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Regis University
School for Professional Studies Graduate Programs
Final Project/Thesis

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THE IMPORTANCE OF INCORPORATING NUTRITION EDUCATION
PROGRAMS IN ELEMENTARY SCHOOLS

By

Tracey Henzel

A Research Project Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Education

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ABSTRACT

The Importance of Incorporating Nutrition Education Programs in Elementary Schools

Throughout the United States childhood obesity has become a major concern. The amount of unhealthy foods children are consuming is the highest it has even been. Eating unhealthily has proven to affect children in school, both academically and behaviorally. For this applied project, the importance of incorporating nutrition education programs in elementary schools was questioned and investigated. The Nutrition Education Program was designed and proposed to effectively teach children the importance of maintaining healthy diets. This program was also made to be user friendly for all elementary general education teachers. The program was presented to six people; two administrators, two general education teachers, and two parents, all of whom have an interest in successful elementary school education practices. These individuals assessed the applicability and usability of the Nutrition Education Program in their schools and classrooms.

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Chapter 1

INTRODUCTION

Statement of the Problem

Over the past two decades childhood obesity has become a major concern throughout the United States. Wechsler, McKenna, Lee, & Dietz (2004) state, “Since 1980, the percentage of children who are overweight has more than doubled” (p. 5) and “In 2002, 16 percent of 6-19 year-olds were overweight” (p. 5). Many health care professionals agree that weight gain during childhood is a serious and growing problem, with overweight children more likely to grow into unhealthy adults (Sutter, 2006). Not only can an unhealthy diet lead to obesity, but it can also lead to chronic disease which is also a growing health concern among adults (Auld, Romaniello, Heimendinger, Hambidge, & Hambidge, 1999). Why are children today faced with this epidemic? Some researchers have suggested that children today get less exercise than those in the past. Many children also lack the knowledge of how and why eating healthy is so important. The fast pace life styles we now live have also contributed to poor eating habits, with microwave dinners and fast food drive-ins being a typical dinner for many young children of the 21st century (Schlosser, 2002).

This poor diet epidemic not only affects children once they reach adulthood, but it affects them now. Children’s academic performance and behavior in school are both greatly impacted by the foods they eat. These issues lead to a reason for nutrition

intervention, which will be most successful in a school environment. According to researcher Kolbe (1994, as cited in Auld et al., 1999), “School interventions can provide systematic and efficient means to improve children’s health by offering access to almost all children, providing opportunities to practice healthy eating, and involving skilled professionals such as teachers and school food service personnel” (p. 403). Not only will a school nutrition program impact the lives of children for their future health needs, but also for their current status.

Background of the Problem

There is a correlation between students’ diets and their academic performance level and behavior in school. According to author Koble (2002), unhealthy children are less likely to be good learners than those who are healthy. But, the biggest link between diet and school behavior and performance is whether or not children eat breakfast.

“When children go to school without breakfast, their performance goes down by around 0.1 standard deviations” (Jukes, McGuire, Method, & Sternberg, 2002, p. 1). Children who are unaware of the benefits of eating healthy diets are those that are least likely to eat breakfast. By providing an in school nutrition education program, children will learn these benefits. School health and nutrition programs do help student perform better in school.

The importance of a nutrition program in our education system can not be overlooked. Many children are not getting the critical information and knowledge they need about the importance of maintaining a healthy diet. Without the education of this information given, the author of this project is concerned that this poor dietary cycle will

continue for generations to come. Building a program that works for teachers, students, and parents has been difficult. Many programs have been established that provide good starting points for an overall effective program. The Coordinated School Health Program (CSHP) promotes student health that focuses on assessment, planning lessons based on data and sound science, and evaluations of other school health programs (Wechsler, et al. 2004). The Integrated Nutrition Program (INP) integrates other subject areas into teaching nutrition to elementary aged students (Auld, et al. 1999).

It is important to build a program that is supported by administration, integrates a number of subject areas, is easy for teachers to use, holds the students' attention, and involves students' families. Since many teachers do not feel they have the time or knowledge to teach an effective nutrition education program, some programs have worked to incorporate other resource people into the program as support for the teachers (Contento et al., 1985 as cited in Auld et al., 1999). The INP provided classroom teachers with special resource teachers (SRT) who developed lesson plans and taught half of the classes, while the general classroom teacher observed and learned to teach the other half of the lessons (Auld, et al.). Another program called Project Healthy Kids provided general education classroom teachers with the opportunity to attend a 30 hour, five day workshop which covered information on how to teach health issues in their own classrooms (Telljohann, Price, Everett, & Durgin, 1996). Some schools designate a school health coordinator to coordinate all school health programs, activities, and resources.

Purpose of the Project

The purpose of this applied project is to investigate those programs that have proven to be most beneficial for both teachers and students. The author of this project is focusing on researching programs that provide outside resources as support for teachers in hopes that they will begin to feel they have the time and confidence to teach effective nutrition programs in their classrooms. The benefits for students' focus are on programs that are hands-on, include integration education, and provide opportunities for student to share what they have learned with their families.

By researching and selecting the best parts of a number of programs, the author will be able to create a successful program of her own. The goals of the new program are to enhance student knowledge of the importance of eating and maintaining a healthy diet everyday through out their lifetime. The program will provide teachers with the knowledge and resources they need to make the program successful in each individual classroom. Improved school success for students who eats healthier diets is proven and researched based. Teachers, therefore, need the tools with which to teach these practices in their own classrooms, without having to worry about trying a number of programs on their own before they find one that works.

Chapter Summary

Maintaining a healthy diet is just as, or even more, important during childhood as in adulthood. The eating habits children learn early on in life will oftentimes be carried with them into adulthood. Providing teachers and administrators with an effective nutrition education program will help these children build strong healthy eating habits

and provide them with the knowledge of the importance of maintaining this plan throughout their lives. This project will guide teachers and administrators in creating a useful and effective nutrition program for their own individual classrooms and schools.

Teachers and administrators should be reassured that these ideas have been evaluated on the basis of maximum student effectiveness, and minimal teacher stress and preparation.

Chapter 2

REVIEW OF LITERATURE

Chapter two of this project focuses on a review of literature and research analyzing nutritional issues surrounding school aged children in the United States. First the author will find research on current statistics concerning the prevalence of poor nutrition among children. The reasons and effects an unhealthy diet have on elementary school aged children will then be addressed. A discussion of the current research found on the benefits, importance, and ways to improve diets of America's youth will follow. Finally, ways to create an effective nutrition education program will be researched and then modified to fit the needs and goals for this project.

Prevalence of Poor Nutrition among Children

The amount of weight that children throughout the country are gaining has become a major concern among professional health care providers (Sutter, 2006). Over the past two decades the number of overweight children has more than doubled, causing the U.S. Surgeon General to identify childhood obesity as "one of the greatest health problems facing the nation today (Wechsler, et al., 2004, p. 4). Health care providers are not the only people that see children changing before their eyes. Educators have also seen a drastic change in the weight of their students over the past few decades (Wechsler et al.). Although Colorado placed the lowest in regards to obesity rates found in schools among states in 2005, health professionals and educators still agree that the issue is an important one to be aware of and take charge of before it becomes one that is

completely out of control (Sutter).

Healthy People 2010 are a set of health objective guidelines designed by the U.S. Department of Education for the nation to achieve over the first ten years of the 21st century (U.S., 2000). The national prevalence of overweight and obesity data used for *Healthy People 2010* was taken from the National Health and Nutrition Examination Survey (NHANES). The most recent data collected by the NHANES were from 2003-2004. They showed that for children ages 6-11 years, 18.8 percent were overweight. According to the target percentile set by *Healthy People 2010*, that number is three times the target prevalence, of five percent (Centers, 2006).

Shocking statistics regarding the obesity epidemic in our country are comparable throughout a number of sources. But how is obesity calculated? The standard measure used to determine whether or not someone is overweight is based on finding one's body mass index (BMI) number. BMI is the measure of weight in relation to height used to determine weight status. This measure is then plotted on a growth chart that correlates BMI and age to find a percentile. An overweight child is defined by having a BMI score that is at or above the 95th percentile of children of the same age and sex. (Kuczmarski et al., 2000 as cited in Centers, 2006). In more general terms childhood obesity is defined as, "the result of an imbalance between the calories a child consumes as food and beverages and the calories a child uses to support normal growth and development, metabolism, and physical activity" (Centers, 2006, p. 4).

Reasons for Poor Nutrition

Unfortunately the number of poor dietary influences in the lives of today's youth

makes it hard for children to take the proper steps in solidifying the importance and knowledge based around maintaining a healthy diet. Young children are highly influenced by the people and environments that surround them. When these people and environments do not provide the knowledge, support, and encouragement required to form healthy eating habits, it is easy for children to learn bad habits that will follow them throughout their lives (Centers, 2006). There are a number of factors that lead to childhood obesity and health problems, these factors include poor dieting habits and poor social contexts in which food is presented to children (McBean & Miller, 1999).

Poor Diets

Poor eating habits are major reasons why the onset of childhood obesity and health concerns occur. The United States Department of Agriculture (USDA) conducted a survey from 1994-1995 and 1998 called Continuing Survey of Food Intakes by Individuals (CSFII) and found that only two percent of elementary school aged children ate the recommended daily amount of servings from all five major food groups. The USDA also found that more than 80 percent of children ate too much fat, which accounted for more than 30 percent of their total calories per day coming from fat (Action, 2005). Conclusively since most children are not eating the requested amount of healthy foods per day and appear to have an excessive amount of fat in their diets, children are not receiving the required amount of essential nutrients necessary for them to reach their optimal growth and developmental potentials (McBean & Miller, 1999). Overall children's diets today are made up of too much energy, too much fat, too much sugar, too little fiber, and too little calcium. McBean & Miller sum up these findings by

saying, “Basically children’s diets can be described as an inverted Food Guide Pyramid” (p. 564).

Other factors that contribute to poor dietary habits among youth are large portion sizes of foods and beverages, a high amount of fast food consumption, and frequent snacking on high sugar foods and beverages (Centers, 2006). Portion size has gotten completely out of control. When served at a restaurant many times the amount of food one is given is between two and three full portion sizes (Schlosser, 2002). Family structure has also added to the change in diets among children. Busy life styles have made fast food runs and frequently eating out reality for most families (Sutter, 2006).

Poor Social Context of Food

The social contexts in which foods are given to children play a huge role in whether or not these foods will be accepted (McBean & Miller, 1999). A major problem that parents and other care providers, such as teachers, have created for themselves is that they have set positive and negative connotations around a number of different foods. Foods that children are usually talked into eating tend to be nutritious foods, such as fruits and vegetables. Whereas foods represented as awards are usually tasty foods which are high in sugar (Baxter, 1998). A common phrase heard by parents throughout the country is, “If you eat your vegetables, then you can have dessert” (Baxter, p. 2). Teachers often reward good behavior in classrooms with pizza parties or sweet treats. The social context in which foods are portrayed can greatly influence a child’s food preferences creating both negative and positive eating habits (McBean & Miller, 1999).

Effects Poor Nutrition have on Children in School

Research has supported the idea that a poor diet impacts the success children have in school, both academically and behaviorally. The National Association of State Boards and Education (as cited in Wechsler et al., 2004) wrote, “Health and success in school are interrelated. Schools cannot achieve their primary mission of education if students and staff are not healthy and fit physically, mentally, and socially” (p. 4). Although the human brain only accounts for two percent body weight, it uses 20 percent of the body’s energy. This means that in order for the energy to be generated correctly, the body needs to absorb certain amounts and types of nutrients (Visscher, 2005). When children’s diets are unbalanced and full of sugar, these nutrients are not absorbed and therefore the brain does not get the nutrients it needs to function correctly. A fully functioning brain, along with a few other key components, helps children to better focus in school both academically and behaviorally.

Academic Performance

Although it is difficult to draw definitive conclusions between the relationship of weight and academic achievement, several studies have examined this correlation and found similar results. According to Schwimmer et al (2003 as cited in Action, 2005), severely overweight children reported impaired school functioning four times more likely than children of average weights. These overweight children were also more likely to be placed in special education classrooms or remedial classrooms (Tershakovic et al., 1994, as cited in Action, 2005). A study done by the National Institute for Health Care Management (NIHCM) foundation (2004) concluded that overweight kindergartners had

significantly lower reading and math test scores than their peers. These scores continued into the students' first grade year.

Another factor affecting academic performance at school is linked to those students who typically do not eat breakfast. Research suggested that not having breakfast affected children's intellectual performance (Centers, 2006). Many nutritionists consider breakfast to be the most important meal of the day. It helps jump start the brain and boosts the metabolic rate (Viscsher, 2005). A pilot breakfast study called the School Breakfast Program (SBP) was conducted and found that children who participated in the study had improved academic performance levels in both math and reading (McBean & Miller, 1999).

Behavioral Issues

Children, especially girls, who are overweight, tend to have behavioral issues such as anxiety, low self-esteem, loneliness, sadness, anger, arguing and fighting (National, 2004). This research study found that overweight girls were significantly more likely to have both teacher reported external behavioral problems and teacher and parent reported internal behavioral problems than their non overweight peers. These behavioral issues led to decreased rates of school attendance and decreased levels of social acceptance (National).

A study done by Visscher (2005) proves that when children eat a lot of sugar, hyperactive behavior is often followed by tears and tantrums. This happens because blood sugar levels jump after sugar is eaten, which initially gives a burst of fresh energy. When blood sugar levels fall it causes lethargic and sleepy results. The body then tries to

prevent blood sugar levels from falling too low which can cause irritableness and explosiveness. Many teachers have witnessed such behavior in their students, “Our teachers noticed that snacks which were high in artificial flavourings and additives were affecting the students’ moods” (Visscher, p. 47). These students seemed to have such high aggression levels and learning performance difficulties that teachers spent a considerable amount of time and energy trying to get these students to settle down, which took away from academic time.

Benefits and Importance of a Healthy Diet

A healthy diet can greatly improve the life of a child in the United States. It can impact academic performance level, psychological well-being and overall health. The first step to improving children’s diets is by developing and changing their knowledge and attitudes towards healthy eating. The higher level of knowledge students demonstrated towards understanding the Food Guide Pyramid and recognizing which foods could be added to meals to raise their health and nutrient intake provided for improved self-efficacy towards preparing and eating such foods (Auld et al., 1995).

Increased Academic Performance

Research has shown that unhealthy children are less likely to learn than those who are healthy, proving that an unhealthy diet can lead to poor academic performance levels (Kolbe, 2002). Students who began to eat greater amounts of fruits and vegetables performed better academically than their peers improving both standardized test scores and math grades (Auld et al., 1995). The Visscher (2005) study found that by reducing the sugar and fat intake in daily diets, IQ scores and grade point averages increased.

Increased Psychological Well-Being

Students' psychological well-being seems to improve with improved diet as well. Students who began eating breakfast on a regular basis were shown to have reduced tardiness, absences and symptoms of depression, anxiety, and hyperactivity (Kolbe, 2002). Other research showed that by getting the recommended amount of vitamins, minerals, and unsaturated fatty acids the brain remained balanced and therefore behavior remained stable (Visscher, 2005). The Council of Chief State School Officers (CCSSO) and the Association of State and Territorial Health Officials noted the relationship a healthy diet had on society as a whole stating, "Healthy kids make better students, and better students make healthy communities" (Kolbe, 2002, p. 7).

Ways to Improve Healthy Diets for Youth

It is apparent that health is a huge concern for the children of our nation and many of them are at risk. It is important that this epidemic be taken control of and changed before these children grow into extremely unhealthy adults with links of emotional distress. Children can not fix this problem on their own. They need the help and support of adult role models around them. Because of this, adults need to learn the important information regarding child health and nutrition opportunities. It is important for adults to understand what prompts children's food preferences, what types of foods to expose them to, and the developments of good food habits that support growth, development, and positive attitudes towards healthy foods (Baxter, 1998). Both schools and families are important building systems that address student learning and psychological, emotional, and social development (Kolbe, 2002). Therefore, both can play powerful roles in

improving children's diets by providing support, exposure, and knowledge about healthy foods.

School Intervention

School interventions are great ways to address the poor health epidemic that is affecting so many children in the United States. School interventions can provide systematic and efficient means to improve children's health through a number of factors. They offer access to almost all children, with over 95 percent of America's youth enrolled in school (Wechsler et al., 2004). They would provide opportunities to practice healthy eating and would involve skilled professionals such as teachers and school food service personnel to guide the curriculum (Auld et al., 1995). Research has shown that well designed and implemented school nutrition programs promote physical activity, healthy eating and increased academic performance (Wechsler et al., 2004).

Unfortunately, even though the importance of health education is acknowledged by school teachers and administrators, implementing and maintaining a program would make a difference for all students is still absent in many schools (Johnson & Deshpande, 2000). Many education decision makers have still not made a health education program part of the required school curriculum. These educators feel that they do not have enough qualified teachers or financial support to start such a program (Johnson & Deshpande).

Family Involvement

Family involvement is another key factor that needs to be addressed in an attempt to decrease the percentage of unhealthy youth in our country. Family structure and living environment are huge aspects in supporting the turn around of this epidemic at home.

Children thrive on structure when it comes to discipline, and the same is true when it comes to food (Baxter, 1998). Eating in front of the television is a major issue. When the brain is busy watching television it does not realize when the body has feelings of satiation (Sutter, 2006). Family meals that have a starting and ending time, with the television off, are most beneficial for a structured, non overeating environment.

Parents can also be great role models for their children when it comes to health and nutrition. When young children are given food by someone they admire, such as a parent, acceptance of that food increases. Also, when parents pair food with positive attention or praise, preference of that food increases (McBean & Miller, 1999). Exposure to these preferred foods also helps with acceptance. The more children are exposed to a certain type of food the more likely they are to accept that food, with about ten exposures needed to change a preference (Baxter, 1998). Increased fruit and vegetable exposure and consumption are great foods for parents to begin with because of the health benefits associated with these foods (Macera, 2003).

It is also important for parents to stay involved in their child's academic endeavors at school. Family support and involvement is often accepted and appreciated at school. Parents should learn about the health education curriculum used at their child's school. If the school does not provide a program, parents should insist on, support, and develop appropriate knowledge building health activities for all students (Johnson & Deshpande, 2000).

Nutrition Education Programs

School health and nutrition programs can improve student's knowledge and

attitudes about health. They can also help young people develop important related life skills which will help them become functioning and successful adults in our community (Kolbe, 2002). Unfortunately, health and nutrition programs are not required or widely used among teachers and schools in the United States. “Among teachers required health education, elementary school teachers who provided nutrition education spent a median of five hours per school year teaching the topic” (School, 2000, p. 1). Although some teachers are required by their districts to teach nutrition education, many feel they do not have the knowledge or means of providing an effective program for their students (Auld et al., 1995). Following, is a review of a number of nutrition education programs developed by the government or individual states.

Coordinated School Health Program

The Coordinated School Health Program (CSHP) was proposed by the U.S. Department of Education in the 1980's. This program focused on two academic components, health education and physical education (Johnson & Deshpande, 2000). The goal was that lessons children received would provide them with the knowledge, skills, and enjoyment needed to make responsible and informed decisions to develop healthy habits for a lifetime of wellness (Johnson & Deshpande). Although this program was a start to understanding the importance of health education in schools, today health education and physical education providers want to focus more on the whole person. In the past most of the program's emphasis was placed on physical education, but today researchers want a greater emphasis to be placed on the health and wellness of the entire human being (Johnson & Deshpande).

Today, the CSHP is more of a guideline that provides recommendations for building school health and nutrition programs. Through these guidelines the U.S. Department of Education provides eight components they feel are important for a successful school health program. These components include: health education, physical education, health services, nutrition services, counseling, psychological, and social services, healthy school environment, health promotion for staff and family, and community involvement (Wechsler et al., 2004). CSHP focuses on improving the quality of each of these components to help guide educators in building sufficient health and nutrition programs of their own (Wechsler et al.).

School Breakfast Program

The School Breakfast Program (SBP) developed by the United States Department of Agriculture (USDA) when originally introduced was aimed at preventing hunger and nutrient under consumption (McBean & Miller, 1999). The main goal and focus was to provide school breakfast for those children whose parents could not afford to feed them breakfast at home. The program has evolved over the years to not only offer breakfast for those who could not otherwise have access to it, but to provide additional meal choices with a number of health food options. The program also began to incorporate more health education in hopes to continue improvement of healthy eating habits and physical activity (McBean & Miller). Despite the nutritional and educational benefits of the SBP, it is underutilized by school districts through out the country. Another problem with this program is that although it provides nutritious meals and health education for those students who are under privileged, it does not provide education for all students.

Fun to be Fit

Fun to be Fit is a program that was built on a partnership between Highmark Blue Cross Blue Shield and Pittsburgh Public School System. It was created to address childhood obesity and inactivity (Highmark, 2003). Mayor Tom Murphy proclaimed Wednesday May 7th, 2003 to be Fun to be Fit day in Pittsburgh. Each year on this day public school children are taught the benefits of lifelong physical activity and nutrition habits. Highmark blends two highly researched programs, SPARK (Sports, Play, and Active Recreation in Kids) and FRESH (Food Re-education for Elementary School Health) into the Fun to be Fit program. SPARK was developed at San Diego State University and was used for the fitness portion of the program. It exposed children to a variety of sports and fitness activities and helped build students self-management of behavioral skills including goal setting, problem solving, and stimulus control (NIHCM, 2004). The John Hopkins Bayview Medical Center program, FRESH, was incorporated into Fun to be Fit to help improve students' heart-health knowledge and eating behaviors (Highmark). Although this program seems to be fun and educational, it only is held one day per school year. In order for nutrition education programs to be highly beneficial and effective, they need to be taught on a regular basis (Auld et al., 1999).

Michigan Model for Health

The Michigan Model for Comprehensive School Health Education was established in 1985 in cooperation by seven state agencies to promote and deliver key disease prevention and health promotion messages (Michigan, 2006). A network of volunteers and professionals worked together to create curriculum for grades kindergarten through

eighth grade. The curriculum integrated health education information into other curricula areas, including language arts, social studies, science, math, and art (Michigan).

According to the Education Materials Center, (Michigan) the Michigan Model for Health program ensures that students and their schools get the maximum benefits from this program by providing teachers with on going training sessions. The Michigan Model is always being evaluated, assessed and changed to fit the current standards and ever changing world in which we live. Parent involvement is also a big aspect of this program; the lessons themselves include information for parents regarding the content that students are learning in the classroom. This information also includes suggestions for related activities that parents can do with their children at home (Michigan).

Since the Michigan Model for Health is considered an on going study, schools that decide to participate do not have to pay for the cost of materials or teacher training. The only downfall to this is they have to follow the exact rules and regulations of the study in order to qualify and continue to receive funding (Michigan, 2006). Schools that do not want to be part of the study can use the Michigan Model for Health curriculum and materials, but must pay for each individual phase. Each grade level contains six phases costing around thirty-eight dollars apiece. Teacher training sessions are not included in this price (Michigan).

Integrated Nutrition Program

The Integrated Nutrition Program was formed by a Colorado State University Department of Food Science and Human Nutrition professor, Gary Auld and his team in 1995. In 1999 the team decided to evaluate and make changes to the already

created Integrated Nutrition Program (INP) and its use of special resource teachers (SRT). The researchers planned to reduce the use of SRT and add more classroom teacher involvement to yield greater SRT reach throughout more classrooms. The hope was that this would increase involvement and, therefore, experience and confidence in classroom teachers to teach nutrition and continue the program on their own (Auld et al., 1999).

The teacher objectives that guided the study were to:

- “1) determine if 16 nutrition lessons, taught alternately by the SRT and classroom teacher, could result in outcomes equivalent to previous outcome when 24 lessons were taught exclusively by the SRT, and
- 2) assess teachers’ reactions to the model” (Auld et al., 1999, p. 403).

The student outcome objectives were to “increase:

- 1) school lunchroom consumption of fruits and vegetables;
- 2) knowledge about and attitudes towards fruits and vegetables; and
- 3) knowledge of the Food Guide Pyramid” (Auld et al., p. 404).

Auld et al. (1999) conducted their study with 760 students in grades 2-4. The students were from two schools and 38 classrooms. The students were 90% Hispanic, and more than 80% were on free-or reduced school lunches. Both schools had an offer vs. serve lunch style. Each school had a treatment and comparison group. The teachers in the two schools self-selected to participate in the study.

Auld et al. (1999) wanted to measure the amount of “plate waste” that occurred between treatment and comparison groups. “Plate waste” refers to the amount of fruits

and vegetables student threw away from their school lunch. The two school lunch menus were identical during the data collection period, providing two fruits and two vegetables options per meal. Serving sizes were also standardized by weight to the National Cancer Institute (NCI) serving sizes. Visual estimations were used to predict the amount of fruits and vegetables students consumed during school lunch. This information was then entered into Microsoft Access databases for further analysis.

The second measure Auld et al. (1999) used to collect data for this research project was to survey classroom students. This survey was used to gauge students' knowledge levels about the Food Guide Pyramid, attitudes towards fruits and vegetables and school lunches, and students' confidence in their own abilities to prepare or eat the appropriate amount of fruits and vegetables per day. This survey was evaluated on a five point Likert Scale and entered into Microsoft Access databases for analysis.

Teachers were also observed and evaluated on a number of issues including; the lesson taught, the number of students in the classroom, student level of involvement, whether food preparation and/or tasting occurred, student reaction to the food, whether teachers provided clear nutritional messages, and whether or not they included subject integration. Teachers also completed an open-ended questionnaire at the end of each evaluation (Auld et al, 1999).

Teachers in the treatment condition were interviewed at the end of the school year. Questions asked included, "their

- 1) thoughts on teaching nutrition in elementary schools;
- 2) perspectives on the alternating-week instruction model and the lessons they

taught;

3) current interest and confidence in providing nutrition education; and

4) perceptions about the effectiveness of the program” (Auld et al, 1999, p. 405).

Auld et al. (1999) concluded that treatment students ate significantly ($p < .05$) more fruits and vegetables at school lunch than the comparison students in the “plate waste” measure. The average consumption amount of fruits and vegetables was almost a full NCI serving for the treatment students compared to 60% of a serving eaten by the comparison students. Although the data show that the difference between the two groups was significant, the difference was almost entirely due to a decreased consumption of fruits and vegetables by the comparison group between the pretest and the posttest. The treatment group of students’ consumptions stayed relatively stable. Also, the “plate waste” data from the comparison group were obtained from fewer students because the school lunch program ran out of fruits and vegetables at one school.

The study also found that students in the treatment condition displayed higher levels of knowledge about nutrition than those in the comparison group. These students “knew more about the Food Guide Pyramid and were more likely to recognize which foods could be added to existing meals to increase fruit and vegetable intake” (Auld et al., 1999, p. 405). More positive attitudes towards school lunches and the perceived ability to be able to both prepare and eat more fruits and vegetables were also demonstrated.

During the classroom observations, evaluators observed 11 of the 19 treatment teachers. They appeared to be well prepared, organized, and displayed appropriate lesson

presentation. These classes all incorporated food preparation and tasting into the lessons. Nine teachers cross integrated nutrition lessons to other curriculum. Of the 11 teachers that completed the questionnaires, ten thought the lessons were successful largely due to the SRT-teacher interaction. Nine teachers said that they would use the lessons again, while two said they were unlikely to because the lessons involved too much pre-lesson planning, material gatherings, and difficult classroom management. Some limitations and flaws surrounding this part of the study were that not all the treatment teachers were observed or completed the questionnaires. Therefore, data may have been skewed based on these teachers' unheard thoughts about the program.

Results from the last measurement, teacher interviews, show that 18 of the 19 treatment teachers that participated in the study attended their year end interviews. All 18 teachers supported INP implementation in elementary schools, realizing that nutrition is seen as an important issue and school is a potential place for children to learn healthy eating habits early on in life. Most teachers strongly supported the SRT-teacher interaction and dual instruction giving technique. They felt that by teaching the nutrition class every other week, they stayed more involved with the program. A few teachers felt that the SRT should instruct all the lessons. Almost all of the teachers involved in the study stated that they would do more nutrition education in their classroom in the future because that felt they had a better understanding of how to teach nutrition and incorporate it into other subject areas. They also felt that, not only did the students enjoy the lessons, but they also become more knowledgeable about the importance of healthy eating habits. The main concern for continuing the INP was a lack of time, materials, money, and help.

The findings from the Auld et al. (1999) study reported a different message than the previous research studies. This study was started to try and find a way to reduce the cost of SRT by providing classroom teachers with the opportunity to learn the curriculum to eventually be able to teach it themselves. Although the results from the Auld et al. (1998, as cited in Ault et al.) study showed greater results for students, the question remains, was the SRT decreased classroom time in the Ault et al. study worth it? The authors think so for the following reasons: “if the cost of SRT can be reduced, it is more likely that such a model will be transferable to other school systems” (Auld et al., p. 407).

Further research and program development could transform the INP model into a nationwide elementary school program. It may grow in acceptance and popularity as new ideas for teacher training, cross subject integration, and funding emerge. The INP has already begun to obtain support for the SRT through school based health clinics and the Denver, Colorado comprehensive school health initiative.

Creating an Effective Program

This purpose of this project is to create an effective nutrition education program for elementary school aged children. By reviewing a number of programs that already exist the author has been able to decide what aspects of each program seem to be successful and useful. Research has also been done which provides ideas and guidelines for creating a successful nutrition education program both academically and financially.

Guidelines for Academic Success

Research conducted by Macera (2003) for the Department of Health and Human Services suggested states and school districts consider using a coordinated school health

model when deciding to develop a nutrition education program. This type of model incorporates a number of key concepts to help build a successful and effective program. The first component Macera (2003) suggested was to provide students with regular opportunities to engage in healthy eating and physical activity. The second part was to help students develop the knowledge, skills, and attitudes necessary to implement and sustain these behaviors. The last step in planning a successful nutrition education program was to integrate the school based program with the students' family lives (Macera).

Providing classroom teachers with workshops or training sessions is a great way to increase the knowledge base needed to start a successful nutrition education program. A study done by Telljohann et al., (1996) found that only 26 states required prospective elementary school teachers to complete any health education courses in order to obtain their certification. Since many teachers have never taken a nutrition education course, most of them feel they are not qualified to teach nutrition classes to their students (Auld, et al., 1999). In the Telljohan et al. study, 67 elementary school teachers participated in a 30 hour health education inservice training. Results showed that “workshop participants scored significantly higher than control teachers on efficacy expectations, outcome expectations, and outcome value subscales” (p. 261). The workshop participants reported that they now spend significantly more hours each week teaching health education because they felt more confident and prepared to teach nutrition.

Guidelines for Financial Success

Funding is a major concern for educational decision makers and classroom

teachers when it comes to developing an effective nutrition education program. Macera (2003) suggested using state funding to employ a full time school health coordinator. The school health coordinator would be responsible for organizing and supervising all school health policies, programs, activities, and resources (Wechsler et al., 2004). The school health coordinator would work with the individual school, along with the State Education Department to provide the necessary information about available materials and personnel to maximize the use of these free resources, which sometimes includes teaching training sessions (Macera).

School administrators, classroom teachers, and the school health coordinator could encourage communities and businesses to support health and nutrition education programs for students (Macera, 2003). Community organizations sometimes have volunteers willing to donate their time to help out in classrooms or give presentations on areas of specialty, including nutrition. Businesses, such as health food stores and health clubs, are often willing to donate food, money, or training sessions to local public schools. These community organizations and businesses can be easy ways to find funding for such programs.

Chapter Summary

The research presented in this review has shown that there is a need for nutrition education programs in elementary schools throughout the United States. Obesity and a lack of healthy eating habits affect children everyday. Although it is evident that nutrition and health programs have been designed, they all seem to be missing a key component to creating an effective, well managed, and highly used program. The next

step in this project is to apply the knowledge and ideas that have been presented to create an effective program that teachers, administrators, students, and parents find useful and successful.

Chapter 3

METHOD

The purpose of this project was to inform educators that there is a strong need to teach nutrition education programs in all elementary schools throughout the United States. Obesity has become a growing concern for the health of children now and as they grow into adults (Sutter, 2006). Not only is the obesity epidemic affecting children's health, but it also affects their academic performance and behavior in school (Wechsler et al., 2004). Because of this, it is apparent that nutrition education is important for children to develop the habits necessary to live healthier lives. Although nutrition and health education programs have been developed in the past, most of them seem to lack a key component, which keeps them from being widely used by many educators. The development and creation of a highly effective nutrition education program would greatly benefit the lives and attitudes of many children throughout the country.

Addressed in this chapter is a description of the target audience that was best served by the research and methodologies presented. This proposal outlined specific goals and procedures that were used to meet the needs of administrators, teachers, students and parents. Lastly, the proposal included a peer assessment section which provided the means and determined the applicability and usability of the project by the target audience.

Target Audience

The groups or individuals that were interested in using this particular project

and its application were elementary school administrators and teachers, and their students and the students' parents. This proposal was directed towards all elementary school administrators and general education teachers, but especially those in schools that did not already incorporate a successful nutrition education program into their curriculum. Although, administrators and teachers were the ones that would adopt the nutrition education program presented, the students and their families were the ones that would benefit from its use in the school system.

Goals of the Project

The primary goal of this project was to provide administrators and general education teachers of elementary schools with the information necessary to choose to incorporate a successful nutrition education program into their school's curriculum.

As a result of this project, school administrators, teachers, parents were able to:

1. Understand the extent of childhood obesity and the reasons for its prevalence
2. Understand the effects that childhood obesity has on these children both academically and behaviorally
3. Understand the benefits and importance of maintaining healthy diets for youth based on academic performance and psychological well-being
4. Become familiar with the basic ideas around implementing the author's nutrition education program into their schools

The implementation of this program would provide educators with the appropriate tools to successfully teach nutrition education in every classroom. Accomplishment

application of this program and its teaching tools would provide students, and their families, with direct instruction and knowledge needed to live healthier, well-balanced lives.

Procedures

The end result of this proposal was an in-service created for elementary school administrators, general education teachers, and parents of elementary school students to inform them of the goals and design of the created nutrition education program. The in-service included a Power Point presentation describing the purpose and need for this program. The presentation began with an explanation of the prevalence of childhood obesity in the United States. Next, the reasons why childhood obesity is so common and the effects poor nutrition have on children's performances, both academically and behaviorally, in school were outlined. The presentation continued on with an explanation of the benefits of healthy diets and ways to improve them among the youthful population. This idea led directly into the need for nutrition education programs in schools. Finally, the presentation informed administrators, teachers, and parents of the nutrition education basis ideas about the program created by the author of this project. This information included the program's lesson time table, use of outside resources, teacher training programs, materials available, and family involvement. Included at the in-service were handouts providing additional information about the program and how to begin one at any school.

Peer Assessment

The purpose of the peer assessment was to provide the means to determine the

applicability and usability of this project by elementary school administrators, general education teachers, and parents. Six knowledgeable and experienced administrators, teachers, and parents reviewed this project to determine whether or not the strategies presented would benefit and incorporate smoothly into the school curriculum. A short answer questionnaire was completed by each participant. Some questions addressed the applicability and usability of this program in schools. Other questions were used to gain greater insight as to the thoughts administrators, teacher and parents had about the program.

Chapter Summary

The PowerPoint of strategies and information presented in Chapter 4 of this project was designed to help general education instructors, elementary school administrators, and parents to become aware of the problem of childhood obesity. More importantly, the Power Point emphasized the importance of using the nutrition education program presented at every elementary school to better instruct the teachers and better inform the students and parents about the strategies to bettering their lives through health and nutrition care. Chapter 2 reviewed the current research and literature that formed the basis of this project. The information presented in that review was applied to the formation of the Power Point presentation found in Chapter 4. Discussion of the assessments with recommendations for future instructive application was presented in Chapter 5.

Chapter 4

RESULTS

The following PowerPoint presentation was designed for an hour long training for administrators, teachers, and parents of elementary school aged children. Although teachers will benefit the most from this in-service, it is important for administration and parents to see this presentation because their ideas, feedback, and participation in the program are also important. The in-service would be most beneficial if done at the beginning of the school year. This allows adequate time to implement the program into the classrooms. However, being presented at anytime during the school year will positively impact the teachers and their classrooms. The goal of this presentation was to raise awareness of the need for nutrition education programs in all elementary schools. The presentation will include opportunities for the participants to ask questions and partake in nutrition education activities.

The following pages contain each slide, followed by notes and commentary that the author presented during the PowerPoint in-service presentation. The notes sections identify any materials or special instructions the presenter must follow during the in-service. The commentary sections are the dialogue to be presented at the in-service. Handouts were provided for all who attend and are included in Appendix B.

Integrating Nutrition Education Programs

An in-service for elementary school
professionals and parents of elementary
school students

Presented by Tracey Henzel
March 2007

Notes

This slide will be on the screen while participants walk into the presentation room. This will allow them to know that they are in the correct location for the in-service. Quiet music will be playing in the background to allow a warm and welcoming atmosphere. Tables will be set with water, packets of the presentation, a resource page (Appendix B), and a pen for each participant. They may begin looking through the presentation packets to become familiar with the information that will be presented during the in-service.

Commentary

Good morning and welcome to the Integrating Nutrition Education Programs in-service. My name is Tracey Henzel and I will be your presenter. I would like to begin by letting everyone know that the packet in front of you is a copy of the presentation. It is yours to keep so please feel free to take notes. Questions are encouraged, but if you could please write them down in your packet. There will be a question and answer

segment at the end of the presentation. I hope that you all enjoy this experience and it helps open your eyes to the important, and often overlooked, topic of childhood health and nutrition.

Goals

- Understand the extent of childhood obesity
- Understand the effects it has on children academically and behaviorally
- Understand the benefits and importance of maintaining a healthy diet
- Understand the importance of implementing nutrition and health education in schools
- Become familiar with the basic ideas of my Nutrition Education Program

Commentary

By the end of this presentation each of you should have a better understanding about the extent of childhood obesity and the reasons for its prevalence in the United States. You should understand the effects childhood obesity has on these children in school, both academically and behaviorally. You should understand the benefits and importance of maintaining healthy diets for youth, based on academic performance and psychological well-being. You should understand the importance of implementing nutrition education in all elementary schools. You will become familiar with the basic ideas surrounding the Nutrition Education Program I have designed.

What do you know?

- What food group is each colored section?
- What nutrient benefits does each group provide?
 - vitamins, calcium, protein, etc
- What do the person and the stairs represent?



Notes

As I am explaining the activity I will pass out the activity worksheets. (Appendix A). I am passing out this worksheet now because I did not want them to discuss the answers with their neighbor ahead of time. These worksheets will not be collected at any point during the presentation. The purpose of this activity is for each individual to discover what they know about the Food Guide Pyramid and basic nutrition concepts. I will give them about five minutes to complete the worksheet, or until most of them look as though they are finished.

Commentary

You are now going to participate in a quick activity before I continue with the presentation. I am passing out a sheet of paper which you will fill in all the information that you can about the Food Guide Pyramid. I will not be collecting these worksheets. This information is used to help you understand and discover how much you already know about basic nutrition and the Food Guide Pyramid.

group which is dairy. Dairy is an important source of vitamins A and D, calcium, and fiber. Does anyone know what the purple group represents? Purple represents the meat, fish beans, and nuts group. This food group provides the body with protein, vitamin B, and iron. We will now look back at the yellow group. This group represents fats, oils, and sweets. Fats and oils are essential nutrients to maintain body function but should be used sparingly. Sugars are quickly absorbed into the bloodstream to provide a quick dose of energy. If you look at the pyramid you will notice that each colored strip is a different size. The size of the strip represents the amount of food from that group you should consume each day compared to the other groups. According to this newer pyramid, the recommended serving sizes consumed each day depends on your age. Another aspect this new pyramid includes is exercise. Stairs on the pyramid represent the importance of exercise and the simple steps you can take each day to improve your health. Thirty minutes of moderate exercise is recommended each day. I hope each of you now has a better idea of the Food Guide Pyramid, and health in general.

The Obesity Epidemic

“Childhood obesity is one of the greatest health problems facing the nation today”

- U.S. Surgeon General

- Overweight = BMI score of 95 or above
- Over past 2 decades number of overweight children has doubled
- 18.8% of children ages 6-11 are overweight

Commentary

Now that you know what to eat to stay healthy, let's take a look at what happens when you do not eat healthy. The amount of weight that children are gaining has become a major concern to professional health care providers, with childhood obesity being one of the greatest health problems facing the nation today. Obesity is defined as having a Body Mass Index or a BMI score of 95 or higher. BMI is a measurement of a person's weight in relation to their height. In more general terms, childhood obesity is defined as, “the result of an imbalance between the calories a child consumes as food and beverage and the calories that child uses to support normal growth, development, metabolism, and physical activity”. Over that past two decades the number of overweight children has doubled, with 18.8 percent of children ages 6-11 being overweight. This 18.8 percent is three times the target prevalence of five percent.

Reasons for Poor Nutrition

- Poor diets
- Poor social context of food



Commentary

Young children are highly influenced by the people and environments that surround them. When these people and environments do not provide the knowledge, support, and encouragement required to form healthy eating habits, it is easy for children to learn bad habits that follow them throughout their lives. Poor diets and poor social contexts in which food is presented are two factors that lead to childhood obesity and health problems.

Poor Diets

- 2% eat the recommended daily amount of serving in the 5 food groups
- 80% eat too much fat
- Big portion sizes, frequent snacking, too much fast food
- Children's diets can be described as an inverted food guide pyramid



Commentary

According to the U.S Department of Agriculture, only 2% of children eat the recommended amount of food per day. Eighty percent of children have too much fat in their diets. Children's diets today are made up of too much fat, energy, and sugar, and too little fiber and calcium. They are not getting the essential nutrients that are necessary to reach their optimal growth and development potentials.

Other factors affecting children's poor diets are large portion sizes, frequent snacking on high sugar foods and beverages, and large amounts of fast food consumption. Portion sizes at restaurants are often two to three times that of a recommended portion size for adults, meaning children are eating up to or even more than the amount of three meals at one sitting. Busy life styles have made fast food runs and eating out a regular part of most families' lives.

Poor Social Context



“ If you eat all your vegetables, then you can have dessert! ”

- Positive and negative connotations are set around food
 - Rewarded with pizza parties and candy
 - Must finish their vegetables and fruit

Commentary

The social contexts in which foods are given to children play a huge role in whether or not these foods will be accepted. Setting positive and negative connotations around certain foods is a major problem which parents and teachers are often guilty of doing. Foods children are talked into eating tend to be nutritious foods, like fruits and vegetables. Whereas foods presented as awards are usually tasty, high in sugar foods. How many of you (teachers) have rewarded your class with a pizza party or candy for good behavior? Most of us have and do, which is giving our students the wrong message about food. The social contexts in which foods are portrayed can greatly impact children's food preferences creating both negative and positive eating habits.

Effects Poor Nutrition Have on Children in School

- Poor diets impact the success children have both academically and behaviorally
- The brain needs nutrients, not sugar, to function correctly
 - Because of high sugar, low nutrient diets, the brain is not doing well

Commentary

Poor diets impact children at school both academically and behaviorally.

Although the brain only accounts of two percent of our body weight, it uses 20 percent of the body's energy. In order for energy to be generated correctly the body needs to absorb certain amount and types of nutrients, such as vitamins and minerals. When children's diets are unbalanced, these nutrients are not being absorbed and therefore the brain will not function correctly causing both academic and behavioral problems.

Academic Performance



- Overweight children have lower reading and math test scores
- Overweight children report impaired school functioning 4 times more
 - special education and remedial classes
- Not eating breakfast decreases performance

Commentary

Overweight children tend to have impaired school functioning four times more than their average weight peers, with lower reading and math test scores being the most common problems. These overweight children are more often placed in special education and remedial classrooms.

Another factor affecting academic performance at school is linked to students who typically do not eat breakfast. Not eating breakfast has shown to affect students' intellectual performance level. Most nutritionists consider breakfast to be the most important meal of the day because it jump starts the brain and boosts the metabolism.

Behavioral Issues

- Overweight children tend to have:
 - Anxiety, low self-esteem, loneliness, sadness, anger, arguments and fights
 - Decreased school attendance rates
 - Decreased social acceptance by peers
- Sudden mood swings due to influx of blood sugar levels

Commentary

Overweight children tend to have behavioral issues such as anxiety, low self-esteem, loneliness, sadness, anger, arguing, and fighting because many of these students feel inadequate due to the way their bodies look and the way they feel about themselves. These behavioral issues lead to decreased rates of school attendance and decreased levels of social acceptance.

When children eat a lot of sugar, hyperactive behavior is often followed by tears and tantrums. This happens because blood sugar levels jump after sugar is eaten, which initially gives a burst of fresh energy. When blood sugar levels fall it causes lethargic and sleepy results. The body then tries to prevent blood sugar levels from falling too low which can cause irritableness. I am sure many of you have witnessed this for yourselves.

Benefits and Importance of Healthy Diets

Increased Academic Performance

- Children who eat more fruits and vegetables perform better academically than their peers
- Reducing fat and sugar intake increase IQ scores and GPA's

Commentary

A healthy diet can greatly improve the life of a child. It can impact academic performance level, psychological well-being and overall health. The first step towards improving children's diets is by developing and changing their knowledge and attitudes towards eating healthy. The higher level of knowledge they have towards understanding the Food Guide Pyramid and knowing which foods to add to meals to raise the health and nutrient intake will increase confidence towards preparing and eating those foods. Students who eat more fruits and vegetables, and less sugar and fat, perform better academically.

Benefits and Importance of Healthy Diets Continued

Increased Psychological Well-Being

- Eating breakfast reduces tardiness, absences, depression, anxiety and hyperactivity
- Stable behavior occurs when vitamins, minerals, and unsaturated fatty acids are consumed regularly

Commentary

Students' psychological well-being improves with improved diets as well. Eating breakfast helps reduce tardiness, absences, depression, anxiety, and hyperactivity for many children. By getting the recommended amount of vitamins, minerals, and unsaturated fatty acids, the brain remains balanced and so does behavior.

Ways to Improve Healthy Diets among Youth

- Children can not take charge of their health alone
- Adults need to know:
 - what prompts children's food preferences
 - foods to expose them to
 - how to develop habits that support growth, development, and positive attitudes towards healthy food
- Schools and families can help

Commentary

Children cannot take charge of their health alone. They need to help and support of adult role models. Adults should model healthy eating habits themselves. Teachers should not drink soda or eat unhealthy snacks in front of their classes. Parents should also eat and drink healthy foods and beverages around their children. Adults also need to learn the important information regarding child health and nutrition opportunities. It is important for adults to understand what prompts children's food preferences, what foods to expose them to, and how to develop habits that will support growth, development, and positive attitudes towards healthy foods. Both families and school can play key roles in supporting this process.

Family Involvement



- Family meals, away from the TV, are important
- Pair food with positive attention and praise
- Constant exposure of healthy foods
- Stay involved at school

Commentary

Family structure and living environment are huge factors in surrounding this issue. Family meals that have a starting and ending point, with the television off, are most beneficial for a structured, non overeating environment.

When parents pair food with positive attention and praise, preferences for that food will increase. Constant exposure to health foods will also increase a child's acceptance of that food. Research has shown that about ten positive exposures are needed to change a food preference.

Parents also need to stay involved in their children's academics when it comes to nutrition. Family support and involvement is often accepted and appreciated at school. Parents should learn about the health education curriculum used at their child's school. If no program is provided, parents should insist and support the implementation of one, and even take the responsibility of teaching nutrition at home until a school program is in place.

School Intervention

- Offer access to most children
- Provide opportunity to practice healthy eating
- Involve skilled professional to guide curriculum
- Research shows that well designed and implemented school nutrition programs promote healthy eating and increased academic performance
- **THE PROBLEMS :**
 - Good programs are not being implemented and are not required
 - Most teachers do not feel comfortable teaching nutrition education

Commentary

School interventions can provide the means to improve children's health through a number of factors. They offer access to almost all children. They will provide opportunities to practice healthy eating. They also involve skilled professionals to guide the curriculum. Research shows that well designed and implemented school nutrition programs promote healthy eating and increase academic performance.

Unfortunately, even though most administrators, teachers, and parents understand the importance of nutrition education programs, they are still absent in many schools. The most common reasons for this are; nutrition education is not required in most states and districts, teachers do not feel comfortable or well qualified to teach nutrition education, and it is hard to finically support such programs.

Nutrition Education Program



Commentary

The Nutrition Education Program I have designed is outlined here in a broad presentation of what the program entails. The program was created in a basic format so that it can be easily altered and shaped to fit into any school, district, and state.

Program Design

- Grades 1 through 5
- Met and developed using stated standards
- Lessons:
 - 1 per week, 45 minutes
 - Nutrition education
 - Health education
 - Healthy snack preparation and/or cooking



Commentary

The curriculum for this program was designed for elementary grades one through five. It was developed using state standards in nutrition, health, and even integrates standards from other subject areas such as math, science, reading and writing. The curriculum was created to teach one 45 minute lesson per week. Each lesson will provide students with either nutrition education or health education. Children will look forward to the Nutrition Education Program each week because it provides them with an opportunity to prepare, cook, and eat their own healthy snacks. Recipes will be sent home with each student so that families can prepare these healthy snacks on their own.

Goals for Implementation

- Connect with the community
 - Local grocery stores for materials and food
 - Local colleges for teacher training and teaching primary sessions





Commentary

The goal of this program is to connect and use the community as a resource for funding and education opportunities. Local grocery stores are great places to find funding for materials and food. Whereas local colleges are great places to find educated adults willing to help teach lessons and train teachers about health and nutrition education.

Food Funding



- Unite with local grocery stores
 - Provide funding for food and materials
 - Most are happy to donate to education
- Common contributors 
 - Wild Oats and other health food stores
 - Target
 -  Donate over \$3 million to education

Commentary

The first step toward implementing this program successfully in any elementary school is to get support for funding from local stores. Most big corporations are happy to donate money, products, and food for educational purposes. Some common contributors around this area are Wild Oats and Target. Wild Oats has donated health food to a number of local nutrition programs and activities for schools. Target is also a big contributor to education. Target donates over \$3 million to education weekly. With Super Targets becoming common in most areas, food and supplies, such as paper goods, would be easily accessible from this one location.

College Connection

- Unite with professors of nutrition majors
 - Required class credit
 - Provide curriculum
- College students teach classes
 - Once a week
 - Classroom teacher observes and participates to earn certification to teach

Commentary

The next step is to find educated college students to help participate in the Nutrition Education Program. Many college professors are happy to enhance the education of their own students. At a local community college, Front Range, nutrition major professors already have a similar program in place and find many benefits for their students. By requiring students to attain degrees in nutrition to participate in programs such as this one, it is bettering their education. Teaching someone else what you are learning is a great way to solidify the understanding of the material for yourself. College professors could require their students to teach one hour of nutrition education per week to pass a class. These college students would teach the curriculum, since many elementary school teachers do not feel like they know how to teach nutrition accurately. Classroom teachers would observe and participate in teaching the classes to work towards better understanding the material and also towards earning their own nutrition education certification.

Classroom Teacher Certification



- Must participate in all lessons taught by college student
- Must attend 2 teacher training sessions or in-services
 - Encourage administrators to use weekly building meetings or in-service days for training
- Once completed, the curriculum lessons and funding are all theirs

Commentary

The last step in the implementation and success of this Nutrition Education Program focuses on the classroom teacher. Since many teachers do not feel comfortable and knowledgeable enough to teach nutrition education on their own, this program gives them the means to learn and be certified to teach it. In order for classroom teachers to become certified to teach this program, they must participate in all lessons taught by the college student for one year. The teachers must also attend two different teacher training sessions or in-services. The program encourages administrators to include these training sessions as weekly team meetings or as in-service days. This allows them to be more convenient for teachers. The benefit of each teacher being certified is that they will receive a complete copy of year long curriculum as well as funding.

Any Questions?



Commentary

I would now be happy to answer any questions about the Nutrition Education Program or the presentation in general.

Thank You!

- Please take your time to fill out this QUESTIONNAIRE before you leave



Notes

Pass out the questionnaire (Appendix C). Leave the room as they fill out the questionnaire, this may allow them to feel more comfortable.

Commentary

Thank you all so much for attending this presentation. I hope that you enjoyed it and it helped open your eyes to the importance of strong nutrition education programs in elementary schools. If you would please fill out this questionnaire and place it in the envelope by the door as you exit. Your answers on the questionnaire may remain private if you wish. Thanks again for your time.

Chapter Summary

This chapter covered the in-service slides, notes, and commentary that will be used when giving the presentation. The in-service allowed the author to assist elementary school teachers in learning about the need for more nutrition education, background of why it is important, and the basic development of the author's Nutrition Education Program. It also provided the opportunity for administrators, teachers, and parents to take the first step in establishing more nutrition education in their own schools.

The appendices provide the packet, a resources handout, and a questionnaire given to each participant that attended the in-service. The packet found in Appendix B allows the participants to take notes during the presentation, and also take information away with them to review in the future. This section also includes a resource handout that provides each applicant with suggestions for further reading. Appendix A includes the activity sheet the participants completed toward the beginning of the presentation. Finally, Appendix C is an example of the questionnaire each individual filled out at the end of the presentation. Chapter 5 will review the in-service and the limitations of the project.

Chapter 5

DISCUSSION

The purpose of this project was to develop an in-service for elementary school administrators, general education teachers, and parents. The in-service was given to teach those who attended the importance of healthy diets for children and the need for the Nutrition Education Program in all elementary schools. The PowerPoint presentation provided information on nutrition, hands on activities, an opportunity for participants to take notes throughout the in-service, and the opportunity to request additional information about the program.

One objective of this in-service was to inform educators and parents about the prevalence of childhood obesity and why it is so prevalent. To assist in this objective, several tools were provided to the participants. One tool was a self evaluation of the current Food Guide Pyramid and its guidelines. This tool allowed each attendee to evaluate what they knew about the Food Guide Pyramid and nutrition. Many of the participants knew less than they thought they would about the Food Guide Pyramid and nutrition in general, which may help explain why most children do not know much about the importance of regularly eating healthy foods. Another tool used was the statistics and information provided in the PowerPoint presentation. This information allowed the participants to understand, learn, and reflect on the current issues surrounding childhood obesity.

The second objective of this in-service was to provide educators and parents with a plan of action to effectively take control of this epidemic. The Nutrition Education Program was outlined to allow the participants to understand each step associated with the program layout. Ideas for funding and education were briefly provided and could be adapted to meet the needs of a number of schools throughout the country. The Nutrition Education Program should be utilized in every elementary school and every elementary classroom to ensure that all students are receiving the nutrition education they need to stay healthy.

It was the hope of this author that educators and parents would come to understand the desperate need for a strong nutrition education program in all elementary schools. Such a program would better educate students about the importance and benefits, both academically and behaviorally, of eating healthy and nutritious foods.

Limitations of the Project

While the author attempted to be as thorough as possible in researching this topic, the vast amounts of information made it hard to include all aspects of the issue. Two very big links to the topic of childhood obesity and ways to decrease its prevalence are socioeconomic status (SES) and physical activity. SES can be associated with the amount of knowledge people have about the importance of nutrition. It also correlated with the amount of money people have to buy healthier options at the grocery store. The amount of physical activity people get is also linked to their health and well-being. These two subjects could greatly influence the reasons for prevalence and prevention of childhood obesity and unhealthy eating habits.

Another limitation to this project is the explanation and implementation of the Nutrition Education Program as a whole. Administration, teachers, and parents liked the idea of the program, but many of them seemed a little unsure of how it would work in schools. They had some questions on the college student teaching the lessons and the elementary school teacher certification process. Due to only having an hour for the presentation, these types of details were not included. Although the author provided for an opportunity to send more information to those interested in the Nutrition Education Program, maybe a longer, more detailed presentation would have been useful and helpful to the individuals that attended.

In addition, the following suggestions about the presentation in general were made by the administrators, teachers, and parents who attended:

1. Include more activities to allow for more hands on interaction
2. Add more facts and figures to the presentation

Recommendations for Future Development

The author would like to continue conducting research in the area of childhood obesity and the unhealthy eating habits of today's youth. Including research on how SES and physical activity feed into this topic is an area of great interest. By continuing and expanding research on this subject, the author may find new means and ideas surrounding the idea of health and well-being related to academics and behavior.

The author would also like to continue expanding and developing the ideas behind the Nutrition Education Program. By connecting with grocery stores and colleges in a number of areas throughout the country, the program could begin to take shape in the locations with the most support. Once the program has been tested and adapted to meet

the needs of students, teachers, and parents in these supportive communities, then it can be developed in areas with less community support. Future goals are to make the Nutrition Education Program sufficient and user friendly enough to become a mandatory program in all elementary schools throughout the United States.

Chapter Summary

This thesis focused on the epidemic of childhood obesity, the importance of improving the diets of youth in the United States, and ways to do so. Chapter 1 identified the purpose of the project and explained the problems covered. Chapter 2 reviewed the research and literature available about the prevalence of poor nutrition among children, reasons and effects of poor nutrition, the benefits and importance of healthy diets, ways to improve healthy diets, current nutrition education programs, and guidelines for creating effective programs. Chapter 3 reviewed the process in which the in-service would be created and delivered. Chapter 4 displayed all the prepared PowerPoint slides, notes for the presenter, and commentary presented to the audience. In this chapter, Chapter 5, the author reflects on the limitations and recommendations for future development.

This project has prepared the author to educate a room of administrators, teachers, and parents on the importance of implementing the Nutrition Education Program into every elementary school in the United States. It is the author's hope that through the use of this in-service, teaching nutrition and healthy eating habits will become mandatory and highly valued in elementary school education. Hopefully this program can help shape and change the ways that adults, and especially children, understand nutrition which will impact many young lives along the way.

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APPENDIX A

Presentation Worksheet

What Do You Know About Nutrition?



What food group is presented in each colored section?

ORANGE: _____

YELLOW: _____

GREEN: _____

BLUE: _____

RED: _____

PURPLE: _____

What nutrient benefits does each group provide?

ORANGE: _____

YELLOW: _____

GREEN: _____

BLUE: _____

RED: _____

PURPLE: _____

What does the person and the stairs represent?

APPENDIX B

Handouts

Resource List

Integrating Nutrition Education Programs

An in-service for elementary school
professionals and parents of elementary
school students

Presented by Tracey Henzel
March 2007

Goals

- Understand the extend of childhood obesity
- Understand the effects it has on children academically and behaviorally
- Understand the benefits and importance of maintaining a healthy diet
- Understand the importance of implementing nutrition and health education in schools
- Become familiar with the basic ideas of my Nutrition Education Program

What do you know?

- What food group is each colored section?
- What nutrient benefits does each group provide?
 - vitamins, calcium, protein, etc
- What do the person and the stairs represent?





The Obesity Epidemic

"Childhood obesity is one of the greatest health problems facing the nation today"

- U.S. Surgeon General

- Overweight = BMI score of 95 or above
- Over past 2 decades number of overweight children has doubled
- 18.8% of children ages 6-11 are overweight

Reasons for Poor Nutrition

- Poor diets
- Poor social context of food



Poor Diets

- 2% eat the recommended daily amount of serving in the 5 food groups
- 80% eat too much fat
- Big portion sizes, frequent snacking, too much fast food
- Children's diets can be described as an inverted food guide pyramid



Poor Social Context



"If you eat all your vegetables, then you can have dessert!"

- Positive and negative connotations are set around food
 - Rewarded with pizza parties and candy
 - Must finish their vegetables and fruit

Effects Poor Nutrition Have on Children in School

- Poor diets impact the success children have both academically and behaviorally
- The brain needs nutrients, not sugar, to function correctly
 - Because of high sugar, low nutrient diets, the brain is not doing well

Academic Performance



- Overweight children have lower reading and math test scores
- Overweight children report impaired school functioning 4 times more
 - special education and remedial classes
- Not eating breakfast decreases performance

Behavioral Issues

- Overweight children tend to have:
 - Anxiety, low self-esteem, loneliness, sadness, anger, arguments and fights
 - Decreased school attendance rates
 - Decreased social acceptance by peers
- Sudden mood swings due to influx of blood sugar levels

Benefits and Importance of Healthy Diets

Increased Academic Performance

- Children who eat more fruits and vegetables perform better academically than their peers
- Reducing fat and sugar intake increase IQ scores and GPA's

Benefits and Importance of Healthy Diets Continued

Increased Psychological Well-Being

- Eating breakfast reduces tardiness, absences, depression, anxiety and hyperactivity
- Stable behavior occurs when vitamins, minerals, and unsaturated fatty acids are consumed regularly

Ways to Improve Healthy Diets among Youth

- Children can not take charge of their health alone
- Adults need to know:
 - what prompts children's food preferences
 - foods to expose them to
 - how to develop habits that support growth, development, and positive attitudes towards healthy food
- Schools and families can help

Family Involvement



- Family meals, away from the TV, are important
- Pair food with positive attention and praise
- Constant exposure of healthy foods
- Stay involved at school

School Intervention

- Offer access to most children
- Provide opportunity to practice healthy eating
- Involve skilled professional to guide curriculum
- Research shows that well designed and implemented school nutrition programs promote healthy eating and increased academic performance
- **THE PROBLEM:** good programs are not being implemented and are not required

Nutrition Education Program



Program Design

- Grades 1 through 5
- Met and developed using stated standards
- Lessons:
 - 1 per week, 45 minutes
 - Nutrition education
 - Health education
 - Healthy snack preparation and/or cooking




Goals for Implementation

- Connect with the community
 - Local grocery stores for materials and food
 - Local colleges for teacher training and teaching primary sessions



Food Funding



- Unite with local grocery stores
 - Provide funding for food and materials
 - Most are happy to donate to education
- Common contributors 
 - Wild Oats and other health food stores
 - Target
 - Donate over \$3 million to education

College Connection

- Unite with professors of nutrition majors
 - Required class credit
 - Provide curriculum
- College students teach classes
 - Once a week
 - Classroom teacher observes and participates to earn certification to teach

Classroom Teacher Certification



- Must participate in all lessons taught by college student
- Must attend 2 teacher training sessions or in-services
 - Encourage administrators to use weekly building meetings or in-service days for training
- Once completed, the curriculum lessons and funding are all theirs

Any Questions?



Thank You!

- Please take your time to fill out this QUESTIONNAIRE before you leave



RESOURCE LIST

- For additional information presented in this in-service please refer to the following books, journals, and websites



BOOKS

Fast Food Nation
by Eric Schlosser

Feed Your Kids Well: How to Help Your Child Lost Weight and Get Healthy
by Fred Pescatore

JOURNALS/MAGAZINES

Journal of School Health
Journal of the American College of Nutrition
ODE

WEBSITES

www.ActionForHealthyKids.com
www.cdc.gov: Centers for Disease Control and Prevention
www.nasbe.org: National Association of State Boards of Education
www.nihcm.org: National Institute for Health Care Management
www.hhs.gov: U.S. Department of Health and Human Services
www.mypyramid.gov

APPENDIX C

Questionnaire

QUESTIONNAIRE

- Please answer each short answer question as honestly as possible.



1. What were the most important points you took away from this presentation?

2. What were the greatest strengths of this presentation?

3. What suggestions do you have?

4. What other areas should be studied or presented?

5. Any comments or questions?

If you would like more information about the Nutrition Education Program presented please leave your name and address below. An information packet will be sent to you. Thank you!
