the abstraction of the
English language development and increase learning
(Gersten & Baker, 2000, p. 454 & 463). Question 3 came
from the section regarding how to assess students with
primarily visual methods. Laftkowith (1978) explains the
benefits of testing visually. For example,

... a pictorial exam is more precise and
easier to comprehend, decreasing the emphasis
on reading material. Visual tests are useful in
asking effective questions about things that
cannot be described in words and are
interesting to students. (p. 233)

Questions 2, 4, and 5 were derived from the section
on learning styles of students. Flaherty (1992) explores
the four most important learning modalities, which are
kinesthetic, visual, auditory, and tactual learners.
These four learning styles should be considered in all
lessons to increase the likelihood that all students will
learn. Questions 6 and 7 related to the section about
the influence of graphic organizers visuals on learning.
Graphic organizers are suitable for various class-
learning environments such as in paired groups,
cooperative groups, and individual work. Using graphic
organizers can promote social interaction, and self-
satisfaction as well as enhancing learning (Egan, 1999, p. 643-644).

The three kindergarten teachers and two professors provided feedback regarding these seven questions. Teacher A has had seven years of experience in teaching kindergarten through second grade, kindergarten being her most recent grade teaching. She suggested to add a question about learning modalities which asked if “visual, auditory, and kinesthetic learning modalities were included?” Teacher B had been teaching kindergarten for the past thirty-two years. She replied, that the questions were good broad-based assessment for designing and planning effective lessons. Also, the lessons cover other areas other than visual learning and students learning modality is taking into consideration. Teacher C had twenty-two years teaching and fifteen years teaching kindergarten. She suggested adding a question about asking whether a specific plan designed for a certain group or grade level was included.

Professor A is a college professor who has been teaching for many years at the university level. Professor B is also a college professor who had taught 24 years in the credential program as well as classes for
the master's program. They assisted me with the
development of the questions based on the review of the
literature, and provided feedback on potential questions
submitted to them. The revised checklist of questions
based on this feedback is shown below.

1. How can visuals be used effectively in teaching
   new concepts?
   a. Are the visuals appropriate for students'
      level of understanding and developmental
      stages, and do students find the visuals
      meaningful?
   b. Do the visuals have the right amount of
      information to be effective? (neither too
      much, nor too little)
   c. How can visuals be used to effectively
      assist students in acquiring new
      vocabulary in English?
   d. Do the visuals effectively use color to
      facilitate student learning?

2. How can learning modalities be used in lesson
   planning?

3. How can visuals be incorporated in the process
   of assessing student learning?
4. Does the unit offer a variety of experiences that would be meaningful to students?

5. Does the unit address general themes that integrate a variety of subject areas?

6. How graphic organizers be effectively integrated in the unit.

7. How can cooperative groups be used effectively in this unit?

8. Does the unit have a specific plan that is designed for a certain group or grade level?

9. Does the unit offer a variety of experiences that would be meaningful to students?

A unit was developed using the questions that were extracted from the review of the literature to help insure an effectively. The unit was developed in the spring season when students were studying about the different seasons in their language arts series. Spring is the season towards the end of the school year, and the students at this time are more academically mature. Consequently, the students were able to write simple or pattern sentences at this time of the year. Given the tasks, the students would be successful in doing the activities in this unit. The unit took approximately
three weeks to complete and each lesson took
approximately twenty minutes to an hour to complete.
Each lesson included the use of various student-learning
modalities and emphasized a thematic approach. The
sample unit was also shown to the same three kindergarten
teachers to get feedback based on their experiences. The
feedback for the unit included responses to five
questions, which were mentioned in chapter three. These
questions were:

1. In your opinion would the unit be effective for
   kindergarten students with English language
   learners?
2. Were the principles of using visuals effectively
   applied in this unit?
3. Do the lessons incorporate a variety of learning
   styles?
4. Does each lesson have an effective evaluation
   procedure?
5. Any suggestions concerning improving the process
   or unit?

The teachers' feedback was very beneficial in developing
a more effective unit. Teacher A's responses to these
questions were:
information, especially those with language limitations. Visuals are a great jumping off point to stimulate language use as well as enhance understanding. Good motivation, too.

The unit includes strong use of visuals in a variety of ways, as well as addressing other learning modalities. Lots of high interest activities and opportunities for assessment.

Teacher C’s response:

Visuals are appropriate, used picture books. Good for English language learners’ students. All modalities were taken into consideration as to students learning styles.

Incorporated visuals in assessment. Had students discuss orally, draw and write a short sentence. Experiences were meaningful, and this enhances student understanding.

Graphic organizers! Good use of web organizers to build background. Students had the opportunity to work in cooperative groups and learn from each other.

The feedback from these teachers was very important in making the sample unit more effective for kindergarten students. In general, the feedback from the teachers, indicated that the unit was effective. Based on the feedback, a few changes were made in the unit. Based on their responses, the sample unit was revised to better assist students. Each lesson now has the grade level for which it was intended. The lessons do emphasize visual and kinesthetic learning, however, Teacher A suggested
adding music or singing for the auditory learners. Several lessons were added to the curriculum unit with an emphasis on auditory learning. The two new lessons also assisted English language learners to increase their vocabulary in English. Teacher A and Teacher B, who have many years of experience working with young students, suggested adding the grade level to each lesson and to address more in depth the auditory modality. These were the only changes that were made to the unit (See Appendix A).
CHAPTER FIVE

CONCLUSIONS

In this chapter, I will summarize the conclusions based on the methodology, and discuss my observations and recommendations concerning the project. It was an interesting topic to research and a very challenging and worthwhile task. This project emphasizes the importance of using visuals in the classroom. Visual literacy can assist students with their learning in any subject area. Students benefit from visual literacy and every teacher should use this tool to promote effective learning.

In the review of the literature, I explored five topics: how the brain learns, the various learning styles, the use of graphic organizers, English language learners, and how to assess with visuals. Seven questions were developed based on this review of the literature that were judged essential to designing a curriculum unit. These questions were used to develop a unit taking approximately four weeks to complete. The questions and lessons were modified based on the feedback from three kindergarten teachers and two professors. The
final product was complete and judged quite useful for kindergarten teachers to use in their classrooms.

The review of the literature was very meaningful in understanding the informal observations and experiences gathered in relationship to what was found in previous research and experiences. The various topics that were discussed in the review of the literature, such as brain based learning, the various learning modalities, the use of graphic organizers, English Language Learners, and assessments with visuals enhanced my pedagogical understanding and aided in developing better lessons for kindergarten students.

The seven questions that were developed from the research study were very meaningful in creating better lessons or units. The importance of using visuals to better help kindergarten students understand the concepts cannot be stressed enough. The questions were used as a guide to develop a curriculum unit that would address the issues and findings that were found in the literature review. Showing the seven questions and the unit to several experienced teachers was beneficial in developing an even more effective curriculum unit. The feedback provided by the kindergarten teachers was very important.
because their expertise assisted in modifying various methods of developing the unit. All three teachers agreed that using visuals was an important component in most lessons. In addition, they recommended adding several more questions in planning effective lesson. Furthermore, two additional lessons were added to the unit to enhance the auditory learner’s experience by adding music and songs. Also, adding the grade level to each lesson was suggested to emphasize the grade to which the lessons were meant to be taught. In conclusion, all teachers approved the lessons as well as the whole unit, and had generally positive remarks about the project.

The unit is full of rich learning experiences as well as visual literacy opportunities for the students, into account the different learning styles of each student, and what they need to learn from the required information. In the unit, students had the opportunity to learn certain topics. Using methods of learning consistent with various learning modalities. The unit contains thematic lessons, which gives students various opportunities in learning two or more subjects at a time. It also takes into consideration the students who are acquiring English as their second language. These
students benefit from this unit because of provisions for addressing their needs. This unit is very valuable for kindergarten students and for teachers to implement in the classroom. Thus, if using the unit, kindergarten students will have an opportunity to utilize their five senses in a variety of methods.

Visual literacy has great effects on students learning because they are able to process information much easier. In addition, students who look at visuals are able to learn the concepts faster. Additionally, English language learners learn a wide variety of vocabulary in English through the usage of visuals. The use of graphic organizers, learning modalities, and picture books are just a few visual learning tools that aid students in their learning process. These visual tools assist students in learning different concepts in various subjects. Overall, visual literacy facilitates the learning process for students of all ages and they benefit from these learning process.

Further research in this area is recommended to better assist students with their learning process. This continued research should explore and study in further detail the learning process of English language learners.
with the use of visuals and the effects of visual literacy in a second language. In addition, the study should focus on the use of visuals in planning units at the kindergarten level and how to assess students effectively using visuals as a tool. Hopefully, these suggestions will assist future teachers in their effectiveness as educators at the kindergarten level. Students at this grade level will benefit from a further study of visual learning because they will develop a good foundation in learning.
APPENDIX A:

REVISED CURRICULUM UNIT
The Seasons of the Year

Week 1

Day 1

Grade: Kindergarten

Objective:

Students will distinguish the four different seasons of the year (Spring, summer, fall, winter). Students will be looking at the illustrations of the book to see how each season looks like. Visuals are a great source for this lesson in learning about the spring season.

Vocabulary: Spring, summer, fall, winter, harvest, melt, rage, sprouts, bloom

Materials:

• Big book “Spring Is Here” includes science links “What Season Is It?”

• Markers

Time: 30-40 minutes

Procedure:

• Teacher builds background by pointing to the word spring and they all read it together. Teacher draws a web organizer about what they know about spring. Teacher writes students’ responses around the word
spring. Teacher tells students that maybe the author will have the same ideas as they do about spring.

- Teacher does a picture walk in which she demonstrates each picture of each page of the story "Spring Is Here" to the students. In addition, she asks each student what they see in each page of the story. The teacher wants each student to response to what they see in the story.

- After completing the picture walk, then she reads the story by pointing to the word in the book. Students and teacher discuss the story while reading the story.

- Then she to tell her what season do they see today? What can they tell about each reads the science link "What Season Is It?" She chooses some students at random season? What is the difference between each season?

- Students will name each season as they look at each picture and the order they come in.

- Teacher will talk about the seasons are the same and different.
Evaluation:

Teacher will ask students if they learned something new from the story. Each student will share with the class what they learned from the article.
What is Spring Like?

Day 2

Grade: Kindergarten

Objective:

Students will learn more about the spring season. Students will write a sentence by themselves about something that they have learned about spring. Students will look at visuals from the book to choose an idea for that concept.

Material:

- Book story “About Spring”
- Pencils
- Crayons
- Line paper

Time: 20-30 minutes a group of 6-7 children

Procedure:

- Teacher will read to the whole class the story “About Spring,” and will discuss it. After discussing, the students will go to their centers.
- Each student will receive a line paper to write something new about spring.
• Teacher will assist each student with their writing and students should be able to write sight words and cvc words.
• Students will draw a neat picture related to their written sentence or dictated.
• Teacher will make a bulletin board with students' writing samples. The bulletin board theme will be "What is Spring like?"

**Evaluation:**

Teacher will ask students to read the sentence that they wrote on their paper. The written sentence has to match the illustration.
Fall, Winter, Spring, Summer

Day 3

Grade: Kindergarten

Objective:

E.L.D students will be involved in identifying the four seasons through art and language arts. This lesson will address the needs of English language learners as well as English only speakers. Students will listen to a story about the seasons and will make an art activity. This lesson will take 2 days to complete it.

Materials:

- Story big book “A Year Goes By”

Time: 15-20 minutes

Procedure:

- Teacher will write on the board what students know about each season. What things do they see in each season?

- Teacher will read aloud the story and will point to each illustration and ask students about what they think is happening and ask if they have ever been in that situation.
• Teacher will ask students to name the season they see and will encourage students to retell the story with a partner.

**Evaluation:**

Ask students if they can identify the four seasons of the year.
**Seasons Song**

**Day:** 4

**Grade:** Kindergarten

**Objective:**

Students will learn the seasons I sequence and how trees change in each season.

**Material:**

- Big Picture Poster 6 “Song of the Seasons”
- Audiocassette 1B

**Time:** 15-20 minutes

**Procedure:**

- Teacher will discuss the word season and its meaning. Teacher will show the big picture poster and point to each season in order.

- Teacher invites students to share something what they know about any of the seasons.

- The teacher will point to the words in the song and read them several times.

- Teacher will play the audiocassette and start singing the poem as whole class together.
Evaluation:

Teacher will point to each season picture and ask at random to students if they can name that season.
Order Sequence of a Season

Day 5

Grade: Kindergarten

Objective:

E.L.D students and English speaking students will make an art activity related to the four seasons. Visuals will be included in this lesson and students will be working in cooperative groups.

Materials:

- Big book "A Year Goes By"
- Tissue paper colors (red, pink, lime green, festive green, yellow, light purple, cotton balls)
- Glue, pencils, blue construction paper divided in four squares each labeled with a different season

Time: 20-30 minutes

Procedure:

- Teacher will review story "A Year Goes By" and will ask students about what happened in the story.
- Teacher will explain the art activity of what to do with the tissue paper and cotton balls.
• In the winter square, students will glue cotton balls on the tree branches for the snow, the spring square, students will glue pink and purple tissue paper on the trees for blooming flowers. In the summer square, students will be gluing green and lime green tissue paper for the leaves on the tree and for fall, students will be gluing red and yellow tissue paper to falling leaves.

• Students will be able to distinguish the changes that trees go through each season.

Evaluation:

After completing the activity, teacher will ask each student orally to name each season and describe trees look in each period.
What’s a Seed?

Day 6

Grade: Kindergarten

Objective: Students will learn how seeds grow and turn into different plants. Students will look at the visuals from the book to see the developing of a plant. These pictures will help them to understand how plants grow.

Vocabulary:

- seeds, plant, stem, petals, perky

Material:

- Book Story “I’m a Seed.”

Time: 20-30 minutes

Procedure:

- Teacher asks students if they know, what a seed is.
- Teacher writes student’s responses on the board.
- Teacher demonstrates different kinds of flower seeds.
- Teacher reads story “I’m a Seed,” and discusses story as she reads it.
**Evaluation:**

Teacher asks a student if they are aware of what a seed is now and how do plants grow?
Plantation of a Sunflower Seed

Week 2

Grade: Kindergarten

Day 7

Objective:

Students will learn how to plant a sunflower seed in a plastic cup. This lesson will give students the experience to understand the growth of plants. An instructional aide will assist each student in planting a sunflower seed.

Materials:

- Book "I’m a seed"
- 21 plastic cups
- Labels (for student names)
- 2-3 lbs. of soil
- Sunflower seeds
- Water

Time: 30-40 minutes

Procedure:

- Teacher reviews story "I’m a seed" and asks questions about the story.
• In small groups of 4-5 students, each student gets a plastic cup and a seed.
• An instructional assistant will assist students in planting the seed carefully.
• Students will plant the seed in a depth of one inch into the soil.
• After planting the seed, they will write their names on the labels and paste it on the outside of the cup.
• Students will water the soil to moisten the seed.

Evaluation:

Teacher will ask students orally what kind of a seed they planted and what kind of things does a plant need to grow (water, sun, soil).
A Seed

Day:  8

Grade:  Kindergarten

Objective:

Student’s will learn about the process of how seed grows through the song “A seed.”

Material:

- Chime-in chart 20 (a seed)
- Audiocassette 4B

Time:  15-20 minutes

Procedure:

- Teacher will ask students about what a seed is and what needs to grow.
- Teacher will read chant by pointing to the words and invite students to read along. Teacher will do gestures to imitate a growing seeds by crouching on the floor with arms covering head, raise arms in a circle overhead, flutter fingers of both hands downward, and slowly rise to a standing position.
• Teacher will play audiocassette 4B and sing along with the song from the cassette. At the same time the whole class will be making the gestures.

**Evaluation:**

Ask students at random of how a seed grows and can make the gestures.
#1 Observation of Seed

Day 9

Grade: Kindergarten

Objective:

Students will record the growth of their sunflower seed by drawing a picture on an observational log. Students will record three observations, which will be on day 1, day 4, and day 11. Students will understand the process of growth of a plant and how long it takes to see this change.

Vocabulary:

- Observation log

Materials:

- Observational log (worksheet)
- Pencils
- Crayons
- Sunflower plant

Time: 20-30 minutes

Procedure:

- Teacher will explain to the students how to use their observational sheet and where to record their observations.
• This log will be in the classroom until they complete their observations and then they will be able to take their plant home.

• A group of 5-6 students at a time will go observe their plant. Students will be recording their number one observation in the first column.

• Students will dictate to the teacher concerning their first observation.

• Students will draw a neat illustration about their data.

• On the second observation student will know what to do in their log.

**Evaluation:**

Teacher will ask students if their plant has changed and they will predict how long will take to grow.
The Cycles of the Caterpillar

Day 10

Grade: Kindergarten

Objective:

Students will be learning about the cycles of the caterpillar, in sequence. Students will be decorating a butterfly with potpourri. In this lesson students will be working in cooperative groups by decorating the butterfly and sharing the materials with their peers.

Materials:

• Story book "The Very Hungry Caterpillar"
• 21 black construction paper of cut outs of butterflies
• Two bags of potpourri
• 4 bottles of glue
• 4 white led pencils
• 4 containers for potpourri

Time: 30-40 minutes

Procedure:

• Teacher will be reading and discussing the story "The Very Hungry Caterpillar."
• Teacher will describe the four stages of the butterfly in order.

• After discussing the story, teacher will explain to students the activity about decorating a butterfly.

• Students need to write their names small with a white color pencil on the black construction paper butterfly.

• One group at a time will be doing this activity independently. Students should glue the pieces of potpourri one by one onto the black butterfly.

• After completing this activity, the butterflies should be left alone until they are dried up.

Evaluation:

Teacher will ask some students at random about the four stages of the caterpillar.
Realia Observation

Day 11

Grade: Kindergarten

Objective:

Students have a table for realia observations they observed artificial flower real sunflower seeds and artificial fruits. Students will have the opportunity to observe the objects that are related to spring with a magnifier glass. This lesson does not required procedures. Students observe the objects with a magnifier glass after they are done with their work.

#2 seed Observation

Objective: Students will be drawing for the second time in the observational log how their plant has developed. This observation will give each student the experience to see their own seed grow and they will understand the time it takes for it to come out of the seed.

Materials:

• Observational worksheet log
• Pencils
• Crayons
• Planted seeds

Time: 20-30 minutes

Procedure:

• The whole class will go outside to see the plants and see how much they have grown.

• After observing the plants students will be drawing a picture in the second column of their plant in their observational log.

• Teacher will ask each student how his or her plant has grown and how does it look.

• In the final observation, students will be recording their observations and they will be taking their plant home.

Evaluation:

Teacher will ask students how long did it take for the seed to grow. What things does a plant need to be able to grow? (water, soil, sun)
Sunflower Thematic Activity

Day 12

Grade: Kindergarten

Objective:

Students will count sunflower seeds and writing a simple sentence using sight words. In this lesson, I integrated math, science, art, and language arts. In addition, parent involvement was very important in completing this lesson.

Materials:

- 21 18” by 11” inches of black construction paper
- two bags of sunflower seeds
- 4 bottles of glue
- White colored pencils

Time: 45-60 minutes

Procedure:

- Teacher will explain to students about gluing sunflower seeds inside a circle that the teacher already has made for them on the black construction paper.
- Students will try to fill out the circle with sunflower seeds.
• After completing gluing the sunflower seeds each student will be counting the seeds that they glued and they will be writing on the bottom of the paper, “I have ___ seeds.”

• Students will practice writing sight words and numbers on a white dotted line that the teacher made for them.

**Evaluation:**

Students will read to the teacher the sentence that they wrote by pointing to each word.
Painting and Handprint Lesson

Week 3

Grade: Kindergarten

Day 13

Objective:

Students will learn how to stamp their hand with paint and how to use a paintbrush to paint. A parent volunteer, will help each student make their sunflower art project.

Materials:

- 1 bottle of yellow tempera paint
- 1 bottle of green tempera paint
- Paper plates
- Paint brushes
- Smocks

Time: 30-40 minutes

Procedure:

- Teacher will demonstrate to students how to stamp their hand in paint and use a brush to paint.
- Each student will put their right hand in yellow paint and stamp their hand around the circle of sunflower seeds. Students will wash their hands
and continue to paint the stem and leaves of their sunflower. They will be use a paintbrush with green paint.

- After finishing stamping and painting the sunflower, the teacher will leave the work to dry.
- Teacher will create a math bulletin board titled "How many seeds does your sunflower have?" with the sunflower painting.
- Students will be able to see their work on display on the wall.
#3 Seed Observation

Day 14

Grade: Kindergarten

Objective:

Students will record their final observation in their logs, and they will take their plant home. Students will have the opportunity to reflect on the experience with their plant project. Students will work in cooperative groups to discuss their plant development.

Materials:

- Observational worksheet log
- Pencils
- Crayons
- Planted seeds

Time: 20-30 minutes

Procedure:

- The whole class will observe the plants for the last time and see how their plants developed.
- Students in their groups will draw their observation in the third column in their observational log.
• Students in their groups will discuss the growth of their plant and how they look.

**Evaluation:**

The teacher will ask how they are going to take care of their plant at home. What things does the plant need to grow?

**Objective:**

Students had the opportunity to show to their parents the work that they have completed for this unit. Parents were invited to “Open House” and see their children’s work. Each student showed their own work to their parent that was on display in the classroom. Each parent enjoyed seeing the work of his or her child.
Graphic Organizer about Fieldtrip to Botanic Garden

Day 15

Grade: Kindergarten

Objective:

Students will be learn about the "Botanic Garden" located at the University of Riverside. Students will help the teacher create a graphic organizer about the things they will be seeing at the garden.

Vocabulary:

- garden, web, flower names, animal names

Materials:

- Markers
- Pictures of the garden
- Chart paper

Time: 20-30 minutes

Procedure:

- Teacher will ask students if they know what is a garden and whether they have they ever been to a garden.
- Teacher will show pictures of various kinds of gardens to the whole class.
• The teacher will create a web to write down the ideas of the students on a piece of chart paper of the things they might see at the garden.

• Everyone in class reads with the teacher the ideas they gave her to write.

**Evaluation:**

The teacher will orally ask students at random about the ideas on the web.
Fieldtrip to the Botanic Garden at University of Riverside

Week 4
Day 16

Grade: Kindergarten

Objective:

Students will have the opportunity to experience seeing real gardens at the University of Riverside. Students saw various kinds of plants, insects, lizards, birds, turtles, and frogs. They use all of their senses in going to this fieldtrip to the Botanic Gardens. The Botanic Garden is a perfect place to go see the flowers blooming, hear birds singing, see the different kinds of animals, touch some different types of vegetations, and smell the roses. Students enjoyed going to the garden and it will be an experience that they will never forget.
Student’s Writing about Fieldtrip

Day 17

Grade: Kindergarten

Objective:

Students will write one or two sentences about the best thing they liked at the garden. Students will be drawing pictures about the field trip and writing about their illustrations.

Materials:

• Lined paper
• Pencils
• Crayons

Time: 1 hour

Procedure:

• Students will review with the teacher the web organizer and discuss if they saw any of the things they thought would have seen.
• On a piece of paper they will draw a picture about their favorite thing they saw at the garden.
• Students will write some sentences related to their drawing using sight words and cvc (consonant vowel consonant) words.
Evaluation:

Students will read their sentences to the teacher and they will point to the words as they read the sentences. Teacher will see if the sentence matches their drawings.
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