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Project-based learning about nutrition with technology in an African-American middle school: An Action Research Study

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Project-based learning about nutrition with technology in an

African-American middle school:

An Action Research Study

A dissertation submitted in partial fulfillment

of the requirements for the degree of

Doctor of Education

by

Sibyl Banks

University of Missouri-St Louis

2010
Abstract

In the last few years, there has been a growing problem with the prevalence of being overweight. This is becoming an accepted lifestyle in the African American community, and has begun to impact not just adults, but also adolescents and young children. There are problems associated with being overweight or obese that could have lifetime consequences. Causes of African American adolescents becoming overweight include cultural factors, lack of access to large grocery stores and insufficient outlets for exercise.

This action research study investigated the effect a project based approach, utilizing technology, had on students from three 7th and 8th grade Family and Consumer Science classes at an urban Midwestern middle school.

Strong engagement and group interactions with nutrition information in the portion of the unit involving web-based lessons and reflections using an online course management system and web-based interactions with other adolescents were documented. Generally there was evidence of creating a stronger knowledge base about nutrition among the adolescents. There was indication that a significant number of students conquered their indifference to the acquisition of the nutrition information, and began to consider lifestyle changes that would improve their chances of a healthy future. A few students made significant behavioral changes to their eating patterns during the course of the study. Study results provide direction for future researchers regarding the use of technology-supported nutrition projects on adolescent learning and behavior.
TABLE OF CONTENTS

TITLE PAGE…………………………………………………………………………………………...i

ABSTRACT…………………………………………………………………………………………...2

TABLE OF CONTENTS………………………………………………………………………………....3

CHAPTER I: The African American Adolescent Nutritional Challenge…………………………6

Purpose ……………………………………………………………………………………………...15

Research Questions ………………………………………………………………………………16

Scope of Study…………………………………………………………………………………...16

Significance of Study………………………………………………………………………………17

Organization of Study…………………………………………………………………………….18

Definition of Terms………………………………………………………………………………...18

CHAPTER II: Review of Framing Literature……………………………………………………...22

Culture, Identity, and Learning…………………………………………………………………24

How Constructivism Impacts Learning…………………………………………………………30

Cooperative Learning……………………………………………………………………………33

Technology as a Tool for Learning……………………………………………………………..34
CHAPTER III: METHODS

Action Research

Participants and Setting

Procedures

Instructional Overview

Data Collection

Data Analysis

Delimitations & Limitations

Validity and Reliability Issues

CHAPTER IV: Integration of Course Management System

Dynamic Learning Environment

Exploring Computer/Internet Instruments and Procedures

CHAPTER V: GROUP PROJECT

Group Assignment

Student Interaction

CHAPTER VI: Interpretations and Conclusions

Future Studies

Conclusions
Chapter I

The African American Adolescent Nutritional Challenge

"Soul food is our personal passport to the past.

It is much more about heritage than it is about hominy."

(Breathnach, 2005)

Over the past 25 years, the number of adults who are overweight or obese has continued to increase. The Centers for Disease Control and Prevention (CDC, 2001) reported that one out of five of America's children and teens are now medically overweight and more than 15 percent are obese. Because of the current overweight epidemic, for the first time in history, the current generation of children and teens is not expected to live as long as their parents (Miech et al., 2006). In 2004, the Missouri Department of Health and Senior Services (n.d.) conducted a study that indicated Missouri’s children and adolescents were above the national norm for a prevalence of being overweight. Overweight and obesity consequences are major concerns in the United States, and in particular Missouri. Obesity is an expensive epidemic. Yearly healthcare costs directly resulting from obesity are well over a billion dollars in Missouri. Generally obese individuals are plagued by other related and non-related illnesses. Both mental and physical conditions are significant concerns. The CDC (2001) recognized a diminished quality of life, which is also a major concern due to health related issues, discrimination, and the difficulty or inability to participate in certain activities or job tasks.

These are national statistics. The statistics for minorities are even more frightening. There is an enormous health gap between Black and White Americans at every income level.
Historically, this has always been the case. Table 1 from the American Obesity Association Fact Sheet (n.d.) shows, in the last twenty years, this gap has widened:

Increase in Overweight and Obesity Prevalence
Among U.S. Adults* by Racial / Ethnic Group

<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>Black</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(non-Hispanic)</td>
<td>62.5</td>
<td>69.6</td>
<td>30.2</td>
<td>39.9</td>
</tr>
<tr>
<td>Mexican American</td>
<td>67.4</td>
<td>73.4</td>
<td>28.4</td>
<td>34.4</td>
</tr>
<tr>
<td>White</td>
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</tr>
<tr>
<td>(non-Hispanic)</td>
<td>52.6</td>
<td>62.3</td>
<td>21.2</td>
<td>28.7</td>
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Table 1 from the American Obesity Association Fact Sheet

According to the American Obesity Association (n.d.), the incidence of being overweight affects African Americans across all socioeconomic levels. But economics and weight are
closely related. Minorities with low incomes appear to have the greatest likelihood of being overweight. The percentage of adolescents who are overweight has increased significantly faster among the poor in comparison to the non-poor over the past decade. Adolescents aged 15-17 who belong to families with an income below the poverty line are more likely to have higher caloric intake from sweetened beverages, to be physically inactive and to skip breakfast. Each of these factors may play a role in the growing difference in the percentage of overweight teens associated with family poverty (Miech et al., 2006). African American children between the ages of six and seventeen are heavier than their white counterparts as are African American adults. Black women and persons of low socioeconomic status within this minority population are particularly affected by overweight and obesity issues. This makes the case for maintaining a healthy weight even more essential.

One of the problems with African American children’s overweight condition is that the children do not view their weight as an issue and that being a little overweight does not detract from their attractiveness. The adolescents have yet to realize that obesity is associated with a number of serious health problems. The lack of health care education in black communities is an important concern that may contribute to the cause for these health disparities.

Proper nutrition and weight control plans are discussed in numerous media sources (magazines, newspapers, Internet, books, television, radio, entertainment). Various programs have been recently developed to help lessen the health disparities within minority communities. Some are national programs such as National Center on Minority Health and Health Disparities (NCMHD) and the Racial and Ethnic Approaches to Community Health (REACH) 2010, an initiative designed by the Centers for Disease Control (CDC, 1996). Others are state programs such as the Missouri Takes Action on Obesity Conference and the MoCAN State Obesity Plan.
Still others are being created in neighborhoods or communities such as *Fit ‘n’ Fun Adventure*, a program created by St. Louis Children’s Hospital to educate kids about the importance of exercising and eating healthy, and Community Health Leadership Program. Still other programs such as Diabetes Champions have allied with African American fraternities, sororities and other African American organizations to foster education and empowerment in the African American community. Professional athletes like Shaquille O'Neal, Jerry Stackhouse, and Allen Rossum have added voice to this dilemma, by publicly addressing the obesity issue with programs such as “Shaq's Big Challenge”, which follows 6 obese middle schoolers as Shaq helps teach them to become healthy eaters (Cutler, 2007); and “Driving America Healthy” which leveraged the star power of participating athletes and elevating the issue of reversing the rising youth obesity rates by bringing together a "Who’s Who" of experts, corporations, media and community leaders with active involvement of the athletes.

Individual schools in the St. Louis area have begun refocusing their attention to include nutrition education with programs like, *Champions for Healthy Kids, S.N.E.A.K.E.R.S.* (Sensible, Nutritious Eating and Kids Exercising Regularly and Successfully), *Catch Eat Smart, CAP*, and *Healthy Futures*. Schools have also revised their food choices at school including the elimination of soft drink machines and replacing chips and sweet snacks in machines with fruits and whole grain, low fat choices. For classroom celebrations, cupcakes, candies and other unhealthy snacks have been barred. Although it will take several years to significantly lessen or eliminate issues of racial disparities, making people aware of resources and empowering them to utilize them are some of the greatest barriers to bridging the health gap.
Un-Healthy Lifestyles

Cultural factors that influence dietary and exercise behaviors are reported to play a major role in the development of excess weight in minority groups (American Obesity Association, n.d.). Blacks exercise less than whites, have less access to more healthful food choices and tend to disregard advice about healthier lifestyles (McGee, 2005). Families with lower incomes are limited to buying cheaper foods that are high in sodium and fats. Predominantly black areas of a city tend to lack exercise venues. Parents are afraid to send their children outside to play and elderly people won’t walk around the blocks for exercise because of safety concerns. Grocers in black areas tend to stock minimal healthy foods, basically because they won’t be purchased; at least that’s what the grocers would like us to believe. Poverty and poor health are also closely related, so predominately African American neighborhoods in low socioeconomic areas, such as the one in this study, have a double strike against them (Miech et al., 2006).

African Americans live approximately six years less than the national average (American Obesity Association, 2002). Several factors contribute to this statistic. Statistics show that blacks, no matter what their income, tend not to go to a doctor for anything other than pain; often the first visit to a doctor for a health problem is to the emergency room. People in the lower income brackets don’t concern themselves with preventative care because that would be an extra financial burden (Smith, 2005). Other explanations concerning African Americans’ life expectancy, besides the mentioned health problems, include too much alcohol and drug consumption, the absence of following their doctors’ instructions, too much violence, and poor dietary habits. This is of particular concern because many of the health related conditions could be controlled through proper diet.
Health Risks

Conditions that are strongly linked to African American health problems include asthma, diabetes, hypertension, heart attack, stroke, liver, gallstones, kidney disease and certain forms of cancer. There are other phenomena among African American children, which also lead to potentially harmful health problems. Sleep apnea and early onset of menstruation are conditions that are associated with overweight children. Although sleep apnea is brief, it is potentially dangerous. A little known problem exists for female children when the child begins menstruating at an earlier age than the average female (12.5 yrs old). This situation is linked to a higher risk of breast cancer (Dietz & Robinson, 2005). These conditions and diseases are somewhat controllable by diet.

Healthy eating patterns in childhood and adolescence promote optimal childhood health, growth, and intellectual development. Eating a well balanced diet helps prevent immediate health problems, such as iron deficiency anemia, obesity, eating disorders, and dental cavities, and may also prevent long-term health problems.

Immediate effects of unhealthy eating patterns include undernutrition, iron deficiency anemia, and overweight and obesity concerns. Excess weight in the childhood years can lead not only to physical disease but also to psychological consequences. Children may develop low self-esteem, limit their physical activity, and grow to become overweight adults with risk of diabetes, heart disease, high blood pressure and stroke, as well as cancer. Being overweight can be an agonizing problem in children and teens (eHealth, n.d.).
Attacking the Problem

There are several considerations that need to be addressed that may help explain why it is worth our effort to educate students, and attempt to sever their attachments to key unhealthful food patterns. Camp (1989) states that food matters culturally because it expresses, reflects, and enacts values, which are both openly attested to and privately held. Classic African American cuisine, often referred to as “Soul Food”, is often at the heart of this health problem. “Soul” in music can refer to natural or improvised music or to poetic musical forms, but in particular the sharing of emotions of joy and sadness. “Soul Food” has the same improvisational characteristics as jazz. There are no rigid recipes or rules. “Soul Food” is soothing, comfort food that brings back warm memories of family episodes. Cooking with soul means using imagination, sensitivity, and care to create pleasing, satisfying meals (Leigh, 1977). Soul food is most commonly associated with slow cooking, frying, a lot of heart and little concern for 'health conscious' eating. The inspiration for soul food comes from making the most out of what you have, in taste that is. Based on minimal spices and low-grade meat, soul food takes its pride in being mouth-watering food that comes from the heart, not from fancy cookbooks.

Historical Nutrition Challenges

School health programs can help children and adolescents attain full educational potential and good health by providing them with the skills, social support, and environmental reinforcement they need to adopt long-term, healthy eating behaviors (CDC, 1996). Although the schools are helping in this effort, this becomes a united family and community effort. Because the African American mother is the role model for their children when it comes to the
kitchen, and is responsible for buying and preparing the food for the family as they have been throughout history, she holds the key to leading the way toward better health habits for her children.

The greatest influence on many African-American families is the lifestyle of their parents or grandparents who lived in the southern United States (Ewing, n.d.). Old traditions influence the foods we choose and the way we prepare them that trace back to slavery and even Africa. This may be the first consideration when trying to understand the rationale for the eating habits of the families involved. Sunday dinners became a gathering time for many African American families. The scattering of the family members made daily contact implausible. Sundays were the meeting time to keep contact with other family members. The family converged, not at the largest house, but at the house where the best cook lived. The majority of African-American mothers cling to the southern traditions loving pork chops, chittlins, ham, mashed potatoes, fried chicken and anything fried and smothered with lots of gravy and plenty of salt. These were often the foundation of the Sunday meal. No matter whose kitchen you were in, there was never a wasted morsel of food. Leftover fish became croquettes; stale bread became bread pudding; each part of the pig was used in its own special dish; and the liquid from boiled vegetables became “pot likker” (Leigh, 1977).

Cultural beliefs, and home cures have been passed along through the generations mostly by word of mouth. These beliefs are another consideration determining why many African American children have unhealthy eating habits. Some beliefs came from specific cooking utensils, such as the cast iron skillet. This utensil has to be “seasoned” carefully and great care is taken at preserving the texture of the utensil and the underlying taste of food to be cooked. It is heavily greased with a layer of Crisco or Lard, placed in a 350 degree oven and baked for one
hour. Just imagine, first there is the actual frying of the food you are cooking (of course it is well known that frying is the most unhealthy way of cooking food), and then the skillet is “seasoned” so the oil is cooked into the pan. Foods are highly seasoned, with a combination of peppers, salt, seasoning salt, onion salt, and garlic salt in almost every recipe. My mother taught me how to season the chicken before frying with a liberal amount of each of these spices (no wonder high blood pressure is running rampant in the African American community). Vegetables were cooked, boiled and steamed until they were very limp. We have since come to know that this destroys many of the vegetables’ vitamins and nutrients. Prunes were always given for laxatives (this really encourages a child to eat this wholesome fruit). More recent findings indicate that prunes are not recommended because an ingredient in prunes that promotes bowel movements is actually an irritant laxative.

Camp (1989) acknowledged that most of our time on earth historically is spent on obtaining, preparing, and consuming food. Since this is the case and the overall effect of food either is a detriment or a benefit to one’s health, it is time one takes charge of these many hours spent on this retrieval and consumption of foodstuffs to examine and empower ourselves to change our food habits to assimilate a healthier lifestyle for ourselves and our families.

As noted by Harris (1995), today African American food is being transformed from daily bread to festive fare, as more people change their diets for health, religious, or time concerns, but is still a reminder of a heritage where generations of cooks helped their families and friends to survive with their ability quite literally to transform a sow’s ear into something wonderful to eat. African American females are very resourceful in their preparation as well as their choice of food to fulfill their family’s daily need, especially when there are monetary limitations. At the Conference for Improving the Health Status of Black Women in 1999, the needs assessment
documented that cultural belief systems have been neglected by health care providers, clinicians, family counselors, and academics. However, four out of five people report that spirituality improves physical and mental health. The importance of these belief systems is also being supported by research indicating that spirituality, for instance, is correlated with positive outcomes of cardiovascular disease, hypertension, stroke and cancer. Railey (2004) found a link between improved health of black people and involvement in church. Black people who are involved with their churches tend to live about five years longer than black people who aren’t. The sense of belonging to a safe community, the fellowship, the spiritual refuge in crisis, and trusted leadership all seem to help prolong life. Railey believes that education is the key.

From birth, parents, in particular mothers, choose foods for their child. Because of this relationship, a mother may be able to avoid exposing a young child to unhealthy eating patterns. As the years pass, children continue to rely heavily on their mother’s choices in food. Gradually children learn to make their own choices. Their mother still biases these choices, because she is the major provider of food for her children. So it seems the best way to instill a sense of nutritional food choices is to establish links between adolescents and their mothers. This is a hard link to establish as a teacher, since the teacher works only with the children. The problem seems to be complex. The attitudes and knowledge of both the adolescent and parent are of importance in the adoption of proper eating habits for the adolescents.

Purpose

The purpose of this study was to analyze the habits and motivational factors middle school age students consider when choosing food, and to understand how an instructional intervention affects their understandings and choices. The research was important because it may help
provide students with tools necessary to lead healthy lifestyles. Realistic suggestions were developed to help connect attitudes thought to be important in assisting to help alter diet patterns to correspond with the established national guidelines for healthy nutrition.

Research Questions

The research questions were as follows:

1. Does the use of technology and a project-based approach affect adolescents' understanding of nutrition concepts, and if so, how?

2. What is the relationship, if any, between students' attitudes and eating behaviors when presented with knowledge of healthy nutrition choices?

Scope of Study

This action research study took place in a large metropolitan area in the Midwestern United States. The author, an 8th grade Family and Consumer Science (FACS) teacher, and four intact classrooms containing a total of approximately 75 children participated in the study during the 2007-2008 school year. Students had frequent use of the computer lab located adjacent to the FACS main classroom. Additional stations were set up in the main classroom for word processing, graphics and other project issues. The daily class periods were 56 minutes in length.

The researcher was the Family and Consumer Science Teacher who teaches exploratory classes to seventh and eighth grade students. Periodically other teachers, such as the resource
teacher and the keyboarding teacher, assist the students according to the student's Individual Education Plan (IEP).

Nutrition education, which is a normal part of the curriculum, was taught using a project-based model (e.g., Jonassen, Carr, & Yueh, 1998; Polman, 2000). Portions of the unit involved individual assignments and other parts involved small group work with the whole project being a collaborative project by the entire class.

Significance of Study

This study could be beneficial to educators, African American parents, and society in general. Educators may be able to explore different ways of affecting change in similar subject matter with their students. Students’ knowledge gains may lead them to adopting healthier eating habits, which may help them to lead longer and healthier lives. Parents may have healthier children who will cause them less stress and less expense. The results may be beneficial to other ethnic groups who have related problems.

Nutrition education also should focus on preventing children and adolescents from developing chronic diseases during adulthood. As mentioned above, some of the physiological processes that lead to diet-related chronic disease begin in childhood. Unhealthy eating practices that contribute to chronic disease are often established early in life. Bissex (as cited in Badal, 2004) notes that young persons having unhealthy eating habits tend to maintain these habits as they age. If children are taught healthy eating habits, they tend to experiment a bit outside the limits, but they will come back to the healthy eating habits. Thus, it seems crucial to educate children about healthy eating patterns when they are young, since high-risk eating behaviors and
physiological risk factors are difficult to change once they are established during youth.

Organization of Study

In this study I did not include specific nutritional information, since this information was readily available in many publications and media sources. This study also did not investigate specific diets, specific recipes, nor compare affluent Americans to the group being studied.

This report is organized into 6 chapters with references and appendices that are beneficial to understanding. Chapter II contains the review of literature and presents conceptual definitions and discussions of educational reform involving action research, project-based learning, cooperative learning and working with technology in education as an instrument for motivation, conducting projects, and developing deeper understanding. Chapter III describes the research design, including the method used to collect and analyze data, and the curriculum design implemented. Chapters IV and V are a summary of the results. Chapter VI discusses the conclusions drawn from the data analysis and recommendations for further study. References and Appendices follow Chapter VI. A sampling of final student projects are displayed in the appendices to further document the research findings.

Definition of Terms

Asynchronous—Not occurring at the same time. Asynchronous instruction does not require the simultaneous participation of all students and instructors. It utilizes course management systems such as Blackboard or Moodle where discussions and assignments are posted, and students
respond or complete assignments at various times and places.

BMI—body mass index. It is a number that shows body weight adjusted for height. BMI can be calculated with simple math using inches and pounds. For adults aged 20 years or older, BMI falls into one of these categories: underweight, normal, overweight, or obese. In children and teens, body mass index is used to assess underweight, overweight, and risk for overweight. Children's BMI changes over the years as they grow. Also, girls and boys differ in their BMI as they mature.

Exploratory—classes in the curriculum that are not the core subjects. These classes supplement the basic classes and broaden the student’s world by making use of the concepts and skills taught in the core classes and using them in authentic manners.

Healthful eating plan means choosing the right foods to eat and preparing foods in a healthy way.

Healthy Lifestyle—Practicing a healthful eating plan, a consistent exercise plan, healthy life choices.

Healthy Nutrition—Proper choices of a variety of food, prepared in a healthful way and meeting the guidelines set up by the USDA Food Guide.

Life span—Average age of a particular population from birth to death.

MAP—The Missouri Assessment Program is one of several educational reforms mandated by the Outstanding Schools Act of 1993. As a result of this act, the State Board of Education directed the Missouri Department of Elementary and Secondary Education (DESE) to identify the knowledge, skills, and competencies that Missouri students should acquire by the time they complete high school and to evaluate student progress toward those academic standards.
Obesity— Obesity is defined as an excessively high amount of body fat or adipose tissue in relation to lean body mass. BMI shows the relationship of weight to height. Individuals with a BMI of 25 to 29.9 are considered *overweight*, while individuals with a BMI of 30 or more are considered *obese*.

Overweight— is defined as body mass index (BMI) (kg/m^2) at or above sex- and age-specific 95th percentile BMI cutoff points calculated at 6-month age intervals. Overweight refers to increased body weight in relation to height, when compared to some standard of acceptable or desirable weight.

Playin(g) the Dozens, Signifying, dissing —within the African American community means to speak with innuendo and double meanings, to play rhetorically upon the meaning and sounds of words, and to be quick and often witty in one’s response. Playing the dozens often includes “talking about yo’ mama” or out-performing in a verbal duel of insults that starts off friendly but often escalates and may end in aggression (Lee, 1993; Lefever 1981).

Scavenger hunt is a game in which individuals or teams seek to gather a number of specific items or perform tasks as given by a list. The goal is usually to complete the list first.

*Online scavenger hunts* can be used as a whole class activity, as a team activity, or as a means of providing individual students with review or challenge. Internet scavenger hunts are a way for students to practice problem solving, improve their reading and comprehension skills, and learn how to search the Internet.

Undernutrition— condition caused by a poor diet, resulting in problems such as inadequate growth in children.
Web-Quest- a learning activity used by educators. During this activity learners read, analyze, and synthesize information using the World Wide ... A Web Quest is an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web (Dodge, 2007).
In good times or bad, food provides a time for communion and relaxation. Harris (1995) eloquently describes African Americans' bond to food:

It is so much a part of our lives that it seems at times as though a Supreme Being created us all from a favorite recipe. There was a heaping cupful of cornmeal to signal our links with the Native Americans, a rounded tablespoon of biscuit dough for southern gentility, a mess of greens and a dozen okra pods for our African roots, and a good measure of molasses to call the tribulations of slavery. A seasoning piece of fatback signals our lasting love for the almighty pig, and a smoked turkey wing foretells our healthier future. A handful of hot chilies give the mixture attitude and sass, while a hearty dose of bourbon mellows it out and a splash of corn liquor gives it kick. There are regional additions such as a bit of benne from South Carolina, a hint of praline from New Orleans, and a drop from at least twelve types of barbecue sauce. A fried porgy, a splash of homemade scuppernong, wine and a heaping portion of a secret ingredient called love fill the bowl to overflowing. When well mixed, it can be baked, broiled, roasted, fried, sautéed, or barbecued. The result has yielded us in all hues of the rainbow from lightly toasted to deep well done. (p. 17)

Eating as a Social Ritual

After a brief introduction to the importance of food, this chapter focuses on cognitive teaching strategies that were used in the unit designed to teach the African American students in
Food matters culturally because it expresses, reflects, and enacts values, which are both openly attested to and privately held (Camp, 1989). Earlier studies of African American nutrition recognize the eating habits of African Americans as far back as the 18th Century (Margo, 1982). The dietary challenges of the African American family during slavery have been documented through stories, literature and archival documents such as plantation account books, recipes and oral histories passed down through the generations. Myths, customs, and cultural beliefs motivate examiners to evaluate the content and direction of the past, present, and future (Amos, 2002). Myths are serious stories that are symbols of human experience. Each culture values and preserves these stories because they reflect the important beliefs of that culture, give people a sense of who they are and form close bonds with their ancestors.

Throughout the formative years mothers are the main source of food for their children but during adolescence students start distancing themselves from childhood attachments and making decisions and choices for themselves as maturing young persons. At this stage of development, schools can help guide the student toward healthy life habits, by teaching healthy nutrition concepts as well as healthy lifestyle practices. Healthy eating patterns in childhood and adolescence promote optimal childhood health, growth, and intellectual development, prevent immediate health problems, and may prevent long-term health problems (CDC, 1996). And now within the last generation, improper nutrition habits have developed into major health issues in United States and particularly in the African American community. The awareness and necessary changes relating to nutrition habits are essential to convey to the students in this age group, if major health issues are to be avoided. Geiger, et al. (2002) agree that early
interventions to change risky habits provide the best option for permanent behavior changes. The school should be the center of the effort to create changes in African American children’s outlook. Every child does not have a functional family, “village”, or attend church, but every child is required to attend school (Hale, 2001).

The topic of nutrition has always been the most challenging when teaching the Family and Consumer Science curriculum. The ability of the teacher to create an environment that engages the students is key to creating meaning for the students while encouraging them to examine the nutrition concepts in the unit. One purpose of this study is to examine the food choices, availability of food, time and educational consideration to determine what extent these dilemmas play in the present food choices of the students which are consistent with the population that resides in this community.

Culture, Identity, and Learning

In 2001, President Bush proposed the NCLB initiative. The premise behind this act is “to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind” (U.S. Department of Education, 2001). As a result of this act, state academic achievement standards are now tested by a state-created test which all public school students must take yearly. Gay (2000) asserted that it is common knowledge that the education received in low-income communities is inferior. The failures of the students and the problems exhibited in the low-income African American neighborhood school has been of great concern, and the gap between the average African American neighborhood school and the average White school seems to be growing wider. Underachieving students from these communities often feel
disconnected from the learning going on in school. Most children come to school not seeing a purpose in the activities that go on there. The work seems foreign, not something that will ever be necessary in their working or family lives. This is where the effort for culturally responsive pedagogy can assist in making the school authentic for these students (Lee, 1998).

The students I teach have not performed well on standardized tests for years. I understand the reasoning behind the testing. Students need to have certain knowledge when applying for the same job or entering college. I have found that these students do much better face to face. Their exposure to a variety of life experiences is limited. They seem to be predominately oral and visual learners. For the past 5 years the principal has asked the exploratory teachers to incorporate state assessment program preparation into their lessons. This preparation includes state assessment program Content Standards, state assessment program Process Standards and recently added Essential Questions, Cooperative Learning Strategies, Depth of Knowledge (DOK), Research Based Strategies and Grade Level Expectations (GLEs). Since our state bases the AYP, annual yearly progress, on the core subjects, and the area of Family and Consumer Science is not tested in the state assessment program, I am asked to incorporate the standards from areas that are tested. Language Arts, Math, Science, Social Studies, as well as Health standards have found their way into my lessons. This practice reinforces the concepts the teachers of those subjects have taught. It also gives students a real world purpose for learning the essentials of the state assessment program tested subjects.

Problem based assessments, PBA, have been a major component included on the state assessment tests. These PBAs are constructed to assess critical thinking and problem solving skills. The concept is to create authentic assessments for the students to demonstrate an understanding of the issues of community empowerment. This backfires in communities that do
not relate to the PBAs given on these tests. The need to pay attention to issues of cultural differences and problems that are authentic, imminent, or historical to the heritage of the student and their school is critical.

There are three generally accepted reasons for educating children: imparting skills, such as mathematical computations or reading; information growth useful or necessary in society; and providing an opportunity to explore and develop talents and interests to be used to make a contribution to the world.

Within the last 3 decades, a group of researchers, Katherine Au, Roland G. Tharp, A. Wade Boykin, Sonia Nieto, Lisa Delpit, Jacqueline Irvine, and Gloria Ladson-Billings have focused their work on the problems concerning academic achievement in students of color and low-income communities (Gay, 2000). Their combined efforts have produced a theory of culturally responsive pedagogy that may help teachers and schools who are trying to improve the academic achievement of these students. Their theory proposes that the academic achievement will increase if the teaching strategies reflect and draw on the student’s cultural heritage and language (Gay, 2000).

In the African-American community, the highly stimulating home environment produces children who are highly dynamic. The students thrive in classrooms with multimedia and multimodal teaching strategies. These students prefer instruction that is vibrant, variable, energetic and captivating (Hale, 2001). These families and children form closely bonded relationships that broaden the concept of family to incorporate relationships outside of the home. Many of these relationships include extended family members who become a member of the nuclear family unit. Some of these relationships also bring together people outside of the
extended family, such as church or community members. Often a child is raised in a home with other relatives, even if the child’s parents live close by. The effect these extra people have on a child growing up is cooperative or collective in nature. The tasks of raising the children, keeping the household in working order and attending to the finances, teach children that the world is cooperative in nature as opposed to competitive or individualistic (Ladson-Billings, 1997). There is an old African proverb that says, “It takes a village to raise a child”. Together with other families and community members an environment is created in which a child is nurtured, disciplined, and values and education are taught and encouraged. The children are valued and families are supported for the sake of every individual and the sake of the community (Anderson & Johnson, 1994). This framework is the village because people are linked together by mutual need and a common bond. People support their neighbors, family and churches when their expertise is needed. Children who are competently invested in as worthy and valuable people who deserve financial resources as well as the time and energy of skilled and caring adults, do show compelling results (Clemons, 2006). A family should not be faulted because of what they cannot do alone. The fact that some black parents might not know specific actions to take that would help ensure the academic success of their children, does not mean that black parents do not value their children’s education as much as other groups. Again, a community-wide emphasis on black philosophy of education as well as giving parents specific advice on how to help their children succeed in schools would go a long way. Every person has unique abilities; that is what this proverb is based on.

A number of cross-cultural research findings support the view that children reared in cultures and social environments characterized by collective responsibility and group work develop altruistic and cooperative orientations (Lee, 1998). This mind-set is supported in the
Kwanza Celebration of Family, Community and Culture, as represented by several principles in the post-Christmas African American Celebration: Umoja- Unity stresses the importance of togetherness for the family and the community; Ujima- Collective Work and Responsibility and Ujamaa - Cooperative economics emphasizes our collective economic strength and encourages us to meet common needs through mutual support. This cooperative attitude is an affirmation of loyalty, trust, and support, to a large extent born out of a sense of isolation and detachment from the larger mainstream society and the African tradition of communalism (Gebreyesus & Haynes, 1992).

When a child starts school, a different learning environment is expected. This causes confusion in the child. It is difficult enough for an adult to prevail in two diverse environments, but we ask a child to do just that when they enter school having come from an altruistic setting and stepping into an individualistic or competitive situation. When the cultural world of the child is very different from the cultural world of the school and classroom, the child is often confused and forced to adapt to the foreign culture of the school (Caston & Wilson-Jones, 2004).

Historically, African Americans greatly value education as evidenced by stories and artifacts from as far back as the slavery time period as the key to freedom for black people. When African Americans were banned from attending Universities, the fact that they created African American schools and universities to educate other black students is further evidence to the African American pride and cultural commitment to education. Clemons (2006) believes several factors contribute to the underachievement of African American children including: low parental involvement in schooling, lack of preparation for primary school, low expectations of the students from their own schools, remedial and unchallenging curricula, poor teaching, all-powerful teachers’ unions and the politicians they own, student stress from harsh home
environments, and lack of nutrition and health. Often, African American children who do well in school have learned to distance themselves from the identities they have in their home environment, by becoming “raceless” in the classroom. This allows them to succeed while masking their ethnic selves in the classroom, thus holding on to their self-identification. Other students choose to bring their ethnic identities to the classroom with them and disengage themselves from school activities to hold on to their self-concept and cultural identity (Nasir & Saxe, 2003).

Research shows that African American students, especially those from low-income situations, thrive in a cooperative classroom (Caston & Wilson-Jones, 2004). Tasks that draw on knowledge from the community and the families as well as the knowledge the students brings from their home culture are necessary for the students to adapt (Lee, 1998). Lee strongly suggests that traditionally underachieving students can perform to rigorous standards, as demonstrated both through standardized and performance based measures, when the instruction they experience is culturally responsive. Gay (2000) found that students of color have unique cognitive and learning styles different from those of other cultures. As a whole, a competitive or individualist environment is prominent in the classroom and mainstream society. The argument exists that African American students are a part of this society and need to learn to compete if they will succeed in life. Gebreyesus’ & Haynes’ (1992) belief is not that African-American children should not learn to be competitive but should not be thrown into the new environment to sink or swim. Not making the change a drastic one, and not totally removing the cooperative nature, but adding individualistic or competitive elements is more effective. The students must be given time to incorporate their cultural values into the new individualistic culture of the classroom. African American students learn equally as well in a combined environment of
competitive or individualist learning partnered with cooperative learning but the adjustment should be gradual. Of course all students do not learn the same way, even those from the same background, but Ladson-Billings (1994) found that when educators matched teaching and learning preferences and implemented cooperative learning to match learning styles, students of color were more academically responsive in the learning process.

How Constructivism Impacts Learning

An accepted definition of constructivism is knowledge created from previous knowledge. Teaching strategies based on our understanding of constructivism promote using the prior knowledge students possess and building on that knowledge to develop new meaning. In this way the students feel more secure about their chances for success in creating knowledge. Individuals experience meaningful learning when they have the opportunity to process information and relate it to their own experiences (Burke, 1993; Cazden, 2001). Teaching strategies based on our understanding of constructivism also emphasize hands-on problem solving. Based on constructivist theory, educators concentrate on forming connections for the students between the facts, and construct new understanding for the students. Teachers build their teaching strategies as the lesson progresses using students’ responses to encourage students to analyze, interpret, and predict information. The use of open-ended questions is encouraged.

Assessment becomes part of the learning process, so that students play a larger role in judging their own progress. Constructivist instructors do not want students to simply re-state the information presented in lectures and readings, but “to be autonomous thinkers, to develop integrated understandings of concepts, and to pose--and seek to answer--important questions”
(Brooks & Brooks, 1993, p.13). Social constructivism emphasizes the importance of culture in the context of understanding as knowledge is constructed. The language used in the home and school setting shape how well students process information. This perspective is closely associated with many contemporary theories; most notably the developmental theories of Vygotsky which hold that cognitive structures are first formed socially and then reconstructed internally (Polman, 2000).

Straits & Wilkes (2007) compared the constructivist learning theory to transmission teaching practices. Pictures and drawings in textbooks and articles produce mental attitudes about learning to the readers. Images do not just represent teaching; they inform in them. When the student is choosing the pictures, taking the photos or videos for their presentation, they need to be aware that a picture is more than something to look at. It tells a story. It is an attempt to provide context, to fill in the details.

Straits & Wilkes (2007) emphasize that constructivism is a learning theory and not a teaching method. The key concepts in the constructivist classroom are to build on students’ existing knowledge, provide authentic context for understanding, encourage active participation of students, and allow opportunities for social interaction, cooperation and negotiation.

Brooks & Brooks (1993) discuss several guiding principles when using the constructivist approach to learning:

- Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.

- Meaning requires understanding wholes as well as parts. And parts must be understood in the context of wholes. Therefore, the learning process focuses on primary concepts, not
isolated facts.

- In order to teach well, we must understand the mental models that students use to perceive the world and the assumptions they make to support those models.

The purpose of learning is for an individual to construct his or her own meaning, not just memorize the "right" answers and regurgitate someone else's meaning. Since education is inherently interdisciplinary, the only valuable way to measure learning is to make the assessment part of the learning process, ensuring it provides students with information on the quality of their learning.

As a final thought about constructivism, the most important statement is drawn from Straits & Wilkes (2007): that we as educators continue to question our own individual teaching practices and purposes and to continue dialogs with our fellow educators as to the best method, learning theories, techniques, etc. to help educate those who are entrusted in our care.

A project design that includes students obtaining artifacts from their home environment may help create student understanding and project meaning. The meaning of these artifacts are clear to the students and their relationship to the artifacts help construct their knowledge. Discovering positive lifestyles, incorporating attitudes and knowledge previously held and leading toward theories of healthy living practices chosen by students for themselves is a major goal for this project.

**Cooperative Learning**

The contexts in which humans carry out tasks are important (e.g., Cole & Scribner, 1981; Lave, 1977; Scribner, 1984; Stigler & Baranes, 1989, as cited in Lee, 1998). These contexts may
include the goals pursued, the tools employed, and the forms of human support provided as well as the historical traditions, ideas, and practices inherited. Together, these elements of human context comprise what is generally called "culture". Polman (2000) explains that the meaning of the classroom activity can be understood relative to the social situation around it. Students who engage in cooperative learning practice social skills that will help them to succeed in real-life situations that require group collaboration. Because children are sent to school to learn things they might not learn without the formal instruction, so that they can function more intelligently outside school, the idea of learning from many people broadens a student’s learning experiences. The interactions among people engaged in a problem-solving activity involve thinking processes being shared by all the participants with different levels of expertise (Lee, 1998).

The eMINTS National Center (2007), in influential organization in the state of Missouri, defines cooperative learning as a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement.

Cooperative learning has been shown to effectively raise the level of motivation, achievement as well as positive social interaction, which is a necessary element in most corporate environments today. Cooperative learning creates an atmosphere of collaboration, teamwork and assistance in the learning process it fosters. Cooperative learning strategies help to construct learning using higher-level thinking and problem-solving skills, increases motivation, team building, decision making, project planning and time management. Basic cooperative learning components include positive interdependence, group processing, appropriate use of social skills, face-to-face interaction and individual and group accountability (Marzano, Pickering, & Pollock, 2001).
Student roles when participating in group projects include assisting group members, tutoring another student, critiquing each other’s work and collaborating equally on problematic tasks (Cazden, 2001).

Technology as a Tool for Learning

There are several avenues a teacher can take when implementing technology into the content of the lesson. One avenue includes the use of software connected to the state or national achievement standards. Many of these software programs have been studied with students and teachers in the targeted disciplines. These software programs are often in the format of games. One program that promotes interactive learning and has been field tested and reviewed in the area of nutrition is Dr. Health'nstein's BodyFun™. Specific features in this program, the "BodyPuter2000" and "Helga Health'nstein's Laboratory", permit users to explore health content in detail for answers to challenges along the way. Reviewers observed that the software is most likely to teach information about nutrients such as dietary fiber, vitamins, minerals, and specific information on effects of these food components on health (Geiger, et al., 2002). This generation of children that is quite familiar with the video game format will probably be more comfortable obtaining their health messages from interactive videos and game-play than from lectures or customary research methods. The problem I see with this method is the lack of creating knowledge. Acquiring knowledge in the health components may make a difference with some children, but will the children form opinions, make healthy eating decisions, or form positive lifestyle attitudes when “playing” these games? I guess this is still to be seen. Technologies
should not simply support learning by attempting to instruct the learners, but rather should be used as knowledge construction tools that students learn with, not from (Jonassen, 1998).

A richer cognitive alternative for using technology in the classroom is the use of mindtools (Jonassen, 1998). Kulla-Abbott (2006) describes Jonassen’s mindtools as technology software specifically constructed to engage new forms of reasoning that help the learner to reorganize what they know into usable information. A tool such as digital video production can be integrated as a research tool, a simulation tool and a tool for analysis and synthesis (Polman, 2000) to engage learners in critical thinking. Mindtools require students to think about what they know in different, meaningful ways. Mindtools allow learners to function as designers, and the computers function as Mindtools for interpreting and organizing their personal knowledge (Jonassen, 1998). The focus need not be on the software used but rather on the questions it promotes the students to ask and answer.

New digital technologies and multimedia are transforming how we teach and learn. These new technologies are transforming our classrooms from spaces of delivery to spaces of active inquiry and authorship (Weis, Benmayor, O’Leary, & Eynon, 2002). Effective curriculum designs use technologies to scaffold thinking as training wheels do when learning to ride a bike. The training wheels support the efforts of the children to give them the confidence they need to stabilize themselves while learning to ride. Such is the same while learning to scaffold learning through the use of more advanced thinking and problem solving (Bransford, Brown, & Cocking, 2000). As part of curricula, technology has the capacity to create new opportunities for instruction by bringing authentic problems into the classroom for students to solve and create new meaning for themselves with inspiring questions derived from the problems.
The public belief that because computers are in schools the learning will be greater is a misconception. The use of computers at first was limited to basic functions like word processing or surfing the internet. While these are useful, they are not very meaningful when constructing knowledge. They are equivalent to typing a paper or looking through magazines. K-12 administrators seem to find very good use for computers. According to the CoSN (2007) survey, the four most important benefits of technology cited by school leaders were timely data for decision-making, staff efficiency, administrator productivity, and improved communications. While the majority of administrators also saw benefits to student access—including motivation and the development of important life skills—these ranked lower than the administrative uses. Where schools seem to lag, though, is in integrating technology into the classroom to improve teaching and learning. There is widespread optimism that technology has the potential to make a profound difference in education. A key component necessary is professional development that would enable educators to use technology more effectively.

Technology can be useful for creating learning environments that are learner, knowledge, assessment and community centered (Bransford, et al., 2000). Educational software and teacher-supported tools are being developed with an understanding of the principles of learning. Internet-based communities of teachers are becoming an important avenue to exchange information and innovations while offering support to each other. Area universities also provide other programs for supporting the K-12 teachers. Area businesses have produced projects to assist teachers in developing curricula as well as obtaining technology for use in the schools. Teacher professional development needs to focus on supplementing the teachers with resources to enable them to create rich technological lessons. As teachers learn to use technology, their own learning influences the way they assist their students (Bransford, et al., 2000). Learning
becomes a partnership among the class members, novices and experts. Students may form an aptitude in an area of the technology and become more adept at this area than the others in the class or even the teacher. Everyone involved must open themselves to learning from each other and helping each other by creating knowledge in a cooperative undertaking.

Newer cutting edge technology in communication and information transfer technology will enable the greatest advances yet. Two of the technologies my students have been using are digital music players and digital cameras. Some students have the iPod, but most have MP3 players. Their main use for digital cameras is to “pose” of course. That is appropriate to their age. But their utilization of the pictures taken usually is to take the camera to the local store to print the pictures. They are well versed at getting pictures downloaded from the internet onto a word document, but the utilization of actual photos is limited. Because these media types are of high interest to the students, creating a narrated video with still images should also engage them while constructing a meaningful project. Agnew, Kellerman & Meyer (1996) speculate that the main reason that students are motivated to create substantial projects is because their work is likely to be viewed and appreciated by a larger audience than simply by the teacher. The admiration of completed projects by peers is a strong motivating factor that inspires the student to improve their use of media and therefore strengthen analytical skills.

There has recently been a widespread use of the podcast in educational circles. Through the use of the iPod producing podcasts provide students “ownership” of learning materials (Maag, 2006). The Missouri Research and Education Network (MOREnet, 2006) encourages Missouri Teachers in K-12 settings to use a variety of technology media. They specifically name Podcast as an innovative way of teaching technology skills while working with lessons in the academic instructional unit. A Podcast is an audio file, an MP3, most likely, in talk show format,
along with a way to subscribe to the show and have it automatically delivered to your iPod when you plug in to iTunes or another subscription media service. The show isn't live, so you can listen to it whenever you want.

Video podcasts (vodcasts) or screencasts can be created in PowerPoint for visual reference to enable students and teachers to share information for future use. The vodcast is a multisensory presentation tool and can be created in short segments to afford easy review. Consider the cognitive theory involved in dual-channel processing that results in learners building mental video productions to make sense of their learning experiences. As Mayer (2001) explains, seeing is believing: a more lasting depiction of an episode makes a more lasting impression than simply hearing about it. Vodcasting, utilizing video, can be a publishing tool for student oral presentations as well as teacher PowerPoint lessons. Audio podcasts can be used in all these ways as well.

The preservation of knowledge and skills magnifies when students are engaged in stimulating projects (Polman, 2000). High interest projects such as the ones designed for this study use higher order thinking skills with a connection to how and why they are useful in the real world.

In this chapter, I have demonstrated the need to culturally connect learning to the learners and their communities, construct new knowledge based on prior knowledge, learn cooperatively, and use technology in meaningful projects. In the following chapter, I describe the curriculum I have designed and will test in this study, as well as the action research methods I will use.
Chapter III

Methods

“The object of education is to prepare the young to educate themselves throughout their lives.”

(Robert Hutchins, 1953)

This chapter contains the specific research design, the purpose of the study and research questions, demographics of research participants, setting, data collection methods, analysis, validity, reliability, human participants’ concerns, delimitations and limitations. It also contains an overview of the curriculum intervention design.

Although the benefits of using technology in classrooms are still being investigated, technology has been shown to enhance many basic skills, including reading, writing, and math. By changing the way that information is constructed, processed, and used, technology is influencing how people read, write, listen, and communicate (Bransford, et al, 2000; Linn & Hsi, 2000). New digital technologies and multimedia are helping to transform how we teach and learn. They are enabling educators to transform our classrooms from spaces of delivery to spaces of active inquiry and authorship. The digital format transforms students’ capacity to synthesize, interpret, theorize, and create new cultural and historical knowledge (Weis et al., 2002).

Time management skills and the ability to focus on tasks that require considerable effort and concentration are positive results documented by researchers. Students have more input into the learning process therefore changing the job description of the teacher. The teacher is no longer the sole disseminator of information. The teacher is a planner, an overseer, and expertly
ADOLESCENT NUTRITION

guides students to achieve their own answers to problems (Lemke, 1998; Polman, 2000; Shank, 2002).

Using technology in the classroom requires gathering data, analyzing the data collected, using critical thinking skills to carefully assess the relevance of the information the technology has provided, and deciding what will be helpful and useful to the student for their project, presentation or personal knowledge. New technological tools interest and motivate students to explore resources, and in so doing interweave them securely throughout their learning process (Polman, 2000).

By conducting this research I hope to gain an understanding of the impact a technology-supported project has on attitudes toward and knowledge of nutrition. Does the use of technology sustain the students' interest sufficiently to remain engaged and motivated enough to impact their analysis of the related nutrition information? Does the use of technology enable students to create a practical and valued research project?

Action Research

Reviewing the framing literature to me means re-examining everything I have read and studied about how to best convey knowledge of a subject, in this case, nutrition, to 12, 13, and 14 year olds who have little or no interest in the subject. I have been teaching this subject and therefore a nutrition unit for 30 years. I have struggled with “reaching” the students and having them stay actively engaged in the material for at least 20 of those years. After I realized that a teacher can't reach all of the students to the same extent, I decided to try and create projects/units that the majority of the students enjoyed working on and learned from. This process is ongoing.
As teachers, we have been entrusted with the education of the nation’s children, the future leaders of this country. When I think about the enormity of this undertaking, it makes me want to do the best job I can. We have been doused with many new innovative teaching reforms, most having the potential to boost student achievement. The approaches these reforms use often have limits to the number of students who actually make large gains.

Action research is the use of reflection by the practitioner to help overcome an issue in their practice (Stringer, 2004). Action research has common features of qualitative research such as the reliance on interpretation using rich descriptive data as opposed to number crunching. This method is utilized in business, social science and teaching to help improve productivity and attitude. As an educational research method, it allows teachers to improve their own practice by understanding why something has happened and changing it.

While studying Action Research, I realized that I had been doing this in an unstructured way in my classes to reach the goals I had set for the class. In order to “read” the classroom, the teacher needs to analyze what is going on and determine the causes and effects this particular “page” in the text has on a particular student, a group, the teacher, or the entire class (Zeni & Krater, 1996). As MacLean and Mohr (1999) explain, the ideas of researcher and teacher conflict with each other. They believe that the description of each changes when they become one. Teacher-researchers raise questions about what they think and observe about their teaching and the student’s learning. This is the reflective piece that accompanies what action research is about. A definition of educational researcher may come in handy to explain why using technology to improve students’ awareness and practice of healthy nutrition is research.
The definition may include several ideas depending on the focus. Research aimed at expanding knowledge is about finding out why and what if. Research is to help understand, assess, predict, so that change can be made to better the product. It is about searching systematically for solutions to problems. It is about rules to guide your search. It is also about helping you to evaluate the research of others to determine the best path to take for the optimal benefit of the subjects and therefore the practitioner. It helps us to make informed decisions to better a situation.

Specific strategies are important elements when considering action research: A burning question, researching methods of organizing and conducting research, journaling as much as possible, keeping field notes, networking with other teachers, updating your cooperative learning strategies, identifying and considering all of the students in your classroom, and above all else, nurturing the teacher-student communication (Krater & Zeni, 1994).

Participants and Setting

The data for this study was collected at a Midwestern suburban middle school, involving students enrolled in the Family and Consumer Science exploratory class. The specific group of students chosen was determined based on the scheduling of students into the exploratory class. The average size of the class usually falls between 15 and 25 students. A Nutrition Unit is part of the curriculum but is not generally valued or enthusiastically received by the students and therefore was ideal to utilize in the study. Middle school students often challenge the teacher to teach them. In my opinion, they are not generally in school to learn, but to socialize and have fun. Polman (2000) agrees that a classroom serves other purposes than academic learning.
Developing social networks is a major issue for a child growing up. They like to stay in class because they don't want to miss out on the action or socializing; therefore, they cooperate with the teacher to some extent. Most middle school students also still want to please specific adults, such as parents and teachers. This keeps the students in class. Using a method of teaching that allows the students to socialize and enjoy themselves while exploring subject matter seems to logically tackle both issues. Using technology is something the majority of the students at this age enjoy, and a small group project allows them to socialize and discuss ideas. Decisions are made cooperatively.

Adolescence provides an opportunity to prepare for a healthier lifestyle and to prevent nutrition-related diseases in adult life, while addressing adolescence-specific nutrition issues and possibly correcting some nutritional problems originating in the past. The opportunity for nutritional intervention in adolescent girls may contribute to help break a range of vicious cycles of problems that are passed from one generation to the next, such as poverty, poor health and nutrition (WHO, 2005).

I was the teacher of the classes studied and consequently had a stake in the results. The subject of nutrition is often difficult for the students. I believe it is not interesting to them partially because they cannot conceptualize themselves in the future.

The school is located in a large Midwestern metropolitan area. It is a small school district, less than 20 square miles in size, has one high school, 2 middle schools and 9 elementary schools. There are no major industries or shopping centers in the district so the tax base is lower than the average in the metropolitan area. Information attained from the state's Department of Elementary and Secondary Education Resource data reports student demographics includes the
The African American population to be 96% with 82% receiving free or reduced lunches. This percentage indicates that the majority of families in the school are from low-economic households (DESE, 2007).

The role of the researcher in this study was as an insider. I was the teacher in the middle school where the study was conducted and saw the classes daily for 56 minutes at each class meeting. The class was a semester class. I have taught Family and Consumer Science at this school for 30 years. I am of the same race as the students, which helps me understand the conditions and situations the students were experiencing. This works as an advantage when relating my experiences to the students’ experiences while growing up eating the specific diets they eat. My education took me outside of the specific sociocultural setting and broadened my understanding of other types of family situations. This helped me see the advantages and disadvantages of the situations the students find themselves in. This also aids me when relating to the students how living situations differ, especially in the area of nutrition.

Procedures

Through this study, I hoped to gain an understanding of the attitudes that this group of middle school students had toward nutrition. An attempt was also be made to raise an awareness of healthy nutrition practices and possibly a change in habit toward more healthy nutrition practices.

Middle school students who lived in a predominately African American school district in a large Midwestern metropolitan area were the focus. The attitudes and perceptions of the students to the current state of obesity in American adolescents caused by improper nutrition
were studied. This research involved the study of a small group of students in their own environment. The accounts were both descriptive and interpretive. In such a study, the researcher must then determine the significance of what is observed. Further studies using academic or behavioral interventions may help to identify and correct the misguided nutrition practices. There are benefits as well as disadvantages to the use of observation as a research technique. A purposive sample allows easy access to the setting and participants as well as documenting non-verbal behavior, which can play an important part in understanding how students make food choices and the attitudes that play a part in this choice. Field notes included reflexive comments on behaviors as well as reflective questions for further study. They also helped the observer determine if the students understood the pragmatic content and reflected on the acquired data.

The major disadvantage of these research methods was researcher bias. Although I documented as straightforwardly as possible, it was impossible as an insider to be totally unbiased. Another disadvantage was the group size, which was on the small side and therefore not generalizable. Rather than seeking to generalize, action research seeks solutions to problems and questions that are context specific (Stringer, 2004). With me being present as a researcher and participant, a reactive effect was introduced which may distort behavior and produce unnatural results.

Action research was the research method used to determine attitudes and knowledge factors related to improper nutrition practices using the historical bond the student has to these food habits.
Instructional Overview

Technology was used to create digital presentations focusing on the study of nutrition. The retention of knowledge and skills generally magnifies when students are engaged in stimulating projects. High interest projects such as the ones designed use higher order thinking skills with a connection to how and why they are useful in the real world (Bruer, 2000; Polman, 2000). A content-based cooperative group project was planned to engage students and create an understanding of the essential information involving healthy nutrition.

Major Components of Nutrition Project included:

Moodle—Online open source course management system lessons

Student explored the Moodle system to uncover important information on nutrition. Class assignments were set up on an open-access Missouri State University Moodle System. The assignments were online, the content was both given online in question/answer format as well as small online tasks.

Podcast—Small Group Class Nutrition Podcast Project.

The students were assigned to groups for the project. Students worked in small groups to set up the podcast. The segments that were planned in the podcast included: Student interviews—create questions about student attitudes and misconception about nutrition; Staff Interviews—create interview question about nutrition knowledge and practices and interview selected adults; Student Survey—create student questionnaire on nutrition practices; nutrition research PowerPoint; Nutrition Skit—research and create nutrition skit on any area concerning nutrition; and Photo Essay—public figures with nutrition related issues.
Data Collection

An attitude survey was administered to document attitudes and specific causes for inadequate nutritious food choices. An academic test was administered to determine the students’ basic knowledge of nutrition previous to the unit. A post attitude discussion was implemented to document any changes in attitude. The attitude survey questioned students’ reactions to the national food guide, their family’s nutrition choices, their personal nutrition choices, availability of food choices, food discussions in their family, their attitudes toward their own body, and attitudes about future health concerns. The knowledge component contained questions on basic healthy nutritional practices for their age group. It also contained specifics of their eating patterns within their household.

An attitude survey of nutritional practices using online survey software (SurveyMonkey, 2008), as well as an assessment of nutrition knowledge was given near the beginning of the unit, to form a baseline of student attitudes and knowledge. An unstructured observational method was used.

Field notes were used to document specific behaviors and attitudes throughout the project. Periodic student reflections were gathered. Interviews were also conducted periodically, to further document attitude changes and gains in knowledge by students. The interviews were unscripted, based on the situation and student comments to the daily reflection questions.

Additional elements of data were various action research documents. Field notes and student artifacts were used to document specific conversations as students worked through the nutrition project. Tape recordings of teacher/student interviews were collected as well as periodic
student group discussions. The students reflected daily on what had transpired during the class period. A course website was utilized so the students could post their responses to the daily reflection question and read the other posts. On this site they were also be able to access the project details whenever necessary as well as supplementary websites that could be of use to them.

Data Analysis

Data collection and data analysis proceeded simultaneously. During every class period, field notes and reflexive notes were recorded. Student interviews, student data, and field notes with reflexive noting were examined for key recurring issues, or themes that became categories for further focus. The types of support provided by the teacher and multimedia tools were also examined.

Delimitations

This researcher worked with 12-14 year old middle school students in a School District in Midwestern United States. This was a predominately low-income African American school, located in a large metropolitan area.

Limitations

The timeline for this project was 27 class sessions. This timeline was dependent on the student group dynamics enrolled in the class. Student work habits and school scheduling had an impact. The accessibility of computers, digital cameras, and recording media posed a problem
for me as well as the scheduling of teacher classes. Future teachers will have to deal with these issues as well when trying to implement or replicate this study.

Validity and Reliability Issues

The size of the study group was small, limited because of the researcher’s class schedule, attention to individual learning patterns of students, and the subjective nature of the subject matter. This small class size was optimal because it allowed for a more thorough analysis of the dynamics involved in the study of attitudes and technology use. Student/teacher interaction, small group interaction, and student self-reflection was also manageable with the small sample size. This was one observer’s view of attitude and student reactions to the technology impact concerning nutrition.
Chapter IV

Integration of Course Management System

“Children are who they are. They know what they know. They bring what they bring. Our job is not to wish that students knew more or knew differently. Our job is to turn each student’s knowledge and diversity of knowledge we encounter into a curricular strength rather than an instructional inconvenience. We can do that only if we hold high expectations for all students, convey great respect for the knowledge and culture they bring to the classroom, and offer lots of support in helping them achieve those expectations.”

(Pearson, 1996)

This exploratory study investigated what impact the use of technology in a project-based unit had on middle school students studying nutrition. Two very different tools using technology were explored. The first was an online course management system similar to the popular Blackboard system used on several college campuses. Course management systems enable universities, schools, and corporations to host classes online. They allow students to have access to course documents, correspond with classmates and teachers, and enable the teacher to provide feedback on assignments and grades. The first phase of the nutrition project included using the online Course Management System known as MOODLE. MOODLE provides online access to course resources posted by the instructor.
Dynamic Learning Environment

The word MOODLE was originally an acronym for Modular Object-Oriented Dynamic Learning Environment, which is mostly useful to programmers and education theorists. It's also a verb that describes the process of lazily meandering through something, doing things as it occurs to you to do them, an enjoyable tinkering that often leads to insight and creativity. As such it applies both to the way MOODLE was developed, and to the way a student or teacher might approach studying or teaching an online course (MOODLE Docs, March 16, 2008). MOODLE is a free, Open Source software package designed using sound pedagogical principles, such as social constructivist pedagogy, to help educators create effective online learning communities.

Figure 1: Moodle Homepage; FACS Why Does it Matter What I Eat?
I chose to use the MOODLE as a platform for the students to explore the lessons in nutrition, individualizing the instruction and allowing students to work at their own pace as well as to mobilize me in the teacher role so I would have the freedom to respond to individual queries and comments (see Figure 1 for a screen shot). I found the MOODLE useful as a teacher for keeping me attentive to each student’s progress and supplying feedback individually through assignments, forums, and comments without frequent individual conferences with the student. I believed this would help students move from one assignment to the next individually without the teacher calling the class to attention to give general instructions to the entire class.

Exploring Computer/Internet Instruments and Procedures

Day 1: Introduction and Registration of Email and MOODLE Accounts

This was the students’ first access to the newly installed network set up by the school district in early January. Each student was assigned a username and a password. This system kept the students’ projects and documents private. The teachers were given a list of the students’ usernames and passwords to help the students learn how to access their portal. The first two classes were small so the individual attention necessary was easily met. I gave all students their account information and had them sign in to their accounts. Then I had the students open Internet Explorer. I explained the difference between the address box and the search box. Students were instructed to type Gaggle.net into the address bar. Students signed up for a student email account. An email account was necessary to register for an account on the MOODLE. The majority of the students did not have their own email accounts previously so this was a necessary step. Gaggle.net offers a teacher-supported email account that helps the teacher teach responsible
email use. This account does not allow the student to use questionable language or content. Gaggle blocks SPAM, automatically monitors messages, blocks pornographic email, allows the teacher to review student messages and blocks email from outsiders. The student accounts are available to the teacher and questionable content is forwarded to the teacher and not to the intended recipient, unless the teacher approves. I explained that I was the administrative teacher for their account and they could use it at home or at school, but they could only send messages to other students in my classes. I choose to use the free version because of the number of students involved as well as the size of the documents that would be necessary to send between the teacher and student. Even though opening an email account was necessary to register in the MOODLE, it is a good tool to teach the how-to’s of computer and Internet use.

![Figure 2: Students working in computer lab](image)

Before class I acquired a set of sign-in user keys that are required when a student registers for a Gaggle account. This went smoothly, but I could tell that in the larger classes it would take a lot longer because of the necessity for individual help from the teacher. The third hour class would be coming in right after the second, so I came up with a short assignment to have the students perform a search for a specific topic on the Internet while they waited for my
individual assistance. Since the fourth hour class would not be starting in the lab until the following day, there was time to perform the set up of the email accounts myself thus eliminating this step by the students and cutting their waiting period. With third hour, it took about 30 minutes to help each student through the correct procedures. Even though the directions were simple, there was a vast difference in the students’ familiarity with the use of the computer, as I was soon to find out. I had the students use the same username and password they used to access their network, to eliminate the confusion for students trying to remember several different pieces of sign-in information. Still, a couple of students could not use their correct information because their names were previously used by another gaggle.net user (common names such as John Smith).

I told the students to explore the different options in the Gaggle system once they activated their accounts. The Gaggle system has an address book showing the email addresses of the other students who are users registered under the teacher’s name. I told the students to try and use their email account by showing them the use of the Inbox, New Mail, and Sent Mail options. For the next 10 minutes they were fascinated. Because the registration process was tricky for some of the students, only about half of the students had time to explore the system, sending silly messages, such as the one below, some using nonsense statements, slang, curse words or “playing the dozens” (Lee, 1993).

Nadia: HIIIIIIIIIIII WATS HOOD

Darren: let me see your toes plz

Nadia: u stupid
Darren: ha ha u know what it was that one day unless u tryin to see bunions corns and
dead skin yah dig

Nadia: yes i do because i want to laugh

One student said her message was blocked. I then informed the students about the policies concerning their accounts. The Gaggle also has a feature that “speaks” the message out loud. They got a big kick out of this. They also tried sending curse words using alternate letters i.e. 3 for E. The students showed their disappointment that they could not get their messages through to the recipient by groaning, trying again, or making comments such as “that sucks”.

I then had the students open a new window and a new tab. This was also something new to the students, instead of closing the one they were working in. They didn’t know they could have two Internet sites open at the same time. I had them type in the words Missouri MOODLE in the search box instead of giving them the whole address, because it was a long address that invariably several students would mistype. Then I had them access the first link that gave them access to the Missouri State University MOODLE MT3. I showed them how to save the site to their Favorites so access tomorrow would be quicker.

The next step was registering on the MOODLE. The students went through the registration process and again used the same username and password to eliminate confusion. There were similar registration issues as those in Gaggle. The students then had to access their Gaggle account and find the message sent from Missouri State MOODLE to complete their registration. The students then enrolled in the class MOODLE “Why does it matter what I eat?” By the end of the 3rd period, there were 2 students who had not completed registration of the Gaggle account and 4 for the MOODLE. The students were then given time to complete the
first reflection (See Appendix A). Some students did not have time to finish the reflection because of registration issues. If Reflection 1 was completed and there was still time left in the period, students were encouraged to access their gaggle email, set up blogs on MOODLE and gaggle (picture online with parent permission slip returned), or put comments on other students' blogs or emails.

Day 2: Using MOODLE Assignments to Learn about Nutrition

Nutrition Unit Objectives and Standards

Our district was in the beginning process of meeting guidelines for a Career Program in the state of Missouri. Family and Consumer Science competencies had been developed to guide the teacher in meeting the guidelines. I waited until the 2nd day to introduce and give a synopsis of the nutrition unit, goals, objectives and scoring guide because of the amount of time it took for the students to complete the registrations in the Gaggle and Moodle systems on the first day. When the students came to class, I explained the nutrition competencies and how they would relate to this nutrition unit. During 3rd period, this developed into a class discussion, although this one was brief being interrupted by a student who asked if they could “get to work”. The students are used to objectives being discussed and made no comments about the objectives, but did question the grading of the assignments.

During the introduction to the unit I explained that this nutrition unit provides students with an understanding of essential nutrients and their roles in the body, as well as the changing nutritional needs of an individual throughout the lifespan. The unit includes the impact of exercise and food choices on metabolism, body composition, and weight control, nutrition
misinformation, consumer issues, commercially prepared foods, and major diseases that may be affected by eating behaviors. The Nutrition Unit objectives include:

- Explore vocabulary relevant to content area.
- Identify recommended guidelines for nutrition.
- Identify basic nutrition theory and analyze daily food intake.
- Analyze how food affects culture and how culture affects eating habits.
- Analyze the social and religious importance of food.
- Explain the psychological effect of food on people.
- Identify various cooking terms.

The FACS competencies related to nutrition in Missouri are:

1. Evaluate food preferences
2. Identify recommended guidelines for nutrition
3. Determine personal caloric needs
4. Select food sources of nutrients
5. Evaluate meals and snacks
6. Analyze nutrition labeling

17. Recognize the importance of mealtime etiquette (DESE, 2007)

As I walked around working with small groups or individual students, I mentioned the specific objective for the section that was involved with their current research. I have found that it is not adequate to write the objectives on the blackboard as our school suggests or to include the objectives only in the introduction to the unit. There is a necessity to have periodic reminders about what goals they are working toward accomplishing.
The first thing the students did when they were allowed to access the computers was to log onto Gaggle. I had received several rejected messages, so I warned the students about proper content in emails. I gave assignment instructions to the class and then spent the remainder of the period with those students who were unable to access the email or MOODLE account the previous day.

Writing notes is something teachers in middle school have to keep to a minimum during the class lessons. Text Messaging and Instant Messaging are also very attention grabbing for this age group, so it makes sense that they would like to email each other. The type of writing they use for these tasks is different than the standard writing taught at school, and sometimes students don’t know when it is appropriate to use this type of writing. Because it is so informal (the students make up their own grammatical rules), a line has to be drawn when completing assignments.

I decided to allow the students to use their informal writing on all of their MOODLE assignments. My rationale was that if students used the relaxed writing style it might keep them motivated to continue researching the nutrition information knowing their answers would be a fun and creative method of answering questions. I also hoped by allowing the informal “fun” writing the students would be encouraged to comment on each other’s posts as well as to make thoughtful posts to allow others to comment on.

The students were introduced to the MOODLE system and given the rules for the class unit. The two different types of activities used were discussed. Journals were used to keep track of the responses to the lessons, to give responses, some reflections, or complete activities that were part the nutrition assignments. This information was private, not accessed by other students,
just the teacher. Forums were used for most reflections. These are public. Anyone registered in the nutrition MOODLE can access and comment on these. Students were shown the scoring guides for the MOODLE portion of the Nutrition Unit and how to access their grades on individual assignments.

Once the students were logged into MOODLE, I explained that MOODLE was an organizational program to help a teacher and students work independently through lessons on the computer and Internet. I then explained the timelines for specific types of program uses. The first 5 minutes of each class was used to check comments from the teacher. The next 40 minutes was to be spent on completing the warm-ups and the assignments on Nutrition. The 11 minutes at the end of the period was used for reflections first, then any of the other activities in Gaggle or MOODLE.

The first activity for Day 2 asked the students to complete a survey (see Appendix B). This survey included both attitude and nutrition practices. The attitudes section asked students to identify their habits pertaining to eating healthy foods. As a whole, about 50% of the students’ habits were healthy. These habits included infrequently eating processed meats, high fat foods, adding salt and butter at the table. A high percentage (81%) of students reported eating fruits frequently, but my personal observations indicate that many of the fruits, vegetables and salads included in school lunches end up being thrown away, and instead eat a bag of chips or candy they have brought from home. A low percentage of students (18%) eat mostly low fat milk and cheeses.

The knowledge portion of the survey asked the students to respond to several questions to display their knowledge of proper healthy eating habits. Knowing the students have had a
nutrition unit in their science classes since 4th grade, I expected a few mistakes but mostly responses to the questions with a variety of answers, which they gave. The majority of the knowledge portion of the survey called for short answer. On the multiple choice section, a majority (60%) of the students answered the question correctly in the areas of food related disease and the food pyramid (62%) although in the short answer they made mention of the food pyramid but were referring to the old model. The FDA has used a more up to date model for the past 3 years. A large majority (24%) of the students did not know about calories. These two areas indicated that the students needed work on recent information to make better judgments when choosing an eating pattern.

Kandace and Carrie had their MP3 players with them and asked if they could listen to them while they worked. I agreed, letting them know that the work needs their attention first, but if they could listen as well, they had permission.

The students opened the MOODLE and read the assignment for day 2. The first listing of the American Heart Association then accessed the assignment page and the coordinating web page:

Assignment I: Find and answer these questions about the American Heart Association's Dietary Guidelines.

1. How many minutes of exercise should you get daily? (Aim)

2. Why are there many healthful eating patterns? (Build).

3. Name the 10 recommended Dietary Guidelines for Americans? (Summary link at top of page)
4. What is the guideline that you have the most success adhering to? Why?

5. What is the guideline that you absolutely can't follow with much success? Why?

Because this was the first assignment, several students had questions about what they were supposed to be doing. I came around to show groups of students how to open the link to type their answer. There were about 3 students in each class who attempted to work on the assignment without further instruction. As the students were working on the assignment, several gave their own opinions on all of the questions without trying to find the correct answers in the accompanying website. An example of a student’s own opinion is below. When quoting student writing, I have left the grammatical content of their writing intact. I also periodically show the style the students used along with any clip art or special characters. This is done to help the reader create a visual picture of the situation. I have changed the font to make it easier to read.

1.)Alot

2.)To keep you from dying

4.)Eating whenever I want to

5.)Eating healthy on someone else's terms

I walked around and explained several ways to find the answers and the type of answers necessary to receive total credit for each question in the assignment. There were several under breath comments “not ME”, “humph” as well as “can’t you just tell us?” and “I’m just answering what I know” and other protests when the students realized they actually had to read and search for the answers to the questions instead of making up their own answers. When the students got to question 4 and 5 they were still trying to find the answer until I told them these two questions
were their own opinion but they had to explain their answer. Some students didn’t connect these questions with the previous questions, so their answers were all over the place. An example of correct information is shown below, followed by my feedback in Figure 3.

1. children should get 60min. of exercise and adults should get 30 min. of exercise a day.

2. there are many healthy eating patterns because different foods have different nutrients.

3. Choose a variety of grains daily, especially whole grains. Choose a variety of fruits and vegetables daily. Keep food safe to eat. Choose a diet that is low in saturated fat and cholesterol and moderate in total fat. Choose beverages and foods to moderate your intake of sugars. Choose and prepare foods with less salt. If you drink alcoholic beverages, do so in moderation. Aim for a healthy weight. Aim for a healthy weight. Be physically active each day.

4. I choose drinks that's low intake of sugar like water, because I can't drink something sweet when I'm really thirsty.

5. I can't be physically active daily because most times I don't have time too.

Figure 3: Feedback given when corrections were needed as well as points for assignment. This student made the proper corrections to receive full credit.
In the following paragraphs, specific students are mentioned. All student names used are pseudonyms to protect their identity. Several students were typing their answers into the journal; others were writing their answers on a sheet of loose-leaf paper so they could type the answers at one time instead of going back and forth between the website and the journal. When I realized the students were still not familiar with certain formatting or shortcutting aspects of the computer, I showed them in groups how to make this assignment easier. I then explained how to copy/paste the information they wanted instead of typing it all. I also noticed Erin had figured out another way to make it easier, so I shared this with the class as well. She sized the two windows and placed them side-by-side on her monitor. After explaining the process, several students used this method throughout their MOODLE assignments. Eleven minutes before the end of the class period, I stopped the students and had them save their work and go back to the MOODLE home page and access the reflection for the day.

In the discussions below notice that I sometimes offered suggestions or comments to the students, but other times I just monitored their work. There were several interesting discussions. Also note the style of writing the students used. Some students used standard writing style and others were very creative with their style. I do believe allowing this freedom encouraged the students to contribute regularly. As you can see, when they contributed they usually had to analyze the conversations and form opinions about the discussion topic.

Reflection 2: What do you think about how young teens eat?

Kandace I THINK WE EAT OKAI BECAUSE WE WORK OUT ALOT IN SPORTS AND JUST WALKING AROUND SKOOL TO GET TO OUR CLASSES....SO WE
BURN ALL THE FAT WE EAT FROM THE FATTIE FOODS...BUT WE SHOULD KINDDA LAY OFF ON THE HOT CHIPS BECAUSE MOST TEENS EAT A BAG OF HOT CHIPS AT LEAST ABOUT 5 TIMES OUT OF THE WEEK....BUT THE CHIPS ARE ADDICTTING ONCE YU' EAT THEM ONE TIME YU' JUST HAVE TO HAVE THEM AGAIN AND AGAIN.....

_Carrie_: I think teens eat various types of foods. Many teens eats constantly when upset or depressed to take the pain away.

_Carla_- i think that young teens eat things base on want they think they want

_Jack_- I dont care about other teen eat

_Sibyl Banks_ Caring is one thing, thinking is another. You do have an opinion

_Jack_- i dont care about other teen but what i think about other teen eating problem is not really good because there are many kids over weighted

_Catie_: What could I possible think I'm a teen!!!!!!!!!!!!!!!!!!!!!!!!!!!!!I think that most teens eat so much because they are depress,and some like me i'm kind of small so I eat to gain weight.

_Richard_: i agree but i think that what ever your parnet let you eat that what you going to eat like them big fatt 4 year old kids

_Janis_: I think teens eat okay 4 now but as they get older then there eatin will be trouble because as they get older your body can only take certain things!!!
Sibyl Banks: Yep, you'll have the habits of eating junk and stuff, and you'll still be doing that but you won't be burning as much energy like you do now as a kid, so you'll get fat and have health problems

Trish: I don't care how other people eat that on them. I just care about what I eat that's it.

Sibyl Banks: One day you'll mature to the point that you'll realize what others do DOES affect you sometimes. That will make you more caring of other's health issues. Like what if one of the kids in one of your classes had diabetes because they eat poorly and went into a diabetic shock and died. Next thing you know the school would sell nothing but vegetables and fruit and water to keep that from happening to other students.

ALICE: ii F33L THAT T33NS AR3 B3COMING MOR3 AND MOR3 UNH3ALTHY AS TH3 Y3ARS CONTiiNU3. PAR3NTS DONT CAR3 ABOUT TH3R3 CHIIILDR3NS h3ALTH UNTiiL ii iT iiS A PROBL3M. AT THAT STAG3 TH3 PROBL3M WiiLL B3 TO LAT3 TO FiiX.

Sibyl Banks: And maybe not TOO late, but certainly make it much harder on both the parent and child.

Erin: Why do you think teens eat worse than adults?

Sibyl Banks: Not all teens, not all adults. The purpose of this question was to make you think about how our eating habits are out of control and since you are a teen, you would probably relate to what teens eat better.
During this reflection period, students gave their opinion of how teenagers eat. As you can see, several topics came up. The topic of why you eat was one that the students brought up several times. This type of discussion can help the student analyze why they were eating at times when they really weren’t hungry, such as when they were depressed or upset. As they mature, they may be able to change this habit to one that is a more healthy way to handle their feelings. This discussion brings out one of the nutrition unit objectives: "Analyze how food affects culture and how culture affects eating habits; analyze the social and religious importance of food; and explain the psychological effect of food on people."

Another topic that was discussed, that of parental influence, is a touchy one for this age group. I noticed that when the students brought up the issue of parent support, it was talked about for younger children, as they see them as having no control over what they eat; their parent has that control. Not one of the students indicated that a parent still has influence over their eating; they like to see themselves as independent and too grown up for the parents to still have that control. But why would they bring up this topic unless the influence was still noteworthy?

I noticed a few students who indicated that they didn’t care if other people were fat or were not interested in trying to help them in any way. I believe this is one of the topics that needs more exploration. There is a time in a child’s development that everything centers around “me” and is very self-centered. These are adolescents and they should be well beyond this time period in their development. Another thought may be that the child is not mature enough to realize how the world around them affects them. This topic presents itself in later discussions by other students as well.
At the end of the day the students were assigned a homework assignment which they would use during a later assignment:

Homework Assignment: Keep track of EVERYTHING you eat or drink TODAY & TOMORROW. Write information on an index card. We will use this in our next lesson on Monday, so don't forget.

**Day 3: Gathering Personal Information for use in MOODLE Assignments**

During the next MOODLE assignment, the students would need to know their height and weight. The assignment asks them to go to the Blubberbusters.com website and input their information along with their birthdates and normal exercise frequency. The students in 1<sup>st</sup> and 2<sup>nd</sup> hr and I took a walk down to the nurse’s office to take their height and weight. For the 3<sup>rd</sup> and 4<sup>th</sup> hr classes, I brought the scale into the computer room, so that the students could work on their assignments while waiting their turn to have their height and weight checked, since these classes were much larger. Mitch did not want to get his weight taken. But when we got to the nurse’s office, he didn’t balk at having it done. No one paid any attention to him. I waited till everyone was finished with their measurements. I took Mitch’s weight and quietly gave him the information and took the students back to class. I did the same for a girl during 2<sup>nd</sup> hr class. I noticed a tear in her eye, but didn’t comment on that; I just whispered her weight and sent her back. I felt downplaying the experience would be the easiest on their self-confidence. When we got back to the computer lab, Mitch told a girl and another boy what his weight was. Then another student heard him and made a comment about it being a lot. After that I heard no more about Mitch’s weight. I mentioned quietly to Mitch that he didn’t have to tell; it was his choice.
He nodded and shrugged his shoulders. There was a similar episode in 3rd period class with Jacob and Jack, but they did not share their weight with their classmates.

The minor problems students had were in two areas, following directions or technology related. Jamie wanted the definition of obese. Jessica had trouble understanding how to copy/paste. Catie had a question about how to get back on the work she was doing the previous day. When Trish came to class on this day (before the majority of the class arrived), she told me she had trouble logging on. She said she probably should have gotten my attention and asked for help, but she just kept trying. I asked her if she was able to get in, she said yes at the end of the 2nd day after another student helped her. I told her that was one option, but it might be faster to let me know anyway when she was having trouble understanding something, or even send me an email, letting me know. I helped Jack and Richard get logged in. They still had not figured out how to access the accounts. This was day 3 and 2 students still had not been into their accounts. One student typed in .com instead of .net in his Moodle, so he was not getting an email to confirm his account. The other sometimes used the period and other times didn’t. Jacob was having trouble logging in on day 3 after not having problems the previous day. He was putting a space after the period. Setting up the email accounts and Moodle accounts still seemed to plague these students. I finally got them to understand they had to be precise every time. Students experienced computer issues that are simple basic fixes. These experiences help the students learn to use the computer applications. Examples include comments from the students such as: “all of my letters are in red now…”, “I can’t hear the music…”, and “How do I find my work from yesterday?”

Students opened the MOODLE and were instructed to check the comments from the teacher in both their reflections and their class journals. Since they had just completed one full
day using the MOODLE, I posted comments to each student to let them know if their work was completed correctly, giving comments intended to help them improve their assignments, and positive reinforcement. I then explained how to read the grades for each assignment. If their answers were correct and acceptable, they would receive the total amount of points possible for that assignment (see Figure 4). If they did not receive the total points a comment was also included to indicate what changes should be made to receive the total points. If the students had completed the previous day’s assignment, they were asked to start the next assignment. If they did not have the total points, they were instructed to go back and complete the previous assignment correctly.

![Image of a forum post]

Figure 4: Teacher feedback on Forums or Journals

The second assignment, MyPyramid, required students to use the information from their height and weight as well as the information in the homework assignment:

1. Enter your individual information in MyPyramid. Submit. Highlight, Copy, paste and post this information to this journal. Scroll down and Save.

2. Go to the bottom right of the MyPyramid page and click on My Pyramid Tracker.

3. Scroll to the bottom of that page and click on **Check it out.**
4. Enter the information asked for. Then Proceed to **Food intake**.

5. Complete this activity using Friday's food intake.

6. Save & Analyze

7. Select the link for MyPyramid Recommendation

8. Copy and paste the results to your journal. Scroll down and save changes.

9. Complete this activity using Saturday's food intake.

10. This time analyze the **Nutrition Intake** (instead of MyPyramid Recommendations)

11. Post the information to your journal. Scroll down and Save.

**Complete the activity using this journal to keep track of your results**

Post your analysis individually by days.

The last 11 minutes of the class period, I instructed the students to spend some time on Reflection 3. Several students seemed to understand the purpose of this reflection. At the beginning of the project, I explained what “Reflections” were. Some students gave more effort when analyzing their thoughts on the prompts in the reflections. You can see from the comments below, that some students were actively analyzing what their eating patterns said about them. The directions were a little different: “Reflection 3: Answer the following prompt with 3 sentences minimum: When charting my eating for the past 2 days, I found out… and I would like to...” Sample student responses follow:

**Carla** - Monday, 11 February 2008, 11:53 AM
i found out what i should be eating in what i should'nt be eating

Erin - Wednesday, 27 February 2008, 11:09 AM

*That I do not eat healthy and don't drink as much water. I drink alot of other things such as soda and koolaid. And I eat lots of junk food rather than carrots, raisins, and etc.*

*I wish I ate more healthier and drunk more water.*

Richard - Wednesday, 20 February 2008, 12:18 PM

I found out that I eat alot of fatting foods almost daily.

I out that I eat alot chips candy and I put more sugar in my juice.

I found out that need to eat fruit vegetables for the next week for a healthy diet.

I would like to start eating healthy daily.

Exercise everyday and get active.

I would like to keep a healhy diet.

Janis - Wednesday, 20 February 2008, 12:12 PM

i found out that i eat a lot of junk food and very little healthy foods. i found out that i drink more soda than water. and i eat alot of stuff thats high in sugar.

Catie - Wednesday, 20 February 2008, 09:44 AM

When charting my eating for the past 2 days, I found out that i eat lots of chips, lucky charms, seeds and ice cream. And I would like to not keep eating the same things becsuse the only half chips have lots of salt and thing that make u get fat.

Isis - Friday, 15 February 2008, 12:30 PM
i found out that i sometimes just eat to be eating . And that the thing that i was eating was not good for me . and i would like to change only have the things i eat cause i know their not good for me but only half cause it hard to let go of the things you really like .

Jazzie - Friday, 15 February 2008, 09:14 AM

1. When charting my eating for the last three days I found out that I have been eating to much. I have been eatin to much sugar and no healthy food. I also found out that I need to actully excerise at least 30 minutes a day.

2. I would like to get a better eating plan that is healthy for my body.I would like to also keep my body in shape the way I like it.I would like to keep a healthy body and safe body.

Kandace - Thursday, 14 February 2008, 12:36 PM

I found out that most things that i eat are not as healthy. I would like to work on what i eat so that i can maintain my eating. Also i think that i need to chart what i eat from now on.

Jack - Wednesday, 13 February 2008, 11:16 AM

I should eat more fruit and vegetables to keep my body healthy.

Eating lots of fruits can help me grow strong bones.

If i stick to doing this i can stay healthy

Richardah - Wednesday, 13 February 2008, 12:09 PM

When charting my eating for the past 2 days, I found out… THAT I N33D TA 3AT B3TT3R. I N33D TA CHANGE MY EATIN HABITS. I SHOULD 3AT MOR3 V3GGI3S AND I WOULD LIK3 H3LP SO I DONT 3AT AS MUSH LIPID FOODS.
Sheila - Tuesday, 12 February 2008, 11:36 AM

I found out that I don't eat very often. I would like to know why different people eat different amount of foods.

Carrie - Tuesday, 12 February 2008, 09:40 AM

I found out that I had many different foods from different food groups. I also found out that some foods were not as healthy as I thought. Lastly, I would like to try to change my eating habits of what I like to eat.

Trish - Monday, 11 February 2008, 11:53 AM

I found out that I'm not eating as healthy as I should and could. I mostly found out that I eat a lot of junk and too much of it. I mean to eat as little junk as possible, I can't help myself!!!!!!

Alice - Thursday, 6 March 2008, 09:41 AM

When charting my eating for the past 2 days, I found out that I really don't eat healthy. Also, I found out that I may need change my eating habits which I probably won't do.

For the simple reason, I'm a nice size so I don't need to change.

As I looked over the comments for this reflection, I noticed that many students have come to realize particular patterns in their eating habits. About 80% of the students mentioned that they knew they did not eat healthy diets; although junk food was the main culprit, several did mention fatty and fast food being an unhealthy part of their diet. Several of the students talked about their wish to eat more fruit and vegetables, which they knew was healthier, but were
not always accessible to them. With this knowledge comes the conscious decision to eat healthier or not. As with most resolutions, their declarations are probably short lived, but the knowledge is powerful if they ever do decide to make a change. Another observation, which I expect represents most of the students in this age group, is that they’ll worry about their weight later in life. I did notice that a few students mentioned that they know their bodies may change later, and it would be easier if they developed the proper habits now so it would not be as hard to change later. I think this type of discussion goes a long way in students determining where they stand on issues, not only those in relation to nutrition.

**Day 4- Nutrition Assignments**

On day 4 many students again came to class and immediately opened their email accounts. And again, I received several rejected emails because of language infractions. I decided to try something else to reduce this problem. On this day I told students they would not be allowed to access the email until the last 11 minutes after the reflection was completed. To my surprise, they cooperated with this. I also reminded them that Parent/Teacher conferences were coming up in 2 weeks. I informed the students that I would share with the parents the types of work they were doing on the MOODLE. I would have some interesting “work” of theirs to show parents. They got real worried and said, you mean to start that rule tomorrow PLEASE. I said hmmm, I think NOW would be a good time. Again surprising me, I only received 4 rejected emails after this point and these students came to me right away to apologize and saying that it was a slip-up.
Students worked individually, having minor problems. Students discussed different topics while “moodling” their way through the assignments. Although students discussed social issues, as is a typical occurrence in middle school, I also heard many nutrition or website related discussions concerning the segment they were working on. Each student took different amounts of time to finish each assignment. 1st Hour class worked consistently, although slowly through the information. During the 2nd Hour class the students worked their way through the questions, finding information and constructing their answers to the questions in each of the assignments. A new student was enrolled. The other students continued working while I explained what this unit was about. I already had the new student’s accounts set up since she was originally enrolled but on suspension. She completed accessing the email and MOODLE systems and started working on the previous 2 day assignments. Kandace gave quiet directions when the new student needed help.

The 2nd week the majority of the students worked on tasks independently, completing reflections and assignments. The students often asked for clarification on the directions or answers they were using. The nutrition assignments took a good deal of class time for some students but for other students, things moved quickly. Kandice and Carrie were sitting next to each other and discussed or commented on every question. Catie worked quietly in another row but did not orally comment on the answers. She surfed through different options in the websites. Some of these options included games or stories by other students. These options do help students to learn and form opinions about the nutrition issues discussed but they take much longer to complete the required assignments. Because of time constraints, I had to remind Catie to keep moving toward completion on the assignments.
Below are some student responses to Reflection 4, “What's your opinion on what the media calls the Obesity Epidemic?”

Discussion 1

**Jack** - I think we should let people live their own lives. I say we shouldn't help them unless they ask. If they ask they shouldn't be afraid to say they're fat and they're not proud of it and they want help.

**Erin** I disagree because everyone should live healthy and many people want help but don't know how to ask or find help but if we give them information and help then they will be on the path of healthy.

**Trish:** If we let them live their own lives they will die and our population will decreasere

**Richard:** I disagree becuz that person may need medical help

Discussion 2

**Alice:** kids aren't watching what they eat....and its affecting the young ones who do what they see others…Yes its and epidemic everyday more and more teens are becoming large…why I think this way because of the way my friends eat and the peple around me eat.

**Kandace:** YEA I AGREE MAN THEY JUS CANT PUT THEM OUT THERE LIKE DAT...DATS MESSED UP....AND RUDE.....

**Troy:** I agree because some eat certain things because they friends are eating it
Jazzie: I agree to because us teen and younger kids don't watch what they eat and we just eat not thinking of the consequences and no knowledge on how it affects our body.

Discussion 3

Angel: MY OPINION ON THE OBESITY PEOPLE IS THEY NEED TO WATCH WHAT THEY EAT AND TAKE BETTER CARE OF THEMSELVES...ESPECIALLY THE PARENTS WHOSE KIDS ARE TO BIG FOR THERE AGE....IF U WATCH MAURY THE KIDS BE LIKE 4 AND 3 AND 400 POUNDS AND SOME PARENTS JUST SAY IF SHE HUNGRY IM GONE GIVE HER WHAT SHE WANTS....THEY NEED TO WORK OUT AND STUFF AND QUIT EATING SO MUCH JUNK FOOD/...

Janis: right you want alot that doesn't mean u always get it. its hard to say no but if u know its bad for you do it for yourself

Sheila: I AGREE BUT I DONT THINK THEY THE KIDS BE WEIGHING 400 POUNDS PROBABLY 150 OR SOMETHING.(HOPEFULLY)

Angel: YES THEY DO IT WAS ON MAURY AND IT WAS SO SAD

Alice: MMHMMMM GURL ii KNO WH@T Y@LLT@LKiiN@BOUT.....YES ii @GREE WiiTH N@3 N@3 ........!!!!!!!
Catie- That is true because they parents need to say no instead of letting them eat anything you want when they want. I know they need to stop lettin they kids eat anything they want before they end up dyin at a young age!

Richardah RIGHT TH3Y N33D TA WATCH WUT D3Y 3AT THATS WHY TH3Y SO FAT NOW 😢

In these three discussions, several students commented on the initial comments made by Jack, Alice and Angel. I noticed that in the majority of the comments the students understood what obesity meant, but not the word epidemic. So their comments were made about kids and the obesity problem instead of the fact that the media says its an epidemic. Those that did comment on it being an epidemic, thought epidemic meant the media was picking on them. Alice was one of the few who actually understood that epidemic meant that the problem was growing and the proportion was getting out of control. I thought her comment was well justified by her backing it up with personal observations.

In the first discussion, Jack was commenting on a person’s right to make decisions about his health. This is a topic that is debated in the adult community. Usually religious reasons are in conflict with healthcare practices. As an adult this may be a valid argument. But in a child’s case, our government takes the stand and upholds human rights for a child’s well-being. I don’t believe Jack took this into consideration. In the third discussion, the students brought up solid
grounds for supporting the human rights of a child, agreeing that a child’s parents should give them the guidance necessary to assure the child has a healthy lifestyle. Other students made similar comments like Jack’s during different portions of the Moodle assignments. Each time there were comments challenging the student’s assumption. All of the other comments were made by slender students except this one. Jack is a quiet, studious, stocky boy, not exactly fat, but definitely overweight. I propose that Jack was indirectly attempting to discourage other kids from picking on overweight kids. During the post interview discussion, he stated that he thought over what the other students said, he thought that overweight kids need help. He stated that he needed help to help him become a better eater and control his weight.

**Days 5-8 Completing Nutrition Assignments**

The 3rd assignment, BMI, again asked students to make use of personal information for their investigation:

Enter your sex, height, and weight and calculate

1. According to the information that was calculated, what is your age
2. What is the percentile for your height? What does that mean?
3. What is the percentile for your weight? What does that mean?
4. What is YOUR BMI?
5. What does this mean?
6. Are you underweight, overweight, or neither?
7. What is the healthy weight range for your height and age?
Students realize that people come in a variety of sizes. During everyday discussions, comments can be heard about skinny or fat students. The extremes are often talked about, either negatively or positively. But the middle ground is something that is not heard often. I don’t think the students make mental determinations about those that they don’t consider either skinny or fat. There lies part of the problem. They don’t realize that the weight is slowly being gained until the habits are ingrained and hard to break. This activity gave students a guideline for themselves. After weighing themselves and getting their heights measured, the students’ BMI was calculated for them. With the questions asked for this assignment, the students found how they compared to other students with the same height and age. This made an interesting discussion.

This activity sent a wake up call to many students. Before this activity, most students did not know anything about the term BMI or the healthy weight range they should be in. They basically just looked fine, overweight or too skinny to themselves. Several students thought the calculations that said they were overweight, were incorrect. This brought about a discussion on Body Mass Index and fat percentage.

Erin, who is very tall, and of medium build, or so she thought, was very assertively trying to make sense of the fact that her BMI said she was overweight. She searched BMI on a search engine, and asked me questions about information found in the material that she was reading.

Troy’s BMI also stated that he was overweight. He is taller than most of the boys, about 5'10". But he is very athletic and the build of a normal 16 year old. I discussed his BMI with him and indicated that his was one of the exceptions. He is more developed than the majority of
boys his age and therefore he weighed more as well. The site mentions that the BMI may not be accurate for a very muscular child.

The 4th assignment, Healthy Weight School, helped students understand why people become overweight, reasons to maintain healthy weight and, how to achieve and maintain healthy weight:

Find the answers to these questions in healthy weight school. There is one question per section of this web page. Post them to your journal

1. Explain how you become overweight. (WHY DO YOU GET OVERWEIGHT?)

2. What does BMI mean? How is it calculated? What is your BMI? Do you need to lose weight? (DO YOU NEED TO LOSE WEIGHT?)

3. Explain what it means to have 15 lbs of extra weight. (What does overweight actually mean?) (HEALTHY WEIGHT BENEFITS)

4. WHAT ARE 8 BENEFITS OF NOT BEING OVERWEIGHT? (HEALTHY WEIGHT BENEFITS)

5. Take the 2 polls in this section (Do you find comfort in food? and Food Addiction and withdrawal). Send. Copy and paste the results here. (A HEALTHY WEIGHT: WHY SO HARD?)

6. Reply to one of the teens who have posted a comment. (Copy the original post from the teen, and make your comment behind in here) (Comfort Eating)

7. Add one of your own weight control tips here (even if you are not overweight) (WEIGHT CONTROL TIPS)

Question #6 in this assignment challenged the students to comment to another student on the Blubberbusters website who wrote in about their problems with losing weight. Some of the students skipped this section but others creatively tried to comment and give the students helpful ideas or relate their own stories. This required the students to analyze some part of their eating patterns or weight problems.

From Nailpolish, Age 13 - 02/17/08 - Ht. 5'5", Start: 187 lb, Current: 179 lb, Goal: 130 lb
So lastnight i went though old shorts and tees and alot don't fit me so i set my self to lose so i can fit into those but im also happy cuz i have lost 2 lbs!!! whoo hooo =] but im going to go and do crunches now i have been doing so much lately i think its helping alot!!! my biggest problem is eating when im not hungry. I think all she has to work on is eating when shes not hungry.

Trish MY REPLY: that's mi biggest problem too. A way to help is to occupy your time by doing something you enjoy doing.

From Jeimi Age 17 - 2/5/08 - Ht. 5'2", Start: 240 lb, Current: 228 lb, Goal: 180 lb
- omg i'm so mad at myself i'm starting again tomorrow i'm going to start a journal on everything i do on the weight loss jorney and hopefully that'll help me to stop emotional eating i'm going to the gym when i can and when i can't go to the gym i'll workout in my house for about 1 hour but i'm going to try to go to the gym 4 times a week and in total
workout 6 times a week well i'll be back on sunday i'm plaing on starting a new life i'm tired of being fat

**Jazzie** my answer: well i say that i understand your sitution about you being over weight and that you want to lose weight i feel that there is nothing wrong with you god make everyone the way he want to be made so i feel that there i nothing wrong with your body.

From Ashly, Age 14 Ht. 5'3", Start: 210 lb, Current: 210 lb, Goal: 175 lb - Okay so I haven't posted a bulliton for a while. But the last time I was on here was probably a year ago, I was about 205, during the summer, I was 191, but then when school started a gained weight and now im 210 [about]. Maybe its from all the stress? I mean, I have a boyfriend, and I always notice him looking at other girls at school, and they have great bodies, obviously. I just really want to be healthy, for myself mostly, and also for him. I know my weight shouldn't matter in our relationship, right?? or should it,, idk tips.. but knowing the fact that he is like 130 lbs, upsets me, is reality, i should weigh less than him.. One of my weaknesses is hot cheetos, im addicted to them, litterally. I eat them almost everyday. Also, once i start munching on something, its hard for me to put it down, even if i am full. Any ideas or tips? Much appreciated

**Erin** He should love you for who you are and not what you look like its about the inside and not the out a tip about snacking is eat healthy things such as trail mixes or a fruit bar do everything in moderation to help to get your weight down just start doing situp for about fifteen minutes each day and build up your time when you get confident.
The content in the lessons in the majority of the nutrition assignments was pretty cut and dried with answers found in the readings on the accompanying websites. These questions gave students information on healthy nutrition practices. Other questions that required the students’ opinions or to make comments on situations were also included. These questions were meant to help the students analyze their personal situations and make decisions based on the information they researched.

I had the students work in small groups, with different focuses to lessen the competitive element. This worked well because each group worked on their own project and did not try to “outdo” another group. Because this age group has been in school for eight years, they have learned of the competitive nature of some projects in the classroom. Several of the questions and tasks in the unit sent students on a quest for answers that would help them understand that there is a difference in how things are done depending on the culture and individual preferences of the person involved. This created a comfort level in students as their responses would indicate. Such statements by students in answer to some of the unit’s questions demonstrate the student’s ability to individualize and find a comfort zone with their food choices, which are both individual and cultural in nature:

Trish: There are many healthful eating patterns because different people like different foods and like to prepare the same foods in different ways.

Catie: The one (nutritional guideline) that I won’t be able to succeed with is choosing and preparing foods with less salt. The reason for that is because I love salt it makes everything taste better.
Mark: I like to eat what I like and the food pyramid is just filled with foods I don't even like to eat.

Richardah: Culture, family background, religion, moral beliefs, the cost and availability of food, life experiences, food intolerances, and allergies affect people's food choices.

Carla: Choose a diet that is low in saturated fat and cholesterol and moderate in total fat. Why because this will keep your family healthy and fit and not with all that nasty fattening food.

Catie: Choose and prepare foods with less salt. Because there is a lot of people in my family that have high blood pressure.

Trish: I adhere to having a healthy weight and I eat fruit everyday because I have a family history of high blood pressure. My grandmother has high blood pressure and her arms swell up really bad.

Jazzie: My physique is kind of thick. My best body features are that I have good hands, feet, and legs. I'm not totally happy with my overall body but I guess that I was not meant to be skinny or small. But I would like to get down a few pounds because I am on the borderline of type 1 diabetes.

This discussion leads us to the next topic of how constructivism impacts learning. The statement above by Trish, shows that she has previous knowledge gained through the cultural or family experience which is brought to the classroom and explored greater to uncover reasons why these problems occur and ways to help keep them from spreading to her life. Jazzie also has
previous information, possibly from her doctor, and is conscious of how she needs to watch her weight, because of being borderline with a food-related disease.

After the first assignment, the students apparently understood the protocol expected, because they worked independently needing only occasional assistance or reminders from me. When the majority of the students were completing the third assignment, I noticed three students in 3rd hr who were lagging behind. I addressed this individually with each student. Jacob was embarrassed and promised to try harder. Isis and Janis, who were also in a different class of mine last semester, listened but did not pick up the pace. I mentioned that they were in a previous class because sometimes the familiarity of the student with the teacher creates a comfort level that is too relaxed or familiar and therefore the student may not work to his capability thinking the teacher likes them so their grade will be OK. These two girls were often late for class and concentrated on the music a lot. I conferenced with each girl and challenged them to work harder.

Catie, Carrie, and Kandace worked consistently and quickly through the assignments. Carrie and Kandace are very good students and are self-motivated. Kandace was very dramatic. When Kandace reached the 4th assignment, she “ewwwed” her way through the pictures on the site showing people with problems caused by being overweight. In 3rd hour, Alice and Erin had the same reaction as Kandace to the pictures on the Blubberbusters website.

In this chapter, I described several class sessions with the students using the MOODLE. During the majority of the class sessions the students were engaged and actively researching the answers to the topics in the assignments. There was much interaction between students as well as with the teacher. Discussions took shape that were researched through further online
searching. There was evidence of new information and knowledge being brought to the surface for the students. With this new knowledge comes a possibility of a change in their attitude toward nutritional issues.

After the students completed the four nutrition assignments, the MOODLE took them to the podcast assignment description. The students looked at the description but wanted a verbal explanation as well. They seemed interested enough but not as excited about the possibilities as I had expected. Students often enjoy the group work and the creative aspect of assignments more than the research and information gathering, so I was surprised at their lack of enthusiasm. In the next chapter, I describe the students' group podcast activity.
The second phase of the nutrition project included a cooperative group project. My goal was for students to use the knowledge they acquired by completing the Moodle nutrition assignments, initiate a discussion with group members during preparation of the group project and process the information further by interacting with others not involved in the nutrition project. My hope was that with this process, the students would be able to make more informed decisions about food choices in the future.

When planning the introduction of this phase of the project, I needed to make a decision on how to set up the groups in each class. There are a number of options available for determining which students should be grouped together. In light of the uncertainty about how to group the students, I chose to group the students with friends as supported by Hanham and McCormick (2009), when introducing group work. The basis for grouping middle school students differs depending on the type of project or assignment being attempted. Methods may include random selection, grouping by strengths, coed groups, ability groups and student choice. According to Hanham and McCormick (2009), group size, group composition, the nature of the
The group task and the role of the teacher are just some of the factors that have been identified as important in the context of group work in schools. They found that friends are more likely than non-friends to cooperate, communicate, and engage in positive exchanges. The grouping method I used is basically student choice or “friendship” grouping except I designated who the group members were. I took into consideration who the students had previously associated with and worked well with in class. An advantage to this method is that students love to be grouped with their friends, so friction within the groups was at a minimum. This method also allowed for the loners and troublemakers to be grouped without being left out, because the groups were assigned by the teacher. Another consideration that went into the choice of this method was because this would be an extended time span, and the nature of the assignment was one where opinions and ideas were sought as opposed to content or subject matter being discovered.

I took other factors into consideration when assigning the groups to specific topics. Having worked with these students for six weeks, I knew a good deal about the students' work and behavior patterns. I assigned specific groups to certain topics based on my experience with the group’s abilities, personalities and specific tasks the different topics included.

The task for the students was to create PowerPoint presentations focusing on the study of nutrition. The intent was to help students learn to make informed, well thought out decisions with respect to the content and practices involved in choosing nutrition in their future. The multimedia presentations were created in the format necessary to produce a series of nutrition enhanced podcasts using PowerPoint.

As the segment in the nutrition lessons on MOODLE was nearing completion, the students were assigned to groups for part 2 of the nutrition unit. After the students completed the assignments, gathering information on good nutrition practices, I thought it
would benefit the students to have them give further thought to why they make specific food choices and follow particular eating patterns. The information gathered in the previous assignments and discussions, as well as the interviews and discussions during this next segment were planned hoping to help students analyze the nutrition information they gathered and consider other people’s attitudes, ideas and knowledge of nutrition to help further examine their food choices and eating patterns.

As the students approached the next stage in their project, cooperative learning strategies were employed to construct a group podcast. Students were presented with the project and had to use group discussion, decision making and brainstorming to create their group project. Some groups assigned individuals to different roles but other in other groups each student did several similar tasks to create the final project. Students worked cooperatively to decide on and create the specific tasks for the group.

I divided each class into groups of 3 or 4 students and used TeacherWeb to deliver the group assignments (see Figure 5 for a screen shot). TeacherWeb is an easy to create, easy to update websites for educators. On TeacherWeb, teachers can post homework, announcements, calendar, photos, grades, etc.... quickly and easily. It can also enhance communication between the classroom and the home (TeacherWeb, 2008). On TeacherWeb, the students do not have their own account, so students do not actually work on the website, but students can access assignments, links to designated websites, and documents posted by the teacher. The TeacherWeb format is very user-friendly for the students. I had noticed that the students started to skip over information in MOODLE, either ignoring or purposely avoiding the content. I chose the TeacherWeb application to
help restore the students’ interest as well as to provide critical information important in the creation of their presentation. The graphics and the set up of the individual pages lend themselves to students easily accessing the teacher created-websites. The format has features similar to a WebQuest or scavenger hunt (Dodge, 2007), so the links created by the teacher are easily accessed by the student.

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**Figure 5: TeacherWeb Homepage; Nutrition Knowhow**

**GROUP ASSIGNMENTS**

Each of the five project topics included guidelines for projects, but left options for groups to individualize their presentation using their own specific activities. The following topics were
introduced to specific groups. The specific handout/web pages are in Appendix C. The first step in each of the group projects was to collect research data on the group's nutrition topic.

**Cook’s Corner**- Using the Monthly Menu from the school cafeteria, chart the Daily Food Guide elements for a week, for both breakfast and lunch. Next, click on the link below “The Dish on School Food”. This site or the chart may give you ideas for your questions. Create 5 interview questions you can ask the food service workers. You will then interview the cooks. Each student will video record one of their classmate’s interview.

**Kid Talk**- Discuss with your group what nutrition information younger children probably don't know, but will help them make nutritious food choices. Create an interactive presentation to present to a group of younger students. A game, complete with questions and possible answers, a story, or a play, are just some suggestions. Questions or presentation materials can be about anything you have researched. You may ask questions about eating problems, age, sex, personality etc. You will introduce this activity to a group of students. You can take turns leading the activity with the kids. The other group members will video while others will contribute helping the activity move along smoothly.

**Fact or Fiction** – Part I- Write and record a 30 second radio public service announcement (as an introduction with a positive message aimed at youth using the Eat Healthy topic. (Such as a rap, a song, slogan, story or poem) (You make up your own!)

Part II- Work with your group to create a dramatization or a skit on a particular happening about food choices. Choose an event that you would like to turn into a skit. Review the roles that each person will play in the skit. An example would be having your family eat with the Pilgrims at
the First Thanksgiving. In the skit, incorporate fallacies or facts that have been discovered by your group during your research.

**Teacher Talk**- Each group member will interview an adult in the building. Create questions to ask the person. Use information gathered while completing the Moodle assignments. Use the links below for ideas. The questions should not be single word or yes/no type questions. The questions should encourage the adult to include an explanation or discussion of the question’s topic. Write down a brief introduction about the person you are interviewing including interesting facts. Remember, when you are doing a personal interview, you may veer off the prepared question list to build on the previous answers from the interviewed person.

**Peer Survey**- Each Group member should concentrate on a specific area of nutrition: Meal Planning, Fast Food, Eating Right in our fast-paced world, helping children eat healthier, etc. and write 3 questions for the peer survey from that area. Remember this is a NUTRITION survey, and it should be relevant with questions that will cause the students to think about what nutrition is about and their practices. Access the question starters on the home page to help you plan your questions. You should use a different question starter for each question. Your answers should be multiple-choice and you should have 4 choices. In the "Question" area on the home page are examples of questions students came up with last year. You may not use their questions, but you may refer to them to help you plan yours.

When each group has completed their group interactive assignment, the group will analyze the activity and create a summary of their findings. Some questions that you could answer to help you summarize your findings are:

1. Were older students more knowledgeable than younger students?
2. Who was more knowledgeable: males or females?
3. Were those who are a healthy weight more knowledgeable about healthy nutrition practices?
4. What are the major misconceptions about the topic of nutrition?
5. Based on the data, can any conclusions be drawn about whether or not the respondents feel that they are eating healthy diets?

STUDENT INTERACTION Group Project

Day 1

I introduced the project by having the students open their MOODLE and access the link to TeacherWeb. On TeacherWeb, the students chose either the link for Cook’s Corner, Peer Survey, Teacher Talk, Fact or Fiction or Kid Talk. They spent a few minutes reading the introduction of their project.

The Cook’s Corner was used by the first period class because this was the only period the cooks were available for interviews. This was a 7th grade class. There were 6 students in this class. After working with these students for the previous 4 weeks, I realized that I needed to move more slowly and supply more precise instructions than I did with the 8th grade classes. I found that they were not self-motivated and needed a great deal of prompting. The 7th graders seemed to wait until I told them every step to do during class and did not take the initiative to work on the assignments independently. All students in this class worked on the Cook’s Corner.

One of the students was just clicking around the different sections and not reading. I guided him back to the Cook’s Corner and instructed him to read the assignment through. The
students then asked for the next direction, even though the introduction and directions gave them
the information they needed to start discussing the topic. I simply gave them the information
again and asked leading questions to get them started with their discussion. Carla and another
girl who was a student in the gifted class talked about what kind of questions they should ask the
cooks. The other students started working independently, again after prompting.

The second period class was small with only seven students. I chose two projects for this
class. Kandace and Carrie were good friends, very good workers, very talkative and not shy.
There was only one boy and he was very easy going and not aggressive. He had worked well
with these two girls on the MOODLE section, so I assigned these three students to a group. Two
other girls were very quiet. One of the other girls was a seventh grader and the other was a
special education student. A new student, Catie, had entered the class recently having transferred
to this school. At first she seemed intimidated by Kandace and Carrie, so I didn’t want to force
her to work with them upon entering a new school. I felt she needed to ease into class, and
slowly bridge the culture of the class as well as the school, so I assigned her to the quieter group.
The students seemed satisfied by the people who I chose for them to work with. Kandace and
Carrie told the boy to turn around and immediately started discussing their topic and asking me
questions. The quieter group members moved to computers closer in proximity to each other. I
didn’t interrupt them and assumed that they were discussing their topic. I wanted to give them
time to process the information before giving them more specific instructions. By the time the
students were working on the last question of the MOODLE, another student who had been
suspended entered the class. I assigned her to the group with Kandace, Carrie, and the boy
because I felt her disposition would intimidate the students in the quieter group.
The outgoing group was assigned to Kid Talk. This group decided to play bingo and create cards with the name of foods in the 5 food groups. They used descriptions of the food as prompts instead of saying the name of the group or the category it belongs in. The original idea was for this group in each class to take a field trip to an elementary school in our district to play the game. This plan fell apart because the principal of the elementary school wanted her students to concentrate on preparing for the MAP test. She would not allow field trips or outside visits from other students. Instead this group went to a 7th grade class to play the game. The quieter group was assigned to the Peer Survey. The Peer Survey group gave their survey to a different group of 7th grade students.

There were 14 students in third period, so this class was divided into 4 groups; Nadia, Alice, Erin and Jaquie were assigned to Kid Talk; Angel, Janice, and Iris were assigned to Teacher Talk; Jack, Jacob, and Darren were assigned to Peer Survey; and Trish, Sheila, Shaq, and Troy were assigned to the Fact or Fiction group. All students seemed satisfied with their groups. Some students sat in close proximity to their group members. I told those that sat farther from group members to relocate closer to their group and start discussing the assignment with their group. The students eagerly discussed the assignment, asking questions and discussing how to split up the work. Each of the groups discussed and decided on specific details and a focus for their project. The Kid Talk group decided to create a game of “Guess the Food Tic Tac Toe”. The Teacher Talk group discussed which teachers they wanted to interview. I gave the group a list of teacher who had preparation period during their class period. The group had to chose which teacher each student would interview. The first two students chose their teacher but a debate broke out between the last two group members about who would get to interview Mrs. “S”, which turned into a “rock-paper-scissors” decision. The Peer Survey group created subject
matter for questions and chose who would work on which theme. The Fact or Fiction group decided to compare the eating habits during slavery and relate it to their experiences today.

The Fact or Fiction group shows an example of how cooperative learning can be integrated into the lesson. After my initial interaction with this group explaining the parameters of the project, the group decided to focus their skit on an interaction between house slaves and field slaves. Trish took the lead, deciding on her character as that of a field slave. She then suggested that the other girl in the group take an opposite role as a house slave. Then the boys each paired up with the girls similarly. The group then decided on the setting and what they would be doing in the skit. Trish got a tablet out and the group started writing the script. They soon realized they needed more information. They started using the Internet to find out about the types of food each set of slaves ate. They asked for help finding out about the foods that were available at that time and what types of foods were available to slaves. I sent them to the library to talk with the librarian. She had a video that she suggested. The next day, they watched the video and took notes. The next class period they came to class and worked cohesively on their skit. They then worked on their individual PowerPoints with their ideas, scripts, individual research information, and pictures on the Internet to help the audience visualize their character’s situation. The result was a well thought out skit about slaves and their food habits.

The first task, after introducing the students to several elements and formatting techniques in PowerPoint was to decide on what information they needed to present to their subjects. After reading through the information in The Dish on School Food and scanning the school menus, the Cook’s Corner group was presented several interview strategies that would help them get started writing their interview questions.
Day 2

Since all groups were using questions of some kind in their project, the next class started with an activity on writing good questions. I walked them through a PowerPoint presentation with the information from Driscoll (2006) to introduce the topic of Writing Good Questions and to model what a PowerPoint presentation would look like. I used a projector connected to my computer to bring up the prepared PowerPoint and show on a screen in the front of the room. The students were then given a practice exercise on writing good questions.

Some of the students caught on easily to how to create good questions. They worked through the assignment and then went back to working on their MOODLE assignments. Other students needed individual help and further explanation and examples. Below is the assignment and examples of student responses. You can see that there is a wide range of understanding (see Figure 6 for a screen shot).

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Create a question that not leading the interviewee to a certain answer. Revise each question below to create a good interview question.

**Biased Questions:**
1. Do you agree that middle school students eat too much junk food? (Correct to make this a non-biased question. Refer to Interview question guide)

**Leading Questions:**
2. There are many people who believe that students don’t care about nutrition. Are you one of these? (Correct and create a question that is not leading the interviewed person to a certain response. Refer to Interview question guide)

**Double Barreled Questions:**
3. Do you agree that student eating is a problem and that the schools should be working diligently on a solution? (Correct and create a question that only requests one response. Refer to Interview question guide)

**Confusing or wordy questions:**
4. What do you think about student nutrition? (This is confusing because the question isn’t clear about what it is asking—student nutrition in general? Student’s ability to choose their own food? Nutrition at school? or at home? or both?) Write a more specific question.

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Figure 6 Writing Good Questions Assignment
Some of the answers the students gave to these questions show that they put much thought into creating the questions as well as understood the basic content of the lessons completed on the MOODLE. Their question development skills still needed to be improved, but as you can see from the examples below, some of the students made great effort to create good questions.

Examples of student responses:

Question 1:

Student 1: What do you think the percentegis of the kids that eat to much?

Student 2: Is junk food for middle school students a problem?

Question 2:

Student 1: do you think that students care about nutrition.

Student 2: Do you think that students care about their nutrition, if not are you one of those kids?

Question 3:

Student 1: Do you beleive that students have a problem eating? and do you think that the school should help out and serve healthier food? why do you say that?

Student 2: Is student eating a problem? (If the participant responds yes); Should the school be responsible for solving this problem?
Question 4:

Student 1: What types of foods do you think teens should eat to have proper nutrition? Why did you choose these items?

Student 2: Do you think the way students eat is problematic because how much they eat or do you think the way students eat is okay?

Student 3: What do you think or should they do about student's nutrition?

Of course there are others that still did not understand the concepts behind the faulty format of the questions. Those students were still way off base with their understanding of what the question was asking or the way to ask a non-leading question, as exhibited in these responses…

Question 1:

Student 1: Are middle school students making junk foods an everyday meal?

Student 2: Do you think middle school eat alot of junkfood.

Question 2:

Student 1: Many people feel that children should suffer for their eating habits, how do you think people could change that?

Student 2: Do you think that students care about nutrition.

Question 3:

Student 1: What do you think about students' consumption of nutrition and the school's role in enforcing the importance of healthy eating?
Student 2: do you think that students eating is a problem and do you think schools should be working?

Question 4:

Student 1: Do you think of your health when you think about nutrition?

Day 3

The following day, while the students were still working on the last MOODLE assignment, I worked with each group individually to help them understand the group project. The students then worked on the questions for their individual assignment within the group project, keeping in mind the concepts discussed in the “Writing Good Question” lesson. These questions would become the subject matter for the PowerPoint as well as for the interactive camera portion of the project.

The students in the Nutrition Bingo group divided up the question topics. There were four students in this group so each person wrote questions on a food group. The last food group was split up with each student writing one question. As the students started writing the questions, I could tell that the students were not thinking of the exercise on writing good questions. Their questions were mostly “guess the food” type questions, but the clues were too general. Questions such as “What vegetable is yellow, you hold it while eating it and is good for your lungs…” or “A great snack food that is low in calories and rich in dietary fiber and vitamin C?”

Although these types of questions were very good for the students to actually research nutrition information about different types of foods, the questions were stated in generic terms
and were in the knowledge category of questions in Blooms’ Taxonomy (APA, 2009). The questions were very difficult for the subject group to answer, with too many possible food choices and the fact that they had not studied the material so they did not know any information about the nutrients in foods. This type of exercise did three things: motivated my student to research information on different types of food, helped my students understand correct/incorrect formatting of questions, and helped my students explain their questions, which helped them solidify their knowledge in the nutrition concepts they were using.

These were basically the same type of questions most of the groups constructed. Although students are able to answer questions on higher levels of Bloom’s Taxonomy, they had trouble trying to create questions that require critical thinking skills.

Because of several disciplinary incidents during the fourth period class, the class was moved to another classroom for two weeks. Even with this dissention, I was glad to see several of the students continue with their project when they returned to the computer lab. Richard and Mark were students in the fourth period class that completed their PowerPoints, but did not combine it with their group because some of the group members did not complete their work. This happened is several groups who participated in the unit.

Once the questions were completed, the focus of the assignments changed from nutrition to that of how to create the game or topics for questions.

The students worked on creating PowerPoint multimedia presentations in the format necessary to produce a full class enhanced podcast on nutrition. There were several students that had incomplete MOODLE assignments, but they put them on hold to start working with their groups. The questions they created would be used in the presentation. I gave the students
specific requirements for the PowerPoint to help them learn how to use different features in the program. I was surprised again by the lack of familiarity the students displayed with computers. Only one or two students each class period had previously used the PowerPoint program. Although I allowed the students to use their informal writing on all of their MOODLE assignments, I required the presentations to use formal writing.

After introducing the PowerPoint, I decided to have each student create their own presentation even though they were going to merge their PowerPoints. They set them up as individual presentations, with only a few slides, requiring the students to use all the required elements in their own PowerPoint to help them learn how to use the program. This helped to keep each student engaged as the project took shape.

Every day I introduced several different features in PowerPoint. I used the projector connected to my computer to show these features on the front screen. This helped the students see how the feature was accessed, when it was useful, and how it would look when that feature was used. I demonstrated using the previously prepared PowerPoint presentation on Writing Good Questions.

The students started the PowerPoint by creating 6 slides. The first required feature I introduced was the Design elements. When each required feature of PowerPoint was introduced, the presentation requirement and good presentation suggestions were discussed. I have found that with this age student and PowerPoint, the students take a lot of time exploring the designs and trying them out. More than half of the period was used deciding on the background, font, color, style and name for their project. Because the PowerPoints were being created to be podcast, I utilized the hints on the TechSmith website to help instruct students on how to set up
the podcast to preserve its clarity. The students were instructed on how to complete these
guidelines. The last half of the period was used to explore other elements of the PowerPoint.
Students whose MOODLE assignments were incomplete were directed to work on the
MOODLE the remainder of the period instead of the PowerPoint.

Day 4

The next feature that was introduced was transitions. Students examined the different
transitions available. They then chose a few different ones and applied them to their
presentation. Richardah was experienced in many features of PowerPoint, so she worked at a
faster pace than most of the other students. She used other elements that had not been discussed
yet. By the third class period of working on the PowerPoint, her presentation was close to
complete.

Another element introduced was music. The students were allowed to choose the music
for the group. The requirement was to choose an instrumental. I had previously found a website
that offered PowerPoint or presentation music and it contained several of the students’ choices
for the group music. Inserting music was a bit tricky. To insert music or pictures, the selection
has to be first saved to the student’s school portal. Since the students could not download to
their portal, I downloaded the music and saved it under “Files” on the MOODLE. I altered the
music using Audacity to lower the volume after the original few bars in the music. The students
could then log on, choose their music and then save it to their school portal. They were then
given the task of putting their music on their PowerPoint. The term “formatting” was discussed
and students were given the instructions on how to format the music to play throughout the
PowerPoint.
Day 5

I used the next class period to discuss the scoring guide. I waited to discuss the scoring guide because I find that students can’t understand the scoring guide until they have experienced the different elements, so that what they were being asked to do would make more sense to them. Custom animations were also discussed during this class period. Students used a variety of animations, trying out each one. Some of the animations destroyed the flow of the presentation and were more for the “eye candy” effect than to enhance the presentation. These topics were pointed out and students were encouraged to modify this element in their presentation. Then the students were shown how to use USB drives to open or save their projects. After saving each group member's presentation, the students merged all of the individual PowerPoints to one joint group presentation.

Days 6-8

The following week, the students were introduced to the Audacity Program (see Figure 7 for a screen shot). The assignment asked the students to write an introduction to their group project that would be heard on the introduction slide. When the group introduction was approved by me, the students were then set up on my laptop in the hallway to record it. This afforded a quiet place to work, with no distractions from what was going on in the classroom. This process took three class periods for the larger classes.

The seventh grade group was well behind the eighth grade classes at this point. When they reached this part of their project, I allowed them to play around with the program to create a comfort level. Because this group was small and working as one group, the necessity to work in
the hallway was eliminated. I wish I had been able to listen in on the other class groups as they first experienced the program. With the seventh graders, the way they interacted and the things that were said were hilarious. I did not think this would be such an interesting assignment to them, since they have used tape recorders and cell phones that make voice recordings. The boy in the class, started with “testing, testing”. The girls started giggling, and one started “rapping” into the microphone with made up silly lyrics. They erased and started recording their written introduction. After a minute, one of the students made a mistake and they adlibbed with silly lines. They then erased and started over. The program allows students to cut and paste as well as to adjust the volume at any given point. So the need to produce a “perfect”, intact recording was unnecessary.

Figure 7 Audacity Screenshot
Day 9

After the introductions were recorded and saved, I saved the Audacity Portable program and student recordings to USB flash drives. This was necessary because the Audacity program is not on the school’s server. Each group needed its own Audacity file to import into their PowerPoint. The students were then shown how to export their files as MP3 files, which then had be saved to the student’s school portal and inserted into their PowerPoint just as they did with their music.

The students continued to work on the PowerPoint formatting. They also used the “Slide Show” feature and timed each slide using the “Rehearse Timing” feature.

Day 10

The students started their camera work on this day. They first practiced using the camera’s different features: recording, voice volume, distance, still shots, holding the camera still, positioning for best effects, review, etc. Carrie and Kandace and several other girls got carried away, posing, modeling and acting for the camera. The Survey Group was scheduled to record their camera project this day, so they practiced what they would say while introducing the project to the students. They then went to a 7th grade class to continue their assignment. When they returned they plugged the camera into the computer and saved the video to their school portal. During third period, the Survey Group also went to do their recording. This group of students returned fifteen minutes later, very animated, discussing the reactions from the students in the class to whom they gave the survey. They recounted that they didn’t know they would
have to work so hard explaining what the questions meant. The other groups remained in the classroom working on their PowerPoint.

Day 11

On this day, the Cook’s Corner, Teacher Talk, and Kid Talk were scheduled to do their Camera Project. The students came to class and discussed all of the particulars involved, i.e., who would talk, who would hold the camera, which teacher they would talk to first, etc. Each group collected their written questions, was given a camera and went to do the Camera Project. The students were to return in 15-20 minutes. In 3rd period, the Teacher Talk group went to interview several teachers. They walked the halls, went into the library, talked to the counselors, librarian, nurse, attendance office secretary, principal as well as the teachers they were scheduled to interview. I believe they liked the freedom of walking in the halls. These students in this group were student leaders in the school. I knew the likelihood of roaming a bit was to be expected, as long as they completed the assignment.

The Kid Talk group went to their assigned 7th grade and played the game they had created. Again, as the students were playing the game, they did a lot of explaining, which helped them draw the conclusion that their planning of questions needed work.

The Fact or Fiction group continued to work on their dialog/story. The students they were using to help with their camera project were scheduled to come to class the following day. They were scheduled to do their recording in the classroom next door, which was free that period. Another student in the class assisted with the recording while these students acted out their skit. The Survey group created a table and charted the responses from their survey.
Day 12

On this day, the students were told how to finish their presentations. Each group had to create one last slide to explain what their findings were after they had finished their camera recordings. All groups except the Fact or Fiction group worked on the PowerPoint, editing the video and inserting it into the PowerPoint. The Fact or Fiction group did the Camera Project and then started working on the editing.

Having worked on the nutrition unit for several weeks, some of the students began losing interest and were easily sidetracked. I had to ask students several times in each class to get back on task. One student in 1st period stopped working and just sat and read. I had her put the book away and finish working on her PowerPoint. The boy in 1st period was not finished with his PowerPoint slides so he was still working on them, but as I came to stand by him I found he had started surfing on the Internet so I had to get him back on task and had him sit directly in front of my computer. The Survey Group had the project on the screen, but as I came to their group area, I noticed they had a totally different conversation going on and little or no work was being done. Jacob in 3rd period had started surfing as well, letting the other members of the group work on the PowerPoint. Janice and Iris were not engaged in anything that had to do with class. They were busy listening to their iPods and finding music stations they had access to. To encourage students to finish working on their projects, I reminded them that the next day would be presentation day.

Day 13

When the groups came to class, I did not allow anyone to log in to their individual computers. Each group took turns logging in to my computer so they could watch each other’s
The students were interested and laughed, asked questions and made funny and complimentary comments about the different projects. During 4th period, Richardah’s had many comments made by the class asking her how she created the different animations and music. There were no group projects during this class, only individual presentations.

As Carrie and Kandace and their group showed their PowerPoint, one student asked what food it was that they were describing. Another asked where they found the background picture. During the showing of the presentations, there were few comments made about the nutrition content. At this point in the unit, the nutrition assignments took a back seat to what the groups created in their PowerPoints. This was not surprising to me. I have come to realize, as in the past, the nutrition topic is not of much interest to the students at this age. I was happy to see that the students’ attention to the topics lasted throughout the majority of the project. The remainder of the period the students were free to surf the Internet or clean-up anything on their project they thought was necessary. Some chose not to surf, but to just listen to the music on the sites they could access.

Summary of Group Interactions

While the students were creating their questions and planning their group project, there were major questions and discussions about the correctness of the statements/questions going into the project but also about the wording of the questions. I critiqued many of the questions, as did other students to see if proper responses would be made. Sometimes, I threw the question out to the class to see if they understood what the question was trying to ask. I did this to help the students see that the wording of the question was not clear. This did seem to work for most of the groups. Although I did critique many of their questions, I did not want to do a complete
overhaul and stifle their enthusiasm. The creating of questions was very difficult for the students. Even with the question starters given on the TeacherWeb site and the exercise on creating good questions, the students could not get a grasp of how to create a thought-provoking question with the nutrition content. I have found that these type of exercises that test students’ cognitive thinking skills are often ignored or present great difficulty. This did not surprise me as well, because I have had my students create questions previously.

As the students worked through the unit, I questioned students using their previous ideas to help them form new ideas in their PowerPoint slides that would be meaningful to their presentation. I also gave suggestions that would lead students to use other resources for extra information that might add an impact to their study.

Throughout the unit, technology tools were used to increase motivation, critical thinking and understanding of the subject. Instead of using pre-engineered software programs, I chose to have students author their own project, hoping to encourage higher-level thinking. This also allowed students to learn to use other computer applications that may be useful to them in the future. DVD’s, digital cameras and computers with programs such as Audacity, Excel, PowerPoint, and Movie Maker helped students explore their ideas about healthy eating.

The use of a project-based assignment allowed students to create their own meaning and relay it through their individual and group projects. Richardah created a very elaborate PowerPoint with various audio and video components including video from interviews. Trish’s PowerPoint was very simple but had all of the required components. The majority of her time was spent on creating the skit and the research involved in finding enough information for the
skit. Both students established meaning for themselves by working their way through their project.
Chapter VI

Interpretations and Conclusions

“Life is what you make it… will your story have a peak, a conflict, suspense, action, a climax, and a conclusion? Or will you live your life keeping it safe and never taking any risks? Ask yourself: if your life story were written, would you read it?”

(Christina Pagliarulo, n.d.)

As the end of the unit was approaching, I found myself reflecting back on the different elements of the project. From the beginning, I realized the different classes brought different strengths and weaknesses to the project. The interaction between the students as well as their interaction with me seemed to affect their working habits throughout the unit. As Dr. Jane Zeni (2003) indicated during a classroom setting, the climate of the classroom includes a lot more than the 4 walls. A positive classroom climate allows for students to meet their basic needs of physical and mental health (Glasser, 1988). In this chapter, I return to the research questions in order to clarify the findings of this study, discuss possibilities for future research, and summarize my conclusions.

How does the use of technology and a project-based approach affect adolescents' understanding of nutrition concepts?

During their nutrition assignments, students were asked to reflect on statements by the media and other sources. A rather heated discussion started concerning the cause of the obesity problem in adolescents and children; who’s at fault, and who should do something to help the
problem. Looking at the written reflections posted to the Moodle, I came to realize the power of the technology being used. Of course every student was required to complete each reflection piece, but the comments could have been generic and simple statements. Instead, the students commented on each other’s posts, sometimes several times to get their point across. The thing that surprised me the most were the quieter and less studious students taking such a strong stand. In the usual classroom discussion, the more verbal students are often the only ones who present their ideas; the quiet ones just listen unless put on the spot and the less studious students are often doing something else and not paying attention.

The students' thoughts were very interesting with many topics being brought into the discussion. As Huang (2009) found, the process of reading and writing appeared to translate to more thoughtful and meaningful discussions. This was documented during the discussion of the reflection “What's your opinion on what the media calls the Obesity Epidemic?” Jazzie brought out that young children follow older students' leads. They do what they see others do. Erin agreed, adding that teens as well as young children don’t pay any attention to what they eat or the consequences and have no knowledge on how it will affect their body. Jazzie also thought that television and other advertisers influence teens' food choices. Andrew said we shouldn’t be concerned and let people alone unless they ask for help. Erin disagreed with him because many people may want help but don’t know how or are too embarrassed to ask, but if information is given to them, it may start them on the road to healthy eating. Jack thought the public was going in the right direction in talking about the obesity epidemic because a lot of kids don’t care about their weight and they should because obesity can cause long-term problems in someone's life.
I liked the way Isis spoke her mind. She was one of the vocal students although she was also less studious, but during oral discussions, I was able to draw responses from her. It was rather funny how she articulated her thoughts, but her ideas were great. On this topic she said, children my age or younger or even older don't have the sense God gave a raisin to know that eating too much unhealthy food can make you sick, but that's all on them. But on the other hand, maybe at least 45 percent of this is not the children's fault. Parents play a role in this situation as well. Because if you think about it, these children don't get money for junk food from the sky. It's understandable that children might deserve or want a snack every now and then, parents don’t need to feed our faces every time we want something. With the majority of the epidemic concerning African-Americans, it’s mainly not our fault. But the guilt is on an even keel, part our fault, part the parents fault.

The classroom discussion and the online reflections showed that Isis and most of the other children in this study increased their understanding of nutrition concepts and their relation to health. It is also noteworthy to notice that these students were not all in the same class. In the forums on the Moodle, reflections were often discussed throughout other classes as well as across different days. In a regular classroom setting, this does not happen. Students in one class listen and have a discussion within that one class session and with the one group of students, so notable comments by students are only heard and discussed by that class. During the post interview session, Jack brought this up as a benefit for using the technology we used. He said that even though he did not know some of the students whose reflection he commented on, it was interesting to know their point of view. Alice also indicated that she knew some of the unhealthy habits she was doing in as far as eating goes, but never thought about them. “Studying it like this helped understand other kids ideas and comments on different ideas we studied, where before
you just get the information and really don’t know anyone else’s opinions. So it helped to understand why some people feel as they do”.

Is there a relationship between students’ attitudes and eating behaviors when presented with knowledge of healthy nutrition choices?

As students worked their way through the assignments on the Moodle, I realized that even though the students have studied nutrition in science class since fourth grade, they did not have enough information to make good nutrition choices. They had ideas about several of the well known concepts, like fats and sweets are not good for you and that fruit and vegetables are good for you. But they had no knowledge of how often or in what amounts these foods should be eaten. They thought there should be no fats or sweets in their diet. They were surprised to find out that fat and sweets were a necessary component in nutrition, but the types and amounts need to be regulated. They were also unaware of serving sizes. When the students analyzed their meals, they found that they were guilty of not following the nutrition guidelines in several categories. Several students found that they eat more meat and grain, as well as the fats, salty foods and sweets, but very little fruit and vegetables. They drank mostly sweetened beverages. They commented that their servings were much larger than recommended and that they eat “just to be eating”. Two students had other ideas that might be noted. One student liked the exercise of charting the foods, because most of the time students don’t realize exactly what and how much they are eating. Another student commented that she found that she didn’t eat very much, and wondered why. Several other students commented on the necessity for a healthy lifestyle, finding some way to exercise regularly. I liked the way one student summed it up:
I think teens eat okay now but as they get older then there eating will be in trouble because as they get older your body can only take certain things!!! You'll have the habits of eating junk and stuff, and still be doing it but you won't be burning as much energy like you do now as a kid, so you'll get fat and have health problems.

The only problem I see with this discussion is that at this age they seem to come up with good goals but seldom put those goals into action.

What did I help students achieve online that would have been much harder to achieve in a more traditional face-to-face environment?

Students studied more conscientiously when using the Moodle. The Moodle used discussions and assignments that allowed students to respond or complete assignments at their own pace. By not turning in paper assignments, students could refer back to their previous work. The teacher could easily give students feedback immediately, without the student having to “redo” the entire assignment. Through the use of the reflections and discussions, the students gave opinions, took stands, and justified their comments through life learnings. They often used these learnings to create new meaning as constructivist methods describe.

Students went further in their studies when creating interview questions and interviewing their subjects. As an added bonus, through the use of PowerPoint, the students came up with creative solutions to enhance the information they learned through their research.
Future Studies

Future studies of this kind may be beneficial for educators in particular. This type of study helps teachers analyze their teaching as it pertains to their particular student population and their cultures. Each group project presented a unique focus and the results were as different as the individual students. Although the projects and the way the students approached them were different, similarities were found in the limited knowledge and language they were using.

Suggestions for a similar unit may be following up with the students in another year, to see if they have made any changes in their eating habits or attitudes about proper nutrition or at least thought about how they could use the knowledge they had gained. It would also be useful to have the students extend the podcast portion to include public awareness of the nutrition information. It could be broadcast over school public address system or downloaded to the teacher’s portion of the school’s website for future viewing. It would be interesting to see how other students react to information and how it was presented.

Another approach that can be studied further is that of creating an interdisciplinary unit teaming with other teachers to help students broaden the knowledge and develop meaningful links with other subjects that will encourage the application of knowledge. Such a unit may incorporate ideas from the Fact or Fiction groups researching the eating habits of slaves and compare it to the eating habits now. The group that attempted to use this topic during the multimedia project barely scratched the surface of what could be done to help students learn about the Civil War era and eating habits.
Conclusion

As I worked my way through this project, I realized I had bitten off a bit much for one unit. Both the Moodle nutrition lessons and the creation of a podcast had positive effects on the students during this unit, and would have been effective units to study individually, but to have them back to back as a single unit of study posed several problems. The age group of the students needs to be taken into consideration. During their middle school years, the students are more interested in the socialization issue with peers than concentrating on a project as intense and detailed as this one. The students' attention span is measured in minutes, but I found the daily activities focused on the same topic over this long a time period was too much for them. I think it would have been better to do the Moodle unit one quarter and the podcast unit another quarter. The benefits of this might be that the student, after completing the nutrition unit on the Moodle, would have time to digest and mentally transform their thoughts about how to use the information they had just learned. Then during the podcast unit, later in the school year, they could use the information and reflect on their practices, possibly how the information has altered their thinking about nutrition and possible actions they had made because of this.

I think this was one of the reasons why I had trouble keeping the students focused on their work during the podcast segment of the unit. This may also be why they stopped short of turning their PowerPoint into a podcast.

I think the main focus in a class project is what the students learn. While the students are the reason teachers construct projects, there is much to be said about what the teacher learned. Think about it, how did we arrive at this point of critically thinking and constructing knowledge for our students? Constructing knowledge for ourselves helps us to pass on this knowledge.
Several themes arose when I started examining and reflecting on how I constructed the project for my students and their work on the project. While we are advancing quickly in this technological society, there are certain populations who do not seem to benefit as much as others from the use of technology. While I know my students have been using computers in their classrooms since 2nd grade, it seems that their use has been limited to keyboarding to complete nice, typed essays and for using them to use the Internet to research or play games.

Recently our district has bought programs designed to help student with math or reading skills. While these programs are commendable and a valuable resource in the classroom, the students are not being introduced to software that helps them create and explore other avenues of development important for critical thinking and creating knowledge for themselves. Students are not given access to current technology or are given tasks that mimic basic uses of technology, such as using a computer for simple typewriting/keyboarding tasks. Schools often offer unequal access to and use of technology (Warschauer, 2003; Salpeter, 2006). This can serve to heighten social digital inequity. Reorganization of the classroom is necessary but also a pedagogical approach based on critical collaborative inquiry and analysis. All of the students knew the basics of word processing, but few knew anything about how to use the PowerPoint program. While many of the students had digital cameras or at least were familiar with them, none knew how to upload their pictures to a computer to insert into a document. They did know how to copy and paste a picture from the Internet, but not how to alter or change the picture to make it useful in a project. They were also familiar with videotaping because it is done on the digital cameras and their mobile phones. But they did not know how to edit or use them in a digital story they were creating. I refer back to Jonassen’s (1998) previous statement, “Technologies should not simply
support learning by attempting to instruct the learners, but rather should be used as knowledge construction tools that students learn with, not from” (p. 1).

As the students worked on the PowerPoint, as was pointed out earlier, they were captivated with the power and creativity of the computer program. Many focused on the technical aspects of the production and less on the content. The students who were exposed to PowerPoint previously, created elaborate presentation, but spent relatively more time on the nutrition information being presented. Many students not experienced with PowerPoint spent an enormous amount of time on the creativity aspect but very little on the content. There were two groups that did the opposite. I was quite excited to see the effort the House slaves vs. the Field slaves group put into the content and research for their presentation. As expected, the PowerPoint was not elaborate but was very interesting because of the topic presented. As students become more familiar with the PowerPoint program, hopefully the content will be a more significant focus.

Another theme arose while examining the effect of the nutrition information that was useful to the students while working on this project. Before the project started, my students were not at all aware of the information in the nutrition unit. When nutrition was mentioned, the students immediately thought of fat or thin people problems. As they dove into the nutrition assignments on the Moodle, they found that nutrition plays a part in their health in more ways than having a healthy weight. They found out about fiber and being “regular”, feeling listless or hyper, about health related diseases sometimes being hereditary or eating habits leading to these diseases, about what different nutrients do for your body and what foods they are in, and about the importance of breakfast and the kinds of foods that help them start their day by giving them a combination of nutrients that help them think and feel well. They also found out how food and
beverages are important when exercising or playing sports, which ones to eat or not to eat and when to eat them for the best results. The personal experience of several students, such as the boy with diabetes, also helped students become aware of the importance of nutrition. Now, if only they would use the information sooner rather than later. That is the challenge.

This project and others like it may foster deep discussion while helping students to think critically about life situations. It is beneficial to listen and debate different ideas when trying to form their own ideas and opinions while making choices which may affect them in the future.

This project was beneficial to me to help me plan units and projects that will help to bring about the critical thinking that many of our students still struggle with. My biggest challenge when planning a unit like this is to become more aware of the time required for the students to complete the assignments. The time I estimated was not enough. Besides the actual time necessary to complete the tasks, my students needed time to familiarize themselves with the systems they were using. Other issues relating to the login and access to files also should have been taken into account.

In their most recent report, the CDC (2009) restated their previous findings that obesity in racial/ethnic populations has been affected disproportionally. Non-Hispanic blacks had the greatest prevalence of obesity. Obesity is associated with a lower quality of life, reduced life expectancy, and higher health care costs. The 2009 study described how African American populations differ from whites in behaviors that contribute to weight gain. For example, compared with non-Hispanic whites, blacks are less likely to engage in non-occupational physical activity. In addition, differences exist in attitudes and cultural practices regarding body weight. For instance black and Hispanic women are more satisfied with their body size than
white women implying that persons who are satisfied with their body size are less likely to try to watch their weight. It also acknowledges that low income populations have less access to affordable, healthful foods and safe locations for physical activity. Evidence suggests that neighborhoods with large minority populations have fewer chain supermarkets and produce stores, and that healthful foods are relatively more expensive than energy-dense foods, especially in minority and low-income communities.

Examining the literature on culture, identity and learning helped me to define their meaning as it pertains to my work. Culture doesn’t come from the color of the skin, but from the norms existing in the inner-workings of the community in which a person lives. In general it is how the group of people who live or interact frequently behaves. Each person’s identity is formed within that group, but may be different in different subgroups within that culture. For example, an 8th grader's identity in his Math classroom may be one of a shy, inattentive introvert, but in the PE class he may be a class leader very serious about the performance and outcome of the team or group he is associated with.

My students come predominately from low income backgrounds and as the study indicates, there are 2 large grocery stores in the school district which covers over 12 square miles. There are also several smaller independent grocery stores but they sell groceries in limited varieties. With this being the case, they fall right into the classification that the CDC was reporting on. Along with this information, our district MAP scores are low. We also fit the demographics that have been documented to have lower test scores on standardized tests. As I created the nutrition unit, I kept these statistics in mind. This study indicates that a unit like this can impact the knowledge of nutrition and attitudes toward healthier nutrition habits in a community facing large nutritional challenges.
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Appendix A

Reflection Questions

Reflection I

List any problems you had during today's class activity.

a. Did you have trouble creating an email account?

b. Did you have trouble creating an account at Missouri State Moodle?

c. Did you experience anything new or interesting today? Explain.

d. What could have made today's class easier for you?

Reflection II

What do you think about how young teens eat?

Reflection III

What's your opinion on what the media calls the Obesity Epidemic?

3 sentences minimum. Then you must comment on 3 other people's posts of this topic.

Reflection IV

3 sentences minimum

When charting my eating for the past 2 days, I found out…

and I would like to...
Reflection V

Teenage girls, and increasingly boys, diet to stay thin; study

While eating less, purging and exercising to stay slim are still largely the preoccupations of teenage girls, teenage boys are increasingly following suit, a sweeping new U.S. study has found. And among male teenagers, the researchers found that the prevalence of weight-control behaviours rose. "Considering that males have negative attitudes toward treatment-seeking and are less likely than females to seek treatment, efforts should be made to increase awareness of eating disorder symptomatology in male adolescents, and future prevention efforts should target male as well as female adolescents," the authors say.

In terms of racial breakdown, fifty-eight per cent of girls who identified as Caucasian, 52 per cent of Hispanic girls and 38 per cent of black girls reported they dieted. While 23 per cent of Caucasian and 21 per cent of black boys dieted, 30 per cent of Hispanic boys admitted to the practice. "When examining dieting behaviour by ethnicity, significantly fewer black females than white or Hispanic females dieted for weight control," the authors write.

"The result is consistent with findings that black females have flexible concepts of beauty and emphasize 'making what you've got work for you' and are thus more satisfied and comfortable with their bodies," the study reads.

Discuss your physique (legs, chest, waist, hips). What are your best body features? Are you happy with your overall body image? If not, what would you like to change? This post is private so others cannot see it.

Reflection VI

1. What did you like best about the project?
2. What did you like least about the project?
3. Did you become the “expert” in your group about any specific task?
4. What did you learn during this project that you think is important enough to revisit at a later time?
5. Choose a specific task you completed while working on this project. Create a graphic organizer displaying major components of this task. Describe what you learned by completing this task and what use this information may be to you in the future.
Appendix B

Nutrition Pre-Test

Question 1  MyPyramid illustrates which of the following?
☐  a. different kinds of fat and the reasons you should not eat them
☐  b. a personal eating plan with the foods and amounts that are right for you
☐  c. different kinds of calories and how many you should take in
☐  d. different kinds of people and what kinds of foods they should eat

Question 2  How could you add a serving of vegetables to a hamburger?
☐  a. French fries, because potatoes are a vegetable
☐  b. add ketchup, because it’s made from tomatoes
☐  c. add lettuce, tomatoes, onions, and pickles
☐  d. add ketchup, pickles, and mustard

Question 3  What are the long term effects of poor nutritional habits?
☐  a. It depends on when you start eating a poor nutritional diet
☐  b. It depends only on your family history
☐  c. You could develop a food related disease
☐  d. It doesn’t matter until you are of adult age.
Question 4  What is a calorie?

☐  a. Fat you should not eat

☐  b. Energy

☐  c. Foods in the fat, sugar, group

☐  d. How much food you eat

Question 5  Which is the best meal to skip?

Answer: 

Question 6  When you are eating out at a restaurant, what would be a healthy side dish to order with your meal?

Answer: 

Question 7  Name a tasty heart-healthy snack?

Answer: 

Question 8  Eating a balanced diet every day is like putting together a puzzle. Good nutritious foods should make up the biggest pieces of the puzzle. Which foods should be one of the smallest puzzle pieces?

Answer: 

Question 9  What food group contains a good source of energy?

Answer: 

Question 10 In order to keep from gaining weight, should you consume more calories, less calories, or the same amount you already consume?
Answer:

Question 11 How could you determine if you are overweight, underweight, or of normal weight?
Answer:

Question 12 What is the purpose of protein in your body?
Name a food high in protein.
Answer:

Question 13 How can you keep from becoming dehydrated when exercising?
Answer:

Question 14 What are the major shortfalls of the average American student’s diet?
Answer:

Question 15 Name 3 diseases that are food related
Answer:
Nutrition Attitude Survey

1. I rarely add butter or margarine to foods when cooking or at the table.
   - True
   - False

2. I rarely (less than twice a week) eat fried foods.
   - True
   - False

3. I drink only low-fat or skim milk and seldom eat high-fat cheeses such as jack,
   cheddar, Colby, Swiss, and cream cheese.
   - True
   - False

4. I seldom eat high fat snack foods—potato or corn chips, nuts, buttered popcorn,
   and/or candy bars.
   - True
   - False

5. I take it easy on high-fat, baked goods such as pies, cakes, cookies, sweet rolls, and
   doughnuts.
   - True
   - False

6. I try to trim the fat from red meat and eat poultry without the skin.
   - True
   - False
7. I eat foods rich in vitamin C—such as citrus fruits and juices, strawberries, tomatoes, and/or green peppers—every day.
   □ True
   □ False

8. I eat whole grain breads or pasta, brown rice, or whole grain cereal every day.
   □ True
   □ False

9. I seldom eat bacon, hot dogs, ham, or luncheon meats.
   □ True
   □ False

10. I eat dark green and deep yellow fruits and vegetables often. (These include broccoli, greens, carrots, and peaches.)
    □ True
    □ False
Appendix C

GROUP ASSIGNMENTS

Each of the five project topics included guidelines for projects, but left options for groups to individualize their presentation using their own specific activities. The following topics were introduced to specific groups. The specific handout/web pages are in Appendix C. The first step in each of the group projects was to collect research data on the group's nutrition topic.

Kid Talk- Discuss with your group what nutrition information younger children probably don't know, but will help them make nutritious food choices. Create an interactive presentation to present to a group of younger students. A game, complete with questions and possible answers, a story, or a play, are just some suggestions. Questions or presentation materials can be about anything you have researched. You may ask questions about eating problems, age, sex, personality etc. You will introduce this activity to a group of students. You can take turns leading the activity with the kids. The other group members will video while others will contribute helping the activity move along smoothly.

Fact or Fiction – Part I- Write and record a 30 second radio public service announcement (as an introduction with a positive message aimed at youth using the Eat Healthy topic. (Such as a rap, a song, slogan, story or poem) (You make up your own!)

Part II- Work with your group to create a dramatization or a skit on a particular happening about food choices. Choose an event that you would like to turn into a skit. Review the roles that each person will play in the skit. An example would be having your family meet eat with the Pilgrims at the First Thanksgiving. In the skit, incorporate fallacies or facts that have been discovered by your group during your research.
**Teacher Talk** - Each group member will interview an adult in the building. Create questions to ask the person. Use information gathered while completing the Moodle assignments. Use the links below for ideas. The questions should not be single word or yes/no type questions. The questions should encourage the adult to include an explanation or discussion of the question’s topic. Write down a brief introduction about the person you are interviewing including interesting facts. Remember, when you are doing a personal interview, you may veer off the prepared question list to build on the previous answers from the interviewed person.

**Peer Survey** - Each Group member should concentrate on a specific area of nutrition: Meal Planning, Fast Food, Eating Right in our fast paced world, helping children eat healthier, etc. and write 3 questions for the peer survey from that area. Remember this is a NUTRITION survey, and it should be relevant with questions that will cause the students to think about what nutrition is about and their practices. Access the question starters on the home page to help you plan your questions. You should use a different question starter for each question. Your answers should be multiple-choice and you should have 4 choices. In the "Question" area on the home page are examples of questions students came up with last year. You may not use their questions, but you may refer to them to help you plan yours.

**Cooks’ Corner** - Using the Monthly Menu from the school cafeteria, chart the Daily Food Guide elements for a week, for both breakfast and lunch. Next, click on the link below “The Dish on School Food”. This site or the chart may give you ideas for your questions. Create 5 interview questions you can ask the food service workers. You will then interview the cooks. Each student will video record one of their classmate’s interview.
Appendix D

Sample Student Projects

Attached are sample projects from each of the researched area. The paper copy includes only print copies so many of the student’s multimedia formatting are not observed. The projects are in various stages of production.

**AFRICAN AM3RICANS!**

- It is said that there's an epidemic concerning African-Americans (esp. children's) …diet do you agree with that accusation? Why or why not?

**N3W Y3AR 08’**

- **HAVE YOU BEEN EATING HEALTHY SINCE THE NEW YEAR STARTED?**
**AS A CHILD!**

- DID YOU EAT HEALTHY AS A CHILD? WHAT KINDS OF FOOD DID YOUR MOTHER SERVE FOR DINNER? DID SHE MAKE BREAKFAST FOR YOU EVERY MORNING?

**B3F0R3 AND AFT3R!**

- IF YOU HAD ONE THING YOU COULD CHANGE ABOUT YOUR EATING HABITS, WHAT WOULD YOU CHANGE?

**IS IT 3N0UGH 0R T00 MUCH!?!?!?!?!**

- ON A SCALE FROM ONE TO TEN HOW WOULD YOU RATE JUNIOR HIGH SCHOOL KIDS DIETS? WHY?

---

**Fact or Fiction**

TROY GREEN JR.

In my FACS we are in our nutrient unit. For the unit my class is doing projects on many different things.
Beginning
- Trish- Our group name is Fact or Fiction
- Troy- We are discussing about house slaves and field slaves
- Shaq- and the food they ate doing these times in slavery
- Sheila- So sit back and enjoy our skit

Setting
- It is a hot humid day outside the masters house in Alabama
- Two house slaves approach two field slaves during the day

Skit 1
- Kizzy- man me tired of eating all this degusting food
- Toby- you have to eat to be healthy
- Naomi- but the food y’all ate wasn’t all that bad
- Sterling- well not exactly it was bad but not that bad

Skit 2
- Naomi- we’s eat leftovers from the masters it be good but we’s don’t get that much
- Kizzy- my fingers be hurting from picking all these different crops for the masters
- Sterling- we not all that lucky we got to wash dishes and cook the food
- Toby- me tired of this I’m going to leave the plantation tonight is you going with me
- Kizzy-we can’t leave masters find us his dogs
- Naomi- we’s can’t leave the masters thinking about setting uses free!!! N a couple of weeks

Skit 3
- Kizzy-for now lets get this food up and ready so we can eat
- Sterling- o.k. I’ll get started on those pigs feet
- Toby- okay’s one more week than I’m leave’s
- Naomi-imsa be inside fixen to make some bread
- Kizzy-What y’all eating today Sterling
- Sterling- pork chops, pigs feet, collard greens and what evers left over from the masters
- Toby- I wish we had nice food like y’alls do
- Naomi-we just eats leftovers just be happy your surviving Toby

Skit 4
- Toby- yeah but I’s want to be free and someday I will
- Kizzy- we all would be free after a while
- Naomi- yea we will ohhhh masters coming you better get backs to work
**Introduction**

Hi, my name is Jack and I am a student at Central Middle School here to talk about nutrition. I have a survey that you will take about good nutrition, including the healthy foods that people should eat and the unhealthy foods that people shouldn’t eat.

---

**Hi, my name is Darren and I’m a student at Central Middle School and I’m here to discuss the Peer Survey, about eating healthy and unhealthy food that my group created. Hope you enjoy my presentation.**

---

**Why are there more obese people these days?**

1. because that’s how they are born
2. people don’t care about their weight
3. people eat too much sweets
4. people are depressed these days
5. 2, 3 & 4

---

**Which food contains the most**

1. meats
2. fruits
3. sweets
4. vegetables
### Question 1: How many times should you eat a day?

1. One  
2. Eight  
3. Three  
4. Seven

### Question 2: What's more important to drink?

1. Kool Aid  
2. Water  
3. Soda  
4. Juice

### Table: Why are people obese these days?

<table>
<thead>
<tr>
<th>Why are people obese these days</th>
<th>Which food contains the most sweets</th>
<th>How many times should eat a day</th>
<th>What's more important to drink</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Because that's how they are born</td>
<td>1. Meats</td>
<td>1. One</td>
<td>1. Kool Aid</td>
</tr>
<tr>
<td>2. People don't care about their weight</td>
<td>2. Fruits</td>
<td>2. Eight</td>
<td>2. Water</td>
</tr>
<tr>
<td>4. People are depressed these days</td>
<td>4. Vegetables</td>
<td>3. Three</td>
<td>4. Juice</td>
</tr>
<tr>
<td>5. None of these</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Question 3: What are the major misconceptions about the topic of nutrition?

- **a.** Children don’t care about what they are eating?  
- **b.** They know the right things to eat but choose to eat bad things?  
- **c.** A & B  
- **d.** None of these

---

**Healthy Foods!!!**
6. Why do you think young teens eat so much unhealthy foods?
- They don't care about the foods they are eating.
- They want to eat unhealthy foods.
- They don't know the healthy foods to eat.

7. What is the major difference between healthy foods and unhealthy foods?
- a. Unhealthy foods are bad for the body.
- b. Healthy foods help the body grow and stay regular.
- c. Healthy foods are a good source of vitamins, protein, and calcium.
- d. A, B, C.

8. Why is good nutrition important for doing well in school?
- a. It is good for school because eating good food can keep your brain functioning.
- b. It helps with keeping your brain strong so you think well.
- c. Because healthy foods keep you from being tired.
- d. All the above.

### Unhealthy Foods!!

<table>
<thead>
<tr>
<th>What are the major misconceptions about the topic of nutrition?</th>
<th>Why do you think young teens eat so much unhealthy foods?</th>
<th>What is the major difference between healthy foods and unhealthy foods?</th>
<th>8. Why is good nutrition important for doing well in school?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Children don't care about what they are eating? 6</td>
<td>They don't care about the foods they are eating 16</td>
<td>Unhealthy foods are bad for the body 0</td>
<td>a. It is good for school because eating good food can keep your brain functioning.</td>
</tr>
<tr>
<td>b. They know the right things to eat but choose to eat bad things? 15</td>
<td>They want to eat unhealthy foods 0</td>
<td>b. Healthy foods help the body grow and stay regular 0</td>
<td>b. It helps with keeping your brain strong so you think well</td>
</tr>
<tr>
<td>c. A &amp; B</td>
<td>They don't know the healthy foods to eat 5</td>
<td>c. Healthy foods are a good source of vitamins, protein, and calcium 0</td>
<td>c. Because healthy foods keep you from being tired 1</td>
</tr>
<tr>
<td>d. None of these</td>
<td></td>
<td></td>
<td>d. All the above.</td>
</tr>
<tr>
<td>d. A, B, C</td>
<td></td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>
7th grade breakfast survey

How often do you eat breakfast?

- A. Daily
- B. Weekends
- C. Sometimes
- D. Never

Remember eat healthy or ........ IT WILL KILL YOU!!!!!!!!!!!
What liquid contains vitamin D and helps give you strong bones (great for breakfast food)?

GOT MILK

What dairy product do we usually love on our burgers?

!!! CHEESE !!!

We usually keep this snack in the refrigerator; we eat it with a spoon, and it comes in all types of flavors.

YOGURT
My name is Carla. I am attending Central Middle School. We are studying healthy foods and the people who help and make the food. Here is my interview and I hope that you enjoy it.
• My friends and I really like salad here. What is favorite thing to eat/cook?

• I think that the food are good but sometimes it is bad. What do you think about the food?

• My favorite kind of food is pizza. What is your favorite kind of food?

• My favorite dessert is pudding. Do you enjoy making dessert? If so, what is your favorite dessert to make/eat?
This classroom project was created based on what I thought was important at this stage for my students. I took into consideration their age, class atmosphere, and individual student needs. These were all my perception. I thought about previous classroom lessons and where students usually struggle or ignore assignments. I tried to create an experience where my students would consider the information as it was examined. The use of technology is always of interest to my students, so I set up an experience that I thought would hold their interest better than the normal textbook nutrition project does. I researched internet sites and applications that I could use.

Below is a breakdown of the complete project.

Part 1--MVS Moodle

FACS--Why Does it Matter What I Eat?

I first established accounts in MVS Moodle hosted by Missouri State University and Gaggle email.

DAY 1---Students sign up for:
Gaggle Mail at  https://www.gaggle.net/  • Setting up your Accounts Resource
Moodle at http://mvsмoodle.missouristate.edu/course/view.php?id=127 enroll and sign up for this course

Take the Pre-nutrition Quiz  • Nutrition Pre-Test Quiz

• Reflection 1--- Complete all reflections in your online forums and save your work.

List any problems you had during today's class activity.
a. Did you have trouble creating an email account?
b. Did you have trouble creating an account at Missouri State Moodle?
c. Did you experience anything new or interesting today? Explain.
d. What could have made today's class easier for you?
MOODLE NUTRITION ASSIGNMENT #1

Warm up: Complete Feb 7 activities
Daily Assignment: American Heart Association Journal
Reflection: #2

*Open the links below in the order they are listed.
*You will have 2 internet windows open so you can alternate back and forth through them.
*Open the journal and answer any questions in the journal. Save your work. Make sure you use the website when answering the questions or completing the assignments.

- [American Heart Association's Dietary Guidelines file](http://www.faqs.org/docs/consumer/diet/index.html)
- [American Heart Association Guidelines Journal](http://www.mypyramid.gov/mypyramid/index.aspx) ---In your journal, find and answer these questions about the American Heart Association's Dietary Guidelines.
  1. How many minutes of exercise should you get daily? (Aim)
  2. Why are there many healthful eating patterns? (Build).
  3. Name the 10 recommended Dietary Guidelines for Americans? (Summary link at top of page)
  4. What is the guideline that you have the most success adhering to? Why?
  5. What is the guideline that you absolutely can’t follow with much success? Why?
- [Reflection 2](http://www.mypyramid.gov/mypyramid/index.aspx)---What do you think about how young teens eat?

MOODLE NUTRITION ASSIGNMENT #2

Warm up- Take height and weight measurements.
Daily Assignment: My Pyramid Journal
Reflection: #3

*Open My Pyramid below
*You now have 2 internet windows open so you can alternate back and forth through them.
*Follow the step by step directions.

- [MyPyramid website at](http://www.mypyramid.gov/mypyramid/index.aspx)
  1. Enter your individual information in MyPyramid. Submit. Highlight, Copy, paste and post this information to this journal. Scroll down and Save.
  2. In the menu on the left side of the page and click on My Pyramid Tracker.
  3. Scroll to the bottom of that page and click on Check it out.
  4. Enter the information asked for. Then Proceed to Food intake.
  5. Complete this activity using ALL of the food and drink you ate or drank yesterday. You have to enter each food individually, then enter the number of servings of the food, then select "Enter Foods" to select the next food. When you have finished entering ALL of your food and drinks, select "Save & Analyze"
6. Select the link for **MyPyramid Recommendation**
7. Copy and paste the results to your journal. Scroll down and save changes.
8. Now go back and select the link for **My Nutrition Intake**
7. Copy and paste these results to your journal. Scroll down and save changes

- **Reflection 3** --- *What's your opinion on what the media calls the Obesity Epidemic?*
  3 sentences minimum. Then you must comment on 3 other people's posts of this topic.

**Warm-up:** Nutrition Survey Part I

**Reflection:** #4

- **Warm-up: Nutrition Attitude Survey**
  http://www.surveymonkey.com/s.aspx?sm=psi7oas_2f78472Xia35DvLw_3d_3d

**Nutrition Questions Journal**—Refer to previous day’s assignment. How many servings of each group did you eat yesterday according to your calculations in day 3? How many servings were you supposed to eat? What nutrients did you lack because of not eating enough servings of those groups you were short in? What kind of effect a lack of these nutrients could have on your body. Copy and paste the chart below and fill it in according to this information.

<table>
<thead>
<tr>
<th></th>
<th>Grain Group</th>
<th>Meat Group</th>
<th>Dairy Group</th>
<th>Fruit Group</th>
<th>Vegetable Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Many Servings You</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had Yesterday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Many Servings You</td>
<td></td>
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<tr>
<td>Should Have Daily</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nutrients You Didn't</td>
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<td></td>
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<tr>
<td>Have Enough Of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>What Effect a lack of</td>
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<tr>
<td>that Nutrient could</td>
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<tr>
<td>have on your body.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Reflection 4**--- 3 sentences minimum on each part of the question
  When charting my eating for the past 2 days assignments, I found out…

  and I would like to...
MOODLE NUTRITION ASSIGNMENT #3

Warm-up: Nutrition Survey Part II
Daily Assignment: BMI Journal
Reflection: #5

1. Open the BMI site. Enter your information there. You do not have to enter the METRIC information. Calculate
2. Open your Journal below. In this journal you will keep your notes of the activities you participate in as well as research notes, websites you may wish to visit again, etc.
3. Answer the questions about your BMI in the journal.
4. Do Reflection 5. **YOU HAVE TO READ IT** to know what to comment on.

- [Warm-up: Nutrition Attitude Survey Part II](http://www.surveymonkey.com/s.aspx?sm=tM3qgnYeu_2bWPe12PQXTiXA_3d_3d)
- [What is my BMI --- http://www.blubberbuster.com/height_weight.html](http://www.blubberbuster.com/school/B_kids_school.htm)
- [BMI Journal](http://www.blubberbuster.com/school/B_kids_school.htm)

  1. According to the information that was calculated, what is your age
  2. What is the percentile for your height? What does that mean?
  3. What is the percentile for your weight? What does that mean?
  4. What is YOUR BMI?
  5. What does this mean?
  6. Are you underweight, overweight, or neither?
  7. What is the healthy weight range for your height and age?

- Reflection 5 Discuss your physique (legs, chest, waist, hips). What are your best body features? Are you happy with your overall body image? If not, what would you like to change? This post is private so others cannot see it.

MOODLE NUTRITION ASSIGNMENT #4

Warm-up: Check any comments, correct and complete any unfinished assignments.
Daily Assignment: Healthy Weight School Journal
Reflection: #6

- [HEALTHY WEIGHT SCHOOL](http://www.blubberbuster.com/school/B_kids_school.htm)
- [HEALTHY WEIGHT SCHOOL JOURNAL](http://www.blubberbuster.com/school/B_kids_school.htm) Find the answers to these questions

In healthy weight school. There is one question per section of this web page.
Post them to your journal

1. Explain how you become overweight. *(WHY DO YOU GET OVERWEIGHT?)*
2. What does BMI mean? How is it calculated? What is your BMI? Do you need to lose weight? *(DO YOU NEED TO LOSE WEIGHT?)*
3. Explain what it means to have 15 lbs of extra weight. *(What does overweight actually mean?)* *(Healthy Weight Benefits)*

4. WHAT ARE 8 BENEFITS OF NOT BEING OVERWEIGHT? *(Healthy Weight Benefits)*

5. Take the 3 polls in this section (Do you find comfort in food? and Make a Plan and Overeating is like nail biting). Send. Copy and paste the results here. *(How Do I Lose Weight?)*

6. Reply to one of the teens who have posted a comment. (Copy the original post from the teen, and put your comment behind in here) *(Comfort Eating)*

7. Add one of your own weight control tips here (even if you are not overweight) *(Weight Control Tips)*

8. Select 2 links. Find 2 ideas that may help YOU stick to a healthy eating plan. *(Healthy Eating) (Physical Activity) (Relating to Food) (Motivation and Making Progress) (Self Esteem)*

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1. What did you like best about the project?

2. What did you like least about the project?

3. Did you become the “expert” in your group about any specific task?

4. What did you learn during this project that you think is important enough to revisit at a later time?

5. Choose a specific task you completed while working on this project. Create a graphic organizer displaying major components of this task. Describe what you learned by completing this task and what use this information may be to you in the future.

**Part 2--PowerPoint/Podcast**

As a change of pace for the students and because of the student-friendly web structure, I used TeacherWeb to host the next set of student assignments. Each area has specific questions and guidelines to help guide student through each task.

Kid Talk- Project Details
You have learned about the Food Guide Pyramid and how it is used to make intelligent food choices. Whether you are eating at a fast food restaurant
or at home, the Food Guide Pyramid is a useful tool. You now have the knowledge to make better food choices to ensure good nutritional habits.

GROUP PROJECT

All groups will create an enhanced podcast.

The first step in your group project is to collect research data on your group's nutrition topic. To help with this task, find answers to the questions below using the links below.

Open your journal in the Missouri Moodle to keep track of your notes.

Find the answers to the questions below to help you get started. Split up the work with your partners.

1. Name five factors that influence your food choices.
2. What is the major difference between healthy foods and “unhealthy” foods?
3. What considerations need to be addressed when explaining healthy eating to a child?
4. Why and how should you use MyPyramid as a guide when choosing what foods to include in a daily menu plan?
5. What are the 10 tips for proper child nutrition?

As you create your presentation consider these hints below.

SOMETHING TO THINK ABOUT...

What kind of information should be presented?

What types of questions will help the young children understand the nutrition information better, yet be fairly easy for you to work into your conversation with them?

PROJECT DETAILS

1. Follow this discussion with your summary including correct nutrition
information younger children probably don’t know, but will help them make nutritious food choices.

2. Create an interactive presentation to present to a group of younger students. A game, complete with questions and possible answers, a story, or a play are just some suggestions. Questions or presentation materials can be about anything you have researched. You may ask questions about eating problems, age, sex, personality etc.

You will introduce this activity to a group of students. You can take turns leading the activity with the kids. The other group members will video while others will contribute helping the activity move along smoothly.

3. Each group member should create an individual PowerPoint. Review the PowerPoint instruction guide and scoring guide. Use the PowerPoint to present your questions and game. Take digital pictures of young children. (See if you can get some of them while they are eating). Take pictures of your group members. Record your conversation.

Record your introduction and summary. Use Audacity to record the music and discussion.

Split up the work to make best use of your time!

4. Create an introduction. Discuss the information you compiled. Create an analysis/summary discussion for your conclusion.

5. Use the interviews, pictures and charted information to create your ENHANCED PODCAST. Do not forget to name this project.

Go to the Photo/Doc3 area. Open the documents for your group.

Use the documents you need as well as the links below to help you complete your task. When you are finished gathering your data, go to the Research Data Analysis area. Complete your assessment task.