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Rebecca J. Schwei

April 22, 2011

Adapting Preschool Food and Nutrition Lessons for New Immigrant Children

By

Rebecca J. Schwei
MPH

Hubert Department of Global Health

Dr. Solveig Argeseanu Cunningham
Committee Chair

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By

Rebecca Schwei
Bachelor of Arts,
University of Wisconsin--Madison
May 2008

Thesis Committee Chair: Dr. Solveig A. Cunningham

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Abstract

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Introduction: Inadequate fruit and vegetable consumption in preschoolers is a public health concern because eating patterns developed early in life track into adulthood. New immigrant families and children are especially at risk of low fruit and vegetable consumption as a result of lower familiarity with foods found in the United States and limited English proficiency. This project adapts experiential preschool food and nutrition lessons to be used for new immigrant preschoolers and their mothers.

Methods: New immigrant mothers and preschoolers (n = 26) participated in lessons designed to help children experience and learn about healthy foods. The lessons included five general sections: story, exercise, classroom activity, hand washing and taste test. Observational data were used to measure acceptability of lessons and reactions to taste test. Pre/post-test assessments assessed changes in knowledge, attitudes and behaviors of preschool children relating to fruits and vegetables.

Results: Effective teaching strategies including repetition and active participation engaged mothers and children in lesson activities and subsequent teaching concepts such as fruit and vegetable identification. Preschool children's reactions to food ranged from very positive to unwillingness to participate. The mothers' reactions to the taste tests also ranged from positive to no participation. As expected, only limited changes in preschoolers' knowledge, attitudes and behaviors were observed.

Discussion: Certain sections of the food and nutrition lessons, such as the story, were more difficult to adapt for English Language Learners (ELLs) as compared to the taste tests, which were immediately engaging. Communication issues with preschool staff, the language barrier and lesser familiarity with a formal educational setting were challenges that affected the effectiveness of the food and nutrition lessons. With increased exposure to taste tests preschool children became more comfortable working with food and more comfortable with the researcher. This research provides an example of the process of adapting food and nutrition lessons and highlights successful teaching strategies for ELLs. This project will provide community organizations with the resources to help new immigrant families adopt healthy diets in the United States.

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PREAMBLE

I began working with preschool food, nutrition and physical activity programming in the summer of 2010 as an intern for the Food Trust, a Philadelphia nonprofit organization. During the three months that I worked with the Food Trust, another intern and I developed a program of food, nutrition and physical activity lessons for preschools. The preschools in the program were located in West Philadelphia and enrolled students that were predominately low income and African American. We modeled our lessons after the lessons that had been developed and taught to the preschool students the previous school year. During June and July of 2010, five food, nutrition and physical activity lessons were taught to five classes of preschool age children at three preschools in Philadelphia, Pennsylvania.

With the success of this experience, I came back to Atlanta hoping to adapt this program for my thesis. I had previously worked with refugees in Clarkston, Georgia and I decided that I would develop a strategy to adapt existing food, nutrition and physical activity lessons to be appropriate for new immigrant children and their families. The Mommy and Me Family Literacy Program in Clarkston, Georgia worked with me to implement this program with their preschoolers, during the fall of 2010.

Chapter 1: INTRODUCTION

Consumption of fruits and vegetables is associated with reduced risk of obesity, cancer, cardiovascular disease and other chronic diseases (Hu 2003; Liu 2003; Riboli and Norat 2003; Rolls, Ello-Martin, and Tohill 2004). The benefits of fruit and vegetable consumption are well documented, yet in 1999-2000, only 40 percent of the US population ate the recommended servings of fruits and vegetables per day (Guenther, Dodd, Reedy, and Krebs-Smith 2006). Guenther et al. found that in 1999-2000 only 50 percent of two and three year old children consumed the recommended servings of fruits and vegetables per day (2006). Inadequate fruit and vegetable consumption in young children is a public health concern because eating patterns developed early in life track into adulthood (Mikkila, Rasanen, Raitakari, Pietinen, and Viikari 2005).

Newly arrived immigrant families face additional challenges to providing healthy food options for their children compared with people born in the United States. New immigrant families are less familiar with the foods found in American stores and may not know how to prepare these new foods (Renzaho 2004). Health messages are often taught at a level of English that is difficult for newly arrived immigrants to understand, and thus, new immigrant families may have inaccurate information about which foods are healthy (Renzaho 2004). Low levels of English knowledge make it difficult for new immigrants to identify specific food items, ask for them, or find out where familiar, fresh, healthy, and affordable foods can be purchased. Finally, new immigrant families may be unfamiliar with the health risks associated with the chronic diseases that accompany poor diet (Renzaho 2004). These unique challenges that new immigrant families can face make it difficult for them to purchase and prepare healthy foods for their families.

In 2007, Georgia had 953,000 immigrants living in the state, the seventh largest immigrant population in the United States (Camarota 2007). Georgia is one of 15 states where over 75 percent of the total number of refugees coming into the United States settle (Patrick 2004). The city of Clarkston, Georgia has a population that is one-third foreign born and over 40 percent of residents speak a language other than English as their first language (U.S. Census Bureau 2000).

There are existing food and nutrition educational lessons for preschool age children, but these lessons are not designed to meet the unique needs of children living in new immigrant families. By understanding and addressing the specific issues that this population deals with, it is possible to develop strategies to effectively communicate important concepts to newly arrived immigrant children and their families.

The present study develops food and nutrition lessons that embrace what preschool children are developmentally able to do while taking into account limited English language skills. The food and nutrition lessons in this program embrace five key principles that are cited in the literature as effective when teaching children about fruits and vegetables:

- 1.) Emphasis is on repeatedly exposing young children to fruits and vegetables multiple times in a variety of ways (Sullivan and Birch 1990).
- 2.) Preschoolers are respected as autonomous eaters who control what they eat (Satter 1999).
- 3.) Lessons are experience based and are rich in food tasting and preparing experiences in which the preschoolers are the primary chefs (Satter 1999).
- 4.) Lessons are engaging and fun for the preschool children.

- 5.) Mothers are encouraged to be present and actively participate (Satter 1999).

Research Question 1: How can we adapt preschool food and nutrition lessons designed for native English speakers to be appropriate for children who are English Language Learners (ELLs)? Specifically we develop adaptation indicators of how successful the lesson adaptation has been and we describe the factors that influence the adaptation process.

Research Question 2: How do immigrant preschool children and their mothers respond to the fruits and vegetables they are exposed to during the food and nutrition lessons? Specifically, we document the reactions that children and their mothers have to fruits and vegetables presented in the lesson; we assess preschool children's knowledge, attitudes and behaviors relating to fruits and vegetables before the lessons begin and children's change in knowledge, attitudes and behaviors relating to fruits and vegetables after the lessons have been taught.

The purpose of this project is to design a process for adapting food and nutrition lessons for ELLs and to understand factors that influence the success of the various components of the lessons. This project specifically documents how children and mothers respond to a variety of taste tests. The taste test is the most important component of the lesson because it gives the preschoolers a chance to cook with the foods they will taste. This is a new opportunity for many of these children, and we want to make sure this lesson component adequately engages children and mothers. Changes

in knowledge, attitudes and behaviors are measured in order to assess changes in preschoolers' perceptions relating to fruits and vegetables. Upon completion of this project, there will be a set of lessons that have been adapted and taught to ELLs along with a documented adaptation process. This project will provide organizations that work with new immigrant preschool age children appropriate educational materials and a process for creating new materials. Lessons and findings are being disseminated to organizations that work with preschool age children in Clarkston and more broadly to similar organizations throughout the country.

Chapter 2: BACKGROUND

DEVELOPMENT OF FOOD PREFERENCES IN YOUNG CHILDREN

Learning how and what to eat is an important component of childhood development. As young children transition from an exclusively milk diet, they become autonomous eaters who are able to control what they eat. Children's food preferences are the major determinants of their food intake (Birch and Fisher 1996). Extensive research has been done to understand how taste preferences develop and two leading ideas are wisdom of the body theory and developmental systems perspective.

Wisdom of the Body Theory

The wisdom of the body theory states that food preferences are the result of innate, unlearned "special appetite" for needed nutrients (Birch 1999). It was developed as a result of research that showed that humans were able to select a balanced diet due to innate feelings (Davis 1939; Richter and Holt 1938). The studies that support the wisdom of the body theory only allowed subjects to select from a predetermined selection of healthy unprocessed food, which did not represent the true variability in diet selection (Birch 1999). The evidence never indicated that animals were able to select a balanced meal when offered foods of varying nutritional values (Galef 1991). Davis acknowledged that the "trick" of her study was the food list, which only included unprocessed, unpurified foods (1939). Galef stated that the empirical data do not support the hypothesis that humans are innately able to select well balanced diets that avoid nutritional deficiencies (1991). The wisdom of the body theory is not supported by empirical evidence, yet it remains an influential theory in the field of child feeding (Birch 1999).

Developmental Systems Perspective

The developmental systems perspective was derived from evolutionary biology and states that development results from a complex interaction between both biological factors and environmental factors (Ford 1992; Gottlieb 1992). When this perspective is applied to food preference development, food preferences and food selection patterns are the observable behaviors that result from gene/environment interactions (Birch 1999).

Biological Factors

Across cultures, infants have an innate preference for sweets as seen in positive facial expressions (Nisbett and Gurwitz 1970). This innate preference is evolutionarily advantageous because sweet foods often contain sugars, which are a good source of calories (Rozin and Vollmecke 1986). Beauchamp and colleagues demonstrated that in infants a taste for salt develops at around four months of age (1994). Because the taste for salt develops after birth, it is difficult to discern whether the apparent preference for salt in young children is a result of an innate preference or a result of exposure (Beauchamp, Cowart, and Mennella 1994; Birch 1999; Rozin and Vollmecke 1986). In infancy sour and bitter tastes are innately rejected (Steiner 1979). Dislike of bitter and sour tastes is evolutionarily advantageous as these tastes are more highly correlated with toxins (Rozin and Vollmecke 1986).

Around the age of two, children begin experiencing neophobia, the fear of new and unfamiliar foods (Satter 1987). Throughout history, neophobia among young children was an evolutionarily adaptive strategy as unfamiliar foods had unknown health consequences, and could cause harm (Birch 1999; Rozin and Vollmecke 1986). Although children are often suspicious and unwilling to try new foods, repeated exposure

to foods can increase acceptance (Sullivan and Birch 1990). Sullivan and colleagues demonstrated that eight to 15 exposures were necessary before children showed increased preference for food (Sullivan and Birch 1990).

Environmental Factors

Scientific evidence suggests that learning, experience, and environmental factors have important effects on the formation of children's food preferences (Birch, Zimmerman, and Hind 1980). Presenting food as a reward enhances preference for that food and this was true for both sweet and non-sweet foods (Birch, Zimmerman, and Hind 1980). Additionally, a reward that is offered contingent on the consumption of a food item ("If you eat your vegetables, you can watch TV") negatively affects children's preference for that food (Birch, Birch, Marlin, and Kramer 1982). Pressuring children to eat is not effective at increasing food intake, and lowers consumption (Hu 2003).

Eating behaviors of adults with whom young children interact influence the development of food preferences in young children. In a comprehensive literature review examining the factors that influence children's consumption of fruits and vegetables, eight of nine papers indicated a positive association between parental intake and children's intake (Rasmussen, Krolner, Klepp, Lytle, Brug, Bere, and Due 2006).

Peer eating behavior can impact other children's preferences (Birch 1980). Preschoolers' food choices, preferences, and consumption patterns are strongly influenced by other children (Birch 1980). Birch and colleagues demonstrated that exposing children to peer models who were selecting and eating the target child's non-preferred food was sufficient to produce many choices of the initially non-preferred food

(1980). The increased preference for initially non-preferred foods remained several weeks after exposure (Birch 1980).

Familiarity of food is a component of food preferences (Birch 1979). Three year old and four year old children who were exposed to familiar and unfamiliar foods were more likely to prefer the familiar food (Birch 1979). The importance of familiarity in food preference decreased with age (Birch 1979). Nonetheless, familiarity with foods among three year old and four year old children increased preference for that food (Birch 1979).

Young children's individual experiences with food impact the development of food preferences. Repeated association of food sensory cues with positive post-ingestive signals produces learned preferences (Birch 1999). Negative gastrointestinal consequences such as nausea lead to learned aversions (Scafe and Bernstein 1996). Once food aversions are formed, they are difficult to overcome (Birch 1999). Although food aversions can form in familiar and unfamiliar foods, they are more readily formed in unfamiliar foods (Scafe and Bernstein 1996).

DIET SELECTION IN IMMIGRANT FAMILIES

In 2007, the nation's immigrant population, (persons who were not US citizens at birth), reached a record of 37.9 million, or one in eight US residents (Camarota 2007). Since 1975, the US resettled approximately 2.6 million refugees (a person outside of his or her country of nationality who is unable or unwilling to return because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group or political opinions) (U.S. Department of Health and Human Services 2008). Immigration to the United States often involves dietary

acculturation to US dietary patterns that are high in fat and low in fruits and vegetables (Satia-Abouta, Patterson, Neuhouser, and Elder 2002). Dietary acculturation is the process that occurs when members of a minority group adopt the eating patterns/food choices of a host country (Satia-Abouta, Patterson, Neuhouser, and Elder 2002).

Dietary acculturation is often a passive process that is driven by convenience and cost (Franzen and Smith 2010; Satia-Abouta, Patterson, Neuhouser, and Elder 2002). One study of Chinese-American women found that the dietary acculturation away from a traditional Chinese diet was primarily influenced by convenience, cost and food quality (Satia, Patterson, Taylor, Cheney, Shiu-Thornton, Chitnarong, and Kristal 2000). Another study of Hmong immigrants in Minnesota found that, even though many Hmong foods were available at Asian grocery stores, American food was purchased for convenience (Franzen and Smith 2010).

When compared to the native population, immigrant populations have increased poverty rates and use welfare more often and are more likely to consume low cost diets (Camarota 2007). Low cost diets are often less healthy, and have higher energy density compared to higher cost diets (Darmon and Drewnowski 2008). In one study of French adults, Darmon et al. found that at every level of energy intake, energy-dense diets cost less than energy-dilute diets (2004). Energy-dense diets are those high in fats and sweets, such as fast foods and desserts, while energy-dilute diets are those with a high proportion of fruits and vegetables (Swinburn, Caterson, Seidell, and James 2004). Energy density was negatively correlated with percentage of energy from fruits and vegetables (Darmon, Briand, and Drewnowski 2004).

Parental education impacts fruit and vegetable consumption. In a comprehensive literature review of the factors that influence fruit and vegetable intake among children and adolescents, all 11 studies found a positive association between parental education and fruit and vegetable intake (Rasmussen et al. 2006). One study of Danish adults found education to be the most important social variable in explaining differences in dietary patterns (Groth, Fagt, and Brondsted 2001). Men and women with higher education levels were more likely to report that their diets were in accordance with the dietary guidelines (Groth, Fagt, and Brondsted 2001). Of adult immigrants, 31 percent have not completed high school, compared to eight percent of natives (Camarota 2007).

Insufficient knowledge of the health risks that accompany poor diet results in less concern with food choices (Renzaho 2004). In many developing countries there is no definition of obesity, and obesity is not seen as a disease (Renzaho 2004). Additionally, cooking techniques and eating practices are used to display wealth and power (Renzaho 2004). Renzaho illustrates that in Sub-Saharan Africa, diets high in animal products and beer are desirable, while diets high in vegetables, legumes and fruits were seen as survival food for poor people (2004).

PRESCHOOL FOOD AND NUTRITION PROGRAMS

It is possible to create food and nutrition lessons that expose children to a variety of fruits and vegetables in a positive environment. According to Marion Nestle, author of *What to Eat* and Professor in the Department of Nutrition, Food Studies and Public Health at New York University,

“The best way I can think of for you to get kids interested in real food—the fruit, vegetables, meat and dairy foods that you buy along the peripheral

aisles of supermarkets-is to teach them how to cook such foods. Even better teach them how to grow vegetables; radishes growing in a pot on a windowsill can change a child's relationship with food forever, and much for the better"(384) (Nestle 2006).

Preschool food and nutrition lessons should focus on food acceptance and should help them explore. Satter explains, "Children learn about food from experience.... Children benefit from touching, cooking and tasting food. When helping preschool children learn about new foods encourage them to take it slow and explore it with all senses." (Satter 1999)

In food and nutrition lessons, preschool children should be respected as autonomous eaters. Child feeding is most effective when caregivers accept the division of feeding responsibility theory: the adults are responsible for the what, when and where feeding occurs and children are responsible for how much and whether they eat (Satter 1999). Allowing children to reject eating allows them to be in control. When they feel in control, they will feel more comfortable trying new foods (Satter 1999).

Preschool teachers need to respect the fact that preschool children are neophobic (Satter 1987). Sullivan et al. demonstrated that it sometimes takes eight to 15 exposures before children are willing to try unfamiliar foods (1990). Understanding this may help prevent preschool teachers from getting frustrated when children are resistant to trying new foods.

Parents should be encouraged to participate in food and nutrition lessons. Eating times are more pleasant for children when their parents are present (Satter 1999).

Children will always do more if a parent is present (Satter 1999). Preschoolers are more willing to experiment with eating when parents are around (Satter 1999).

ADAPTING EDUCATION LESSONS FOR ENGLISH LANGUAGE LEARNERS

Creating educational lessons that are appropriate and stimulating for ELLs has been well studied. Henze et al. highlight five common characteristics of a classroom that promote successful learning among ELLs: 1.) high expectations of students; 2.) promotes language development; 3.) promotes the development of content knowledge; 4.) active student involvement and engagement; and 5.) promotes student self-esteem (1993).

ELLs benefit when teachers hold high expectations and make the expectations concrete (Henze and Lucas 1993). One way teachers can demonstrate high expectations towards their students is by integrating language learning within subject content in school (Gibbons 2006). Language-based tasks that are included in a lesson should provide appropriate intellectual and cognitive challenge; they should not simply be included to rehearse language (Gibbons 2006).

For ELLs, a good classroom promotes language development as one component of the lesson. Language learning in an integrated curriculum focuses on language development as a medium of learning and not as a separate entity that requires its own specific class time (Gibbons 2006). Effective teachers of ELLs combine language development into all their standard lessons (Mohan 1986). Language teaching is more effective when learners are presented with meaningful language in a variety of contexts (Gibbons 2006). The meaning of language should be emphasized more than the structure

in which it is used (Goldenberg 1991). An integrated curriculum provides an authentic context for language development (Gibbons 2006).

Classrooms that include ELLs should promote the development of content knowledge as the primary objective of the lesson. Content should be appropriate for students' developmental abilities and should be accessible (Henze and Lucas 1993). Relevant classroom adjustments include organizing talk around visible referents, using simple syntax, producing many repetitions and paraphrases, speaking slowly and clearly, checking often for comprehension and expanding on and extending topics introduced by the learner (August and Hakuta 1997). Although content development is the primary goal of the lesson, lesson objectives should be expanded to include language objectives (Rice, Pappamihiel, and Lake 2004). Classroom assessments with ELLs should mimic the classroom activities that were designed to achieve these lesson objectives (Rice, Pappamihiel, and Lake 2004).

A good class promotes active student involvement. Learning is a social process and social activity promotes increased cognitive development (Henze and Lucas 1993). With ELLs it is possible to teach unfamiliar concepts; however, the concepts should be context-embedded and well-supported by other methods of information transmission such as pictures, demonstrations and concrete activities (Rice, Pappamihiel, and Lake 2004), Rice et al. continue to explain that visuals are not supplemental to ELLs but are often the primary source of information. Classroom lessons that engage with students in an active manner effectively promote the development of students' thinking skills (Henze and Lucas 1993).

An effective class promotes students' self esteem. Students who are experiencing a transition to a new language may be especially vulnerable to low self esteem when working in the unfamiliar language (Henze and Lucas 1993). Active learning is a good way to promote self esteem among ELLs (Henze and Lucas 1993). Additionally, creating a classroom environment where students play an important role in constructing new knowledge and acquiring new understandings about the world helps promote student self esteem (Henze and Lucas 1993).

Chapter 3: PROJECT CONTENT

METHODS

ADAPTING PRESCHOOL FOOD AND NUTRITION LESSONS

The original five food and nutrition lessons developed with an outside organization contained components from various preschool curricula such as *Book in a Bag*, *Germs! Germs! Germs!*, *Eat Smart Play Hard-Power Panther Preschool*, *Eat Well Play Hard*, *Color Me Healthy*, *Nutrition in Every Theme*, *Keystone*, and *USDA recipe finder*. Each lesson consisted of a story, exercise, a classroom activity, hand washing and a taste test and had been previously taught to preschool children.

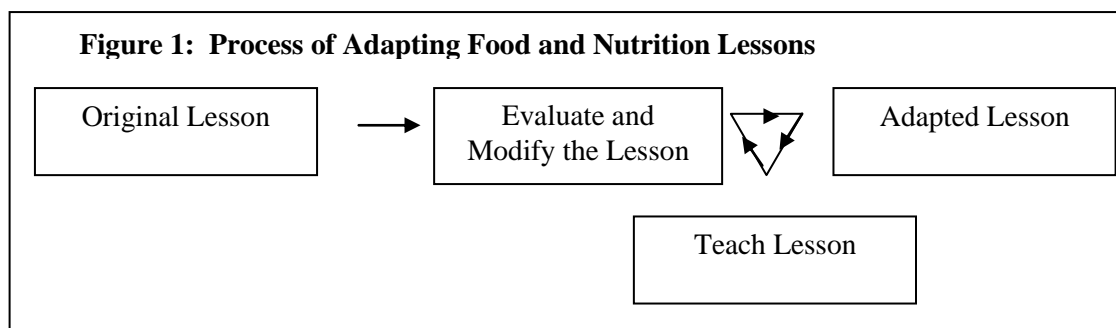
Before each lesson, the original food and nutrition lessons were adapted to be appropriate for ELLs by the researcher. Lessons were adapted in five areas: content objectives; student involvement in each of three major lesson sections; and student self-esteem. Existing content objectives were measured by the researcher on a scale of one to five with five being completely appropriate and one being completely inappropriate. Content objectives that were deemed to be inappropriate for preschool children were rewritten before the lesson was taught. Student involvement was adapted in three major sections of the lesson; story, classroom activity and taste test; and was measured on a scale of one to five based on the predicted level of engagement the students would show during each section. Level of engagement was predicted based on how well the section of the lesson utilized strategies that are documented to be successful with ELLs. If low scores were predicted, then that section of the lesson was modified. Self esteem was measured on a scale of one to five and was adapted based on the predicted overall classroom self esteem during the lesson. Classroom self-esteem was a composite measure of the level of active participation the children would have during the lesson. If

self esteem was predicted to be low then lesson components were modified to increase active participation and improve levels of self esteem. The evaluation rubric is available in appendix one.

Between October and December of 2010, the adapted lessons were taught to children and their mothers. The preschoolers had the opportunity to receive five food and nutrition lessons. The mothers had the opportunity to attend two lessons. Lessons took between 35 and 50 minutes and were held weekly. All lessons followed a standard format:

1. Read children a book with a health message relating to fruits and vegetables or physical activity.
2. Exercised with the children using different body movements.
3. Participated in a classroom activity that presented and reinforced the content objectives of the lesson.
4. Practiced proper safety skills by washing hands before working with food.
5. Enjoyed a healthy snack. The taste tests were at the end of every lesson and involved some of the foods discussed in the lesson.

After teaching, the adapted lessons were evaluated, using the same criteria described previously, based on the responses the class had to the lesson. All lessons were revised one more time based on the final evaluation. The final lessons included the addition of language objectives. Final lessons plans are listed in appendix two. Figure 1 describes the adaptation process. The ultimate goal of the adaptation process is to be able to adapt a lesson so that all indicators score a five prior to teaching, and these scores remain fives after teaching.



STUDY SAMPLE

Thirteen mothers who were recent refugees from Burma, Somalia and Iraq and their 13 preschool children participated in the lessons. The women and children who participated in the lessons were already involved in an existing literacy program at the International Bible Church in Clarkston, Georgia and thus this was a convenience sample. The study took place as a part of a community program to improve English skills among refugee women. The children were between the ages of two and four years, and they were participating in a day care program during the mothers' lessons. On average the mothers had been in the United States for less than five years.

QUALITATIVE ANALYSIS OF LESSONS

Success of lesson was assessed qualitatively based on the reactions that preschoolers and their mothers had to the implementation of the lessons. Within 48 hours of every lesson, observations about the lesson were recorded by the principle investigator in field notes (appendix five). Coding of field notes and category development was conducted by the principle investigator using MAXQDA software. Field notes were read line by line and the data were broken down into discrete parts (Bartlett and Payne 1997). A double pass coding technique was used to highlight themes that existed during the presentation of the lesson. During the first pass the principle investigator read and coded all of the field notes with all potentially relevant codes. After the initial reading, the

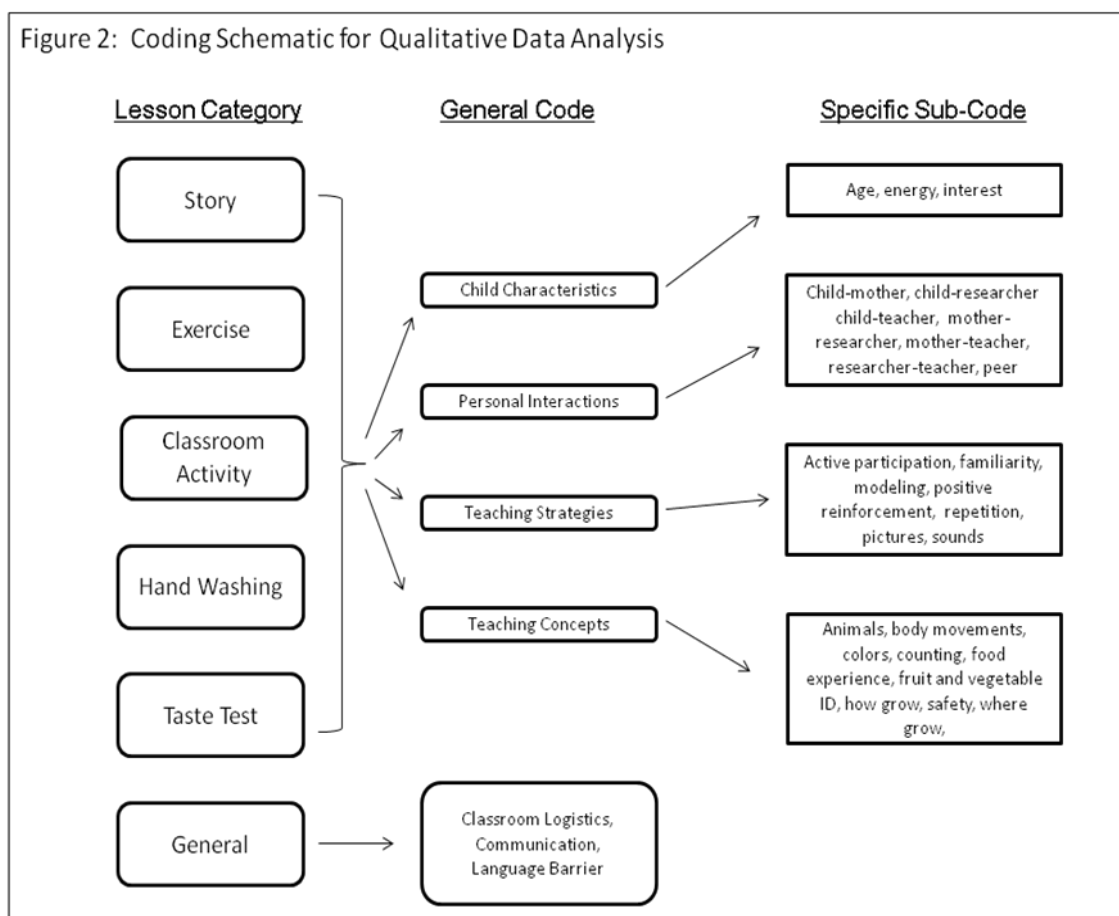
codes were grouped in general codes and specific sub codes. A second reading using the final coding system was then conducted. Table 1 describes all the codes that were identified during analysis along with an example from the text.

Table 1: Code Book			
<u>Specific Code</u>	<u>General Code</u>	<u>Description</u>	<u>Example</u>
Age	Child Characteristics	Reactions to an aspect of a lesson because of age of child	Very apparent differences in the ability of the young children (2.5-3.5) to understand what was being requested of them as compared to older children (3.5-5).
Energy	Child Characteristics	Notes describing level of activity and children's enthusiasm towards lesson components	During this part of the activity, the atmosphere was really fun, and the kids were concentrating really hard in order to do a good job.
Interest	Child Characteristics	Describes interest displayed towards various lesson components	Many of the kids were curious to hold the fruit or vegetable I was talking about.
Child-mother	Personal Interactions	Child-mother interactions	I suspect most of the cutting was being done by mothers because they were getting done quickly.
Child-researcher	Personal Interactions	Child-researcher interactions	He is willing to interact with me, but he is interacting in a completely nonverbal way.
Child-teacher	Personal Interactions	Child-teacher interactions	The preschool teacher tried to keep the girls quiet.
Mother-researcher	Personal Interactions	Mother-researcher interactions	I felt a little strange reading this book to the mothers, especially since the kids weren't really paying attention.
Researcher-teacher	Personal Interactions	Researcher-teacher interactions	During the taste the preschool teacher told me she preferred to give her kids fresh pineapple.
Peer	Personal Interactions	Peer reactions between children and children or mothers and mothers	Some of the girls are good at repeating words like "cookie". When one little girl said cookie, the other two repeated the word.
Active Participation	Teaching Strategies	Children actively participating	This cooking activity was involved enough to have the mothers involved; everyone stayed busy.
Familiarity	Teaching Strategies	Children are exposed to activity, story or foods presented during lesson	The kids were not familiar with me, and therefore I think they were looking for a way to get out of this slightly uncomfortable situation.

<u>Specific Code</u>	<u>General Code</u>	<u>Description</u>	<u>Example</u>
Modeling	Teaching Strategies	Someone performs desirable behavior in front of children	I showed the mothers, with a child as an example, how the kids themselves could cut the apples up into bite size pieces.
Positive reinforcement	Teaching Strategies	Adults provide positive comments to children	After we finished our snack I asked the kids if they liked the pineapple, and I said I was proud of them for trying fruits they had never tried before.
Repetition	Teaching Strategies	A direction or concept is repeated multiple times	We repeated the song three times.
Pictures	Teaching Strategies	Pictures used to aid comprehension	I like this book because once again the pictures are so colorful.
Sounds	Teaching Strategies	Using loud noises	One little boy is making gun sounds when he is playing with blocks.
Animals	Teaching Concepts	Animals mentioned	We practiced moving like dogs, elephants, birds, and fish.
Body movements	Teaching Concepts	We move our bodies	Kids enjoy moving furniture and lifting it up, pushing it around and hiding under the tables.
Colors	Teaching Concepts	Learning colors	I said, very good this is a carrot and what color is it? It's orange.
Counting	Teaching Concepts	Practicing counting	Now we have 1, 2, 3 pieces of apple on our plate.
Food Experience	Teaching Concepts	Eating/working with different foods	A lot of the kids were dipping the fruits and vegetables in the dressing and licking off the dressing.
Fruit and vegetable ID	Teaching Concepts	Identify fruits and vegetables	I pointed out the pictures of the cabbage and carrots to the class.
How grow	Teaching Concepts	Learning how plants grow	You plant a seed, and add water to make the turnip grow.
Safety	Teaching Concepts	Learning how to use safe practices when working with foods	That is one of the rules of the lesson: we always have to wash our hands before we eat.
Where grow	Teaching Concepts	Learning where food grows	Turnips grow underground.
NA	Classroom logistics	Classroom set up, timing and size	13 kids present (7 boys and 6 girls).
NA	Communication	Communication with teachers prior to a lesson and communication with students during a lesson	I realized that the preschool teacher had been mistaken and that Mommy and Baby time had been scheduled for me to teach my lesson.

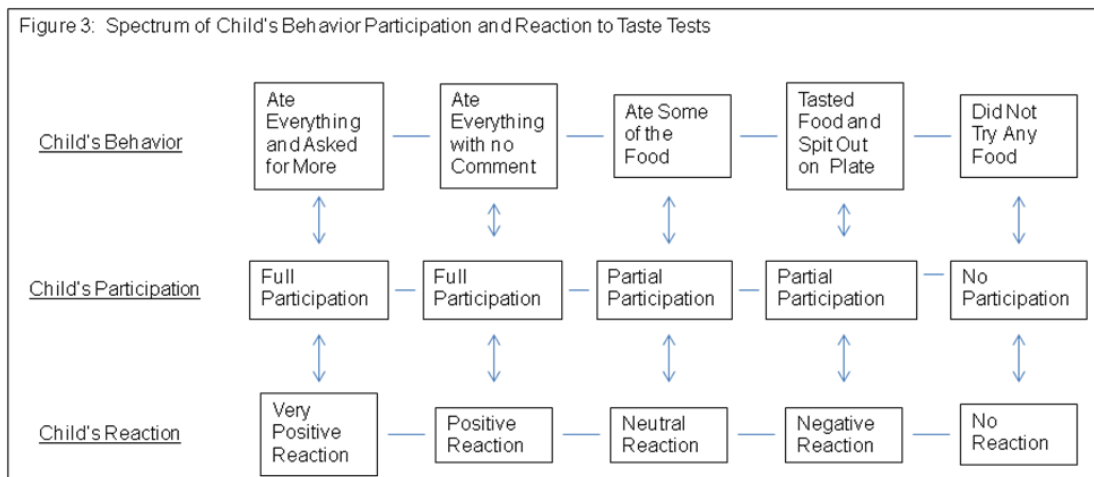
<u>Specific Code</u>	<u>General Code</u>	<u>Description</u>	<u>Example</u>
NA	Language barrier	Issues that arose during a lesson due to language barrier	Interesting dynamic in the classroom because the kids can speak to each other in their native language, but they can't speak to me.

Observations were divided into the section of the lesson in which it occurred: story, exercise, classroom activity, hand washing, or taste test. Within each section of the lesson, four general codes emerged: child characteristics, personal interactions, teaching concepts and teaching strategies. Additional general codes that did not fit into a lesson category were identified during analysis, and they included classroom logistics, communication, and language barrier. Figure 2 is a schematic representation of the codes identified in this analysis. The goal of the qualitative analysis was to highlight common strategies that resulted in effective food and nutrition lessons for preschool age children who are ELLs.



Qualitative data analysis was used to document the preschoolers' reactions to specific fruits and vegetables. Observations were documented by the principle investigator in the field notes, and these observations were then coded and divided into a spectrum of different reactions that the children had to food in terms of participation and quality of reaction. Level of participation was divided into three categories: full, partial and non-participant. A full participant was a student who ate all the food on his or her plate; a partial participant was a student who ate or attempted to eat some of the food on his or her plate; and a non-participant was a student who did not eat any of the food on his or her plate. The quality of their reaction was divided into five categories: very positive, positive, neutral, negative, and no reaction. A very positive reaction was defined as a student asking for more food or saying he or she really liked the food, a

positive reaction was a student who ate everything but said nothing about the food, a neutral reaction was a student who made no comment, a negative reaction was a student who made some display of disgust pertaining to the food and a non-reaction is a student who did not even touch the food. Figure 3 describes the spectrums of children's behaviors, participation and reactions pertaining to taste tests.



The qualitative data analysis process was used to understand how mothers react to different foods they were exposed to during the course of the lesson. Mothers were present for two of the five lessons. Observations were documented by the principle investigator in the field notes, and these observations were then coded and placed on a spectrum of reactions.

PRE AND POST ASSESSMENT

Before lessons began, eight children participated in an individual assessment of knowledge, attitudes and behaviors surrounding fruits and vegetables. Each child was shown a fruit or vegetable and he or she was asked to name the fruit or vegetable. If the child did not know the name of the fruit or vegetable or named it incorrectly, then the investigator told the child the correct name. Next, the child was shown a picture of a child

eating and he or she was asked “have you ever tasted this (name of fruit/vegetable) before? (yes/no). Next the child was shown a picture of a happy face and the picture of a yuk face and the child was asked “What do you think of this fruit/vegetable? (yummy/yucky)”. This procedure was repeated for five fruits and five vegetables. The same assessment was conducted one week following the last education lesson. Six children participated in a post-test evaluation and, of these six children, five had also conducted a pre-test. Pre and post-survey data were analyzed using SAS statistical software. Cumulative changes in knowledge, attitudes and behaviors by fruit or vegetable were documented along with changes in the cumulative number of responses to each set of questions by fruit or vegetable.

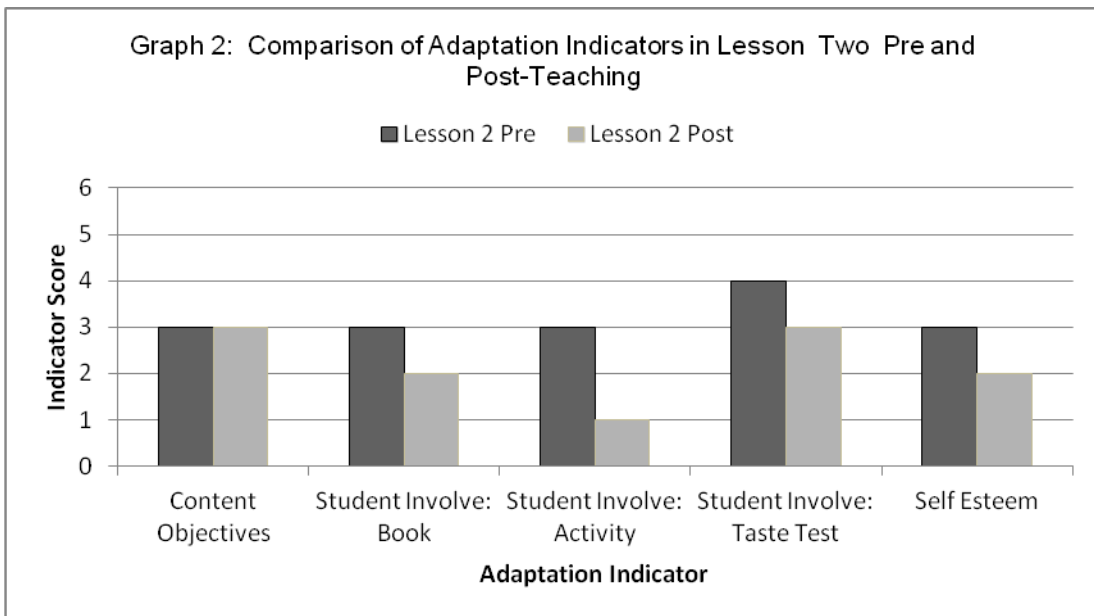
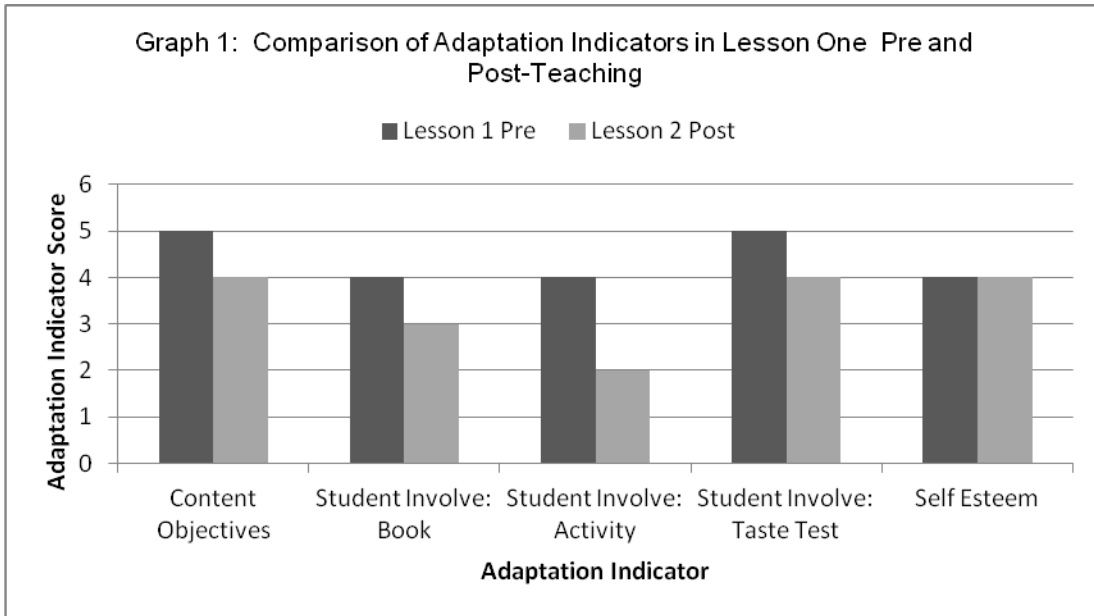
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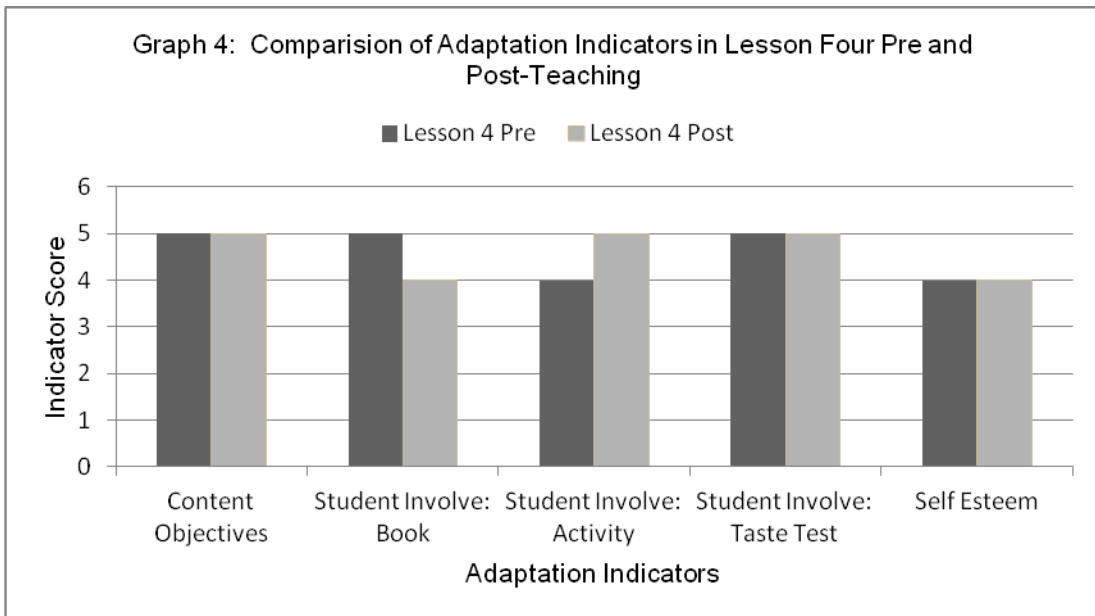
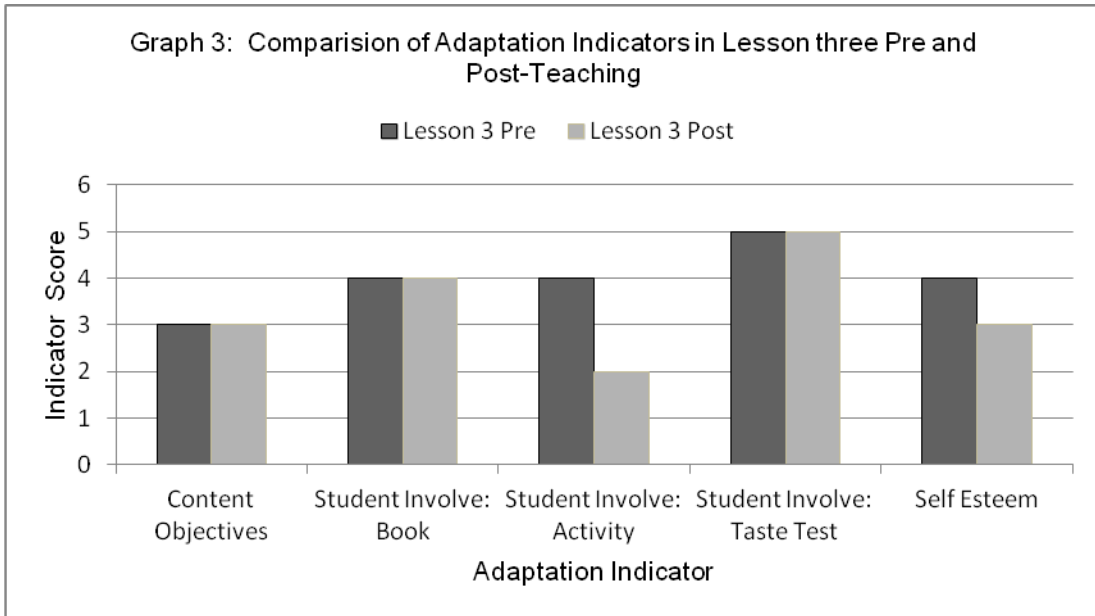
The International Review Board at Emory University approved this study.

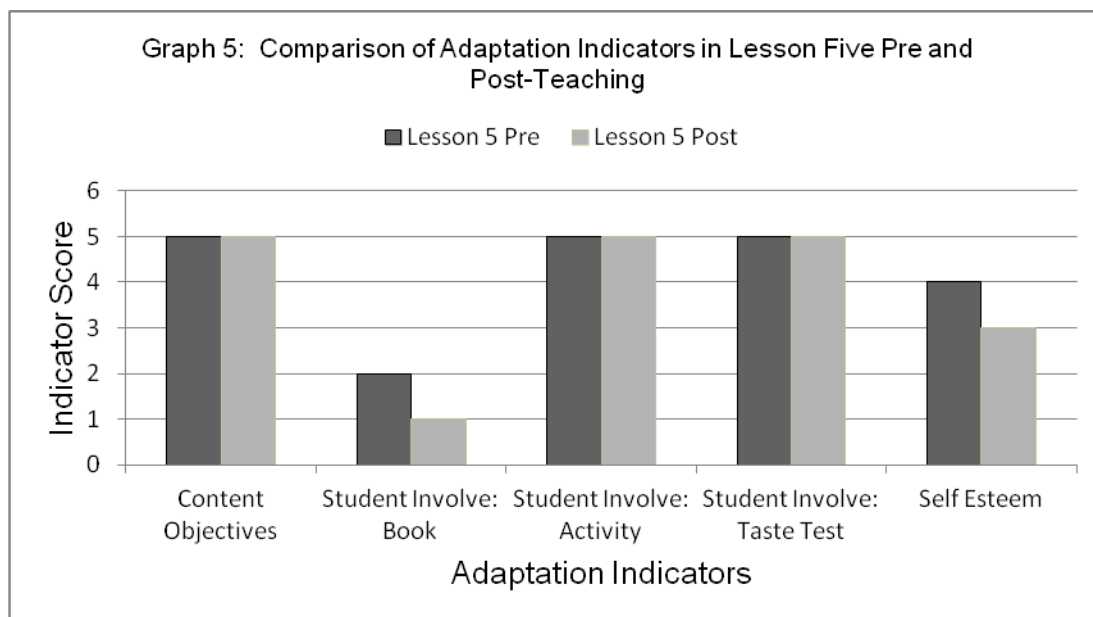
RESULTS

ADAPTING PRESCHOOL FOOD AND NUTRITION LESSONS

Throughout the course of the five lessons, the researcher improved in her ability to assess how successful a lesson will be with ELLs. Graphs 1-5 illustrate improved adaptation throughout the course of the five lessons. For example in lesson one, the predicted lesson components were predicted to be five points higher than they were after teaching the lesson. However, the five lesson components were predicted to be two points higher than they were after teaching the lesson.







QUALITATIVE ANALYSIS OF LESSONS

Children's Response to Lesson Categories

Story

Each of the five lessons had one story. The emphasis on verbal communication in this section of the lessons make it the most difficult to adapt to ELLs. These children were not used to a structured environment and often had trouble sitting still for the length of time required to read the entire book.

The teaching concepts present in the books included animals, colors, fruit and vegetable identification, where fruits and vegetables grow, and how fruits and vegetables grow. The animal teaching concept was the only concept with which the children spontaneously engaged. "On the second page of the book there is a picture of a bunny rabbit. Immediately when I turned to that page the girls pointed at the bunny." Even animals present in the drawings and not in the overall plot of the story seemed to engage the children; "the kids were intrigued by the animals on the pages. One little boy continually pointed to the birds he saw on the various pages." Pictures of animals were

something that these children got excited about without any encouragement from the teachers.

Active participation, repetition and pictures were teaching strategies that engaged the children. Active participation was used to engage students in fruit and vegetable identification with moderate success. “They would repeat ‘grapes’ but they were more hesitant to repeat ‘potato’.” When using active participation as a teaching strategy the children continued to focus on animals they saw in the stories. “I laid the book out on the table and asked the kids to point to what they saw... All of the little kids liked pointing to the big squirrels in the middle of the book.” With active participation and repetition the children engaged with the story. The line “she yanked and jerked and tugged, but that big ‘ol turnip would not budge” was repeated six times throughout the story. “After two or three repetitions of the line, especially if you use a lot of emotion when reading, the kids really get into it.” The pictures in certain stories were particularly effective at keeping the children engaged in the story. “I liked reading this book to the kids, because ... the pictures were so shocking and silly that the kids stayed engaged. On one page there is a picture of a potato three times the size of Lola.” Overall, active participation, repetition and engaging pictures increased children’s participation in the story.

The interactions between the people in the classroom also impact the students’ engagement in the story. The preschool teacher encouraged the children to behave and modeled desirable behavior by responding to questions asked by the researcher. Although both the teacher and researcher encouraged the children to pay attention to the story, there were days when this was not possible. “Throughout the reading of the book the girls were grabbing the book, playing with each other, changing seats, crawling under

the table and talking out loud... the preschool teacher tried to keep the girls quiet, but neither she nor I had much success.” With the mothers in the classroom, the classroom dynamic during the story changed. Children often sat further away from the book. “I would have preferred the children to be closer; I think they would have paid attention better”. Additionally, the mothers’ presence in the classroom influenced the researcher’s comfort. “Usually, when reading this book we count the bunnies on the moon and we talk about their colors. I felt uncomfortable doing that this time because the mothers were the only ones responding to my questions.” The mother-mother interactions hindered student engagement in the story because they would talk in the background. Personal interactions are important in story engagement and the interactions change depending on the presence or absence of mothers.

Individual children’s age and level of interest affected their engagement in the story. “The children’s ability to pay attention to the book was variable. One little girl could hardly sit still for one page of the story; however, a few of the other children quietly listened and looked at the book for the entire 15 minutes”. Some days the children had more trouble sitting still than others and this seemed independent of age. Animals and exciting pictures engaged the children. The picture of the grocery store under the sea was a picture that we spent a lot of time looking at.” Interested children are more engaged in the stories than uninterested children and age influences engagement in stories.

Exercise

The short physical activity song works on the counting and body movement teaching concepts. Both teaching concepts use modeling and repetition to facilitate

engagement. We repeated the song three times during the lesson. “As we continued to sing the song the kids began participating a little bit more. One boy would do the movements while sitting in a chair and one girl would do the movements with me standing up.” The teacher modeled desirable behavior and this increased student participation. “The two teachers began singing the song with me and doing the hand motions with me to encourage the kids to participate.”

Having the mothers present in the room changed the classroom dynamic. Very quickly the mothers understood the counting part “now move your bodies count 1,2,3”. “The mothers were also pretty quick to pick up on the physical movements we make with the different lines of the song.” With the mothers’ participation in the song, the children also seemed to be more willing to participate as well. “The kids were very eager to come forward and show their mothers what they know” about exercising. When the mothers were not present the teacher and the researcher modeled the desirable behavior for the children. Children also served as models for each other. During one lesson “one little girl was a particularly good influence on one little boy as she was very enthusiastic about moving her body”.

Child characteristics influence children’s engagement in the exercises. It takes the children a few lessons to become familiar with the song and feel comfortable with it. By week four “as a class we are getting better at the muscle movement and the counting.” Generally, children seemed to remain engaged in the exercises for the first three repetitions. During the one lesson in which four repetitions were attempted, the children lost interest in the activity.

Classroom Activity

Animals, body movements, colors, counting, fruit and vegetable identification, how grow and where grow were presented to the children during the four classroom activities. The preschoolers were most engaged in the activity in lesson three where the students practiced moving their bodies as animals. This activity used active participation, modeling, pictures and sounds to get children to learn some body movements and learn about animals. For example “when we were dogs we were down on hands and knees and we were barking like dogs...Having the pictures of the animals was really key for the kids because they don’t have the English vocabulary to know what animals I am talking about without a picture.” Unsuccessful classroom activities were too complex for the children to understand or did not involve enough active participation from the students. In one classroom activity “the kids enjoyed picking up the pictures and even imitated coloring in the pictures even though they didn’t have any crayons with them. In the future it would be a good idea to let kids color in the pictures as an activity.”

The personal interactions in the classroom influenced the level of engagement in the classroom activity. When the mothers were present in lesson four, the activity was too focused on the preschool children. Because the activity was poorly designed, it was not easy for the mothers to participate, therefore, they chatted in the background. The mothers’ limited participation did not promote engagement from the preschool students. In lesson one, the teachers interacted with the students to facilitate the difficult classroom activity. The teachers modeled the behavior and used positive reinforcement to promote engagement. In this activity “The kids didn’t understand that they were supposed to pick up the fruit on their chair, but with a little guidance we managed to give every child a picture.”

The children's characteristics influenced the level of engagement in the activities. In lesson two, the children each had their own stack of pictures and they enjoyed shuffling through them and selecting the appropriate picture. The children have consistently shown an interest in animals, so it is no surprise that moving like animals was engaging for the children. Energy level also affected the level of engagement and energy seemed to be low when the mothers were in the classroom with the children. In the vegetable picking activity in lesson four, the children lost interest very quickly. "Maybe these kids didn't understand the premise of the activity or maybe they were shy because of their mothers." The level of engagement the children had in the classroom activity depends on their interest in the topics presented as well as the other people who were in the classroom.

Hand Washing

This section of the lesson teaches the children the importance of washing their hands before they work with food through the use of repetition, modeling, peer influence, and positive reinforcement. By lesson three this activity has been repeated enough times that improvements were noticeable. "The kids are getting better about washing their hands. They know how to make sure they rub the hand sanitizer in between their fingers and on the fronts and backs of their hands." As children wash their hands they are congratulated on how good of a job they are doing at rubbing the hand sanitizer all over their hands. This section of the lesson requires mandatory participation and is not influenced by who is in the classroom or the children's characteristics. This is a smooth five minute section of the lesson that occurs every week.

Taste Test

The taste test is the final section of every lesson where the children experience some of the foods that were discussed during the other sections of the lesson. The taste tests in these five lessons exposed children to apples, bananas, pineapple, tomatoes, green beans, turnips, carrots, celery, spinach, cabbage, and green peppers at least one time.

Fruit and vegetable identification, safety, colors, counting, where grow, and how grow were the teaching concepts that were discussed during this section of the lesson. Children and mothers were asked to identify every fruit and vegetable that was used during the taste test at the beginning, middle and end of this section of the lesson. Additionally, the class often identified the color of the fruit or vegetable used. If the class had discussed where the fruits or vegetables grow during other sections of the lesson then this teaching concept was reinforced at the taste test as well. Finally, whenever the children were cutting with plastic knives they were reminded to be careful when using this tool.

This section of the lesson always involves modeling of the desirable behavior and then active participation by the children. A demonstration of the food preparation is done at the front of the classroom and then the class gets a chance to prepare their food. In lesson three all the children were able to participate in making the dill dip. “The first child helped me put three scoops of yogurt in the mixing bowl. The next child helped me put two scoops of nonfat sour cream in the dip. The next child helped me shake dill (herb) into the bowl and the last child helped me mix the dip up at the end. All the kids seemed glad that they were able to help.” Not only are the children active participants in tasting the snack, they actively participate in food preparation.

The children were generally interested in food preparation and there was high classroom energy surrounding taste tests. In lesson one the researcher asked the children if they were ready to taste the apples. “Surprisingly, the kids actually looked like they wanted to taste the apples”. In every lesson there was almost complete participation in the food preparation from the children. However, even if the children were willing to participate in the preparation they were not always willing to taste the snack.

It is hard to predict which foods the preschool children will and will not try. Positive peer pressure increases preschoolers’ willingness to taste the foods. When the children look around and see their mothers, teachers and friends tasting the food, this encourages them to taste the foods as well. In lesson four, the class was tasting a raw turnip; the researcher “noticed one little boy look around the room to see if everyone else was eating the turnip before he went on to take a small taste himself”. The fruits and vegetables that the children were more willing to taste were the more familiar foods. For example the children ate the bananas and the carrots willingly. When tasting the four vegetables that made up the turnip flower all vegetables did not have the same tasting success. “After carrots we went with the turnip. This was clearly not as familiar, but we tasted it anyway. Fewer kids tasted the turnip even when it was dipped in salad dressing. Next, we tasted the celery, a more familiar vegetable... Finally, we tasted the spinach leaves, and that vegetable probably had the worst response.”

General Themes

Classroom logistics, communication and language barrier emerged as themes pertaining to the lessons in their entirety. Classroom logistics included class size and additional adult help. The size of the class throughout these five lessons varied from five

children to 25 children and mothers. The variable class size made planning more difficult. For example, the musical vegetable activity in lesson one was more difficult than anticipated because there were only five children present for the lesson. “The activity is designed for a larger number of kids. It is possible that the small number of kids actually hindered the activity.” On the other hand when the mothers were present the classroom was crowded which made the lesson less effective. The lack of adult help in the classroom was another logistical issue that hindered the assessment of the success of the lessons. In lesson five “because I was cutting up the vegetables, it was hard for me to observe how much of the cutting the mothers were doing compared to the children. I suspect most of the cutting was being done by the mothers because they were getting done very quickly.” The adult help in the classroom was important to the lesson because it ensured that the lessons were being conducted according to their original design.

Communication was another theme that influenced the effectiveness of the lessons as a whole. During one lesson, the story began before the mothers were present. Another time a different educator had been scheduled to teach a lesson at the same time as the food and nutrition lesson was scheduled. These miscommunications disrupted the flow of the lesson and sometimes prevented the mothers from fully participating.

The language barrier was a challenge throughout all of the lessons. Sometimes the children did not even attempt verbal communication. Another time the children “would speak to me, but I could not understand what they were saying”. At other times the children attempted to communicate with me nonverbally by tugging on my pants or by saying “hey”. The language barrier made it difficult for me to understand what the children were saying while also making it difficult for them to understand what I was

asking them to do. In several reflections the researcher questioned whether the activity was less successful due to poor design or as a result of language barrier issues.

Children's Reaction to Foods

The reactions children had to the various foods presented during the taste tests were unique to each child and to each taste test. There was no lesson where all of the children ate all of the food and there was no lesson where all the children refused to try the foods. The most positive reaction a child had to the various taste tests was to clean his plate and ask for more. Based on the behavior spectrum, this child was a full participant and had a very positive reaction to the taste test. At other times children would be given a taste test and they would eat the whole thing without any comments. For one little girl once we “set the three pieces of apple in front of her she immediately started eating them “. This little girl was a full participant and had a positive reaction to the taste test. Often, children would not eat any of their food. These children were non participants and had a no reaction to the taste test. Other children would take a bite and then spit it back out on their plate. During one taste test “we tried the pineapple together. A little boy spit the pineapple back out in his bowl.” Another time when tasting tomatoes, “a little girl took a good sized bite, but she spit it out on her plate. After she did that she looked at me as if she thought she was in trouble, and I said ‘It is okay if you don’t like the tomatoes, thank you for trying it, and you can just leave it on your plate’”. These children were partial participants and had a negative reaction to the taste tests.

Mothers' and Teacher's Reactions to Food

The mothers participated in two of the five taste tests. Unfortunately, because there was so much going on around the times when the class tasted the food, there were

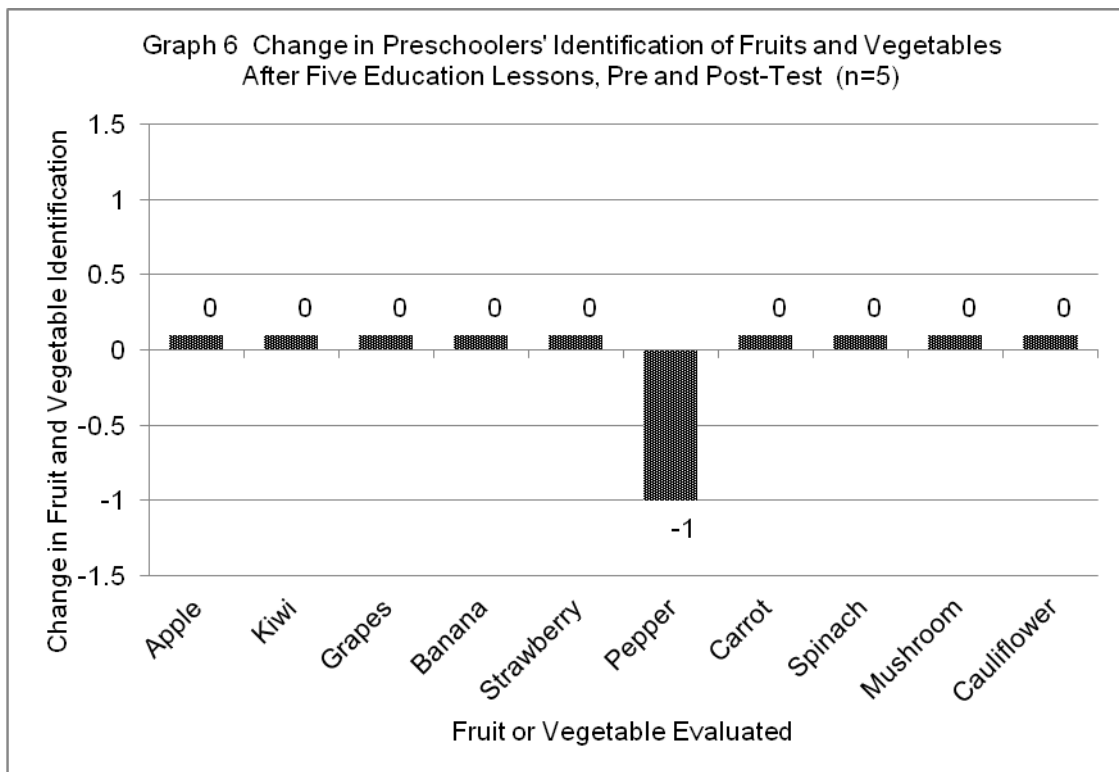
few observations recorded pertaining to the mothers' reactions to the different foods tasted. In one lesson, "one of the mothers really liked the dish and kept taking seconds and thirds and fourths. Other mothers were less willing to try the dish and seemed like they just wanted to get out of the classroom." As expected, the mothers had more mature reactions to foods as compared to the preschoolers. If they did not want a food they did not complain; they simply did not eat it. During the taste tests the mothers' reactions to food ranged from no reaction all the way to a strong positive reaction. The mothers did not show any strong negative reactions to the foods.

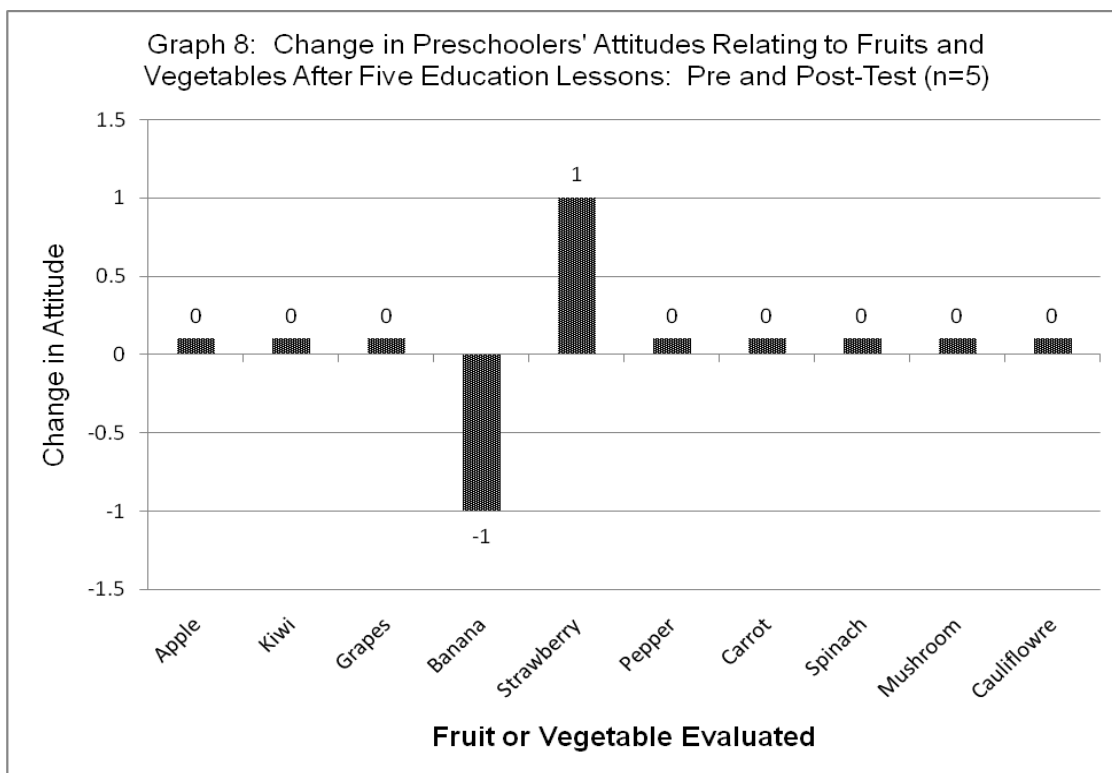
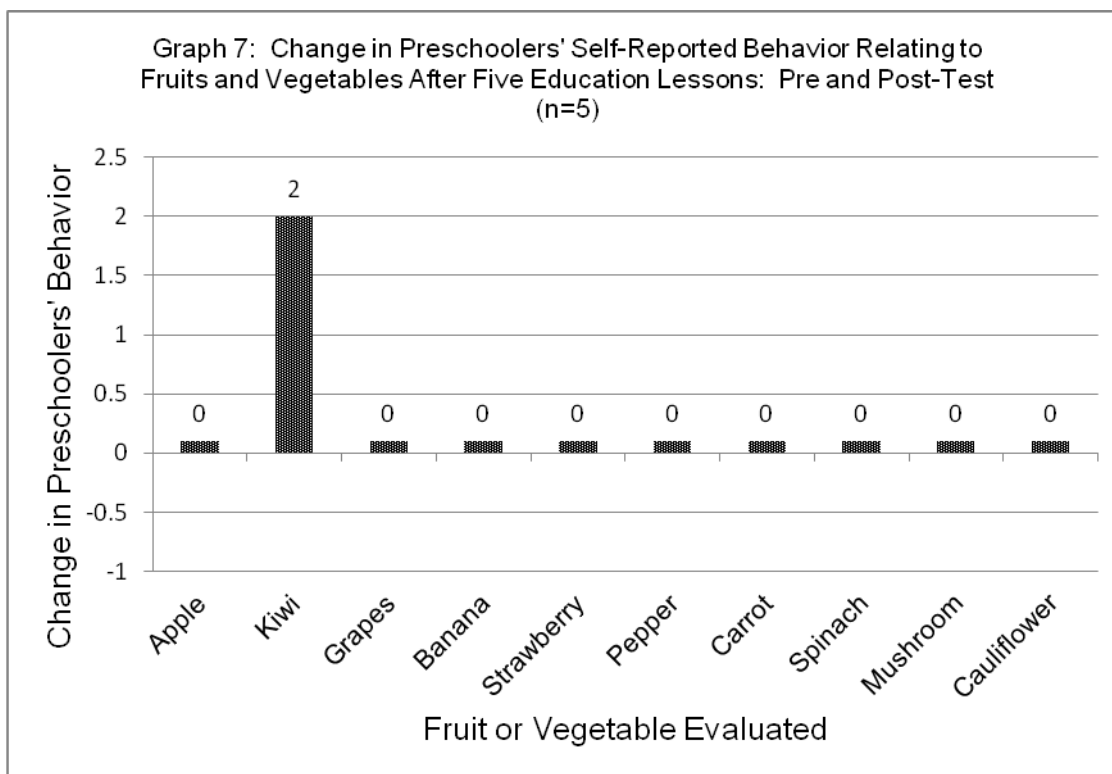
Interestingly, in several lessons, the preschool teacher had strong reactions to several of the taste tests. In one taste test the children were served canned pineapple as part of a fruit salad. The preschool teacher "told me that she preferred to give her kids fresh pineapple, and she said she gives her two kids fresh fruits and vegetables every day and they eat them". During another lesson she was surprised by the fact that the taste test involved raw turnip. She did not realize you could eat turnip raw. Another time she declined to participate in the taste test because she did not like mayonnaise.

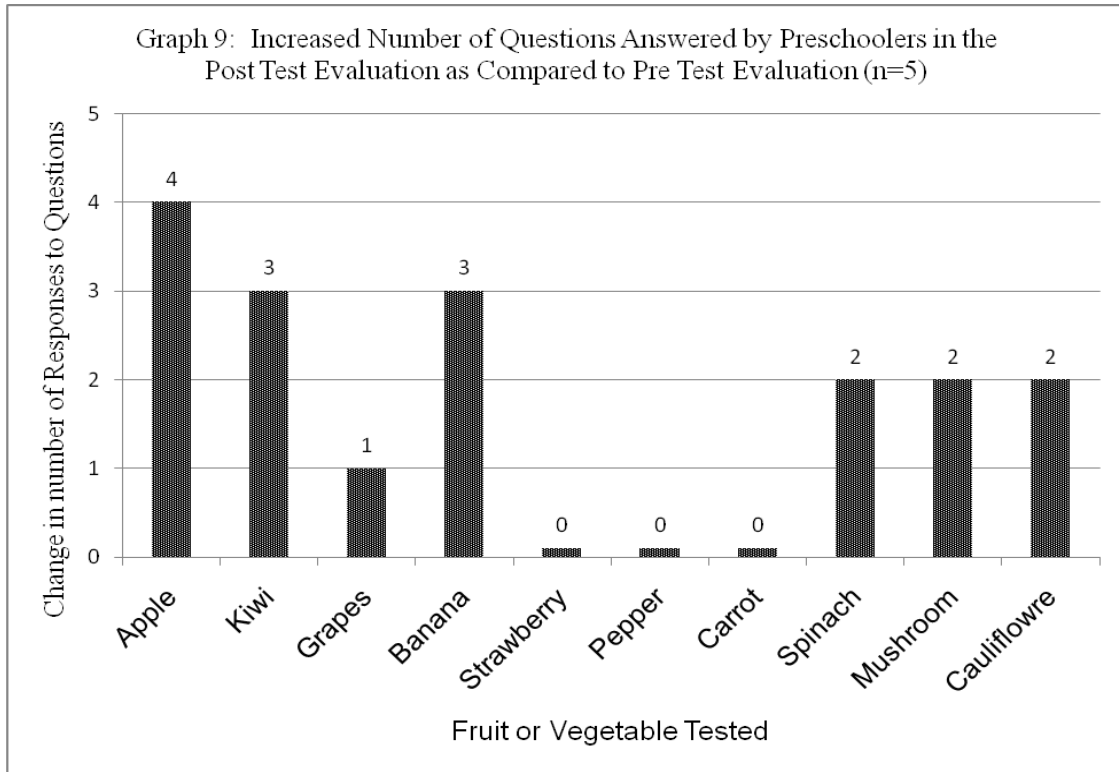
PRE AND POST-ASSESSMENT

Throughout the course of the five lessons children were exposed to apples, bananas, peppers, carrots, and spinach. Graph 6 illustrates that there was no change in preschoolers' ability to identify fruits and vegetables after the five fruit and vegetable lessons were taught. One child who identified peppers correctly in the pre-test failed to do so in the post-test. Graph 7 demonstrates how there was no change in self reported tasting of the various fruits and vegetable evaluated except in the case of kiwi. Graph 8 demonstrates how there were very minor changes in the attitudes of children after the five

food and nutrition lessons, but there was no consistent trend. The only change the lessons affected on the pre and post-tests were the children's willingness to answer the questions. For each fruit or vegetable there were a total of 15 possible responses (three questions per fruit or vegetable and five children in the sample). Graph 9 shows how there was an increased number of responses in the post-test as compared to the pre-test. The children still did not answer the first question; however, in the post-test, there were no missing responses for questions two and three. Number of responses increased in eight of the ten fruits and vegetables in the post-test compared to the pre-test.







Chapter 4: Discussion, Conclusion and Recommendations

DISCUSSION

It is possible to adapt lessons designed for native English speakers to be successful with ELLs. Various factors influence children's responses to food and nutrition lessons including familiarity with activities, people present in the room and individual child characteristics. Active participation, repetition and dynamic pictures were particularly effective in engaging children in the lessons. Children spontaneously engaged in food preparation activities even though children's reactions to taste tests ranged from very positive to negative. When mothers are present, the classroom dynamic changes; however it is possible to successfully engage mothers and children in the lessons together. At the end of this program there were no measurable changes in preschoolers' knowledge, attitudes and behavior pertaining to fruits and vegetables. However, children did show increased comfort when working with foods and increased familiarity with the researcher

Over the course of the five lessons, the researcher's ability to predict the success of the lesson components improved. Even though she was better able to predict when a lesson component would be successful, she found it difficult to modify an unsuccessful story or activity to make it successful. The next step in this process is to use the increased ability to predict success of lesson components to improve less successful lesson components.

Preschoolers who are ELLs will engage with all lesson sections if they are designed appropriately. Each section presents unique challenges and requires a slightly different adaptation strategy. Stories are successful when they include active

participation, repetition, and dynamic pictures. The physical activity section requires time, repetition, enthusiasm and adult participation for preschoolers to participate in this lesson. Active participation and pictures are essential to include when designing and teaching the classroom activity. Engagement in the hand washing section of the lesson is a mandatory component of the lesson in which children readily participate. The taste test is naturally engaging to children. Designing the taste test to promote as much child participation as possible is helpful in making this section of the lesson successful. These teaching strategies have also been found to be successful in previous research (Henze and Lucas 1993).

Certain lesson characteristics make engagement in the specific lesson sections difficult for ELLs. Stories are unsuccessful when the pictures are not exciting and when the stories are too long. The classroom activity is not successful when the directions are too complicated and the activity does not include pictures. Finally, although the taste test is naturally engaging to children, when there is not enough adult help in the room, it is difficult to ensure that the mothers are supporting their children and not doing all of the work for their children.

Although lesson adaptation is possible, this population presents several specific challenges to the successful teaching of the lessons that had to be overcome. Children were initially hesitant to participate with the researcher. This challenge was easily remedied through consistent contact with the children. There was inconsistent attendance, and thus every lesson has to be completely contained and not be dependent on concepts taught in previous lessons. The current classroom practices surrounding food and physical activity do not promote healthy habits. The preschool lessons provide

an opportunity to model best practices for the mothers and preschool staff. With the language barrier as a consistent challenge, it is important to include pictures, repeat instructions, adapt activities to be less complex, and model behavior. These children were not familiar with a structured classroom setting; therefore lessons need to move from activity to activity quickly. The emphasis on verbal teaching strategies needs to decrease.

This research supports the development systems perspective which states that food preferences develop as a result of the interaction between biological and environmental factors. Similar to what Birch and colleagues documented (1979), these children were more willing to try apples and bananas, which are more familiar foods, compared to turnip. However as documented by Birch (1980), peer relationships impacted children's willingness to try less familiar foods. Even though these children are at the age where neophobia exists, these lessons use a positive environment to encourage children to explore and taste new foods which has been documented by Satter (1987) as an effective teaching method.

In the future, the behavior analysis tool can be used to assess how children's behaviors change with each taste test and throughout the set of lessons presented to the children. It is difficult to predict where any one child will fall on the spectrum of behavior and it will depend on the child's mood, his/her familiarity with the food and the child's natural predisposition.

During the course of the lessons none of the participating preschoolers said they hated a food or thought it was disgusting. In other preschool settings that the researcher has experienced, preschoolers have shown extremely negative reactions to taste tests

where they would spit their food out and announce to the whole class that they did not like the food. This would often cause other children to then stop eating the food on their plate. Even though preschoolers occasionally spit food out on their plate during these taste tests, the lack of verbal communication might have actually been beneficial in promoting a positive eating environment for the children.

Although the observations pertaining to the mothers' reactions to the taste test were limited, the preschool teacher did have strong reactions to the taste test. The preschool teacher's reactions demonstrate that everyone has their idea of what children should be fed, and that everyone working with the preschool children has a stake in healthy children. The taste tests did expose the preschool teacher to some foods that were prepared in an unfamiliar way and this is a positive consequence of the lessons. In the future the mothers' reactions to the foods need to be better documented to capture their willingness to try new foods.

There was no measured change in knowledge, behavior or attitudes of the preschool children according to the pre and post-test evaluation. This is not unexpected since the children were only exposed to five food and nutrition lessons. Additionally, many of the children did not participate in all of the lessons. Although there was no measurable change in knowledge, attitudes or behaviors relating to fruits and vegetables, an increase in number of responses was noted in the post-test as compared to the pre-test. This is a positive sign and speaks to the increased familiarity that the children had with the researcher and the process after the five lessons had been taught.

LIMITATIONS

The major limitation of this program was its duration. The short duration of the program made it difficult to note qualitative differences in the responses the children had to the lesson components. Additionally, the short program duration made it difficult to understand the factors that were important in engaging students in the lesson and modifying lessons appropriately before teaching. The short duration of the program gave the children little time to get comfortable with the researcher. The short duration of the program provided little opportunity to expose the children to the fruits and vegetables in a variety of settings. Finally, the short duration of the program made it nearly impossible to see measurable changes in knowledge, attitudes and behaviors.

The small number of children participating in the program makes it difficult to generalize any observations to a larger population. A larger sample size would make the results more generalizable to other new immigrant children.

The fact that the researcher designed, evaluated, taught and wrote the field notes by herself is another limitation of the project. It would be better to have an objective person evaluating the lesson components and have one study staff member devoted to recording the observations.

FUTURE DIRECTIONS

All analysis tools developed for this project should be tested and evaluated before use in other populations. The adaptation process should be tested and refined in other populations and with additional lessons. Future qualitative analysis should look to uncover other themes that are important in the adaptation of these lessons for ELLs that may have been missed in this analysis. Additionally, more research needs to be done to understand what the adults perceive to be healthy for themselves and for their children,

what they feed their children, and their understanding of how these decisions affect overall health.

CONCLUSIONS

This study evaluates a process that adapts existing food and nutrition lessons to be successful with new immigrant children and their families. Specifically, successful lessons should include active participation, repetition and dynamic pictures in all sections. This set of lessons taught in this program can be broadened and improved further, and should continue to be taught and adapted to be appropriate in each specific context. No change in knowledge, behavior or attitudes was observed during pre and post-test evaluations but children were only exposed to five food and nutrition lessons. Overall, understanding how to teach new immigrant children about fruits and vegetables is an important public health goal and should continue to be explored and expanded in meaningful and effective ways.

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Appendix 1: Lesson Adaptation Tool
Evaluating Adaptation of Food and Nutrition Lessons for Preschoolers

Lesson Name: _____ **Evaluation Date:** _____

Evaluator ID: _____

	Original	Pre Teaching	Post Teaching	
1. Are the content objectives appropriate for preschool age children?				
	1	2	3	4 5
Describe:	_____			
2. Is the book successful at actively engaging students?				
	1	2	3	4 5
Describe:	_____			
3. Is the activity successful at actively engaging students?				
	1	2	3	4 5
Describe:	_____			
4. Is the cooking demonstration successful at actively engaging students?				
	1	2	3	4 5
Describe:	_____			
5. What is the general level of self esteem within the classroom?				
	1	2	3	4 5
Describe:	_____			

Appendix 2: Finalized Lesson Plans



Tot Lesson Plan Outline

Lesson 1: A is for Apples

I. Content Objectives

- Preschoolers will be able to recognize an apple as a fruit
- Preschoolers will be able understand that there are different types of apples
- Preschoolers will be able to taste three different kinds of apples

II. Language Objectives

- Preschoolers will be able to say the word apple
- Preschoolers will be able to identify apples
- Preschoolers will be able to identify the colors red, yellow and green

Materials:

Lesson:

Handa's Surprise by Eileen Browne
Fruit Picture Cards

Taste Test: Apples

3 different varieties of apples (Fuji, golden delicious, red delicious)
Cutting board
Knife
Plates or soufflé cups

Procedure:

Developmental

- Introduction: introduce yourself to the children and tell them that you will be coming to class for the next several weeks in order to talk about eating fruits and veggies and moving our bodies in order to stay happy and healthy.
- Handa's Surprise* by Eileen Browne Show the children the cover of the book. Show the kids the fruits on the cover. Point out the bright colors. While reading the book point out the fruits and vegetables as Handa finds them. Ask the children to point out animals they find throughout the book.

(Let's play a game about fruit and listen to music! Before we play our musical food game we are going to do some exercises which will help our bodies and our minds to perform better when we do our activities.)

C. **It's Hip to be Fit!**

Pick three movements from the exercise worksheet. Place them on the wall/board where all the students can see them. Begin to sing the song and point to the exercise that they will be doing at the appropriate time. Sing the song twice for each exercise.

Your bones and muscles are growing strong.

Eat good foods and you can't go wrong

Now move your bodies, count 1, 2, 3....

Come along and _____ with me.

D. Apples and Oranges Oh My

- a. Place pictures of apples and oranges around the classroom. Ideally, you will have enough pictures of both apples and oranges so that all children can pick up a picture of an apple and an orange. Tell the children that we are going on a trip and we are going to look for apples (show picture) or oranges (show picture). Have all the kids stand on one side of the room. When you say apple or orange the kids have to go to the other side of the room and find a picture of an apple or an orange. Make sure each child only picks up one apple or orange. Repeat the game at least twice with both apples and oranges. Comment on the different colors of apples and oranges. Ask the children “Who has an apple?” They should say “I have an apple”.

(Now we are going to eat three different apples. Before we get started we need to wash our hands!)

E. Hand washing

Review these points before the “cooking” begins:

1. Before we try our new foods we have to wash our hands.
2. The food we eat needs to be washed as well.
3. Germs can make us sick but if we wash our hands and foods then it will help us keep germs away.

We wash our hands to keep them clean...

The cleanest hands you’ve ever seen!

Use soap and water---- that’s the way!

To chase those yucky germs away!”

F. Taste Test: Apples

Show the children three kinds of apples and talk about their different colors, shapes, and sizes. Ask the children if they think each type will taste differently. Core the red apples and cut into serving size pieces, do the same with the other two apples.

Ask them which apple they enjoyed the most. Comment on the texture of apples and their crunchiness.

G. Conclusion:

Ask the children how many apples did they try? What colors were they? What color fruit was your favorite? Remind the children that apples are fruits.

Lesson taken from:

Show Me Nutrition: Handa’s Surprise: Lesson 11

Eat Well Play Hard: Child and Adult Care Food Program: Flavorful Fruit

Book in a Bag: Germs! Germs! Germs! : Hand Washing Poem

Tot Lesson Plan Outline

Lesson 2: F is for Fruit



I. Content Objectives

- Preschoolers will identify bananas, pineapple and oranges as fruits
- Preschoolers will engage in physical activity
- Preschoolers will be able to match pictures of fruits and vegetables

II. Language Objectives

- Preschoolers will practice saying banana, orange and pineapple
- Preschoolers will be able to identify the color yellow and the color orange
- Preschoolers will be able to count up to three in English

Materials:

Lesson:

The Ugly Vegetables by Grace Lin
Fruit and Vegetable Coloring Sheets
Crayons

Taste Test: Tropic Fruit Salad

Banana (1 for 7 kids), canned pineapple chunks (1 can), canned mandarin oranges (1 can), soufflé cups, spoons

Procedure:

Introduction:

- Review last week's concepts and activities with the children: We read about Handa and her adventures giving her friend a gift of fruit. We learned the difference between apples and oranges (show pictures) We tasted three different colors of apples. Do you remember what colors we tasted? (red, yellow and green)

Developmental:

- Today we are going to read a book about lots of different types of vegetables. I am going to need your help during the story to point out fruits and vegetables when you see them. Make sure to point to all the fruits and vegetables as you come across them and have the children help you if they can.

(Today we're going to play a fun game that will get you moving, but before we can play, we have to warm-up our bodies and minds with some exercises!)

- It's Hip to be Fit!**

Pick three movements from the exercise worksheet. Place them on the wall/board where all the students can see them. Begin to sing the song and point to the exercise that they will be doing at the appropriate time. Sing the song twice for each exercise. You can play music while the children are exercising.

**Your bones and muscles are growing strong.
 Eat good goods and you can't go wrong
 Now move your bodies, count 1, 2, 3...
 Come along and _____ with me.**

D. Coloring a Rainbow of Fruits and Vegetables

Pass out different coloring sheets to all the children. Pass out pictures of pineapples, oranges and bananas and if you want some of the other fruits and vegetables talked about during the book. Ask the children to color their fruit or vegetable in the appropriate color. Ask the children "What color should bananas be?" while holding up a picture of a banana.

E. Hand Washing

Review these points before the cooking "begins"

1. Before we try our new foods we have to wash our hands
2. The food we eat needs to be washed as well
3. Germs can make us sick, but if we wash our hands and foods it will help us keep germs away.
- 4.

**We wash our hands to keep them clean,
 The cleanest hands you've ever seen.
 Use soap and water – that's the way!
 To chase those yucky germs away!**

F. Taste Test: Tropical Fruit Salad

- a. Ask the children to count with you the number of fruits you are going to put in the fruit salad today. (1, 2, 3).
- b. Show children the yellow banana and tell them that this fruit is soft and sweet.
- c. Show the children the orange oranges and tell them that this fruit is wet and juicy.
- d. Show the children the yellow pineapple and tell the children that this fruit is sweet and wet.
- e. Cut bananas into slices. Drain pineapple chunks and mandarin orange slices.
- f. Give each student 2 slices of banana, 3 pineapple chunks and 2 mandarin orange slices.
- g. Taste Together

G. Conclusion

Remind the kids that we tried three different fruits today: oranges, pineapples and bananas. This is a tropical fruit salad. Good Job

*Lesson taken from:
 Team Nutrition Fruits and Vegetables Lessons*



Tot Lesson Plan Outline

Lesson 3: P is for Picky

I. Content Objectives

- Preschoolers will be able to identify tomatoes
- Preschoolers will be able to say why trying new foods is important
- Preschoolers will be able to taste tomatoes.

II. Language Objectives

- Preschoolers will be able to say tomato
- Preschoolers will be able to say pea
- Preschoolers will be able to count to 5 in English

Materials:

Lesson:

Book: *I Will Never Not Ever Eat a Tomato* by Lauren Child
Life like pictures of animals

Taste Test:

Tomatoes and peas with dip

Serves 16, serving 2 Tablespoons

Fresh Tomatoes (cherry or grape)

Fresh Pea Pods

1 cup sour cream, nonfat

1 cup yogurt, nonfat plain

2 TB fresh or dried dill

Soufflé cups 1/child

Napkins/bowls or plates 1/child

Cutting board

Knife

Mixing bowl

Serving spoon

Procedure:

Introduction:

- A. Review last week's concepts and activities with the children: Water helps plants grow! Gardening is a year round process. What did we make last time? (*Tropical Fruit Salad*) What fruits did we use in our snack? (*bananas, pineapples, oranges*) Show the children the pictures of the fruits we used in the previous lesson. **Developmental**
- B. Show the children the cover of the book. Introduce the two characters, Charlie and Lola. What color are tomatoes? Can anyone find the tomato on the cover? Show a tomato picture
- C. While reading the story point out the different vegetables that Charlie and Lola encounter. If the class is small enough let the children point out the silly pictures that occur throughout the book (the extra large potato, the green man in the peas, the alien)

(Today we are going to taste peas and tomatoes in a special way. But first we're going to move our bodies and play a game.)

D. It's Hip to be Fit!

Before we play our game, we are going to do some exercises. When we move our bodies our brains work better.

Pick three movements from the exercise worksheet. Place them on the wall/board where all the students can see them. Begin to sing the song and point to the exercise that they will be doing at the appropriate time. Sing the song twice for each exercise. You can play music while the children are exercising.

**Your bones and muscles are growing strong.
Eat good foods and you can't go wrong
Now move your bodies, count 1, 2, 3....
Come along and _____ with me.**

E. Move Like Animals

Have the children spread out in the room. Tell them that they are going to be moving like different animals around the room (rabbit, bear, kangaroo, lion, monkey, etc). Hold up different pictures of animals that you want to pretend to be. It is also fun to make noises that the animals make or simulate the loud stomp stomp stomping of an elephant. Play this game for about 10 minutes before asking the children to move to their seats at the table.

(Now that we have read about tomatoes and pretended to be tomatoes, let's taste some tomatoes! We're also going to taste peas.)

F. Hand washing Poem:

Review these points before the "cooking" begins:

- a. Before we try our new foods we have to wash our hands.
- b. The food we eat needs to be washed as well.
- c. Germs can make us sick but if we wash our hands and foods then it will help us keep germs away.

**We wash our hands to keep them clean...
The cleanest hands you've ever seen!
Use soap and water---- that's the way!
To chase those yucky germs away!**

G. Taste Test:

First describe what they will be doing before you pass the food out. Today we are going to use our eyes, noses and fingers and mouths to explore these new foods. Once the children have cleaned their hands, pass around a few tomatoes and peas for them to investigate. Guide their investigation: Let's use our senses- our eyes to see, hands to touch and nose to smell. (point to eyes, clasp fingers, point to nose)

1. First let's use our eyes. What does it look like? (Describe size, color, shape).
2. Let's use our hands. What does it feel like? (Soft, smooth, heavy?)
3. Let's use our nose. What does it smell like? (like a peach?, apple? No it smells like a tomato!)

As much as possible allow the kids to participate in the making of the creamy dill dip. Break the kids down into small groups and have each group make their own dip. If the class is large, or there isn't enough adult help, then have volunteers come up to the front of the room for each step of dip preparation

H. Conclusion:

Tell the students how proud you are of them for tasting the tomatoes, peas, and dip like Lola did in the story. Is this anyone's first time trying tomatoes? Peas? Ask the students if they liked what they tried. Encourage children to keep trying new foods!

Lesson taken from:

USDA Recipe Finder

The Food Trust Snack and Move Cards

Book in a Bag: Germs! Germs! Germs! : Hand Washing Poem

Nutrition in Every Theme: I Am Growing: Celebrate Healthy Eating and Exercise



Tot Lesson Plan Outline

Lesson 4: T is for Turnip

I. Content Objectives

- Preschoolers will be able to identify turnips as a vegetable
- Preschoolers will be able to describe how various fruits and vegetables grow
- Preschoolers will be able to various vegetables.

II. Language Objectives

- Preschoolers will be able to say turnip, carrots, celery and spinach
- Preschoolers will be able to identify turnips
- Preschoolers will be able to count to three in English

Materials:

Lesson:

Book: *Grandma Lena's Big Ol' Turnip* by Denia Hester

Pictures of fruits and vegetables and the places where they grow

Taste Test: Turnip Flowers

2 small turnips thinly sliced in circles

2 medium carrots cut into coins

6 stalks of celery cut in half vertically

24 spinach leaves

1 ½ cups raspberry vinaigrette salad dressing

Soufflé cups 1/child

Napkins/ plates 1/child

Cutting board

Knife

Daisy-shaped cookie cutters

Procedure:

Introduction:

- Review last week's concepts and activities with the children. We read about Charlie and Lola. Remember Lola was a picky eater and she didn't like trying new vegetables. But once she tried the new foods she liked them, even tomatoes. Remember last time how we tasted tomatoes and green beans, and how we made our very own homemade dip.

Developmental:

- Show the children the cover of the book. Ask the children what they think the story is about. What is Grandma Lena tugging on? How do you think the turnip grew to be so big?
- Read the book *Grandma Lena's Big Ol' Turnip*
- While reading the story point out the different types of turnips pictured in the beginning of the book. Have the children count out the number of people pulling on the turnip in each picture. Point out that both the root of the turnip and the turnip leaves can be eaten.

(Before we go on a little journey we need to move our bodies and exercise!)

E. It's Hip to be Fit!

Before we play our game, we are going to do some exercises which will help our bodies and our minds to perform better when we do our activities\

Pick three movements from the exercise worksheet. Place them on the wall/board where all the students can see them. Begin to sing the song and point to the exercise that they will be doing at the appropriate time. Sing the song twice for each exercise. You can play music while the children are exercising.

**Your bones and muscles are growing strong.
Eat good foods and you can't go wrong
Now move your bodies, count 1, 2, 3....
Come along and _____ with me.**

- F. Where do our vegetables grow?** Hand the mother and child pair a picture of a vegetable. Go around the room and ask each child what fruit or vegetable they have. Have the mothers help if the child doesn't know the name of the fruit or vegetable. Place picture of a tree, ground, vine , bushes around the classroom. Ask the mothers and children to go to the picture where their fruit or vegetable grows. After the mothers and children have picked their location go through and have the children or mothers say "carrots grow underground" or "apples grow on trees" or "watermelons grow on vines" or "strawberries grow on bushes". If you have more pictures of fruits and vegetables than were used in round one, distribute more cards and do the exercise again.

(In our story today, everyone in the neighborhood came over to Grandma Lena's house to try food made with her big ol' turnip. Today, we are going to use turnip to make our snack.)

G. Hand washing Poem:

Review these points before the "cooking" begins:

1. Before we try our new foods we have to wash our hands.
2. The food we eat needs to be washed as well.
3. Germs can make us sick but if we wash our hands and foods then it will help us keep germs away.

**We wash our hands to keep them clean...
The cleanest hands you've ever seen!
Use soap and water---- that's the way!
To chase those yucky germs away!"**

H. Taste Test:

Once the children have cleaned their hands, show them a whole turnip. You may choose to pass a whole turnip around the class. Ask questions about the turnip.

What color is the turnip?

Does the turnip feel smooth or rough on the outside?

How does the turnip smell?

Explain that we are going to be making flowers on our plate made out of vegetables. Explain to the class that they will be cutting out the petals of their flower from a slice of turnip. Demonstrate how to use the cookie cutter to cut out the flower. Next, assemble the rest of the flower by placing a carrot disk in the center of the flower, connecting the flower to a stew made out of celery, and arranging spinach leaves like petals next to the

stem. Explain that once everyone has made the flower on their plate, they can eat the vegetables with the raspberry vinaigrette. Remind the children to be patient since we do not have enough cookie cutters for everyone.

I. Conclusion:

Ask the children what they thought about the vegetable flowers. What did they think of the turnip? Would they eat turnip again? Tell the students how proud you are of them for making and tasting their veggie flowers and trying turnip like the characters did in the story. Encourage children to keep trying new foods!

Lesson taken from:

Keystone Kids Go Active!

The Food Trust Snack and Move Cards

Book in a Bag: Germs! Germs! Germs! : Hand Washing Poem

Nutrition in Every Theme: I Am Growing: Celebrate Healthy Eating and Exercise

Show Me Nutrition



Tot Lesson Plan Outline

Lesson 5: C is for Cabbage

I. Content Objectives

- Preschoolers will be able to classify cabbage as a vegetable
- Preschoolers will be able to taste cabbage
- Preschoolers will participate in food preparation

II. Language Objectives

- Preschoolers will be able to identify cabbage
- Preschoolers will be able to say cabbage
- Preschoolers will be able to count to three in English

Materials:

Lesson:

Book: *Let's All Eat Veggies* by Peggy Sissel-Phelan

Taste Test: Apple Coleslaw

Cabbage

Carrot

Green pepper

Apple

Low-fat plain yogurt

Low-fat mayonnaise

Lemon Juice

Dill weed

Napkins/bowls or plates 1/child

Cutting board 1/child

Plastic knives 1/child

Grater 1/4 children

Mixing bowl 1/4 children

Serving spoon 1/4 children

Soufflé cups 1/child

Forks 1/ child

Procedure:

Introduction:

- Review concepts from previous lesson. Ask children if they remember what vegetable you talked about last week? (*turnips*) Remember how we all had the chance to taste turnips when we made turnip flowers. We tried turnips and carrots and celery and spinach. Introduce today's book: *Cabbage Moon*, a story about a rabbit who doesn't like cabbage.

Developmental:

- B. Read the book to children giving them a good opportunity to look at the pictures. Point to the vegetables that are mentioned in the story. If the children remain engaged, read the book a second time. At the end of the book ask the children if they remember any of the vegetables they saw in the book?

(Now before we watch the chef teach us how to prepare the apple coleslaw we are going to do some exercises to get our minds ready to pay attention.)

C. It's Hip to be Fit!

Pick three movements from the exercise worksheet. Place them on the wall/board where all the students can see them. Begin to sing the song and point to the exercise that they will be doing at the appropriate time. Sing the song twice for each exercise. You can play music while the children are exercising.

**Your bones and muscles are growing strong.
Eat good foods and you can't go wrong
Now move your bodies, count 1, 2, 3....
Come along and _____ with me.**

(Now that we have exercised our bodies let's watch learn how to prepare some yummy coleslaw. Now remember you are going to be preparing this too so you need to pay attention)

D. Cooking in the Classroom: Apple Coleslaw

- Show and explain the vegetables we will be using to the children and parents, and have the children identify them and their color (*cabbage, carrot, pepper, and apple*).
- Remember whenever you are cooking with or eating fruits or vegetables, we have to be sure to wash them first. Sometimes there are germs and other things on our fresh foods that can make us sick. If we wash them like we wash our hands, we can stay healthy!
- We have to chop, cut and grate all of our fruits and vegetables to put them in our coleslaw. Put all of the fruits and vegetables in the big mixing bowl and toss.
- Stir the yogurt, mayo, lemon juice and dill together. Pour over the mixed vegetables and mix.
- Serve coleslaw and enjoy.

E. Hand washing Poem:

Review these points

1. Before we make our new foods we have to wash our hands.
2. The food we eat needs to be washed as well.
3. Germs can make us sick but if we wash our hands and foods then it will help us keep germs away.

**We wash our hands to keep them clean...
The cleanest hands you've ever seen!
Use soap and water---- that's the way!
To chase those yucky germs away!**

F. Cooking in the Classroom

- a. Once the children have cleaned their hands, pass around sliced apple, pepper, cabbage and carrots that the children and grate or cut into bites sized pieces.
- b. Give each group of children a small bowl with the yogurt, mayo, lemon juice and dill together. Have one child at the table mix the dressing.

- c. Add all of the fruits and vegetables to the larger mixing bowl.
- d. Have one child mix the vegetables using a big spoon.
- e. Pour dressing into large bowl with the vegetables and mix again.
- f. Distribute some apple coleslaw to each child.

Explain that we all just made yummy coleslaw with cabbage, carrots, apples and peppers. Taste!

G. Conclusion:

Tell the students how proud you are of them for tasting the coleslaw. Ask the students if they liked what they tried. Encourage children to keep trying new foods!

Lesson taken from:

USDA Recipe Finder

Book in a Bag: Germs! Germs! Germs! : Hand Washing Poem

Nutrition in Every Theme: I Am Growing: Celebrate Healthy Eating and Exercise

Show Me Nutrition

Appendix 3: Pre and Post-Test Worksheet**Directions for Administering the Preschool
Fruit & Vegetable Identification Assessment**

1. Introduce yourself to student and ask them their name. Tell them you are going to play a game with them in which you show them a few fruits and vegetables and ask them some questions.
2. Show the child one fruit or vegetable and ask “What is this?” Record the response as yes (correct), no(incorrect) or no answer.
3. Tell the child the correct name, point to the picture of the child eating, and ask “have you eaten a (name of fruit/vegetable) before?” Record the answer as yes, no or no answer.
4. Ask the child “What do you think of (fruit/vegetable name)?”Have the child respond by pointing to the happy or sad face and record the answer as good, bad or no answer.
5. Ask the same set of questions and follow the same procedure for all 5 fruits and then do the same process for all 5 vegetables.
6. Fill out a new sheet for each student. Remember to write the child’s name, on each sheet, record qualified responses and circle if this is the pre or post-test.

Student Response Sheet – Fruit & Vegetable Identification Assessment

Pre-test

Post-test

Name _____ Months Old _____ Date _____

Fruit 1: Apples

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of apples? GOODBAD NO ANSWER

Fruit 2: Kiwi

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of kiwi? GOODBAD NO ANSWER

Fruit 3: Grapes

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of grapes? GOODBAD NO ANSWER

Fruit 4: Banana

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of bananas? GOODBAD NO ANSWER

Fruit 5: Strawberry

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of strawberries? GOODBAD NO ANSWER

Vegetable 1: Pepper

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of peppers? GOODBAD NO ANSWER

Vegetable 2: Carrots

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of carrots? GOODBAD NO ANSWER

Vegetable 3: Spinach

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of spinach? GOODBAD NO ANSWER

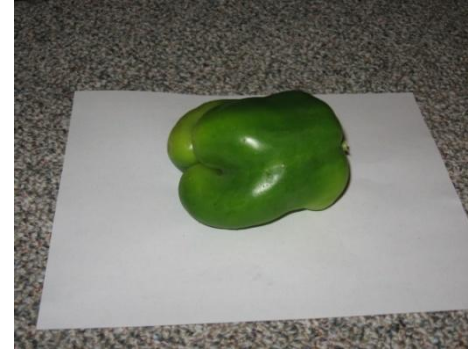
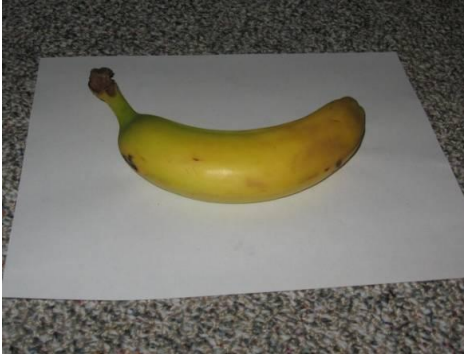
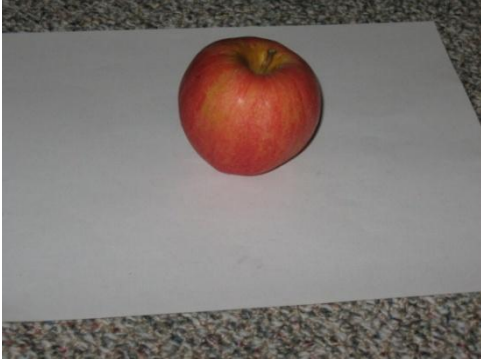
Vegetable 4: Mushrooms

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of mushrooms? GOODBAD NO ANSWER

Vegetable 5: Cauliflower

1. What is this? _____
2. Have you ever eaten this before? YES NO NO ANSWER
3. What do you think of cauliflower? GOODBAD NO ANSWER

Appendix 4: Pictures of Evaluation Fruits and Vegetables
Pre-test Fruits and Vegetables



Post-test Fruits and Vegetables



Appendix 5: Field Notes

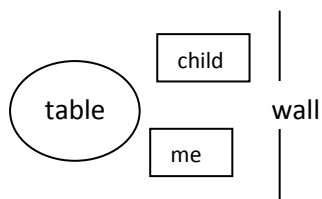
***All names of children have been replaced with boy or girl

Preschool Reflections: Evaluations

Becky Schwei

November 10, 2010

Set-up: I brought a small table outside of the classroom with two small chairs. I had all of the vegetables in my bag. I would place the pictures on the table for the child to look at. Unfortunately, the hallway was busy with mothers going in and out of their classrooms. This distracted many of the kids. When the mothers were watching the kids were much more hesitant to talk and were much more likely to be uncooperative. The kids were not familiar with me, and therefore I think they were looking for a way to get out of this slightly uncomfortable situation. I think this also has something to do with the fact that the kids are always looking to be close to their moms. There is lots of crying when the moms leave the classroom, and that leads me to believe that I think the kids are very attached to their moms Ideally I would like a quiet area where the children would not be distracted. Another issue with the setup was the fact that many of the children were afraid to leave the classroom with me. Although I had been in the classroom previously, the kids were still afraid of me and were unwilling to leave the classroom without prodding from the preschool teacher. After I showed the children one or two fruits most of the kids relaxed and completed the evaluation; however, there were a couple of kids who got more and more anxious as the evaluation continued. At this point the kids were still scared of me, they were constantly looking at the closed classroom door and displayed body language that made me think they were extremely uncomfortable (shifting eyes, quivering lips, frowning faces). However, once I showed the kids that all we were doing was looking at fruits and vegetables and all they had to do was point to pictures many of the kids relaxed. They stopped looking at the door and would start looking in my bag before I was ready. Often times letting the kids hold the fruit or vegetable I was talking about was a good way to distract the kids from their initial fear. Some kids had an opposite reaction. Some kids got more and more anxious the longer they had to be away from their comfort zone of the classroom. A few kids actually got up from the table and tried to open the classroom door. I didn't force any of the kids who were extremely uncomfortable to participate. One or two of the kids refused to participate all together and so the evaluation was stopped. In the future, it would be a good idea to establish a better connection with the preschool age children before I try and evaluate them one on one. I could have done this by coming to the classroom and observing more frequently so my presence isn't so scary. Alternatively, I could have taught a few lessons before the actual evaluations began. These lessons could have had absolutely nothing to do with fruits, vegetables and physical activity, but I think the interactions with the kids would have facilitated the evaluation process. Alternatively, if it is possible to conduct the evaluation in the classroom without attracting a crowd of kids this might keep the children more at ease.



Procedure:

Question 1: One at a time I brought a fruit or vegetable out of the bag and showed the child. I asked the child “What is this?”

Interaction A: (this question took 30 seconds to 45 seconds to complete)

Me: I pulled out grapes from my bag “What is this?”

Child: looked at grapes and looked me directly in the eye, she pointed to the grapes and then pointed to herself, and she kept looking at me.

Me: “What is this?”

Child: continued to look at me but stopped making any physical hand gestures

Me: “these are grapes”

Interaction B: (this question took 10 to 20 seconds to complete)

Me: I pulled out cauliflower from the bag “what is this?”

Child: lifted her shoulders up to her ears and then looked away

Me “What is this?”

Child: looked at me but didn’t do anything

Me: “this is cauliflower”

In both of the previous examples the child did not know the English name of the fruit or vegetable; however I think the kid did recognize the grapes in the first example and did not recognize the cauliflower in the second example. Both examples occurred with the same child.

Most often there was no response even though it was clear that the children did have different levels of familiarity with some of the vegetables as compared to others. Often times, when children appeared to recognize the fruit or vegetable they would make eye contact with me and would stall for more time. It almost seemed to me like they wanted to say the name of the fruit/vegetable in their language, but they knew I wouldn’t understand. I also had the sense that they wanted me to know that they did know what it was, even if they couldn’t communicate a name that I would understand. For the most part, when kids were less familiar with a fruit or vegetable they would rapidly shake their head no or lift their shoulders up to their neck. Although we tried to avoid the language barrier by asking the kids what is this, it was very clear that the kids were unwilling to tell me how they know the fruit or vegetable. When there was no answer, I repeated the question, “What is this?” several times before telling them what it was called in English and continuing on to the next question.

Question 2: For the second question I placed a picture of a little girl eating in front of the child and asked, “have you eaten this before?” I mimicked eating the fruit of vegetable

and continued to ask “have you eaten this? or Have you done this?” (while pointing to the little girl). Many of the kids were curious to hold the fruit or vegetable I was talking about. If they reached for the fruit or vegetable I would let him/her hold it. However, they were only allowed to hold the fruit or vegetable that the questions were about. To respond to the second question, I asked children to point to shake their head yes or no. As the evaluation preceded children understood more and more that I was looking for them to say yes or no or do the appropriate head motion. At the beginning, children were often quiet and would do nothing. I also observed a significant difference in the ability to catch on to what I was asking the child to do based on his/her age. The older children, 3 ½ and 4 year olds understood right away that I was looking for them to answer the question yes/no. The younger children, 2 ½ - 3 ½ really struggled to understand that I wanted them to say yes/no. I don’t know if the younger children struggled with this concept as a result of the language barrier or developmental stages or a combination of both. During this procedure I wondered if in the future it would be beneficial to have the teacher model the behaviors I am looking for, such as shaking your head yes or no for the kids as a group.

Question 3: Finally, I asked the child, “What do you think of this fruit/vegetable?” I pointed to the happy and yuck faces in front of the child and asked them to choose the appropriate face. Of the three questions, this question appeared to be the easiest for the children to understand. I don’t know if this was because of the faces, which was easier for the children to understand. For whatever reason, this question consistently had the most responses.

Overall Observations:

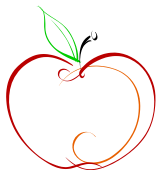
1. Kids were initially afraid of me. Once The preschool teacher, the preschool teacher, “gave” me the most cooperative kids it was a real struggle to persuade kids to come outside with me. To encourage kids to come outside with me I attempted several strategies
 - a. I took the kids who were most willing to participate first. I was hoping that when the more shy kids saw the other kids go outside with me and come back in that this would persuade them to come outside with me too.
 - b. Once all the “easy” kids came outside with me, I spent 20-30 min in the classroom interacting with the kids. I was hoping to show the kids that I wasn’t a scary lady. I showed some of the kids what was in my vegetable bag and this persuaded a few of the kids to come outside with me. I even tried to conduct one evaluation in the classroom; however, this was too distracting and did not work well. The kids crowded around me and the child being evaluated and it was very difficult to concentrate.
 - c. The assistant teacher walked the kids outside with me and stayed outside until the children were calm. To help keep the children calm I would let them hold the fruit or vegetable. The issue with allowing the assistant teacher to come outside with me was that sometimes she would say things to the child, even

when I asked her not to. She would tell me that oh yeah “this child has eaten apples before”.

2. It took a lot longer to complete an individual evaluation than originally anticipated. I would say I spent an average of 15 min trying to convince a child to participate and conduct the evaluation. Some of the children refused to say anything and I wanted to make sure I gave them an opportunity to answer the questions so some of these evaluations took a very long time. The participation was so low, that I ended up going back early on Monday (11/15) to conduct more evaluations before the first lesson.
3. As mentioned above the setting for conducting the evaluation was less than ideal. The busy hallway distracted the children and made the evaluations more difficult to conduct.
4. Very few children had any idea of the English words for the specific fruits and vegetables. I don't think the first question accurately captured the knowledge of the young children due to the language barrier. However, the point of the program is not to increase knowledge, but to improve attitudes relating to fruits and vegetables so I am not sure this is of big concern.
5. Very apparent differences in the ability of the young children (2.5-3.5) to understand what was being requested of them as compared to older children (3.5-5). There were also substantial differences in children's willingness to participate, and this could have been as a result of individual differences in children's personalities or age differences as well. I have noticed in my observations of the classroom setting that child drop off time is more traumatic for these children when compared to the parent drop off time of the children in Philadelphia. I never once saw a child cry when their parents left them in Philadelphia. However, every time mothers leave their children with The preschool teacher there are lots and lots of tears. The refugee children are only in daycare for 4 hours 3 days a week as compared to 40 hours a week in Philadelphia. Additionally, the mothers are always right down the hall in the Mommy and Me Program and this is not the case in typical preschool settings.

November 15, 2010

I went back before lesson 1 to conduct additionally pre-lesson evaluations. It was raining on this Monday morning and there were only 5 kids present in the classroom. Because of the small number of kids I was able to conduct the evaluations in the classroom. I think conducting the evaluations in the classroom encouraged participation from all the kids even the most shy ones. I was able to collect pre-evaluations for all 5 of the kids who were present at the Monday lesson. The only problem with conducting the evaluations in the classroom was that the preschool teacher, The preschool teacher, made comments similar to the comments the preschool assistant made the Wednesday before. She would say things like “say you like it Johnny” and she continued to make comments like this even after I asked her to stop. This was an unfortunate consequence of conducting the evaluations in front of the preschool teacher. The exact same vegetables were used as in the previous evaluation and the procedure was exactly the same.



Lesson 1 Reflections: A is for Apples
November 15, 2010

Preparation: To prepare for this lesson I checked out *Handa's Surprise* by Eileen Browne from the DeKalb Public library. I read through the story a few times to remind myself what the story was about. To prepare for the activity I printed out ten pictures of apples and five pictures of oranges. I colored the oranges orange and the apples green, red and yellow. To purchase food I bought 9 apples (3 granny smith (green), 3 Braeburn (red), and 3 golden delicious (yellow)). I found a children's song on my computer that we could play during the game.

Lesson 1: I arrived at the International Bible Church on Monday morning at 9:30 am. It was a rainy morning, and most of the mothers walk to school, so there were only 5 kids present. From 9:30 – 10:30 I conducted pretest assessments with the children who I hadn't worked with previously (described in evaluation notes). At 10:00 the kids received snack of 15-20 goldfish, 5-10 pretzels and water. All the kids ate the majority of their snack. At 10:15 The preschool teacher, the preschool teacher, asked me to start my lesson.

10:15-10:30: Reading *Handa's Surprise*: Me, the five kids and The preschool teacher all sat on the carpet in a circle I read the story out loud to the kids, and I held the book so everyone could see the pictures. The kids were more or less engaged in this story. The kids seemed to really like the bright picture, and they understood that the animals were taking the fruit out of Handa's basket as she walked to her friend's house. The fruits in the book were exotic and potentially less familiar, and the kids were hesitant to repeat the name of the fruit after I said it. We read through the story, we talked about the fruits and their colors, and we named the various fruits in Handa's basket. When I would ask the kids a question, The preschool teacher was often the first one to answer the question. Overall, the kids were very quiet throughout the book. The children's ability to pay attention to the book was variable. One little girl could hardly sit still for one page of the story; however, a few of the other children quietly listened and looked at the book for the entire 15 min. The child's ability to pay attention to the book seemed to have more to do with the child's personality as opposed to his/her age.

10:30-11:00: At 10:30 the mothers came into the classroom to have a break with their babies. I didn't know this break was coming, and my lesson was interrupted. The mothers practiced sorting beads by shape and color and stringing them on a string to make a necklace. For this activity, the mothers were divided up by English level, so we had kids of all ages. I thought the activity was inappropriate for this group because many of the small kids kept attempting to put the beads in their mouth.

11:00-11:10: After the mothers went back to their classrooms, I continued teaching my lesson. Girl decided to stay with her mom and therefore was not present at this part of the lesson. The other unfortunate piece was that another woman, Teacher, showed up in the classroom, and was apparently supposed to teach the kids from 11-12. Teacher agreed to let me finish my lesson; however, I felt rushed to get the lesson completed rapidly. For 2 min we looked again at the story book and I asked the children to point to some of the animals they saw, and point to some of the fruits they saw in Handa's basket. Next, we all stood up in a circle and sang the *It's Hip to Be Fit* song. The kids were unable to repeat the words with me, not even the counting. We repeated the song four

times using four different action cards. As we continued to sing the song the kids began participating a little bit more. Boy would do the movements while sitting in a chair and Girl would do the movements with me standing up. Both Girl and Girl were hesitant to participate. Both Teacher and The preschool teacher began singing the song with me and doing the hand motions with me to encourage the kids to participate. This seemed to help the kids. This was the first time that the kids had heard this song and seen the hand motions and it did take them a few rounds to understand what we were doing, but slowly they began to understand. Girl was a particularly good influence on Boy as she was very enthusiastic about moving her body.

11:10-11:15: I set up four chairs in a circle and 2 chairs had pictures of apples on them and 2 chairs had pictures of oranges on them. I explained to the children that when the music was playing we were going to walk around the outside of the chairs. When the music stopped we were going to sit in the closet chair. During our first round, Teacher helped the kids, and 2 wouldn't participate, walk around the circle. When the music stopped we asked the kids to pick up a fruit. The kids didn't understand that we wanted to pick up the fruit but with a little guidance we managed to give every child a picture. Next, I asked the kids who had an apple, while holding up a picture of an apple for them to see. The kids had a hard time determining whether or not they had an apple. We pointed out to the other kids which kids had an apple. Next I asked one of the kids what color was their apple, and she had a red apple. Next I asked the other little girl what color her apple was and her apple was yellow. The apple I had in my hand was red. Together we realized that there are many different colors of apples. Next, I asked the class "Who has a picture of an orange" while holding up a picture of an orange. Teacher and I helped the two kids who had an orange say they had an orange. I asked the kids "what color are oranges?" I told the kids that "oranges are orange." Next we repeated the game again and I asked the same questions "Who has apples" "What color are your apples" "What color is my apple" "Who has oranges" "What color are oranges". This activity was pretty chaotic. The kids didn't understand that I wanted them to walk around in a circle and stop when the music stopped. Two of the kids didn't even want to participate in the walking so we only had two kids walking around the circle with Teacher. The kids had a hard time distinguishing between apples and oranges. Everyone always thought they had oranges. Because Girl, wasn't in the class all of the kids were 3 year olds, and without the older kids to understand what I was asking and then model the behavior, it might have been more difficult for the activity to proceed effectively. In the future I would use a more simple game where we try and match apples and oranges, or place them in different spots around the room and ask the kids to bring me an apple or orange. I also wonder if it would be a good idea to motivate the appropriate behavior through sticker rewards or high fives. These kids don't appear to be as used to structured activity and this makes structured activities challenging. Additionally, maybe the activity is designed for a larger number of kids. It is possible that the small number of kids actually hindered the activity.

11:15-11:30: Taste Test: We moved from the carpeted area over to the table. I sprayed the table with cleaner and then I talked with the kids about washing their hands. "We should wash our hands before we eat so we don't get sick from germs." I sang the Hand washing song with the kids "We wash our hands to keep them clean, the cleanest hands you've ever seen, use soap and water that's the way, to chase those yucky germs away."

I squirted a small drop of hand sanitizer in each of the children's hands and we all rubbed our hands together inside and outside and between our fingers and all over. Most of the kids were pretty good at washing their hands; however, Girl refused and therefore she didn't get to try the snack. That is one of the rules of the lesson: we always have to wash our hands before we eat. Next I gave all of the kids a small napkin and I brought out a whole yellow apple from my bag. I asked the kids "What is this?" Girl said "Apple" I said "very good Girl, this is an Apple." Next, I asked the kids "What color is this apple?" "The preschool teacher said, "Yellow". I said "Yes, this is a yellow apple". I passed out a slice of apple to all of the kids and I asked them not to eat it, but they could touch it and smell it and feel how smooth it was. Next I showed the kids a picture of a red (Braeburn) apple, and I asked "What is this?" Boy, said very quietly under his breath "apple". I said, "Yes this is a red apple". I passed out a piece of red apple to the kids and I said "look we now have a red and a yellow apple on our plates." Next, I showed the kids a whole green apple and before I asked the question Girl said "apple". I said "What color is this apple?" and The preschool teacher said "Green". I passed out a piece of green apple to all of the kids and I said "Look now we have 1, 2, 3 pieces of apple on our plate and we have 1, 2, 3, different colors. Do you guys want to taste the apple?" Surprisingly to me, the kids actually looked like they wanted to taste the apples. They weren't afraid of the apples, and it appeared that they had seen apples before. I asked all the kids to hold up their red apple and they did, and we all tried the red apple together "1, 2, 3 taste". Boy didn't taste the red apple, and Girl didn't participate. Girl tried the apple, and Girl peeled the skin off the apple and ate it. Next we picked up the green apple and tasted that together, Only Girl and Girl were willing to taste the food. At this point Girl returned to the classroom. We washed her hands and set the three pieces of apple in front of her and she immediately started eating them. Finally, we tasted the yellow apple together. The same kids tasted the yellow apple, as had tasted the previous apples. The preschool teacher tried to pressure Boy to eat the apples, but once I saw what she was doing I quickly asked her to stop, and let the kids make their own decisions about what they will and not eat. I like the Ellen Satire(sp) idea of children as autonomous eaters. Overall 3/5 kids ate the apples and two didn't try any. After we were done eating I asked the kids what they thought of the multi colored apples. I said "congratulations, you all tried three different kinds of apples and they all taste different. You all did a fantastic job". The preschool teacher and I cleaned up the trash and uneaten food and the lesson was over.

Extraneous Observations:

1. Having Teacher present turned out to be a big help. For whatever reason The preschool teacher didn't seem too inclined to participate. Maybe if I was more direct with her about what I would like her to do, then maybe she would help. I was disappointed that The preschool teacher didn't want to try the apples with the kids. It is important for the teachers to try the healthy snacks with the kids to model good behavior.
2. The kids had had a snack approximately an hour before they had their apple snack. In the future I will try and give them their taste test before they eat to encourage tasting of the foods.

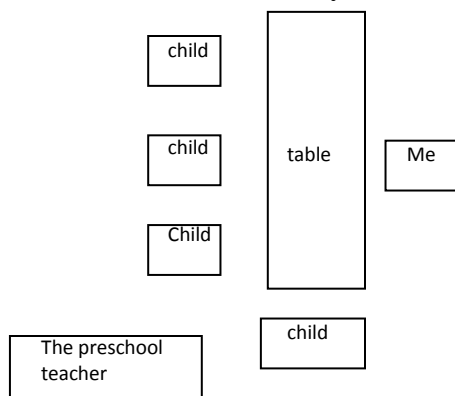


Lesson 2 Reflections: F is for Fruit
November 22, 2010

Preparation: To prepare for this lesson I checked out *And the Good Brown Earth* by Kathy Henderson from the Fulton County Library. I read through the book a few times to familiarize myself with the story. I purchased 3 bananas, 2 cans of pineapple chunks (in 100% juice), and 3 cans of mandarin oranges (in light juice) from Kroger. I bought small bowls in which the children could eat the fruit salad. To prepare for the activity I printed out from online pictures of lettuce (2), bell peppers(2), grapes(2), carrots(2), and tomatoes(2). I colored in the vegetables to make them more realistic.

9:00 am: I arrived at the International Church at 9:00 am on Monday morning so that this lesson wouldn't conflict with Teacher, and so that I could give the kids my snack before they get their normal snack. The preschool teacher was at the church, but no kids had arrived yet. Slowly, the kids began to show up. By 9:15 we only had 4 kids, and The preschool teacher said that she thought that was all of the kids that we would have. The kids played with their toys from 9:00-9:30. At 9:30 I asked The preschool teacher if I could start my lesson and she said yes. We picked up all of the toys so the lesson could begin.

9:30-9:45: To read the story all of the kids sat around the table where we eat snacks.



This story was probably not appropriate for this group of kids. I am not sure if the kids understood that we were progressing through the seasons, and this is how plants grow. The kids were antsy very quickly. To keep the kids engaged, I laid the book out on the table and asked the kids to point to what they saw. The kids were intrigued by the animals on the pages. Boy continually pointed to the birds he saw on the various pages. On every page we found pictures of the little boy and gram. All of the little kids liked pointing to the big squirrels in the middle of the book. During the book we discovered how the little seeds became little green stems, and then the stems had leaves on them, and we used water to make the plants grow big and tall. Finally, we saw the little seeds turn into big tall plants that had vegetables. I asked the kids "Can you point to the vegetables you see?" Someone pointed to the pumpkin, tomatoes and the birds. I showed the kids where the strawberries were and where the corn stalk was. Next we saw how carrots

grow underground and so do beets and Boy continued to point out the birds on every page. Personally, I like this story a lot, but I am not positive that it is appropriate for non-native English speaking preschool age kids. Throughout the story Girl was good at repeating the fruits and vegetables that I mentioned, and Boy was good at pointing to pictures in the book. Both Boy and Girl are 4 years old, and Girl are right around 3 years old. Girl had trouble sitting still during the book and Girl did not want to talk to me at all.

9:45: We all stood up and sang *It's Hip to be Fit*. Girl was good at mimicking the hand motions after I did them, and the boy also participated standing up. Girl and Girl did not want to participate in our physical activity. We practiced bending, twisting and clapping together. We repeated the song 3 times and The preschool teacher sang the song, and did the hand motions along with me.

9:50: We moved back to the table to do our activity. Because I was receiving limited participation from both Girl and Girl I decided to change my activity. All the kids came back to the table. I showed the kids the pictures I brought. We named apples, oranges, grapes, carrots, lettuce and peppers. The kids enjoyed picking up the pictures and even imitated coloring in the pictures even though they didn't have any crayons with them. In the future it would be a good idea to let kids color in the pictures as an activity. By the time I went through and showed the pictures the various fruits and vegetables and once we talked about their colors. Each of the four kids had a different combination of fruits and vegetables in his/her hands. Next I held up a picture of a carrot and I asked the kids "Can you show me where another picture of a carrot is?" At first the kids didn't understand what I was asking and Girl showed me a picture of an apple. I looked through the stack of pictures and brought the carrot to the top of the stack. Then, Girl picked up the carrot and said "Carrot". I said very good Girl. Boy was looking through his pictures and he couldn't find a carrot (he didn't have a picture in his stack). Next I asked Boy to show me a pepper. This was a little tricky because all the peppers were colored differently but with a little help he was able to show me the pepper. I gave him my picture of a pepper too. Girl wanted to participate and she showed me a picture of an apple and I said "yes that is an apple, Can you show me another apple?" She didn't really understand what I was asking, so I showed her a green apple and a yellow apple to go along with her red apple. Girl also showed me her apple. We continued to play this game looking at lettuce and grapes and oranges. Girl and Boy were pretty good at showing me the correct vegetable, and repeating the names after me. Girl wanted to participate but didn't really understand and Girl didn't participate at all. The main point of this activity was to match similar fruits and vegetables together. I actually think it worked well, especially with the older kids.

Potential Future Modification: in the future it might be a good idea to give each child a little packet of 3-4 vegetable pictures and then hold up a vegetable picture and ask all the kids to show me that same vegetable in their stack. Doing this would ensure that all kids have all the vegetables and could participate on all questions. The fruits/vegetables could continue to be multicolored.

10:00-10:15: Fruit Salad Taste Test. All the kids washed their hands like we are supposed to do before we prepared our taste test. I pulled a whole banana out of my bag and asked the kids “What is this?” It looked like several of the kids knew what a banana was but no one gave me any words. I said “this is a banana” and Girl and Boy and Girl all repeated banana, Girl continued to refuse to participate. I cut up the banana wheelies and put 3 in each bowl. Next I showed the kids the canned pineapple and asked the kids “What is this?” no one said anything, so I said this is pineapple, and I showed them the picture of the whole pineapple on the front of the can. I put a spoonful of pineapple in each bowl. Unfortunately, I forgot the can opener so I wasn’t able to give the kids a taste of the mandarin oranges but that was okay. At the same time that I gave the kids their fruit salad snack The preschool teacher passed out the pretzels and goldfish with water. I would have preferred that she wait until after we tasted the food, but she didn’t want to so I figured at least now they are getting the foods at the same time. I asked the kids to pick up a banana on their spoon, and we all tasted the banana together. Girl, Boy and Girl all ate the banana. Next we tried the pineapple together. Boy spit the pineapple back out in his bowl. The pineapple was not nearly as familiar to the kids as the banana. The three kids who tasted any of the fruit ate all of the banana, and less of the pineapple got eaten. After we finished our snack I asked the kids if they liked the pineapple and I said I was so proud of them for trying fruits that they had never tried before.

During the taste test The preschool teacher told me that she preferred to give her kids fresh pineapple, and she said she gives her two kids (4, 6) fresh fruits and vegetables every day and they eat them. I think that is fantastic.

Overall Observations:

1. Continued to notice a difference in how the lessons were received based on the children’s age
2. Modification of the activity went well
3. Taste test was good



Lesson 3: P is for Picky Reflections November 29, 2010

Preparation: To prepare for this lesson I checked out *I Will Never Not Ever Eat a Tomato* by Lauren Child from the Fulton County Public Library. I read through the book one time to remind myself what the story was about. I purchased 1 small container of grape tomatoes, 1 bag of green beans, two 8 oz containers of fat free sour cream, one 24 oz container of fat free plain yogurt, and one container of dill spice. Before the lesson I washed all of the vegetables.

9:00am: I arrived at the preschool at 9:00 am. I wanted to observe the children for a half hour before the lesson started. It was another rainy Monday and we only had four kids in the classroom with The preschool teacher. (Girl, Girl Thaw, Girl, and Boy).

Morning Observations:

- Only 4 kids again, very active and vocal this morning/
- Girl, Girl and Girl are very active climbing on furniture and crawling in small spaces and on the bookcases.
- Boy is playing with the toys by himself on the floor and the three girls are running around the classroom together and are being very active.
- When The preschool teacher went down on the floor to play with the toys the other kids join in and play
- Boy is making gun sounds when he is playing with blocks. He is staying and playing separate from the three girls. He is willing to interact with me, but he is interacting in a completely nonverbal way. He is looking at me, giving me toys, and looking through my things.
- Kids enjoy moving furniture and lifting it up, pushing it around and hiding under the tables
- Kids enjoy the loud noises that accompany moving the furniture or banging a block on the tile floor
- Girl is driving a car around on ground and up on top of a counter. Girl copies Girl with a much smaller car and the blocks on top of the car fall over and crashes.
- Car is thrown to the ground on purpose and it makes a loud noise.
- When Girl saw that I was watching her throw the car on the ground she looks at me as if she thinks she might be in trouble- she is behaving differently when she thinks I am watching.
- Girls are talking to each other in a foreign language that I assume is Burmese, but I am able to hear English words throughout their conversations like “Beep Beep, Hey, Uh-Oh, Oh”.
- All four of the kids in the class today speak the same language, Burmese
- Interesting dynamic in the classroom because the kids can speak to each other in their native language, but they can’t speak to The preschool teacher or me in this language.

- The Purple Care Bear is over in the kitchen with the three girls, and she looks to be helping the girls cook.
- Two of the kids were eating cookies and one girl was eating a pear when I walked in the classroom this morning. Almost all of the kids also have a bottle of some type of milk that they can get at any time.
- Some of the girls are good at repeating words like “cookie”. When one little girl said cookie the other two repeated the word as well.
- In the toy kitchen the kids can play with some food toys like lettuce and corn and buns and there are toy dishes.

9:40: At 9:40 I asked The preschool teacher if we could start the lesson and she agreed. We all worked together to clean up the toys. Like lesson 2 we all sat at the table to read the book. During the reading of the book the three girls sat at the table with me, but Boy sat at the smaller table away from the girls. Even though he was sitting further away from the book, he was the most atent child. Throughout the reading of the book, Girl, Girl, and Girl were grabbing the book, playing with each other, changing seats, crawling under the table and talking out loud. They had a tough time sitting still during the book. The preschool teacher tried to keep the girls quiet, but neither she nor I had much success.

When I asked the children what they saw on the cover Girl said “apple”. I said “you’re right Girl, this does look like an apple, but it really is a tomato, can you all say tomato?” Girl was the only one who attempted to say tomato. On the second page of the book there is a picture of a bunny rabbit. Immediately when I turned to that page the girls pointed at the bunny. I showed them the carrot next to the bunny. As we continued reading I pointed out some of the fruits and vegetables that we had talked about before like carrots, cabbage, bananas, oranges and apples. When I turned to the page with bananas Girl pointed to the bananas and said “banana” I said “that is a banana Girl”. The girls liked pointing out what they knew; however, distinguishing between the tomatoes and the apples was difficult. Both are round and can be red. Girl was very stuck on apples. The kids really liked the page with the green alien on it. They kept saying “_____” to me, but I had no idea what they were saying. On the page with a bowl of peas on it there is a picture of a little face on one of the peas. When I pointed this out to the girls they thought it was so funny. After I pointed to it, they pointed to it and their eyes got big and they giggled. Once again they were speaking to each other, but I couldn’t understand what they were saying. I liked reading this book to the kids, because although I don’t think they understood that Lola was a picky eater and Charlie was “tricking” her into eating fruits and vegetables, the pictures were so shocking and silly, that the kids stayed engaged. On one page there is a picture of a potato 3 times the size of Lola. The kids thought things like that were so funny. The picture of the grocery store under the sea was another good picture that we spent a lot of time looking at. There is a whole produce section on this page and the kids pointed out bananas, oranges, and apples. A lot of times the girls would point at the fruit, and then look to me to see what I called it. Sometimes they would repeat what I said, and sometimes they wouldn’t. For example, they would repeat grapes, but they were more hesitant to repeat potato. I don’t

know if this has to do with the fact that they have heard the word grapes before, or if it is because grapes is just an easier word to pronounce. Towards the end of the book Charlie carries in a big basket of tomatoes and when Girl saw this picture she once again said “apples”. I didn’t know what to do about this because they do look like apples, and I wanted to encourage her to shout things out, but these were tomatoes. I said “yes, Girl these do look like apples but they are actually tomatoes. Can you see the green leaves on top of the tomatoes? Can you say tomatoes?” She did say tomatoes. Overall, I think this book is appropriate for children who don’t speak English even though I don’t think they get the point that Lola is trying new foods. The interesting pictures kept the children engaged. Although this was a good book, the girls did have trouble sitting still for the whole thing, although Boy sat at his own table for the whole book without moving. Girl and Girl kept getting up to go try and play with toys, and Girl kept crawling under the table and on my lap. It wasn’t a perfect story time, but overall it was pretty good.

10:00 We all stood up and did our exercises. All of these kids had previously seen the hand motions, but they were still hesitant to participate. We did four exercises like normal, but by the fourth round the kids were losing interest. They would make some of the hand motions with me, but they still weren’t singing any part of the song.

10:05 our activity for the day was to move like animals. I had intended to print out pictures of animals and ask the kids how the animals moved, but I forgot. As it turned out there were pictures of animals painted on the classroom wall so we used those animals. We practiced moving like dogs, elephants, birds, fish. Because there were so few kids, the activity didn’t get as out of control as it had this summer. Girl especially enjoyed moving her body in different ways. When we were dogs we were down on hands and knees and we were barking like dogs. When we were elephants we put one of our arms in front of our nose to be a trunk and then we stomped our feet like a big heavy elephant. When we were birds we flapped our arms and flew around the room. When we were fish we pretended we were swimming and pursed our mouths in the fish shape. Having the pictures of the animals was really key for the kids because they don’t have the English vocabulary to know what animals I am talking about without a picture. Even Boy participated in moving like animals, but once again he was in his own corner of the classroom. I like this activity a lot because it gives the kids a chance to practice moving their bodies in different ways. The girls especially love crawling on the furniture and moving furniture around, so I think this is a good activity to give the kids a constructive way to use their bodies while also letting them use their imagination.

10:15 once we were done with our activity we moved back to the table to have our healthy snack. We all washed our hands, because that is what you are supposed to do before you eat every time. The kids are getting better about washing their hands. They know how to make sure they rub the hand sanitizer in between their fingers and on the fronts and backs of their hands. Once we were finished washing our hands, I pulled out a carton of cherry tomatoes from the cooler. I asked anyone if they knew what these were. No one knew. I said “these are tomatoes, these are like the tomatoes we read about today with Lola, Can you say tomato?” Girl, Girl and Girl said “tomato” but girl said nothing. I passed out two cherry tomatoes to each child. Next, I brought out my bag of green

beans. I asked the kids if anyone knew what these were, and no one did so I said these are green beans. Do you see they are the color green, and they are called beans can you say beans? Once again the girls said “beans” and girl said nothing. I gave each child 3 green beans. Next, we worked together to mix up our dill dip. Girl helped me put 3 scoops of yogurt in the mixing bowl. Girl helped me put 2 scoops of non fat sour cream in the dip, Girl helped me shake dill (herb) into the bowl and Boy helped me mix the dip up at the end. All the kids seemed glad that they were able to help. That is one good thing about having a small class, all the kids got to participate in making the dip. Next, I scooped a little bit of dill dip into a little Dixie cup for the kids to taste. I asked all the kids to pick up their tomato (The preschool teacher didn’t want to participate in the taste test (I was disappointed by this)). We all picked up our red tomato, dipped it in our dill dip and then took a bite. You could clearly tell that the kids were a little nervous to take a bite. Unfortunately the small grape tomatoes are still a little too big for the kids to eat so in the future it might be a good idea to cut them into smaller pieces. Girl took a good sized bite, but she spit it out on her plate. After she did that she looked at me as if she thought I was in trouble, and I said “Girl it is okay if you don’t like the tomatoes, thank you for trying it, and you can just leave it on your plate”. I don’t know if I was reading too much into this, but I think she understood what I was saying and she did leave the tomatoes on her plate and didn’t make a big fuss about the tomatoes being gross, or disgusting or not even wanting them on her plate. I was impressed by this reaction, as it is different from a lot of the reactions I saw this summer in Philadelphia. When the kids didn’t like a food they made a big commotion, which made it harder for other kids to get up the courage to try the foods. All the kids ate a few of the green beans, and I think they liked the dip. The tomatoes were less popular, but Girl did eat the tomatoes.

Unfortunately, while I was preparing the snack, The preschool teacher was once again passing out the kid’s snack. In addition to the tomatoes and beans the kids were eating pretzels and graham crackers and water. I still never quite figured out how to deal with this timing issue. Overall, I think this is a tough taste test for the kids to like because tomatoes and beans are a rather grown up food. I was proud of the kids for trying what they did.

We finished the snack a little early so after The preschool teacher and I finished cleaning, the kids sat at the table and they took turns “reading” either the Charlie and Lola tomato book or Handa’s Surprise. Girl had the book upside down, so I turned the book around for her and was trying to show her how to read a book. You go one page at a time and you look at the pictures and you make up a story. Girl was fascinated by the kitchen scene in the Charlie and Lola book and spent maybe 3 minutes just looking at that picture. Girl was also a little rough with the books, so I had to remind her that these aren’t my books and we have to take care of them so other people can read them in the future. Girl was reading Handa’s surprise and she was flipping page to page and as she flipped the pages we would look at the animals stealing the fruit. From the ten minutes I spent reading stories with Girl and Girl I realized that providing the preschool programs you work with a set of books is really important for the kids familiarity with fruits and vegetables. The kids enjoy reading the books on their own, and because they can’t read yet, they are making up their own stories in their head. As they are making up their

stories, they are including the fruits and vegetables in their make believe which makes them not so scary and will probably aid their overall comfort with these healthy foods.



Lesson 4: T is for Turnip Reflections
December 3, 2010

Preparation: To prepare for this lesson I checked out *Grandma Lena's Big 'Ol Turnip* by Denia Lewis Hester and illustrated by Jackie Urbanovic from the Fulton County Library. I read through the story one time to remind myself what the story was about. I purchased 3 turnips, 1 stalk of celery, 1 bottle of low-fat raspberry vinaigrette dressing, 1 bag of spinach and 3 carrots. Before the lesson I cut the turnip into large round slices, I sliced the celery into 3 inch pieces, I cut the carrot into round circles and I washed the spinach.

10:30 I arrived at the preschool a little after 10:30 on Wednesday. I was very pleased when I walked in because there were six kids present in the class (Girl, Girl, Girl, Girl, Girl, and Girl). This will be my biggest class yet. The kids recognized me when I walked in and were no longer afraid of me. I was hoping to just observe the class for a little bit before the mothers came in at 11:00am. At about 10:45 The preschool teacher asked me if I would read my story, and I explained to her that the mothers were supposed to come in at 11:00, and that I would prefer to wait until then. She said, no there is no mommy and baby time today. I said really, Mary had told me that there would be. The preschool teacher said, no, not on Wednesdays. I agreed to read the story to just the kids

10:45 All six kids and The preschool teacher and I sat on the ground to read our story. This was the first time we had this many kids, so I had to remind the kids that we have to sit on our bottoms so the kids behind us can see. In my experience, all preschool age children have trouble with the concept of sitting on their bottoms. They have no concept of the fact that when they sit on their knees no one behind them can see.

I showed the children the front of the book and I showed the kids who grandma Lena was. I pointed to the leaves and the purple bulb popping out of the ground and I said "What is that?" I said "What color is this (while pointing to the purple bulb)?" The preschool teacher said "purple" I said Yes this is purple and Grandma Lena is pulling on leaves. I said "this is a turnip that Grandma Lena is trying to pull out of the ground, because turnips grow in the ground". On the first page I showed the kids a picture of the full turnip and then we looked at the baby turnips growing out of the ground. I like this story a lot because it shows the whole process of deciding what to plant, planting seeds, and then watching them grow. I also think the pictures in this book are fantastic. The pictures are bright and colorful and in my opinion, really engaging for kids. All of a sudden one of the turnips grows so much bigger than the rest and the kids did seem to understand what was happening. My favorite line of the story is "She yanked and jerked and tugged but that bid ol' turnip would not budge". This line gets repeated six times as more and more of Grandma Lena's family comes over to try and pull up this big ol' turnip. I think the story is also cute because it is ultimately baby pearl's help that gets the turnip out of the ground. That is a nice little message for kids that they are important and can help out the adults. Anyway, after two or three repetitions of the line, especially if you use a lot of emotion when reading it, the kids really get into it. Once the turnip

popped out of the ground, we got to see how big it really was. We looked at the purple and white bulb and we looked at the green turnip leaves. Next, we watched Grandma Lena chop up the whole turnip and share with her community. Once we were done reading the book I reminded the kids of the main points of the book. “Did you see how Grandma Lena and her family had to pull the turnip up from the ground? Turnips grow underground. You plant a seed, and add water to make the turnip grown and then you have to pull the turnip out of the ground so you can eat it. I asked the children if they could show me how they would pull a big ol’ turnip out of the ground. We yanked and jerked and tugged but we couldn’t get the turnip out. Girl really got into yanking and jerking that turnip out of the ground, along with a few other kids. While we were trying to get turnips out of the ground mothers started coming into the room. I realized that The preschool teacher had been mistaken and that Mary had scheduled Mommy and baby time so I could teach my lesson. It took about 10 min for the moms to come in so we took a little break.

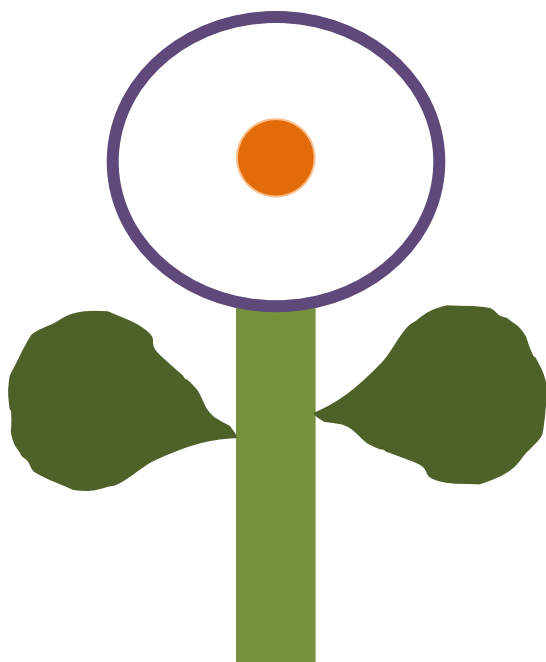
11:05: It appeared as if most of the moms were in the classroom with their preschoolers. I was actually pretty nervous to teach this lesson, because I have had virtually no interaction with the mothers. To add to my nerves, we had also just finished reading the story, so 1/3 of my lesson was already complete. My biggest fear about working with the mothers is that I won’t be able to effectively communicate with them. I don’t know their level of English and I just have such little experience working with them.

Around 11:05 I started the first mommy and child lesson. I explained to the mothers, that typically we read a story at the beginning of a lesson, but that we had just finished reading the story. They showed the mothers the cover of the story and asked the kids “What was the vegetable we talked about in this story?” No one answered. I said “This is a turnip (many of the mothers repeated, turnip) and we talked about how it grows in the ground and it is purple.” I opened up the book and went through the basic plotline for the mothers. Grandma Lena planted some turnips and one grew to be bigger than the rest. In order to get it out, she had to call all her family members over to help and together they yanked and tugged and jerked until finally it came out. I showed the mothers a picture of the large turnip that they pulled out of the ground. Then Grandma Lena cooked up the turnip and shared it with all her family and friends. I have no idea if the mothers understood the jist of the story or not, but I knew the kids would not be able to sit still for a second reading of grandma Lena’s turnip story.

11:10 I asked all the children to come on the carpet square with me so we could show our moms how we have learned to exercise. The kids were very eager to come forward and show their mothers what they know. The preschool teacher and I led the kids through the it’s hip to be fit song and the kids did participate in the hand motions. As a class we are getting better at the muscle movement and the counting as a class. Girl an Girl were very good examples for the rest of the class to follow. Some of the mothers even participated in the movements while sitting. I think this also helped the kids feel comfortable participating in front of their mothers.

11:15 Once we were finished with our exercises, we had to go on a vegetable picking expedition. I asked the mothers and kids where the turnip grew? It grew in the ground. I asked the kids if they could help me pull the turnip up from the ground. We used our imaginary shovels and we dug up the turnip and yanked it out of the ground. Next I showed everyone a picture of an apple. “Do apples grow in the ground?” Some of the mothers said no. I said that’s right “apples grow on trees” So then we proceeded to climb our imaginary trees and pick some apples. Some of the kids were willing to participate in this activity and some of the kids just wanted to sit by their mothers. Once we were done with apples I showed the class a picture of a carrot. “Where do carrots grow?” I said “They don’t grow on trees but they do grow in the ground”. As a class the kids and I tried to dig up carrots. By this point the kids were really losing interest in the activity and the mothers weren’t really doing anything so I decided to move on to the taste test. I was surprised that this activity wasn’t more of success because this summer in Philadelphia the kids had really gotten into picking vegetables. This summer we found some big giant watermelon to pick, and then we found some tiny little berries that we had to be very careful with so as not to smooch. Maybe these kids didn’t understand the premise of the activity, maybe they were shy because their mothers were there or maybe they just didn’t like the activity.

11:20: All the mothers and preschoolers moved to the tables to eat a healthy snack. I cleaned off the table before everyone sat around the tables. Next we washed our hands. I explained that as a class we always wash our hands before we eat so we make sure to keep the yucky germs away. All of the mothers and children got a paper plate where they were going to make their turnip flower. First I pulled out a whole turnip from my bag. I asked if anyone knew what this was. One mother said turnip. I said, “Yes, this is a turnip, and look at it is purple and white just like the turnips in the book. When turnips



come out of the ground they have turnip greens coming out of the top. I passed out a circular slice of turnips to all the mothers and children. Next, I pulled out a full carrot from my cooler and I asked, what is this? Girl’s mom said carrot. I said very good this is a carrot and what color is it? It’s orange. As I passed out a circular slice of carrot to all the class I said, carrots grow in the ground too just like turnips. I said we are making turnip flowers so this carrot is supposed to be the center of the flower. Can you put the carrot in the center of the flower? The mothers didn’t really understand this direction, but once Wendy, one of the teachers modeled the behavior all of the mothers copied her. Next I pulled out a stalk of celery from my bag. I asked if anyone knew what this was, no one did. I said this is celery and it’s green. I said

the celery is going to be used as the stem of our flower. As I passed out pieces of cut up

celery I asked the mothers and children to put the celery as a stem. Once again, no one really understood this instruction until The preschool teacher modeled the behavior. Finally, I brought out a bag of spinach and said “This is green spinach”. Has anyone ever tried spinach before and some of the mothers nodded their heads yes. I said the spinach leaves are going to be the leaves of our flower. I passed out two baby spinach leaves to the whole class. Next we admired our pretty turnip flowers. We had a purple turnip, an orange carrot, green celery and green spinach. What a masterpiece.

To taste the vegetables I passed out a small cup of salad dressing to each person. First we picked up something familiar, the carrots and we dipped them in our dressing and we tried them together. It was about 50-50 kids who tried the vegetable and kids who didn't. After carrots we went with the turnip. This was clearly not as familiar, but we tasted in anyway. Fewer kids tasted the turnip even when it was dipped in salad dressing. Next, we tasted the celery, a more familiar vegetable. Celery is hard for little kids to eat because it is so stringy, so I reminded the mothers to watch their children when they eat celery. Finally, we tasted the spinach leaves, and they probably had the worst response. The green vegetables didn't do as well as the other two vegetables. The mothers were encouraging their kids to eat the food but I didn't see anyone really pressuring their kids to eat. A lot of the kids were dipping the fruits and vegetables in the dressing and licking off the dressing. Some mothers were even encouraging this behavior. I don't know if they thought the salad dressing was healthy, but I need to be aware of that in the future that we really don't want the kids eating straight salad dressing. Once we had finished tasting the vegetables, I congratulated everyone on trying new foods and reminded them that we had tried a turnip, a carrot, celery and spinach. Overall, good lesson.

The lesson ended a little early, around 11:40, and the mothers packed up and went home. I cleaned up and went home too.



Lesson 5: C is for Cabbage Reflections
December 8, 2010

Preparation: To prepare for this lesson I checked out *Cabbage Moon* by Tim Chadwick from the DeKalb county library system. I read through the book one time to remind myself what it is about. I purchased one head of cabbage, 3 carrots, 3 apples and 1 green bell pepper from the grocery store. I used the leftover plain low fat yogurt from lesson 3, and I also used the dill from lesson 3. I also had to purchase a little bit of lemon juice.

9:15 am: I arrived at the International Bible Church at 9:15 on Wednesday morning. I came early so that I could evaluate the kids before the lesson. Observations pertaining to these evaluations can be found in the post-test evaluation reflections.

11:00am I started my lesson with the mothers and kids. There were so many kids present today; it was fantastic. We had Girl, Boy, Boy, Girl, Girl, Girl, Girl, Girl and Boy. In total I had 9 preschool kids and 11 preschool moms for a total of 20 people at my lesson. The lesson was a little crowded because we only had our two small tables. I brought in a few chairs from the connecting classrooms so everyone at least had a seat.

I asked the kids if they wanted to come closer and sit on the floor so they could see the book, but they really wanted to stay close to their moms. I would have preferred them to be closer, I think they would have paid attention better, but I let it be. I showed the class the front of the book and pointed to the moon and said “this book is called cabbage moon, and we have two bunny rabbits on the front cover.” On the first page of the book we meet Albert, the fussy eater and his mother doesn’t understand why he doesn’t eat cabbage when he is a bunny. I pointed out the pictures of cabbage and carrots to the class. Next thing we know Albert has been transported to the cabbage moon. He sees lots of bunnies on the cabbage moon eating away. The head bunny, Plump, encouraged Albert to get in line and start eating. Albert told Plump that he didn’t like cabbage but Plump said, try it anyway. Albert did try the cabbage and he liked it (surprise surprise). The next morning when his mother offered him cabbage he ate it all up. I like this book because once again the pictures are so colorful. Everything in Albert’s house is made of carrots which I think is very cute. During the book, the mothers were talking to their kids quite a bit. It is hard for me to know if they were explaining the story to them, or not paying attention at all. I think the mothers definitely got the jist of the story, but I’m not sure how closely the kids were paying attention. It felt a little strange reading this book to the mothers, especially since the kids weren’t really paying attention, but I don’t necessarily know that they minded. In the future I will strongly encourage the kids to come sit on the floor with me, and ask them the questions that I wanted to ask. Usually, when reading this book we count the bunnies on the moon, and we talk about their colors. I just felt uncomfortable doing that this time because the mothers were the only ones responding to my questions. Another unfortunate thing about this book is that it is out of print, and therefore

impossible to give to preschool classrooms unless you are willing to spend \$50. If I were to do another lesson with cabbage I might try to find a different book.

11:15 am I asked the kids to come forward so we could do our exercises. I don't know why but the kids were extremely shy. The preschool teacher did a good job trying to encourage the kids to participate but even her encouragement wasn't enough to convince the kids to participate. It appeared to me that the mothers did want to participate; however, they didn't know the words. Very quickly the mothers understood the counting part "now move your bodies count 1,2,3". The mothers were also pretty quick to pick up on the physical movements we make with the different lines of the song. For example when we say "your bones and muscles are growing strong" we flex our arm muscles, "eat good foods" we use our hands to put food in our mouth, "and you can't go wrong" we shake our fingers back and forth as if we are saying no, "now move your bodies" we twist our hips, "count 1,2,3" we put 1, 2, 3 fingers up, "come along and" we motion for everyone to come along. We repeated the song three times. Personally, I think repetition is the only way to get the kids more excited about this activity. I think it is a good song to keep included in the lessons even though the five lessons may not have been enough for the kids to learn.

11:20 am: I asked the mothers and children to move to the tables. We only had the two tables that we normally have, and it was crowded. The preschool teacher helped me pass out a paper towel and a plastic knife to all the kids. Before we passed out the knives I explained "preschool age children are old enough to use knives if they use them safely. We have to be careful of the sharp blade and we always want to keep our eyes on what we are cutting". First, I held up a whole apple and I asked "What is this" several mothers responded "apple". I cut the apple into slices and handed out a slice to each mother child pair. I showed the mothers, with Girl as an example how the kids themselves could cut the apple up into bite size pieces. All the mothers needed to do was help the little kids push down on the knife. Unfortunately, the mothers did most of the apple cutting. Next, I cut up the bell pepper and passed out a slice to all mothers. Finally, I tore off a cabbage leaf for all the mothers and they could either cut it up or tear it. All of the cut vegetables were being put into the mixing bowl. In total, we had 3 mixing bowls which ended up being about 4 mother baby pairs. Because I was cutting up the vegetables it was hard for me to observe how much of the cutting the mothers were doing compared to the children. I suspect most of the cutting was being done by the mothers because they were getting done very quickly. When a mother had nothing to cut I would give her another piece of apple, pepper or cabbage to keep them busy. Before each vegetable was handed out I asked "what is this" no one knew the names of the pepper or the cabbage, but once I said the names the mothers repeated the names with me. I had shredded some carrot earlier in the morning and I added a Tablespoon or two to the vegetable mixture.

11:30: Once it looked like the various groups had cut up sufficient vegetables, we started mixing up the sauce. I started with the group at their own table. There were three kids at the table. The first kid put in two scoops of yogurt. The second child added one scoop of sour cream. The third child added several shakes of dill. One mom added several squirts

of lemon juice. Next, I asked the group to stir the coleslaw up. I had to demonstrate, but once I did, they got the idea. Next I moved over to group two and we did the same thing. All the children got to add some of the “sauce” to the big mixing bowl. Finally, I moved to group three and followed the same protocol. Allowing the children to add the ingredients to the final mix was really good because it showed the mothers that the real purpose of these activities is not to be super clean and make perfect coleslaw but rather to allow the kids to help in making this food. It clearly made several mothers nervous that I was allowing their kids to add messy yogurt and sour cream to the dish, but they let me do it. During this part of the activity, the atmosphere was really fun, and the kids were concentrating really hard in order to do a good job. I thought this part of the lesson worked really well.

11:40: All three groups had unique coleslaws mixed. The preschool teacher and I passed out small Dixie cups and I asked the mothers to help spoon up samples of this homemade apple coleslaw. Once everyone had a sample, we tasted our dish together. As always I was surprised by the response. Some of the kids, who have tasted every snack, wouldn't try this snack. On the other hand, Girl, who has refused to even taste any other snack, ate the coleslaw up like it was candy. Some of the mothers really liked the dish and kept taking seconds and thirds and fourths. Other mothers were less willing to try the dish and seemed like they just wanted to get out of the classroom. Neither The preschool teacher, nor any of the other English teachers were willing to try this snack. The preschool teacher said she doesn't like yogurt, but would have eaten it had I included mayo.

11:45: After everyone tasted the coleslaw I showed the class the apple, pepper, carrot and cabbage one more time and I was done. Once the mothers realized I was done everyone rapidly packed up and took off. I was shocked. After one mother left it felt like everyone else ran out of the room. After the mothers left, The preschool teacher and I cleaned up the mess. This was the messiest lesson I taught all year. We wiped off the tables, swept the floors and packed up all the veggies. The preschool teacher was extremely helpful.

Overall Reflection:

1. Might be worthwhile to find a better book
2. This cooking activity was involved enough to have the mothers involved, everyone stayed busy
3. We could potentially add an activity because we got done early once again

Preschool Reflections: Post-Evaluations
Becky Schwei

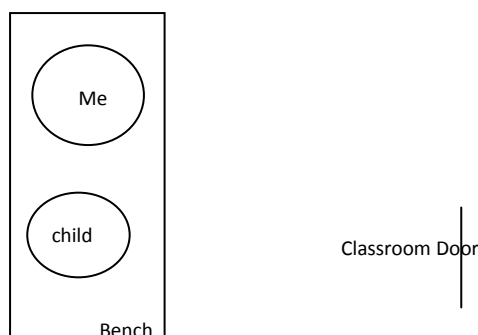
December 8, 2010

Unfortunately, it came to my attention early in the week that this was the last week of classes for the Mommy and Me Family Literacy Program. On Monday Dr. Cunningham and I decided that only doing the evaluations on Thursday would be too big of a risk. If only a few of the kids showed up on Thursday then I would have no other opportunity to get post evaluations. We decided that it would be best to do the evaluations on Wednesday morning before the final lesson, even though the kids would not have had the final lesson yet. At most if a child was present for all of the lessons, they would have received lessons 1 though 4 between their pretest evaluation and their posttest evaluation.

I arrived at the International Bible Church at 9:10 on Wednesday morning. When I walked in the room, the kids were excited to see me, and walked up to me and tugged on my legs. I set down my bags inside the classroom and I asked The preschool teacher if it would be okay if I conducted post evaluations with the kids outside. She said that would be fine. There were nine kids present today, a record.

First I asked Girl if she wanted to go outside with me. I asked Girl because she is outgoing, has attended several of the lessons and I thought she might be a willing participant. My goal was to show the kids who are more shy that the kids who come outside with me, do come back inside and it really is no big deal. I said "Girl do you want to come outside with me and play a game?" She took a step back from me and looked at The preschool teacher. The preschool teacher said "go on Girl" I said "it's going to be fun, come on" Girl followed me outside the classroom

I had a slightly different setup this time as compared to last time. Instead of bringing the small table out into the hallway, I asked the children to come sit on the bench with me. At first I thought this would be awkward because we weren't facing each other directly, but we were sitting next to each other. It was pretty easy for us to turn our bodies so that we were facing each other. I also think that for some of the shy kids this set up was less intimidating because they could look straight ahead if they wanted to and not look at me.



The set up for the post evaluations worked well.

The procedure was the same for the post-test evaluation as it was for the pretest evaluation. When purchasing the fruits and vegetables to be used in the post evaluation I tried to pick fruits and vegetables similar to the ones I used in the pretest. However, I couldn't find any fresh cauliflower in the Kroger I went to, and the strawberries were \$5 a pint, so in both cases I had to use frozen vegetables. I have pictures of the fruits and vegetables I used in the pretest evaluation and posttest evaluation.

Question 1: The response to question one "What is this" in the post-test was very minimal. Many of the kids stared blankly at me, one little girl would point to the fruit or vegetable I held in my hand. In a few cases the kids would say a word, and I did my best to record it properly. In very few cases the children knew the English name for the fruit or vegetable I was showing the child. I don't think this question accurately captures if the child knows what the fruit or vegetable is due to the language barrier. However, I don't think whether or not the child knows the name of the fruit or vegetable is particularly relevant to the aims of this project.

Question 2: Most children were willing to answer this question, "have you eaten this?" Once again, I pointed to the picture of the little girl eating food while I was asking the question and asked the children to shake their head yes or no.

Question 3: Most children were willing to answer this question, "What do you think of _____?" To answer this question I asked the child to point to either the happy or the yuck face.

Interaction A:

Me: I pulled out the cauliflower from my bag, "what is this?"

Child: Blank stare

Me "Boy, What is this?"

Child: Blank stare

Me: "this is cauliflower, have you eaten cauliflower before (I point to the picture of the girl eating)?"

Child: vigorously shakes his head yes

Me: "What do you think of cauliflower?" I show him the picture of the happy and yuck face

Child: Before I even finish my question he lifts his hand above his head and points to the happy face and looks up at me and smiles. I smiled back (that was the most enthusiastic response I saw all day).

Interaction B:

Me: I pulled out the kiwi from my bag, "what is this?"

Child: She grabs for the kiwi and I give it to her

Me: "Girl, What is this?"

Child: She points at it and smiles at me but doesn't say anything

Me: "this is a kiwi, Have you eaten a kiwi before?" I point to the picture of the child eating and I say "yes or no" while shaking my head appropriately

Child: She shakes her head yes and no and yes and no.

Me: "Have you eaten this before Girl? Yes or no?"

Child: She shakes her head yes (I record her response as yes)

Me: "What do you think of kiwi?" I showed her the happy and the yuck face

Child: She grabs the happy face then she grabs the yuck face. After she grabs each face she looks up at me to see what my reaction is. I try not to have a visible reaction.

Me: "What do you think of kiwi Girl?" I show her the happy and the yuck face

Child: Finally she settles on the yuck face (I record a yuck face for the response).

Interaction C:

Me: I pull an apple out of my bag, "what is this?"

Child: She is sitting very quietly on the bench next to me, she looks like she is trying to make herself invisible. She says pit

Me: I say "pit" This is an apple. Have you ever eaten an apple before? And I show her a picture of the girl eating.

Child: she shakes her head no with hardly any movement at all

Me: "What do you think of apples?" I show her the happy face and the yuck face

Child: she looks at me and doesn't make a move

Me: "what do you think of apples?" and I show her the happy and yuck faces again

Child: She quickly reaches out her hand and points to the yuck face.

Overall, the posttest evaluations went much smoother and quicker than the pretest evaluations. Most children came out in the hallway with me without any complaints, and as the evaluations continued kids even wanted to come outside with me a second time. I would attribute the difference primarily to the fact that the preschool children knew who I was by the time the posttest evaluations came along. I think the fact that the children had already gone through one evaluation might have made the process less scary as well; however, I think this was probably a minimal factor. Although the posttest evaluations were smoother, there were still a few kids who really did not want to participate. I didn't force anyone to participate, and if they became upset or agitated when I was out in the hall with them, I brought them back in the classroom.

During the posttest evaluations there was very little activity in the hallway. A few times mothers or English teachers came out into the hallway, but this only happened a handful of times.