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Qué comes tú?/What do you eat?

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Introduction

I would like to focus on how quality of consumption may be critical in my students' understanding about food and responsibility. The eating habits of the children in the United States are alarming. As a nation that has access to the best resources and products in the globe we must improve on the patterns of consumption if we want to prevent food-related illnesses, especially among children. In a recent survey of children between the ages of 2-15 and their families were asked their consumption patterns of the following types of food: fruit, vegetables, sweet foods, and soft drinks. The results showed that most children consume sweet foods and soft drinks more often than they do fruits and vegetables (Department of Health, 1997). The alarming factor is that the lower the income the higher the consumption of sweets and soft drinks (Killen & Robinson, 2000). Immediately a question comes to mind: Is it that we consume less low-fat products at lower income families because prices or because of the desire to eat sweets? It is interesting to know that frequently low-fat products are priced higher and that a closer look may indicate that in fact sweet foods are not only delicious but they are cheaper (Willett, 2002). All this makes me think of the need to know more about eating habits and consequences. First we must agree on the fact that children's eating habits are limited by what is available to them at home and at school. In addition, children's lifestyles are very much influenced by the home environment and the school program. Furthermore, the American Dietetic Association calls for increased attention to the role that television may play in developing eating habits, especially those related to advertisement of unhealthy foods and the sedentary conditions related to television (Collins, 2002).

My focus in this unit and background information is on quality eating habits. Although both physical activity and quantities consumed are an important part of a healthy development, I have chosen to focus on how to make healthy decisions about food. I must look at the possibilities of providing children with the information necessary to make choices on what they eat and in addition to help them know what personal and environmental responsibilities we have as consumers. Thus, my concern is that we must start by teaching them how food can be altered and managed for more nutritious and healthy consumption.

Overview

My students are part of an elementary school where approximately 80% of the children are Hispanic. According to many of the studies and recommendations issued by various health groups Hispanic children in the U. S. tend to have a low intake of vegetables and fruits. This is not the case in the communities from where these children migrate. Children are dependent on their parents in making choices of food. One observation I have made is that much of the produce that immigrants consumed in their homelands are very expensive here and we as educators can help our students and their families to become aware of the importance to continue consuming vegetables and fruits even if they are different. I am an immigrant myself and the transition has been difficult because the fruits in the tropic are different in flavor and in texture. The other aspect is to educate the students so they can be informed consumers. My hope is that if we start in kindergarten we can impact our students in a fundamental way. The problem is how to help them make healthy choices and above all how can I teach them what is healthy and why and what is not healthy and why. Perhaps teaching them how to answer questions and how to find proof of truth, such as when we use the scientific method to answer many questions in nature and life.

Children's dependency on parents' decision making is an important issue to consider when developing or implementing a unit on food. Very seldom kids have a saying on what is consumed at home. Many factors influence what parents purchase to feed the family. The expense of tropical fruits and vegetables, and the difficulty of adjusting to a new diet are two important factors that influence many of the purchasing decisions of parents. As a teacher I need to address these points, as they are not in the minds of officials who have responsibility for school food programs. Furthermore, I need to find ways to involve parents as to make them aware of what choices are available. Thus, this curriculum unit needs to address home-school connection.

As a curriculum and staff developer I am required to address multiple issues with teachers to address a variety of children's learning needs. Many of the issues can be address by developing appropriate curricula and by modeling strategies and behaviors that are more conducive to learning. In my professional experience both, children and educators will benefit from sharing concerns or questions and investigating to acquire knowledge through experience and dialogue. Thus, in addressing students' cognitive and socio-developmental demands an instructional approach may provide them with otherwise unavailable experiences.

Food is a major part of a child's daily routine and it can be used to teach them how to take responsibility for their actions. My premise is that children's behaviors are learned and therefore, we could help them recognize damaging behaviors by teaching them healthy alternatives. Taking cultural differences into account and within the parameters of their own reality I can help my students find healthy alternatives. This has been true in my experience with previous interventions in which I have used an instructional approach to address guidance issues (behavioral and/or self-esteem). Students are able to acquire knowledge while engaging in self-exploration.

At the moment my understanding about this topic is still limited but I have identified information that must be addressed with the population I work. The seminar that I attended addressed the topics of food, environmental quality, and health. This seminar allowed me to increase my understanding of the impact that the environment could have on our food supply. In addition, it allowed me to access resources that increased my knowledge about the impact that food could have on our health as individuals, special populations, a nation, and globally.

The curriculum unit provides a map that will increase my effectiveness in conveying the information to my students by providing a clear and well-thought plan. It allowed me to develop a set outline of information necessary for my students. Moreover, the unit outlines a set of effective strategies to encourage students' participation. Finally, it allows me to address the issue of healthy eating habits and responsibility.

Teaching students about food could be a fun adventure for both, the students and the educator. Yet, when you want to teach about eating responsibly to students in kindergarten many factors enter into play. Eating habits of children are: 1) learned at home, but 2) influenced by the circumstances of each individual, 3) the school they attend, 4) the schedule they have both, individually and as a group, and 5) individual preferences.

This topic came to mind after I saw a Science Fair project done by one of the Kindergarten classes in the school where I work. The children wanted to find out which of the major fast food burgers had the most fat. They chose to look into three different burgers, which the teacher purchased and brought to school. They put hot water in containers and placed each burger in the water. They left them there over night and the next morning they observed how much fat each container had. To their amazement their prediction of which burger would have the most fat was wrong. They realized that their visual and taste senses were not accurate. They also realized that one must formulate questions about what is eaten and engage in the scientific process to investigate what one consumes.

Considering that at the age of five children do not have much control of what goes on in their lives it is a challenge to teach them about responsibility. My idea to teach my kindergarten students about responsibility through the investigation of what they eat stemmed from this analysis. My professional opinion is that children and even adults learn and understand issues better if they inquire about it with a scientific process, such as posing questions, formulating hypotheses, observing phenomena, and analyzing, and drawing conclusions. To teach them the importance of making informed decisions I must find the appropriate pedagogical tools and educational materials that will address the following:

Responsibility for individual consumption
Responsibility for others - How their own eating choices affect others
Responsibility for our environment and other species

The Background

How does one address these issues in a kindergarten classroom and how can I help my students understand the scientific method as a viable way of making informed decisions? Could the scientific method provide them with sounder knowledge to make choices? First I must pose some questions for my self; what do I know about:

The risk of contaminants and additives in our food supply
National children food habits
Scientific inquiry
How to make healthy choices
How to teach about responsibility in Kindergarten

I want to start by providing the reader with the answers I found for these questions and the conclusions I draw out of this search of information in the literature and in the practice. I expect my conclusions may clarify how I go about using content information and pedagogical tools in developing and presenting my unit to my students.

Scientists have great difficulty in indicating what are the best ways to detect and combat contaminants in general due to the rapid development of substances in the food industry (Wargo, 2002). In addition, methods developed to preserve food utilized the addition of substances to it. These were food additives, such as salt (sodium chloride) and smoke, while the addition of various spices disguised the flavor of preserved food and made it more enjoyable to the taste. Salt and smoke are methods still employed today, while these and spices may be substitute by chemicals useful to preserve and increase the palatability of food. Many factors influence this search for the right additive; appearance, color, texture and the flavor of food, which is sometimes subject to experience and cultural tastes. Yet, all are clearly consumer bound; what we like is what we get or is it? First, we must start by learning, which are the contaminants and additives and understand how they find their way to our table.

Major Food Contaminants

Pesticides, herbicides, and fungicides

Antibiotics and hormones in animal tissues

Environmental contaminants

Metals - lead and mercury

Radioactive isotopes

Organic acids,

Hydrocarbon residues

Processing chemicals

Bleaches, solvent residues, waxes, dyes

Biological contaminants - endotoxins

Insect and parasite eggs, rodent feces

Bacteria, fungi, and viruses

Contaminants from shipping and storage

Adapted from: Drexler, M.

Major Food Additives

Anti caking agents

Antioxidants

Artificial sweeteners

Bleaching agents

Colors

Emulsifiers

Enzymes

Flavor enhancers

Flavors

Flour treatment agents

Food acids

Humectants

Minerals

Mineral salts

Preservatives

Propellants

Sequestrants

Thickeners

Vegetable gums

Vitamins

Adapted from: Bowes, D. M.

How do I talk to young children about this topic without creating a scare among them and their families? Perhaps we can talk about hygiene and our responsibility to keep our food clean in the same manner we keep our bodies clean. Also I may be able to use color and flavor to show how things may find their way into our food and the impact it has.

What about eating habits? Children have the ability to control their intake of food (Jonides, 2002). Not only that but they actually have become more adamant in respect to what they consume. In fact if we could work at enticing children to eat healthy food as Madison Avenue is working at selling them new products full of additives perhaps we too could be successful (applesforhealth.com, 2002). Children's eating habits can be influenced at an early age by parents and definitely by teachers and other educators. A lot has been said about kids eating junk food but the fact is that many of us have diets with high salt, fat and sugar quantities.

Our students need to know what this term means and how they can reduce the need to eat these type of food. Many times families opt for this type of food because they are easy to prepare or fast to buy. If we taught our students to snack on vegetables or fruits they may be able to consume less junk and more nutritional food.

Recently while visiting the local natural history museum I came across an article that made things clearer to me in terms of how science has been portrayed as for uncommon people. The article appeared on the Discovery Magazine of the Yale Peabody Museum of Natural History - Einstein and Frankenstein at play in *Jurassic Park.* Scientists seem to be extraordinary people who are either brilliant like Einstein or madly deranged like Frankenstein but never seen as an ordinary guy or gal who holds a job. Thus, limiting scientific inquiry to unordinary people. I realized that I must encourage my students to believe that anyone of them could be a scientist but further than that is to encourage them to actively participate in scientific inquiry to answer their questions about the world that surrounds them. It is crucial for students to realize that science is a process, a form of inquiry that provides a foundation for rational thought and responsible behavior.

Why scientific inquiry? According to many educators children learn concepts better if they can manipulate their environment while learning a new concept (Darling-Hammond, Wise, & Klein, 1999). To teach my students about making healthy eating choices and responsibility I wanted to use a process that fosters thoughtfulness. A topic such as the one I have chosen requires that my students are actively engaged in the process of learning and what best method to teach them but one that allows for critical thinking and intellectual growth. In addition, I can expose my students to the scientific method, which is an important part of our science focus program. What do I mean when I talk about the scientific method, this means that I will teach my students to share in the responsibility to learn from each other and even in the process of teaching new concepts and ideas. In addition, it means that they will learn a method to investigate problems posed by their environment and their curiosity. Laboratory science inquiry highlights for distinct traits of inquiry:

Connecting personal understandings with those of sound science
Observation of possible cause and effect relations
Constructing hypotheses
Designing experiments and collecting data
Investigating phenomena
Analyzing data to construct meaning from data and observations

Thus, this requires exploring, forming hypotheses, writing procedures, drawing conclusions, and analyzing data (Hinrichsen, 1999). To engage students in this process I intent to encourage them to use their own personal experience and what they observe in their environment at home, at school and at their community. This process of inquiry I hope will allow them to make connections, to pose questions, and to conduct observations to gain deeper understanding. Furthermore, they will have the opportunity to learn how to design a plan or procedure to collect data, manipulate materials. Thus, having to follow a plan, collect and present data or information and construct meaning. To do this children must engage in a reflective process

that allows for their voice and those of others to be heard. Constructing and predicting are essential by-products of this process. Children must be afforded the opportunity to make connections based on their understanding of the phenomena they study and in turn make predictions about it.

Teaching children to make healthy choices and teaching responsibility go hand-in-hand. The information I found from reports on studies and implementation of programs show that if we want kids to learn about making responsible choices we must allow for them to make decisions and to do so they must pose questions (Zolten & Long, 1997). As we approach new experiences in life we must pose questions in respect to how we react to circumstances and what are the consequences of our actions. Children are young adults who need to establish a method to analyze circumstances and determine what must they do to be appropriate in the context where they are. To teach them to do this we must provide them with opportunities to make choices. At the same time we must provide them the support they need in understanding the experience and allow for dialogue with us (educators) and their peers. In other words my choice of combining the teaching of scientific inquiry and responsibility is critical in trying to increase my students' understanding of their responsibility as consumers of food.

What is responsibility in terms of this unit involves the student's responsibility to self, others, and the environment. To achieve the understanding of these concepts I have chosen a story-book called the Little Red Hen. This story narrates the circumstances of a hen that works very hard at home. Even though she has many friends she must do all the work by herself. Yet, her friends like to reap the benefits of her hard work. I want to use this story as a tool for my students to reflect on responsibility. Moreover, the story involves food and planting which will allow me to engage the students in learning about these topics.

The Unit

My intent is to use the short story the Little Red Hen as the central literature piece to introduce and develop the topics of food and responsibility and using an inquiry-based teaching method. There are two products I hope to achieve: 1) is to test methods to teach understanding (such as the scientific method), and 2) to teach students the concept of responsibility in respect to eating habits.

Outline of the unit

Introduction -- Teaching about responsibility

The Earth - Our Planet; The Sun; and Water Changes

Living things - Plants and animals

Why do we need food?

Likes and dislikes

We have choices

Final Project: Student created book (Ongoing from the beginning lesson).

Topics: responsibility and food
Students will create drawings as a reflective activity after each session of the unit.
Student discussion with the adult in the classroom will produce the text as a joint activity.

A graphic organizer for the curriculum unit:

(figure available in print form)

I. Introduction -- Teaching about responsibility

In this part of the unit I intend to read the “Little Red Hen” short story to introduce both topics, the topic of responsibility and the topic of food and how do we obtain it. Prior to reading the book I must activate my students prior knowledge about chores, planting and sharing work and food. It is crucial to engage the students in a rich and interactive discussion among themselves and myself (the teacher). To allow for this I intend to ask open-ended questions, questions with more than one answer, and questions without known answers.

Sample Lessons and classroom activities

Lesson 1

Objective: The students will be able to define responsibility and give examples of responsible behavior.

Initiation: I will talk with my students about responsibility, I will encourage them to explain what are some of the things people do to help each other to complete chores at home and at school. The discussion will expand to include who is responsible to complete chores and come up with ideas on how they could help at home and school.

Presentation: I introduce the book (The Little Red Hen) by showing the cover and prompting the students to predict what is the topic and character in the story. After a brief discussion, I will read the story aloud for all the students. (At this point in the year the students are used to listening to stories).

Activity: Students will make a reflective drawing that will depict what happen in the story or their own version of the story; make sure they give emphasis to responsible behavior. In addition, I (with small groups of students) will discuss their drawings (the first group will talk with “the teacher”, me or other adult, about what they want to draw while the others are drawing independently). It is more effective if the drawing is done in pairs at this stage so they can help each other.

Closure: As a group let students present their versions of the story and how responsibility is portrayed. Teacher (me) should summarize by helping students define responsibility and introducing the next topic, which is responsible decisions.

Lesson 2

Objective: Students can define and identify responsible decisions.

Initiation: I will start a conversation with my students about the Little Red Hen and how her friends made decisions not to help her. I will read a letter from “With love, Little Red Hen”, I can pose questions on how the students could change the story so the hen’s friends would make responsible choices. Allow for the students to speculate and construct their own story they can reflect on both the friends and the red hen’s behavior.

*Note: Discussing this topic with one of my future students she expressed concern for the Little Red Hen reaction to her friends behavior. Jules said: “She should have shared her food anyway and maybe her friends would be nicer next time”.

Presentation: I will talk about decisions, explain how choices/decisions are made by individuals and in the case of kids their parents make decisions for them. Use illustrations to help students understand what is a decision. Ask students to give me examples of decisions they make and decisions their parents make for them.

Activity: Give students drawing paper and ask them to draw themselves making a decision and presented to their partner. Students need a lot of help from the adults in the classroom. You could give them alternative suggestions such as: drawing a decision they made in the morning, decisions their parents make for them, etc.

Closure: I will ask the group to help me define what is a decision, I will prompt the students to give examples of decisions they made today and decisions their parents or significant adults made for them today. You can play a game to give everyone a turn. Introduce the topic of responsible decisions that help our home, our community and our environment. (Environment might be a new concept for the students; I’ll introduce it in depth in the next session).

Lesson 3

Objective: The students will identify components of the environment.

Initiation: Talk about the Little Red Hen as an animal and planting to be able to eat. In the conversation is important to talk about actions and how the environment is affected by what we do. Bring a plant and show the soil, the roots, the leaves, etc. Also talk about the sun and water as important for plants to grow. Also how plants are important for animals and people.

Activity: Take students outside let them observe their surroundings and find plants or animals, the sun, other things they may see could be pollutants. This should be done in small groups of four or five so kids can help each other. Back in the classroom students will draw the “environment”, pictures of the outside of their school.

Closure: Discuss with the students how does their school’s yard looks like and how they can make it cleaner and more beautiful. Listen to the ideas, be sure to take into consideration good ideas for future projects.

Possible closing activity: Make Hot fudge sundaes. A poet called Jonathan Holden (Kessler, 1996) sees this type of sundae as our planet with clouds on top and layers of soil and lava. The whip cream represents the clouds, the hot fudge the soil and the ice cream the lava. This is an interesting activity to introduce the next topic.

II. The Earth - Our Planet; The Sun; and Water Changes

Lesson 1, 2, and 3

Objective: Students will be able to explain they live on a ball that is called Earth; the plants and the animals also live here. In addition, students will be able to explain their responsibility to keep the planet clean.

Initiation: 1) Start talking about the environment; the plants, the animals the water, the sun and the moon. Show students a globe and an orange ask students to tell you how they are similar. (Shape is the key here.) Let them touch it and ask them if they know what the globe is, encourage them to expand on their explanation. Talk about how round things move.

2) Ask them what they saw last night while looking at the stars. Bring a flashlight to school place it inside a box with a piping hole. Let the students look at the darkness inside the box then turn on the light and let them look again. Ask them what they saw in the box.

3) With both drawings of the day and night and the globe ask students what they think helps the sun and the earth for the plants to grow. Guide them by asking what is the blue component of the globe. Ask about thirst and how they enjoy water.

Presentation: In small groups of five I will read to students the following books: Our Planet, The Sun, and Water changes. (For the teacher to do this she/he would have to involve other adults and/or prepare centers that may enhance what the learning of this topic. In the small group discussions teacher and students engage in a discussion about the environment (another very brief initiation), then read the “Our Planet” book (substitute Our Planet with The Sun for 2, and Water changes for 3). Ask open-ended questions as you are reading to keep students clear about these new and difficult concepts. After reading ask student to help you summarize by making a group drawing of the information, let students participate in making the drawing.

Closure: 1) Ask students to gaze at the stars today with the help of an adult. Ask them to make a drawing of the sky. (Give students black construction paper and a white, silver or gold crayon to complete this activity). 2) Talk about the sun as our star. Ask them what they think they will see if you all went outside (record their predictions). Go outside and let them draw what they see. 3) Make terrariums that will help you explain how earth’s soil is a source for nutrients, the sun needs to play a part in the keeping of the terrarium and so does water. (This activity will also serve me to introduce the next part of the unit).

III. Living things - Plants and animals: and how they become food

This part of the unit includes an introduction to living things as opposed to non-living things.

Lesson sample 1

Initiation: Gather students around the terrariums to observe any changes. Have them draw what they observe. In small groups let the students share their drawings.

Presentation: I want to show them how different plants have seeds and how some of the food we consume are in fact seeds such as corn or beans (I am going to bring the real fruits or vegetables). I want to show them with a Chart how plants grow from seeds.

Classroom activity: In small containers (cups or milk containers) plant the bean seeds one with nothing, one with water and one with soil and water. I want the students to draw what they did for each container (the procedure).

Closure: After we have completed the drawings we will talk as a group about seeds and plants. I also want to

read with them a book on plants' growth and help them make connections to previous learned material that is related this one.

IV. Why do we need food? (Possibly include a brief overview of nutrition).

This part of the unit includes a brief lesson on nutrition and our bodies. I intend to talk about how food can give us energy and how it helps us to grow.

Lesson sample 1

Initiation: Introduce a KWL chart (K -- what do the students know; W -- what do they want to learn; and after the presentation do L -- what did they learned). Ask students to give you ideas on how food is good for your body. Then ask them what would they like to learn (in your discussion you may have to encourage them by giving them suggestion).

Presentation: I want to give a brief explanation about the food pyramid using manipulatives. I want to use plastic foods to show the kids samples of the actual components of the pyramid. Then I want to encourage them to give me examples of foods that are similar to the ones I brought to show them. I hope to be able to teach them the different type of foods and where they come from (e.g. animals or plants).

Closure: I want to complete the L part of the KWL chart. This chart will help me introduce the next topic. Which is food we like and dislikes and how food can be altered so we like it better.

Closing activity: I would like the students to participate in preparing a balanced meal, one that would include all the components we learned about and that would give me the opportunity to teach them about food safety and hygiene.

V. Likes and dislikes. (You could discuss sugar, salt and fats here, and possible flavors and colors.)

Lesson 1

Initiation: In pairs I'm going to have the students complete a Venn Diagram with pre-cut pictures of foods. The categories could be Foods I like, foods the 2 like, Foods my friend likes (you could also write Foods _____ likes, Foods_____& _____ like, Foods _____ likes.). Have students present to the group their Venn Diagrams.

Presentation: Talk about dislikes. Discuss with the groups about their choices of food and get them to share which foods their peers like that they don't like. Ask them if they have taste it them before (sometimes kids say they don't like food but they have never tasted them before) and prompt them to talk about why they don't like them. This is a good opportunity to review senses and how they influence our choices.

Closure: Have the students create a shopping list for a simulated market. The list can be done in groups of four with the pre-cut pictures. This is a good opportunity to practice numbers.

Lesson 2

Objective: Students are able to identify items they like and make a transaction to purchase them at the market.

Initiation: I will review with them the names of food items we discuss the previous session. I will ask them what makes this item likable or dislikable (e.g. taste, looks, smell, etc.).

Presentation: I will teach students to use play money to purchase items. To get them in the mind set of a market I'm going to read them a story: "I don't like bananas" (Hojel & Guy, 1999). This is a book about a child who goes to the market to purchase fruits. The book also presents the topic of like and dislike.

Classroom Activity: In the market the students are able to find foods that they like to put in a bag, we will have play money and the prices of the items will be posted.

Closure: I want to talk with the students about the market experience and introduce the concept of packaged foods and how supermarkets have many more choices for us to make.

Lesson 3

Objective: Students will be able to identify different flavor and how they influence our choices of foods.

Initiation: I want to review the previous experience in the market and talk about some of our favorite tastes (e. g. sweets, salty, sour) this could be new vocabulary. So we may need to spend some time acting out reaction to these flavors.

Presentation: In groups of 5-7 students I want them to gather around table set up with 6 cups with water. I want to have kids to taste the water and describe the flavor to an adult working with their group. Then I want them to describe how does water looks. Following this exchange of ideas I want to give each kid the opportunity to taste water with some sugar added, some salt added, and food coloring added. I want them to repeat the same discussion they had about the plain water but this time about each of the items tried.

Closure: I will introduce the concept of additives, by explaining that what we put in the water added a different flavor or look to the water. I want to ask them what they liked better the water or the one with sugar, salt, or color. I want to explain that many of the foods in the supermarket have something added so they taste better (or enhance the flavor).

VI. We have choices

Lesson 1

Objectives: Students can identify what garbage they create by consuming food.

Initiation: students will count how many items they throw away from their breakfast and lunch trays (e.g. milk carton, wraps, etc.)

Presentation: We will talk about the garbage we dispose after breakfast and lunch. And discuss the concept of building graphics to present data.

Classroom Activity: I will teach them how to build a graphic to present information we get from observations (data). We will build the graphic by collecting the individual tallies of each student and adults in the classroom.

Closure: Students come up with ideas on how to reduce the garbage so our planet can be kept cleaner.

Lesson 2

Objective: Students are able to talk about contaminants as elements present in food that are not suppose to be there such as metal, insecticide, etc.

Initiation: In a simulation I am going to pretend that I am going to eat a dirty fruit or vegetable. I am going to ask the students if I should eat it or not. Hopefully the answer will be no and then I could have them elaborate on the reasons we shouldn't eat dirty food.

Presentation: Introduce the need to clean produce before consuming them and due to things that get into food while in traffic to the market or while at the farm.

Activity: Make a salad with vegetables students brought or that they like. Teach them how to clean themselves and the produce to keep safe.

Closure: I want to talk about the importance of cleanliness for food consumption and for our planet. In addition, encourage students to draw a picture about a safe environment that is clean.

Final Project: Student created book (Ongoing from the beginning lesson).

Topics: responsibility and food

Students will create drawings as a reflective activity after each session of the unit.

Student discussion with the adult in the classroom will produce the text as a joint activity.

I intend to implement the preceding lessons. I may modify or add other lessons depending upon the students' development and understanding of the unit.

The Standards

This curriculum unit includes a variety of pedagogical practices aimed at the second language learner. Second-language learners must be treated with regard to their needs in a different manner. It is imperative that students are viewed as potential speakers and literate people of the target language. In order to address the educational needs of these learners I am including a list of the five standards for effective pedagogy proposed by the Center for Research on Education, Diversity, and Excellence (CREDE). In my instructional practice I incorporate these standards to enhance my performance in the classroom. These five standards are to be enacted by teachers to assure effective instruction:

> Facilitate learning through joint productive activity among teacher and students.
> Develop competence in the language and literacy of instruction throughout all instructional activities.
> Contextualize teaching and curriculum in the experiences and skills of home and community.
> Challenge students toward cognitive complexity.

Engage students through dialogue, especially the instructional conversation. (IRA, 2002).

Content standards addressed in this unit are:

Science:

Standard 1. The nature of science: students will experience an inquiry-based learning environment in which they are free to ask questions, seek information and validate explanations in thoughtful and creative ways. The students also will understand that the processes, ways of knowing and conceptual foundations of science are interdependent and inextricably bound.

Raise questions about their surroundings and seek answers by making careful observations and trying things.

Describe things as accurately as possible because careful, complete observations enable people to compare their observations with those of others.

The students in kindergarten will learn to observe and ask scientific questions.

Standard 3. Students will understand that all organisms in the biosphere are linked to each other and to their physical environments by the transfer and transformation of matter and energy.

The students in kindergarten will learn about living things.

Standard 7. Students will understand the processes and forces that shape the structure and composition of the Earth.

The students in kindergarten will learn about the properties of our earth.

Reading Materials for Students

Economos, C. (1999). *Pelo, plumas, escamas, piel* . Newbridge Educational Publishing, NY. A book on the texture of animals whether is hair, feather, scales, or skin. It is non-fiction with excellent pictures.

Hojel, B. & Guy, G. (1999). *I don't like bananas* . Addison Wesley Longman, NY. This is a fiction book on a kid who doesn't like bananas and how his mom transforms his dislike to like of good food.

McQueen, L. (1985). *The little red hen* . Scholastic, NY. This is a fiction book about a red hen that has three housemates who do not help in the house chores. She cleans, she goes to the store, she plants, cooks and many other things needed to keep a home livable but her friends don't help and she teaches them a lesson.

McQueen, L. (1987). *La gallinita roja* . Scholastic, NY. Same as above in Spanish.

Parkes, B (1998). *El agua cambia* . Newbridge Communications, NY. This is a colorful non-fiction book on how the water changes with the seasons and the climate. It is also shown how important is for living things.

Parkes, B (1998). *El Sol* . Newbridge Communications, NY. This book illustrates how the sun is the source of energy in our planet. It is non-fiction with good pictures.

Parkes, B (1998). *Everyone eats* . Newbridge Communications, NY. Shows children how everyone needs food to survive. Non-fiction with real pictures of living things.

Parkes, B (1998). *The Sun* . Newbridge Communications, NY. Same as El Sol but in English.

Parkes, B (1998). *Todo el mundo come* . Newbridge Communications, NY. Same as Everyone eats but in Spanish.

Robinson, F. (1999). *The best thing about food* . Wright Group Publishing, Inc. This book illustrates and simply states what food can be for humans; it also introduces the food groups.

Trumbauer, L. (1998). *Crece, semilla, crece* . Newbridge Communications, NY. A beautifully assembled book of the process of germination with real pictures.

Trumbauer, L. (1998). *Grow, seed, grow* . Newbridge Communications, NY. Same as above but in English.

Trumbauer, L. (1998). *Nuestro planeta Tierra* . Newbridge Communications, NY. Shows the reader a non-fiction view of our planet.

Trumbauer, L. (1998). *Our earth* . Newbridge Communications, NY. Same as above but in English.

Reading Materials for Teachers

Apples for Health.Com. (2002). Good eating habits start young. [On-line.] Available: www.applesforhealth.com/goodeat1.html An article on how parents can and should pay attention to their eating habits as to their children eating habits. An alarming fact is put forth and is the fact children eat foods high in fat and sugar content.

Ask the Dietitian. (2002). Junk food is a slang word for foods with limited nutritional value. [On-line.] Available: www.dietitian.com/junkfood.html A short article with a question posed to a dietitian: I'm hearing a lot about junk food lately. Can you give me a list of junk foods? It provides a clear explanation o how to read packaging labels to get the most nutritional foods.

Bowes, D. M. FOOD ADDITIVES. [On-line.] Available: www.asehaqld.org.au/food_additives_by_d_bowes.htm This is an article on food additives, what kinds and how they named and classified.

Bumble Boosters. (2002). The Process of Scientific Inquiry. [On-line.] Available: bumbleboosters.unl.edu/scientific_inquiry.htm A series of activities to help students with the process of scientific inquiry such as: Formulating a hypothesis and designing an experiment to test it are the first steps in all scientific inquiry.

Collins, K. (2002). Kids eating a call for help. Nutrition Notes, March. [On-line.] Available: www.cinnamonhearts.com/NutritionNotesMar02.htm

CRS. (2001). National Organic Standard Final Rule. A government document that explains organic farming rules.

CRS. (2001). *Food Safety Overview* .

Darling-Hammond, L., Wise, A. E., & Klein, S. P. (1999). *A license to teach: Raising standards for teaching* . Jossey-Bass, Inc. San Francisco: CA. This a book on teacher training, teacher delivery of subject matter, and recommendations for effective teaching practices implementation.

Department of Health. (1997). Health survey for England: The health of young people 1995-1997. [On-line.] Available: www.doh.gov.uk/stats/weigpic4.htm A report on a survey of health, findings show positive relationship between lower social class and eating foods high in fats and sugars.

Drexler, M. (2001). *Secret Agents* . Food Fight. Joseph Henry Press.

EPA. (2002). *Dursban Labe* l. This is a sample of the labels that toxic substances have been mandated. It is long and to the average person most of the language is foreign.

EPA. (2002). Fact Sheet: *Fish and Wildlife Advisories* . This a fact sheet on possible harms to fish and wild life.

Environmental News Service . (2002). U.S. Pressures Europe to Drop GMO Labeling Rules.

Foltz-Gray, D. (2002). How to build a better pyramid. *Health* , April. This is is a simple article on the food pyramid and nutrition. This article presents the point of view of a Harvard professor on nutrition and healthy living.

GAO. (2001). *Federal Oversight of Shellfish Safety Needs Improvement* .

Halweil, B. (2002). Farming in the Public Interest. *Worldwatch* . Washington. D.C. This is an article that explains how the global economy impact our food supply and how contaminants not use in the U. S. farms make thewir way into our food supply via imported products.

Hinrichsen, J., Jarrett, D., & Peixotto, K. (1999). *Science inquiry for the classroom: A literature review* . Northwest Regional Educational Laboratory, Portland. This article presents the possibilities to enhance learning using an.inquiry-based approach to teaching.

International Reading Association (IRA). (2002). *Second language literacy instruction: A position statement of the International*

Reading Association . IRA Website; [Online]: www.ira.org

Johnson, S. L. (1999). Helping children eat right. Kid Source On Line. [On-line.] Available: www.kidsource.com/kidsource/content3/ific/ific.helping.eat.right.html This is a brief article on nutrition and eating habits.

Jonides, L. (2002). So you've got yourself a picky eater. *North Carolina Parenting Education Network, Vol. 4* , Issue 1, Winter. This is an article with recommendations on how parents can introduce healthy food to children and how parents can avoid making food a focal point of argument.

Killen, J. & Robinson, T. (2000). *Environmental influences on children's food intake* . Stanford Center for Research in Disease Prevention, Stanford School of Medicine. [On-line.] Available: http://prevention.stanford.edu/research/studies/nutrition_child_influences.html This is an article on the cultural and environmental influences on kids eating habits.

Leggio. (2001). Limitations on the Consumer's Right to Know. *San Diego Law Review* . 38 San Diego L. Rev. 893. Secrecy in government and private sector limits the consumer's rights to know. This article explains how is this possible.

Marks, J. (1993). Einstein and Frankenstein at play at Jurassic Park. *Discovery: The Magazine of the Yale Peabody Museum of Natural History, 24* , 1. This is an article that explores the possibility of children becoming interested in scientific inquiry even though scientist are not perceived or portrayed as ordinary individuals.

Nutramed.com. (2002). Food Contaminants; Agriculture, Chemicals, Pesticides, Metals. [On-line.] Available: www.nutramed.com/foodquality/foodcontaminants.htm An article on the major contaminants in our food supply such as: Pesticides, herbicides, and fungicides; Antibiotics and hormones in animal tissues; environmental contaminants.

Pellerin, C. (2000). *Spheres of Influence. Bioterror and Food. Environmental Health Perspective* 108:3 March. An article on creative ways terrorist can use bacteria to attack our food supply or to promote illnesses.

Schlosser, E. (2000). *Fast food nation* . Houghton Mifflin. Chapter 5. The complete book is an interesting account of the development of the fast food industry. The chapter sited above is particularly interesting because is an account of the French fried commercial development.

The Alpha Nutrition. (2001). Changing a Child's Diet: North American diets. [On-line.] Available: www.nutramed.com/alpha/parents.htm How some parents are responding to modern problems of additives and contaminants in our food supply?

Riverdeep Interactive Learning Limited. (2002). The Science of creativity. [On-line.] Available: riverdeep.net/current/2001/02/022101_leonardo.jhtml An article on the importance to allow learners to experience and challenge what they think to increase their scientific curiosity and creativity.

Tamborlane R. (1998). *Yale Guide to Children's Nutrition* . Chapters: 3, 27 28. This book is a great resource on children nutrition. The chapter sited is a brief but effective description and explanation of children's taste development and maturation.

Zolten, K., & Long, N. (1997). Ensene a sus ninos responsabilidad e independencia (Teaching children responsibility and independence). Center for effective parenting. [On-line.] Available: www.parenting-ed.org/Spanish%20h...0Concerns/Teaching%20Responsibility.htm This article gives you ideas on how to develop kids' sense of responsibility by sharing chores and becoming responsible for their belongings.

Wan, P., C.R. Santerre and D.C. Deardorff. (2000). Linking solid phase extraction and enzyme-linked immunosorbent assay to

measure chlorpyrifos in fish tissue. Journal of Food Science. (in review) [On-line.] Available: www.cfs.purdue.edu/fdsnutr/people/santerre.htm An article on contaminants and the extraction of it from fish.

Wargo, J. (2002). *Food, environmental quality and health* . Yale-New Haven Teachers Institute Seminar. A seminar offered by the institute to increase teacher

awareness of environmental issues that affect the food supply.

Wargo, J. (1998). *Our Children's Toxic Legacy* . Yale Press: New Haven. This book is an account of what contaminants are present in our food supply and how this could be address to prevent a worsen environment.

Weiswasser et. al. (2001). Genetically Modified Foods Raise New Legal Issues. *National Law Journal. 22* :44. Information on legal issues raised by genetically modified cropping.

Willett, W. (2002). Got fat? Exploding nutritional myths. *World Health News* . Harvard School of Public Health. Information on fat and its nutritional and harmful components.

World Health Organization. (2002). *Precautions against Sabotage of Water, Food and Other Products* . This is an article that explains the many ways terrorist could plant bacteria or contaminants in our food supply.

Materials for Classroom Use

Kessler, C., Lee, L., McCloskey, M. L., Quinn, M. E., and Stack, L. (1996). *Making connections 2: An integrated approach to learning English* . Heinle & Heinle Publishers: Boston. This is part of a series used in many districts to teach English as a second language with a content-based approach. This book has a unit on food that can give some ideas to the teacher who wants to teach this unit.

Novelli, B. A. (1998). *Cycles of knowing and growing: Grades 1-3* . AIMS Education Foundation: Fresno, CA. This book explains how to integrate curricula from science, math, language arts, and social studies utilizing hands-on instructional materials. It utilizes the benchmark and standards involve in the activity and its relevance to the teaching of change and growth. The focus is on activities integrating mathematics and science. It provides the teachers with great ideas and projects that will enhance the teaching of any of the curricular areas previously mentioned.

Seaborg, G. T. (2000). *Once upon a GEMS guide: Connecting young people's literature to great expectations in math and science* . Lawrence Hall of Science; University of California: Berkley, CA. This handbook is a collection of creative teachers' lessons to link children literature with science and mathematical concepts. Included you will find lesson plans, anecdotes, articles for review, special features, and resource suggestions throughout the text.

Wiley, K. & Berger, E. (1994). *Alligator at the airport: A language activity dictionary* . Addison-Wesley Publishing Company, Inc., White Plaines: NY. A great activity book to address writing in a kindergarten classroom with an emphasis in phonics and experiencing language combined.

Wiley, K. (1999). *Newcomer: Phonics* . Longman, White Plaines: NY. A book on ideas to introduce phonics in the ESL classroom. It includes graphic as well as written work.