

# **Nutrition Positive**

## **An Incentive Program In Saskatoon Elementary Schools.**

### **A Case Study & Preliminary Process Evaluation**

A Thesis Submitted to the College of  
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in Partial Fulfillment of the Requirements  
for the Degree of Master of Science  
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## **ABSTRACT**

The purpose of this qualitative case study was to gain an informed understanding of the views of elementary school staff about the characteristics of the Nutrition Positive incentive program including: program development, implementation strategies used by individual schools, and challenges and related concerns associated with program implementation. As an initial step in a process evaluation, knowledge was gained through document analysis, site observations and 14 semi-structured interviews with principals, teachers and nutrition coordinators in 4 Greater Saskatoon Catholic, and 4 Saskatoon Public, Saskatchewan schools. Findings were then compared and contrasted with three models for ‘best practice’ from the scientific literature and related to school health, education, and promotion.

The results led to the following conclusions. Nutrition Positive serves as an entry point for health promotion in Saskatoon elementary schools. While providing principals, teachers and other school staff with the necessary supports to enable children to learn critical life and health skills, it is also practical and realistic. The program can easily be adapted to different age and developmental levels, and a variety of cultures. The Advisory Committee and the program manual provide multiple resources to facilitate implementation. Schools may adapt the program for use across curricula, within school timetables, and concurrent with other health-related programs. Nutrition Positive schools attempt to provide healthy, “serve most often” foods for student mealtimes, special events, fundraising activities, vending machines and classroom rewards. While the program appears to be sustainable, it needs to specify measurable objectives and requires a better design for its assessment, monitoring and evaluation components. It is recommended that schools include all stakeholders, including parents and students, when forming a school-based program committee. Committee members need to participate in developing written school policies and guidelines, as well as learning about healthy eating themselves. School activities and foods offered need to more consistently and uniformly compliment the curriculum and program goals and objectives. In order to expand, program materials need to be widely publicized, communicated in a timely manner, culturally relevant, and available in languages in addition to English.

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## DEDICATION

### To My Family :

**My Father,  
Douglas E. M<sup>c</sup>Naughton**

who has inspired me with his intelligence,  
ingenuity and spirit of inquiry.  
I dedicate this work to you.

**My Mother,  
Alice**

who has inspired me  
with her love of the natural world  
and her ability to portray it creatively,  
as a fine artist.

**My Siblings,  
Bruce, Christine and Twyla Jane**

May you eat all your vegetables,  
And enjoy the fruits of your labor.

**My own,  
Glyne, Shannon, Nathan and Carmen**

you have been so patient,  
encouraging and supportive.  
I could not have done this without you!

And last but not least,  
**J.C., Chubs and Toby**  
My walking companions  
and  
Stress relievers.

This is for all of you!

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## LIST OF ABBREVIATIONS

AFHK.....	Action for Healthy Kids®
AS! BC.....	Action Schools! British Columbia
BMI.....	Body Mass Index
CAT.....	Canadian Achievement Tests
CATCH.....	Coordinated Approach to Child Health
CDC.....	Centers for Disease Control
CHEP.....	Child Hunger and Education Program
CSH.....	Comprehensive School Health
ECS.....	Evaluation Criteria Score
ESL.....	English as a Second Language
FFQ.....	Food Frequency Questionnaire
FOR.....	Food on the Run
HPS.....	Health Promoting Schools
NC.....	Nutrition Coordinator
NHANES.....	National Health and Nutrition Examination Survey
NIH.....	National Institute of Health
NP.....	Nutrition Positive
PAC.....	Parent Advisory Council
PHNSWG.....	Public Health Nutritionists of Saskatchewan Working Group
PLC.....	Professional Learning Community
SHI.....	School Health Index
SHPPS.....	School Health Policies and Programs Study
SNIP.....	School Nutrition Incentive Program
SNPM.....	Saskatoon Nutrition Positive Manual
SK.....	Saskatchewan
SLC.....	Student Leadership Council
USDA.....	United States Dietary Association
WHO.....	World Health Organization

## CHAPTER 1 - INTRODUCTION

This chapter provides an introduction to the study and identifies the research problem, purpose of the study, research questions, and significance of the study. In addition, the approach of the researcher and key terms are described and defined.

### 1.1 Introduction

*Children growing up in North America today  
are at risk of being the first generation in modern memory  
that will have a shorter life expectancy than their parents.*

(Dr. Katz, as cited in *Saskatoon Nutrition Positive Manual*, 2006-2007, Appendix HH)

This statement embodies the serious concerns that have motivated educators, nutritionists and other care providers to develop health promotion programs for students within educational settings. Schools play a significant role in health promotion and disease prevention, because they are considered ideal and appropriate settings for creating an environment in which to promote healthy eating behaviours among children (Auld, Romaniello, Heimendinger, Hambridge & Hambridge, 1998; Koble, 1993; McBean, 2003). Since children spend a large portion of their time in school, it is possible to have a powerful influence on their eating and activity patterns there. School is where children develop many lifelong habits and preferences. Schools are great equalizers, providing equal access to information in settings where families may differ in their levels of knowledge, and ability to discuss health-related needs. School children can pass on important lessons to their parents and, in turn, help communities fulfill social responsibilities (Delisio, 2006). In addition, nutrition-related school policies have a direct effect on student attitudes and behaviors toward food, and food availability, quality and safety.

In Saskatchewan, there are many excellent examples of Boards of Education shaping policy and direction for improving student nutrition and health. Education and health professionals are working collaboratively to promote healthy school

environments. Partnerships exist between Boards of Education, health regions, parent and student groups, business, non-government organizations, service groups, churches and others (Berlinic, 2007). The Nutrition Positive program was developed to assist Saskatchewan schools with the process of implementing nutrition policies and guidelines. Nutrition Positive has operated within schools of the Greater Saskatoon Catholic and Saskatoon Public School Divisions since 2000 and since January, 2007 is being piloted in the Horizon School Division (Berlinic, 2007). Nutrition Positive is a program that “exists to create and support a healthy food environment in Saskatoon school communities.” A Nutrition Positive goal is to help kids eat better, feel better and do better in school (Saskatoon Nutrition Positive Manual, 2006-2007). This case study seeks to describe the Nutrition Positive approach and begin a process evaluation on the program (SNPM, 2006 - 2007). Please see Section 2.4 for a more complete description of Nutrition Positive.

## **1.2 Research Problem**

To date, very little evaluation has been carried out on the Nutrition Positive school initiative. Nutrition Positive schools are currently invited to self-report about goals, actions and the perceived impact of nutrition related initiatives. A summary report is completed by participating schools at the end of each academic year. However, research and monitoring efforts are needed to set priorities for relevant strategies and to test standard criteria for evaluating this and other school-based nutrition and health promotion programs (Gillis, 1995).

While there are a number of American studies that have investigated the effect of US nutrition programs on children’s health and academic outcomes, very few Canadian studies on the effect of Canadian nutrition programs can be found. In Saskatchewan there are no over-arching policies or legislation governing school nutrition programs (Henry, Vandale, Whiting, Woods, Berenbaum & Blunt, 2006). Nutrition policies in Saskatchewan schools fall under the authority of the Boards of Education (Berlinic, 2007). The Saskatoon Health Region and Saskatchewan Learning are both encouraging school boards to have Food and Nutrition Policies in

place in the near future (R. Mireles, personal communications, January 22, 2008). Recent communications with the Saskatchewan Ministry of Education indicate an inter-governmental committee is currently working on school nutrition and policy development guidelines, intended for all schools in the province. The guidelines are expected to build upon much of the work already carried out by public health nutritionists and their partners (e.g. “Nutrition Guidelines for Schools 2004”). The initiative is supported by the Ministries of Education, Health and Social Services (V. Jerome, personal communications, February 6, 2008).

In light of the pressure for Saskatchewan schools to create healthier school environments through both policy and procedure, this case study should serve to provide information useful for program planners, educators and policy makers.

### **1.3 Purpose of the Study**

The purpose of this qualitative case study is to gain a deeper understanding of the Nutrition Positive incentive program, including program development, implementation strategies used by the individual schools, and challenges and related concerns associated with program implementation.

### **1.4 Research Questions**

1. What are the characteristics (e.g. purpose, goals, and implementation strategies) of the Nutrition Positive incentive program?
2. What issues, challenges and related concerns are associated with the implementation of the program in schools?

### **1.5 Significance of the Study**

School environments that support good nutrition (and optimal physical activity) are important in addressing learning and health-related problems that begin during school-age years and continue into adulthood (AFHK, 2006a). The Public Health Nutritionists of Saskatchewan Working Group (2004), in cooperation with the Saskatchewan School Boards Association, identified the following health issues as being of concern to local communities: 1) childhood overweight and obesity; 2) Type 2 diabetes; 3) body image issues, and 4) physical inactivity.

There is a universal need to understand the characteristics of and the strategies used to develop, implement and evaluate programs designed to promote healthy eating and lifestyle behaviors among children (AFHK, 2006b). The World Health Organization (WHO) also indicates that further research is needed on promoting health in schools. The research should include a wide range of methodologies to establish what does and does not work. Research should consider issues of implementation and the process of delivery, not exclusively program outcomes (Stewart-Brown, 2006). Researchers should recognize the limitations of the experimental or quantitative model in assessing programs that require the active engagement of participants (WHO, 1996). Quantitative evaluation is rarely able to take account of the process of delivery, which is critically important to the development of health. Also, evaluation of delivery requires observational methodologies, particularly qualitative research. Research that takes equal account of the contribution made by different research methodologies is more likely to be successful in the long run (Stewart-Brown, 2001).

This study seeks to understand the characteristics, issues, challenges and opportunities associated with the Nutrition Positive program. The study was undertaken using qualitative methodologies, and process evaluation techniques. The practices and guidelines described by the World Health Organization (WHO), the US Centers for Disease Control and Prevention (CDC) and the Action for Healthy Kids evaluation model guided the design and evaluation of this study. The Nutrition Positive program is designed to be adopted and tailored to the needs of the individual school. Hence it is possible that there may be several models of implementation in elementary schools in Saskatoon.

## **1.6 Approach to Inquiry**

The impetus for this research stems from my background in both nutrition and education. After ten years of employment as the food service director in a geriatric special care home, I came to understand that food attitudes and behaviors are not easily modified towards the end of the life-cycle. It is also very difficult to

alter the course of chronic or acute disease symptoms after a lifetime of questionable dietary and other health-related behaviors. However, as an elementary school teacher for the past eight years, I also observed the willingness of my students to learn about nutrition and other health-related topics. Not only do the students enjoy food-related activities, experiments, and instruction, but they seemed to carry health and nutrition information home with them. Some of them even expressed a desire to change their dietary habits, and have been observed to make better food choices at school and at home. Consequently, I have an interest in health programs that target school populations.

After reviewing the literature, conducting research on topics related to nutrition issues in schools and learning about a number of school approaches, I decided the Nutrition Positive incentive program was well suited to my research interests. I first became interested in this particular program during a presentation on Nutrition Positive at a University of Saskatchewan Health Promotion class. As the presenter was speaking, I realized a study on this program would bridge my interests in both nutrition and education. At the end of the presentation, the speaker mentioned the Nutrition Positive Advisory Committee wished to have some research conducted. I contacted them and talked about the possibilities. Initial descriptions of the program made me excited about the possibilities for Saskatchewan schools and for the educators and students taking part. By investigating the program, I hope to provide the Nutrition Positive Advisory Committee with information for future program planning and development. It is beyond the scope of this study to make conclusions about program impact or outcome measures, yet data generated may serve as a baseline for future studies which may attempt such evaluations (see Section 6.3). This study may provide critical information and additional material for program planners and policy makers to support positive changes in the food and nutrition environments in schools.

## **1.7 Definition of Terms**

### **CHEP Good Food Inc.**

Formerly the Child Hunger and Education Program, CHEP is a registered charitable organization working within the Saskatoon community to achieve solutions to hunger and to improve access to nutritious food for all.

Programs provide nutritious food and promote nutrition education and self-reliance. They also offer respectful and collaborative approaches to food security (CHEP Good Food Inc., 2008). Along with providing funds and supplies needed to support school meal programs, the CHEP model stresses the use of community resources and community-based research. Through a tripartite agreement (including CHEP, a school and a community/parent association) nutrition coordinators are hired, trained and employed at qualifying Saskatoon schools. CHEP nutrition coordinators' pay is nominal and does not reflect the many hours and expenses given to the work (Henry et al., 2006).

### **Community Schools**

Community schools address circumstances in higher needs communities. In 1980, the Government of Saskatchewan established the Community Schools Program in eleven inner-city elementary schools as a means to address the growth in urban Aboriginal poverty and other complex issues. In 2004, the program expanded to 12% of provincially funded urban, rural and northern Saskatchewan K-12 schools, where there was a critical mass of students and families in vulnerable circumstances. As resources permit, Saskatchewan Learning continues to allocate enhanced funding for Community Schools. The four key components addressed in Community Schools include: 1) the learning program, 2) family and community partnerships, 3) integrated services (including food services) and 4) community development (Saskatchewan Learning, 2008). In Community Schools, nutrition programs receive a set funding formula of \$10,000, with an additional \$40.00 for each



student beyond an enrollment of two hundred (Henry et al., 2006).

### **Health Education**

Health Education is education aimed at bringing about behavioral changes in individuals, groups, and larger populations, from behaviors that are presumed to be detrimental to health, to behaviors that are conducive to present and future health (Simonds, 1976).

### **Health Promotion/Prevention**

The science and art of helping people change their lifestyle toward a state of optimum health. Lifestyle change can be facilitated by a combination of efforts to enhance awareness, change behavior, and create environments that support good health practices (Kolbe, 1988; Hawe, Degeling & Hall, 1990).

### **Hidden Curriculum**

The institutional norms and values, not openly acknowledged by teachers or school officials are termed the 'hidden curriculum'. Students learn many things in school about social roles, attitudes and values that are not part of any particular curriculum plan. The hidden curriculum for students includes the personal likes and dislikes of their teachers and the attitudes and values embedded in what their teachers do. It also includes learning about the priorities of educational and political authorities, power relationships, and about social norms as a whole (Marsh & Willis, 2003)

### ***in motion*™**

*in motion* is a comprehensive health promotion strategy, with a focus on community wide involvement in physical activity. The Saskatoon Health Region, City of Saskatoon, University of Saskatchewan, and ParticipACTION partnered together to develop *in motion*. It involves four key components: building partnerships, targeting community strategies, measuring success, and building community awareness. Since one of the target areas is Children and Youth, partnerships with the Public, Catholic and Rural School Divisions have been established. Ninety-eight per cent of

Saskatoon's elementary schools have become *in motion* schools. Each school has a goal to improve physical activity levels by having 30 minutes of activity every day for every child. It is a 'natural experiment' in dynamic community change and serves as a model for provincial, national and international initiatives (Saskatoon Regional Health Authority, 2007).

### **The Good Food Box**

The Good Food Box is an alternative food distribution system that provides a variety of quality, fresh, nutritious foods at affordable prices. Individual families, as part of neighborhood based groups with a volunteer coordinator, pay for and order food boxes ahead of time. The CHEP program worker purchases foods in bulk from local producers and from wholesalers. CHEP staff and volunteers pack the boxes, which are then delivered to neighborhood depots. Each box contains recipes and information about the food and the food system. The program is the second largest in Canada packing up to 2000 boxes a month (CHEP, 2008).

### **Nutrition Coordinator /Assistant**

School divisions use different terms to refer to the teacher/education associates (TA/EA) that work in Community Schools. Some schools, including those in the study, have given all of the nutrition coordinator's duties to a TA/EA. The term 'Nutrition Assistant' was used at the Community-type Schools involved in this study. Even though the title of the position varies, many of the basic duties are the same: to organize, prepare, and deliver nutrition programs in the schools. Duties may also include food budgeting, menu planning and shopping. Program delivery ranges from serving breakfast, morning and/or afternoon snacks, noon lunches, and even after school meals (Henry et al., 2006).

### **Process Evaluation**

Process evaluations are used to monitor and document program implementation and can aid in understanding the relationship between

specific program elements and program outcomes (Saunders, Evans & Joshi, 2005). The five key components of a process evaluation are: 1) Context – the wider social, cultural, political and economic environment in which the intervention is embedded; 2) Reach – awareness and uptake of the intervention outputs by the target population; 3) Dose Delivered – the ‘amount’ of intervention provided by the intervention team; 4) Dose Received – the extent of engagement shown by the target population; and 5) Fidelity – the extent to which the intervention was delivered as planned (Platt, Gnich, Rankin, Ritchie, Truman & Backett-Milburn, 2004).

### **Purposeful Sampling**

This type of sampling involves choosing subjects, places, and other dimensions of a site to include in a research project; in order to enlarge the analysis or to test particular emerging themes and working hypothesis (Bogden & Biklen, 2003). The goal is to select information-rich subjects and/or cases strategically and purposefully. The specific type and number depends on the study purpose and resources. Types may include: outlier, intensity, maximum variation, homogeneous, typical case, critical-case, snowball or chain, criterion, or theory-based sampling (Patton, 2002).

### **Stakeholders**

Stakeholders are the people and organizations which have a vested interest in identifying and addressing concerns or issues in the community.

Members of the target population (students, parents, teachers, administrators, other school staff and community members) can provide information about the school community (Boyle, 2003). These individuals have an interest in nutrition and other health issues in the school and are considered stakeholders in this study.

## **CHAPTER 2 - LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK**

### **2.1 Introduction**

In describing the characteristics of a school-based health and nutrition program, this section reviews the literature on a number of relevant topics. First, three sets of guidelines for promoting healthy eating through school-based programs were reviewed. These guidelines represent global, North American and provincial standards for 'best practice' in nutrition programming. Then, several examples of school-based program evaluations are described. Preliminary details about the Nutrition Positive program are given. Finally, the rationale for the study design and background information on collecting and analyzing the data in a qualitative study are outlined.

### **2.2 Guidelines for Promoting Healthy Eating - through School-based Health Promotion Programs**

#### **2.2.1 WHO – Comprehensive School Health and Promotion**

The Comprehensive School Health (CSH) model represents one possible approach to implementing standards for promoting healthy eating and other lifestyle behaviours among school-aged children. The Ottawa Charter for Health Promotion (as cited in WHO, 1986) drew attention to the effects of the environment on health and health promotion. This approach formed the basis for development, during the 1990s of the Health Promoting Schools (HPS) initiative. The HPS initiative was initially led by the World Health Organization (WHO) in collaboration with the European Commission and the Council of Europe (Stewart-Brown, 2006). The model has been adopted internationally for health promotion in schools in Canada as the Comprehensive School Health Model (Canadian Association of School Health & Health Canada, 2003) in the UK, and Australia as the Health Promoting School

Initiative (Colquhoun, Goltz, & Sheeham, 1997), and in the US as the Coordinated School Health Program (CDA, 2003). Each manifestation of the CSH model recognizes the importance of developing personal skills, appropriate support services, and safe and healthy physical and psychosocial environments for children's health and well-being. Two primary opportunities for establishing healthy eating habits are specifically and explicitly recognized within the CSH model: (a) school-aged children can be educated about nutrition and healthy dietary practices in the classroom, and (b) appropriate food and beverage choices can be promoted in schools as a means of reinforcing educational messages taught in the classroom. This includes modeling healthy food and beverage selections. Given that children spend six to eight waking hours in school, school administrators, staff, and food service personnel become surrogates, responsible for providing an environment that supports healthy food and beverage practices in schools (Delisio, 2006).

In 1995, the WHO produced a set of guidelines to encourage schools and assist schools in health promotion. These guidelines covered six areas: (1) school health policies; (2) the physical environment of the school; (3) the social environment of the school; (4) school and community relationships; (5) the development of personal health skills; and (6) school health services. Schools were expected to extend teaching beyond health knowledge and skills to take into account the school's social and physical environment, and to develop links with the community (WHO, 1996). Subsequent guidelines made reference to the hidden curriculum in schools (Parsons, Stears & Thomas, 1996). The hidden curriculum (see definition in Section 1.7) includes the nutrition and eating culture established within the school, such as the attitudes adopted by school staff, parents and children towards healthy eating (Stewart-Brown, 2006). These guidelines stress a participatory approach in which school commitment and involvement are regarded as keys to the successful implementation of nutrition education and food services in schools.

To further strengthen school health promotion programs globally, the WHO Expert Committee (1997) issued a Comprehensive School Health Education and

Promotion report in which they reviewed the global state of school health and identified opportunities for and barriers to strengthening programs aimed at promoting health in schools. The report provided several guidelines or priority statements to aid institutions desiring to strengthen the promotion of health and healthy eating among school children (WHO, 1997). These included:

- ***Every school should enable children and adolescents at all levels to learn critical health and life skills.***

Education includes focused, developmentally appropriate, skills-based education in topics such as nutrition, where life-skills education would enable young people to make healthy eating choices and adopt healthy behaviors throughout their lives.

- ***Every school should more effectively serve as an entry point for health promotion and a location for health interventions.***

The need for nutritious food for healthy growth and development remains high throughout the school year because healthy nutrition is vital to learning. Schools have a critical role to play in supporting healthy eating behaviours since even modest under-nourishment can compromise cognitive development and school performance.

- ***Teachers and school staff should be valued and provided with the necessary support to enable them to promote health.***

Support includes providing the resources to train and enable existing teachers, school staff and school administrators to address the nutrition, health and educational needs of students.

- ***The community and the school should work together to support health and education.***

Families, community members, health service agencies, and other institutions have an important role to play in improving the health of children and young people. In turn, there should be active participation by the school and its students in programs to improve the health and development of the entire community.

- ***School programs should be well designed, monitored, and evaluated to ensure their successful implementation and their desired outcomes.***

This includes adopting the most appropriate and affordable methods to collect data about children's health, education and living conditions by age-group and sex. Research should draw on the knowledge and skills of local educators, students, families and community members. Methods should be developed for the rapid analysis, dissemination and utilization of data at the local level, where they can have the greatest impact. These guidelines have been modified and adopted in other jurisdictions such as the US Centers for Disease Control and Prevention. One adaptation, the School Health Index (CDC, 2006) is described next.

### **2.2.2 The School Health Index**

The School Health Index (SHI) was developed by the US Centers for Disease Control and Prevention in partnership with school administrators and staff, school health experts, parents, and national nongovernmental and educational agencies, in recognition of the growing relationship between health and academic performance. The initiative was designed for the following purposes:

- To enable schools to identify strengths and weaknesses of health and safety policies and programs
- To enable schools to develop a plan for improving student health, which can be incorporated into a school improvement plan, and
- To engage teachers, parents, students, and the community in promoting health-enhancing behaviors and better health.

Schools using the SHI model are asked to first assess the characteristics of eight components of school health programs at the elementary, middle/junior, and senior high school levels. These components are: Health Education, Physical Education, Health Services, Counselling, Psychological and Social Services, Healthy School Environment, Nutrition Services, Health Promotion for Staff, and Family and Community Involvement. The assessment stage is followed by a planning and improvement process where school staff are invited to review, discuss and develop strategies for program improvement/or growth.

For the purposes of this study, I have reviewed each SHI module's questions (CDC, 2006) to determine which might be relevant to characterize a nutrition

program when used at the elementary level. Every module except Physical Education had questions relevant to addressing my research questions. Appendix 2 contains a number of the relevant questions extracted from the SHI modules.

#### **2.2.2.1 Saskatchewan’s Adaptation of School Health Index Guidelines**

Appendix 3 contains the “Healthy School Food Policies and Guidelines Checklist” developed by the Public Health Nutritionists of Saskatchewan Working Group (Heart & Stroke Foundation, 2005). It represents an adaptation of the *School Health Index for Physical Activity and Healthy Eating* guidelines, in combination with those suggested in *Nutrition Guidelines for Schools*, the Saskatchewan School Boards Association Report (PHNSWG, 2004). The checklist is meant to support school nutrition policy and guideline development at various stages of the process.

It is suggested within the Saskatchewan School Boards Association Report (PHNSWG, 2004) that copies of this checklist be available to school health and nutrition committees working on policies and guidelines for schools. Depending on the group’s need, the checklist could be used in setting priorities early in the process or as a final checklist in the writing process. It is recognized that not all schools would be ready to work on every issue listed on the checklist. For instance, the school may have a strategy for promoting and advertising healthy foods, but not yet be able to change all fundraising efforts to exclusively include healthy foods or non-food items. Using this checklist, progress on several issues can be monitored on one sheet. The authors also suggest that the checklist could be used as a tool to communicate the success of those working in school food policy development to students, parents and others (Heart & Stroke Foundation, 2005). A modified version of this checklist appears in Table 2.1 on the following page.

The checklist also serves to distill the vast array of SHI module questions (Appendix 2) meant to assist schools in identifying the strengths and weaknesses of health policies and programs. The checklist guidelines would also be useful in examining program implementation strategies. As previously stated, the checklist guidelines will be useful in analyzing the data collected concerning Nutrition Positive



program implementation, in this study.

**Table 2.1: SHI Healthy School Policy & Guideline Checklist – SK Version\***

- All stakeholders including school staff, parents, students, school board etc, will participate in policy/guideline development & implementation.*
- Stakeholders, students and staff decide on goal/purpose/mission/vision of policy statements.*
- Healthy foods and less healthy foods are defined and understood (e.g. schools are aware of local public health recommendations.)*
- School meal programs and emergency food provided comply with set recommendations.*
- Adequate time and space is provided for students to eat meals at school. School includes time for hand-washing before meals and snacks.*
- Healthy foods are served at special events, in class parties, field trips, staff lunches, and before or after school programs.*
- Foods offered and served in schools complement learning objectives of health curriculum.*
- All stakeholders including school staff, parents, students, school board members have opportunities to learn about healthy eating.*
- Staff and volunteers involved in food provision receive regular nutrition and food safety training.*
- Healthy foods are promoted and advertised.*
- Acceptable foods to be offered are clearly identified.*
- If rewards or treats are offered, nutritious foods or non-food items are used.*
- Healthy foods are competitively priced and readily available in the school (e.g. Cafeteria, canteen etc.).*
- Plans are in place to ensure all school children have access to nutritious food.*
- Fund raising efforts are supportive of healthy eating.*
- Catering companies and outside vendors adhere to food guidelines.*
- Food waste and disposable packaging are minimized.*
- Guidelines are widely publicized and communicated to students, parents, staff and visitors.*
- Individual staff members avoid comments about weight and dieting, accept all shapes and sizes.*

\*Adapted from: Healthy School Food Policies and Guidelines Checklist (Heart & Stroke Foundation, 2005)

### 2.2.3 Action for Healthy Kids<sup>®</sup>

In the United States of America, the *Surgeon General's Call to Action* outlined actions for creating school environments that supported healthy nutrition and increased physical activity (U.S. Department of Health & Human Services, 2001). This call for action was validated by the US Centers for Disease Control and Prevention (CDC) (AFHK, 2004b). The CDC then developed a set of criteria to guide the promotion of health in schools. The development process included rigorous reviews of the scientific literature and expert opinion. Action for Healthy Kids<sup>®</sup> (AFHK), a nonprofit organization was created in response to *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity* (AFHK, 2004b).

At the US national level, AFHK represents a public-private partnership of more than 50 American organizations and government agencies, representing the education, health, fitness and nutrition communities. The AFHK organization provides resources, and facilitates the exchange of information and expertise, for its 52 school-based teams (in all States & Washington, D.C.), which work to improve nutrition and physical activity opportunities in schools (Delisio, 2006). AFHK developed the “What’s Working” online database to provide examples of successful approaches and replicable policies, programs, interventions and practices for its members. At first, each approach was reviewed for the database without rigorous evaluation because no set of standard criteria existed. This was one reason AFHK eventually developed a set of criteria for use in evaluating school-based approaches (AFHK, 2004b).

The fifteen criteria developed by the Action for Healthy Kids organization have become gold standards for assessing health promotion in US schools wanting to ensure a healthy school environment (AFHK, 2004b). The following paragraphs include a brief history of AFHK criteria development. The information describes standards for ‘best practice’, which are practical, realistic and based on a collaborative effort by a number of relevant stakeholders. Reflecting the potential value of the AFHK criteria for evaluating other North American school-based

approaches, such as Nutrition Positive; this summary outlines the meticulous approach used by the AFHK organization in developing their evaluation criteria.

In the beginning, AFHK convened a panel of 31 experts from 27 American organizations and government agencies representing education decision-makers, teachers, government officials, higher education, nutrition, school food service, school health, minority populations, community leaders, parents and students. Through three progressive phases, the expert panel defined and then refined criteria for evaluating school-based approaches for increasing good nutrition and physical activity in children (AFHK, 2004a).

During Phase 1 (Development of Initial Criteria), the experts provided input regarding what characterized a “best practice” for four types of school-based approaches: 1) policy, 2) intervention, 3) program, and 4) practice. AFHK gathered information from the panelists and developed a list of potential criteria for each type of approach. The list was then reviewed for similarities and differences, until a core list of common criteria was developed for all. Panelists also identified those criteria unique to each type of innovation.

In Phase II (Evaluation & Refinement of Criteria), panelists responded to a written survey and ranked the Phase I criteria by indicating what they considered to be the most important indicators of “best practice” from the viewpoint of their stakeholder group. The survey results were categorized and then analyzed. Overall, results indicated that there were more similarities than differences in the criteria across all four types of approaches. Two levels of criteria were apparent in the AFHK model: 1) Essential Criteria – those criteria receiving the highest combined rank; and 2) Critical Criteria – criteria selected based on a combination of rank and information gathered from stakeholders closest to the school environment (e.g., teachers, administrators, school food service staff, students and school nurses). The Essential and Critical Criteria are listed in Tables 2.2 and 2.3 respectively.

In Phase III, the criteria were applied to specific approaches in the AFHK “What’s Working” database. Each panelist applied the Essential Criteria to three or

four approaches in the database to assess and confirm the criteria's applicability as an evaluation tool. This served to test criterion effectiveness by applying them to a wide array of policies, programs, interventions and practices. Several of the database approaches will be reviewed in Section 2.3.

**Table 2.2: AFHK Essential Criteria for Evaluating School-based Approaches\***

- The approach is based on professional theories and is consistent with professional and/or national standards of practice.
- The approach is practical and realistic.
- The goal/purpose of the approach is clearly stated and easy to understand by multiple audiences.
- The approach has specific and measurable objectives that address one or more of the following: Knowledge, Attitudes, Skills, Behaviors, Policy and School Environment
- The approach is age or developmentally appropriate and/or culturally relevant.
- The approach is engaging to students, interactive and skills-based.
- The approach can be adapted to a variety of situations/environments.
- The approach can be assessed & monitored and includes an evaluation component.
- The goals of the approach are supported by results & evaluation data.
- The approach supports easy implementation by providing the following:
  - a) Clearly written and user-friendly instructions
  - b) Training resources
  - c) Contact information to obtain technical support or resources
  - d) Instructions or materials in languages in addition to English.

\*Adapted by author from AFHK, 2004b.

**Table 2.3: AFHK Critical Criteria for Evaluating School-based Approaches\***

- The approach is cost-effective and resources (e.g. staff, budget, grant dollars) are available for its implementation.
- The approach fits into required school mandates, has a positive effect on student achievement outcomes and would help to meet state nutrition and physical activity standards.
- The approach can be integrated across curricula, feasibly implemented within a school schedule and aligned with a coordinated school health model.
- The approach has strong support from critical audiences and all relevant stakeholders were involved with its planning.
- The approach is sustainable, not just a one-time or irregularly implemented event.

\* Adapted by author from AFHK, 2004b

## **2.3 Evaluation of School-based Programs**

### **2.3.1 The Action for Healthy Kids® Evaluation Model**

The Action for Healthy Kids model includes a scoring scheme and an evaluation tool for assessing program implementation. Details are available in Appendix 4. The AFHK evaluation tool was developed to assess a broad range of policies, programs, interventions and practices within diverse school and school district settings (AFHK, 2004b). The criteria were meant to assist decision-makers in evaluating the feasibility of an approach for meeting the nutrition, physical activity and physical education needs of a school. Without a set of standard criteria, it was difficult for school administrators and others to assess which approaches were more effective, appropriate or had the greatest potential for success.

Originally, a total of 107 programs in the AFHK database were evaluated and used to develop the AFHK scoring scheme. The scoring scheme was developed so that it would not penalize programs based on a lack of information or inapplicability of a particular approach. For example, if criteria were fully met, a score of three (3) was given. If criteria were partially met, only one (1) point was

given. If criteria were not met at all, zero (0) points were given. Scores for the approaches were tallied, divided by the number of criteria evaluated (excluding those that were not applicable or did not have information), and then multiplied by 100 for the total score.

The first evaluation results yielded a median score of 214 with a wide range in scores, from 0 to 300. The majority, sixty seven per cent (67%) of the “What’s Working” approaches received scores between 200 and 300. Thirty eight per cent (38%) of those received scores between 250 and 300, and twenty nine per cent (29%) scored between 200 and 250. Twelve per cent (12%) had scores between 151 and 200, thirteen per cent (13%) had scores between 100 and 150, and eight per cent (8%) had scores below 100. For purposes of the database assessment, it was determined that approaches with scores between 250 and 300 represented the best of those currently in the “What’s Working” database.

Therefore, a program/approach receiving a score between 250 and 300 points was considered ‘Excellent’. Approaches designated ‘Making the Grade’, fell between 200 to 249 points. If the score fell between 150 to 199 points, the program ‘Showed Potential’. If the score was 149 or less, the program was considered ‘Promising’ (AFHK, 2004b).

The AFHK studies described a number of programs that were rated ‘Excellent’, ‘Making the Grade’, ‘Showing Potential’ and ‘Promising’. The four programs described next, represent a range of possible evaluation scores (AFHK, 2006c). The actual criteria-based evaluation scores for the following programs may be viewed in Appendix 5.

#### 1) ***Food on the Run*: Evaluation Criteria Score (ECS) 300- Excellent**

The mission of *Food on the Run* (*FOR*) is to increase healthy eating and physical activity among low income high school students as a way to improve health and reduce the risk of chronic disease. Along with coalitions of local organizations, health providers, and parents, *FOR* assists California communities to design messages, interventions and policies which are appropriate for local high schools. For

instance, one intervention involved recruiting and training 10-20 high-school students from each community to serve as leader/advocates promoting healthy eating and physical activity within their school. Special emphasis was placed on promoting policy changes that created a school environment that promoted healthy eating and physical activity. *FOR* publications were used extensively in training.

Coalitions utilized CDC's "School Health Index" and USDA's "Changing the Scene" to assess nutrition and physical activity environments within the school district. Coalitions shared district strengths and opportunities for improvement with their local school board. *FOR* is partnering with the California School Boards Association to develop a Nutrition Policy Manual and supporting materials for board members. These materials will better equip school board members to create and implement district policies that promote healthy eating. Local organizations will also be able to utilize the materials, to work on nutrition policy.

*FOR* efforts are evaluated annually through student surveys, and an assessment of the school environment through the use of pre- and post-test measures. Statistically significant increases were observed for physical activity and nutrition knowledge, attitude and behavior; healthy eating options and promotional efforts on school campuses; and physical activity options made available to students at schools. Other evaluation components included a case-control study of *FOR* effectiveness, case studies of successful program strategies, and a survey of school board members regarding policy implementation. *FOR* evaluation and survey results have been published in the Journal of School Health, the Journal of the American Dietetic Association, and the Journal of Nutrition Education and Behavior.

## **2) *Philadelphia School Nutrition Policy Initiative: ECS 200- Making the Grade***

In response to high obesity rates, the Comprehensive School Nutrition Policy Task Force, a Philadelphia-based group, is working toward the adoption of a comprehensive school nutrition policy for the School District of Philadelphia. Its purpose is to ensure Philadelphia students in grades K-12 receive nutrition education messages reinforced throughout the school and community with healthy foods and

physical activity.

Adapted from CDC's guidelines, the proposed Comprehensive School Nutrition policy is piloted in nine schools. Implementing the policy includes: developing Nutrition Advisory Councils, conducting self-assessments through the planning process, conducting 10 hours of teacher training and 50 hours of student instruction in food and nutrition education, and initiating a social marketing campaign to reinforce messages about healthy eating and physical activity. It also ensures that all foods sold and served in the schools are consistent with the specified dietary guidelines on sugar, salt, fat and caffeine. Families and community members are also involved in promoting health and evaluating the effectiveness of the policy in promoting desired outcomes.

An evaluation was conducted to determine the extent to which the policy was implemented and to examine the cost effectiveness of implementing the nutrition policy. It also examined the impact of nutrition policy on BMI, food intake, physical activity, sedentary activity and body-image/eating disorders.

### **3) Q4: *Live Outside the Box*: ECS 153- Shows Potential**

*Live Outside the Box (LOB)* is an initiative of a group of Australian Central Coast government and nongovernmental agencies to raise community awareness about the components of daily life that contribute to overweight and obesity in children and young people. The target audience includes primary and high school communities; teachers, students and care-givers. It aims to promote practical ideas for including more daily physical activity and healthy eating habits into the lives of community members.

The theme of *LOB* refers to the increasing amount of time people spend on television and computers. This is impacting how much time we are sedentary, how active we are, how much exposure we have to unhealthy food advertising or how much unhealthy food we eat. To influence a turn around, *LOB* sponsors competitions for schools, students and families. For example, the primary schools competition encourages students to watch less television, be more active and eat more fruit and



vegetables. Students receive certificates and prizes for the highest scores kept in a two week record dairy. Schools with the highest average scores also receive prizes. The high school competition invites students/schools to develop a concept for a television advertisement around the theme of *LOB*. Winners may have their concept produced and aired on local television. Student prizes include sporting goods vouchers, money or a chance to assist with the television commercial.

Evaluation includes only anecdotal evidence at this stage. Reports include passport records of student and family compliance with daily physical activity and eating habit recommendations.

#### **4) *National School Lunch Reimbursable Snack Program: ECS 106- Promising***

A School Food Service Authority is said to be safeguarding the nutritional integrity and well-being of children in Miami-Dade County Public Schools, through the management of an afternoon snack program. This program feeds approximately 5,100 children a pre-program snack at 74 school-based after school educational initiatives throughout the county. Seventy two of the programs are located in low-income areas. By giving the children the fuel they need to learn, the snack plays a similar role at the end of the day that a school breakfast plays at the start.

The snacks are prepared by the Food Service Department at the kitchen of each school. The snacks are then left in an area that the after school program can access. The keys to success are described as putting clear guidelines in place before starting and to provide training to the afternoon program staff. Training ensures that the full snack is served and that the after school program takes a meal count each day. At this time, meal counts and school participation rates are the extent of the monitoring and evaluation of the program.

As indicated earlier, along with the WHO guidelines and School Health Index, the AFHK's Essential and Critical Criteria were used in developing the interview questions and analyzing the data generated from them. This was done in order that the characteristics and concerns surrounding the Nutrition Positive incentive program might be compared with models for best practice. A critique of the

AFHK criteria, evaluation tool and scoring scheme appears in the Discussion Section.

### **2.3.2 *Action Schools! BC* Pilot Evaluation**

In Canada, a pilot of a program called *Action Schools! B.C.* was conducted and evaluated to determine the effectiveness of the approach (McKay, 2004). Similar to Nutrition Positive, this program was designed to assist schools in creating individualized action plans to promote healthy living. Unlike Nutrition Positive, AS! BC's primary focus was on integrating physical activity into the school environment, with healthy eating as a secondary concern. The initiative was conducted in ten pilot schools, at the grade four to seven levels, in the Vancouver and Richmond school districts. The participating schools were stratified based on size, geographic location and ethnicity. They were randomly assigned to one of three groups: 1) Liaison Schools (a master trainer and resources were provided by AS! BC); 2) Champion Schools (a contact person from AS! BC supported a school champion or representative); and 3) Usual Practice Schools (continued their usual programs without intervention from AS! BC).

The outcome evaluation was conducted in eight specific areas: physical activity, healthy hearts, healthy weight, healthy eating, healthy bones, healthy self (psycho-social), academic performance, and process evaluation. Healthy Eating, or the effectiveness of the 5-TODAY Model, was assessed by 24-hour recalls, a Fruit and Vegetable Food Frequency Questionnaire (FFQ) and a Fruit and Vegetable Attitudes survey. Academic Performance was evaluated by administering grade-specific Canadian Achievement Tests (CAT), which are standardized tests in reading, math and language, validated for use across all grades. The Process Evaluation was undertaken to assess the facilitators and barriers, unexpected impacts and satisfaction levels of major stakeholders during implementation of the model. Quantitative data were collected from the training evaluations, action plans and weekly activity logs. Qualitative data were gathered through focus groups with teachers, administrators, parents, students, and advisory committees. Monthly facilitator interviews and semi-structured interviews were also undertaken with school administrators, teachers,

parents and student participants (McKay, 2004).

Evaluation results showed Action Schools! BC had a positive influence (a statistically significant improvement) on the physical activity level of students in Liaison and Champion schools, as compared to those in Usual Practice schools. As a result of the evaluation, students in Liaison and Champion schools showed a significant improvement in their heart health, dietary requirement awareness and academic performance. The results of the process evaluation indicated administrators, teachers and parent participants were very satisfied with the AS! BC model and supported its wider implementation.

#### **2.4 The Nutrition Positive Program**

The Nutrition Positive incentive program exists to create and support a healthy food environment in Saskatoon school communities (SNPM, 2006-2007). Through Nutrition Positive membership, a school can attend nutrition information workshops or receive free nutrition education materials. T-shirts, caps, bookmarks, pencils and coupons are other incentives provided by corporate sponsors for students and teachers to use while promoting healthy eating at school. Nutrition Positive membership also includes access to popcorn machines through Public and Catholic Board offices to use in fundraising or celebratory purposes. Many schools receive recognition for their efforts by being featured in the success stories in the SNPM or by joining the end-of-the-year Nutrition Positive celebrations (SNPM, 2006-2007).

Nutrition Positive schools have embraced the Nutrition Positive philosophy of encouraging healthy eating and positive nutrition practices in the educational environment. The Nutrition Positive initiative was first introduced in four Saskatoon elementary schools in 2000. Today, there are more than sixty schools in Saskatoon and surrounding area, under the Nutrition Positive umbrella. These include both Public and Catholic schools at the elementary and high school levels. The program is coordinated by a Nutrition Positive Advisory Committee made up of representatives from the Saskatoon Public Schools, Greater Saskatoon Catholic Schools, and community partners including: CHEP Good Food Inc., the Saskatoon Health Region,

school food coordinators and parents, as well as the University of Saskatchewan.

The program is available to students at all Saskatoon schools from Grades K-12. Any interested party - a student, parent, staff member, principal or other community member, may request that a school be designated as Nutrition Positive. To qualify as a Nutrition Positive school, the school needs to first form a Nutrition Positive Committee. This committee should consist of representatives including: administration, teachers, students, parents, the Public Health Nurse, and the nutrition coordinator (if applicable). Once formed, the school Nutrition Positive Committee is responsible for developing a program that will reflect the culture of the specific school. The committee sets goals and develops plans for encouraging healthy eating and lifestyle behaviors among children. It is expected in the first two years a Nutrition Positive school will experiment with the implementation of activities that will lead to curriculum enhancement, a healthy food environment, and/or healthy food policy. In the third year, schools are encouraged to begin the formal process of program implementation including the adoption of a Healthy Food Policy created for and by the school (Saskatoon Nutrition Positive Manual (SNPM, 2006-2007). The Nutrition Positive Advisory Committee provides incentives, support and other resources to the schools during the period of program implementation.

The long term goal of the program is to create and support a healthy food environment in Saskatoon school communities by working to: 1) affect change in awareness, education, behavior, policy, long term health and learning benefits; and 2) establish partnerships and provide resources to support individual school initiatives (SNPM, 2006-2007).

## **2.5 Rationale for Study Design**

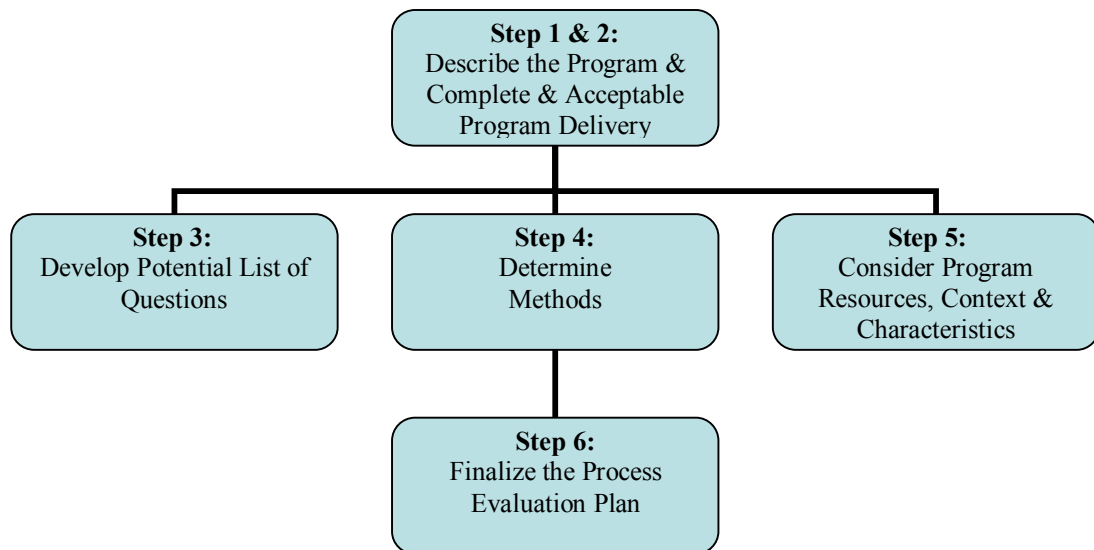
### **2.5.1 The Process Evaluation**

In assessing a health promotion program or approach, the literature suggests that one needs to begin near the beginning with a process evaluation (Platt et al., 2004). A process evaluation looks inside the complex 'black box' of a program or service to discover what happens in the program and how that could affect program

impacts or outcomes (Saunders et al., 2005). Process evaluations are aimed at enhancing current programs by ensuring program implementation meets the intended design. Figure 2.1 will help to illustrate the orientation of this study in the process evaluation sequence. Saunders, Evans & Joshi (2005), outline a six-step guide for planning a process evaluation.

In Step 1, the previously-planned program is described fully. This includes looking at the program's purpose, underlying theory, goals/objectives, strategies and the expected impacts and outcomes of the intervention. Ideally, this should be conveyed in a logic model that specifies the theoretical constructs of interest, those expected to change and mediators of the change process. My goal has been to address this step through research question one of the study.

**Figure 2.1: Steps in the Process Evaluation Planning Procedure\***



\* Figure modified by author from Saunders, Evans & Joshi (2005).

Step 2 of the process-evaluation planning process includes describing in more detail the specific strategies, activities, products and staff behaviors involved in the program. In other words, what factors would be entailed in complete and

acceptable delivery of the program. This should be based on the details of the program and guided by an external framework. Typically, the framework includes the fidelity, dose and reach of an approach. Theory can provide a possible guide for defining fidelity. For instance, the AFHK criteria and questions modified from the CDC School Health Index modules have assisted in describing whether schools embracing a Nutrition Positive philosophy have the characteristics that constitute a high-quality program. This study will attempt to describe how well the implementation of the Nutrition Positive philosophy reflects the spirit of the theory. In examining dose, one needs to look at the amount of program delivered by implementers and the extent to which participants receive and use materials or other resources provided by the program. Reach refers to the degree to which the intended priority audience (the teachers, students and community) participate in the intervention (Platt et al., 2004). I have attempted to address Step 2 with research question two within the Discussion and Conclusion sections of the manuscript.

The final four steps of the process in Figure 2.1 involve: developing a list of potential process-evaluation questions or objectives considering the methods needed to carry out the process evaluation; determining the resources needed to carry out the process-evaluation; and making a plan which describes questions for each component of the intervention. I did not address the final four steps of the planning process in this study. I believe that focusing on Steps 1 and 2 allowed me to gather the baseline data necessary to develop a better understanding of the strategies designed for implementing and sustaining the program. My work may provide a foundation for carrying out steps 3-6 in the process–evaluation planning procedure. The results of this investigation can serve to assist future inquiries into the identification and measurement of contextual factors in a more detailed and comprehensive evaluation.

### **2.5.2 The Case Study**

The case study design is well suited to my goals. A case is a bounded system, an integrated system, a single entity around which there are boundaries so that the researcher can ‘fence’ in what is to be studied (Denzin, 2000). Case studies

involve multi-perspective analyses. This means that the researcher considers not just the voice and perspective of the actors, but also of relevant groups of actors and the interaction between them (Denzin, 2000). Schwandt (2001) argues that a case study strategy is preferred when the inquirer seeks to ask how or why questions, when the inquirer has little control over the events being studied, when the object of study is a contemporary phenomenon in a real-life context, when boundaries between the phenomenon and the context are not clear, and when it is desirable to use multiple sources of evidence. In this study, the Nutrition Positive incentive program is the major unit of analysis. Data collected has been used to describe the program as it is implemented in selected schools at each stage of implementation. Case study conclusions are generalized to theory, implications and recommendations for further research are made (Schwandt, 2001) as indicated in Figure 2.2.

## **2.6 Conducting the Case Study - Collecting the Evidence**

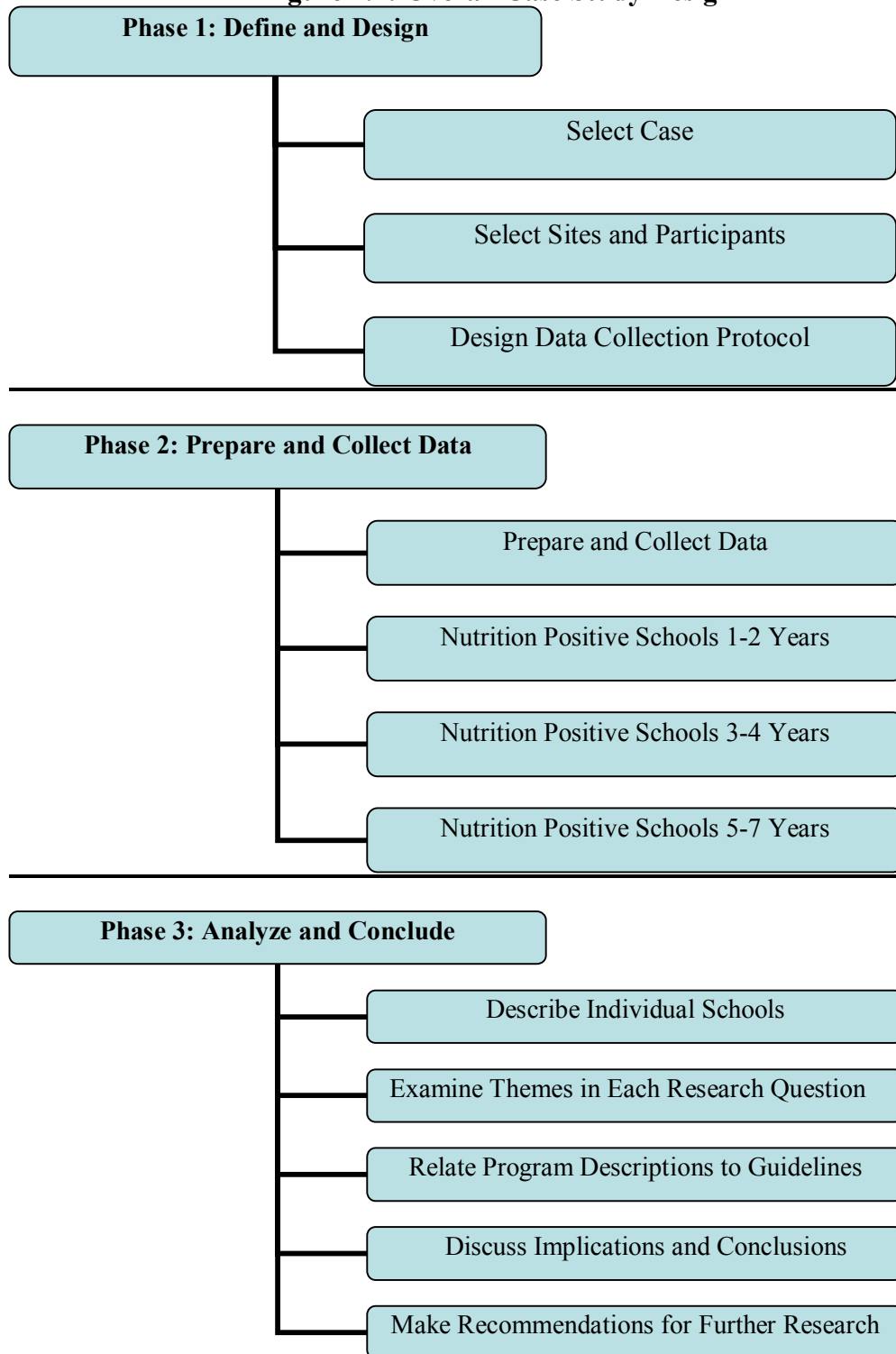
The case study is the preferred strategy when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context (Yin, 2003). The “what” research questions proposed in this study could also be framed as “how” questions. For instance:

- How are the characteristics (e.g. purpose, goals, and implementation strategies) of the Nutrition Positive incentive program described?
- How are issues, challenges and related concerns associated with the implementation of the program in schools?

These research questions aim for a deeper understanding or fuller description of the program.

The case study is a preferred research design when examining contemporary events, such as the Nutrition Positive program. The case study relies on many of the same techniques as historical research, but adds two sources of evidence not usually in the historian’s repertoire: direct observation and interviews of the persons involved. Case studies are used when the relevant behaviors cannot be manipulated

**Figure 2.2: Overall Case Study Design\***



\*Adapted by author with reference to Yin, 2003.



directly, precisely or systematically. They look at a phenomenon within a real-life context, when the boundaries between the phenomenon and context are not clearly evident. The case study is not merely a data collection tactic or a design feature, but a comprehensive research strategy (Yin, 2003). I believe it suits my research well.

### **2.6.1 Three Principles of Data Collection**

Three tactics to establish correct operational measures for the concepts being studied, or 1) collecting from multiple sources, 2) developing a database and 3) maintaining a chain of evidence are outlined in the following sections.

#### **2.6.1.1 Collecting from Multiple Sources - Triangulation**

Triangulation can be used in many different ways in qualitative research, but usually refers to the use of multiple data sources or theoretical perspectives in a study. Several sources of data are better in a study than a single source because multiple sources lead to a fuller understanding of the phenomena being studied. Triangulation can refer to multiple subjects, multiple researchers, different theoretical approaches or different data-collecting techniques (Bogden & Biklen, 2003). Triangulation is a means of checking the integrity of inferences by the researcher. It has also been applied to research strategies intended to serve two distinct purposes, confirmation and completeness (Breitmayer, Ayeres & Knafl, 1993).

Four types are identified by Denzin (1984):

- 1) Data source Triangulation** - when the researcher looks for the data to remain the same in different contexts.
- 2) Investigator Triangulation** - when several investigators examine the same phenomenon.
- 3) Theory Triangulation** - when investigators with different view-points interpret the same results.
- 4) Methodological Triangulation** - when one approach is followed by another, to increase confidence in the interpretation.

### 2.6.1.2 Developing a Case Study Database:

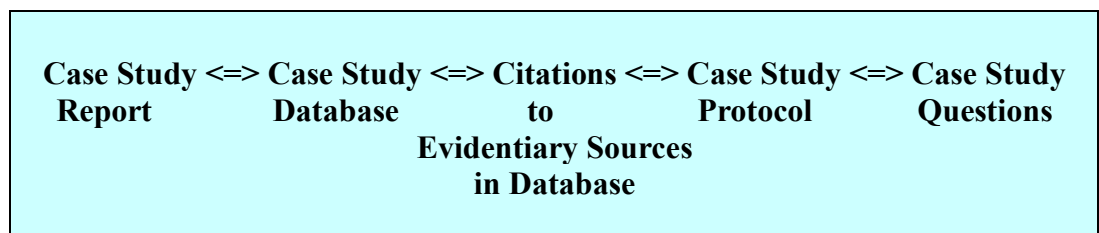
A formal presentable database, should in principle, allow other investigators to review the evidence directly and not be limited to the final written reports. In other words, documentation consists of two separate collections; the data or evidence base and the report of the investigator. Also, the report (the thesis) should contain enough data so that the reader can draw independent conclusions about the case study. This is done by making four basic components available to other researchers: 1) case study notes, regardless of form or content, are organized, completed, and made available for later access; 2) case study documents collected during the course of the study are stored and filed with an annotated bibliography; and 3) tabular materials (such as the observation checklists, tables of quotations and digital photographs) are also organized and stored as part of the database at the College of Pharmacy and Nutrition. Then, 4) narratives or transcripts from the participant interviews were filed similarly, and cited as evidence during the writing of the report.

### 2.6.1.3 Maintaining a Chain of Evidence:

Establishing a chain of evidence has to do with the way the data is organized and documented. A chain of evidence establishes explicit links between the questions asked, the data collected, and the conclusions drawn (Yin, 2003).

Figure 2.3 illustrates the basic chain of evidence.

**Figure 2.3: Maintaining a Chain of Evidence\***



\*Adapted by author with reference to Yin, 2003 (pp. 105-106)

First, the report should make sufficient citation to relevant portions of the study database. Secondly, the database should reveal the actual evidence and also indicate the circumstances under which the evidence was collected. For example, direct quotations from the interviews have been tabulated. Finally, these

circumstances should be consistent with the specific procedures and questions contained in the case study protocol. A reading of the protocol should indicate the link between the content of the protocol and the initial study questions (Yin, 2003).

#### **2.6.1.3.1 The Case Study Protocol**

The protocol contains the instrument and the procedures and general rules that should be employed in using the instrument. It is intended to guide the investigator or any other investigator trying to repeat the study in carrying out the research. Yin, (2003) recommends that the protocol include: 1) An overview of the case study project (project objectives, case study issues, and a relevant literature review); 2) Field procedures (credentials and access to the case study sites, general sources of information, and procedural reminders); 3) Case study questions (specific questions to aid in collecting data, tables for specific arrays of data); and 4) A guide for the case study report (outline, format for the narrative, and specification of any bibliographical information and other documentation). The essential elements of the case study protocol are contained within this thesis in the form of a literature review, statement of purpose, list of research questions and basic design for data collection, analysis, and ethics approval. Procedures for obtaining permission to enter the site and conduct interviews and observations are also outlined.

### **2.6.2 Analyzing the Case Study Evidence**

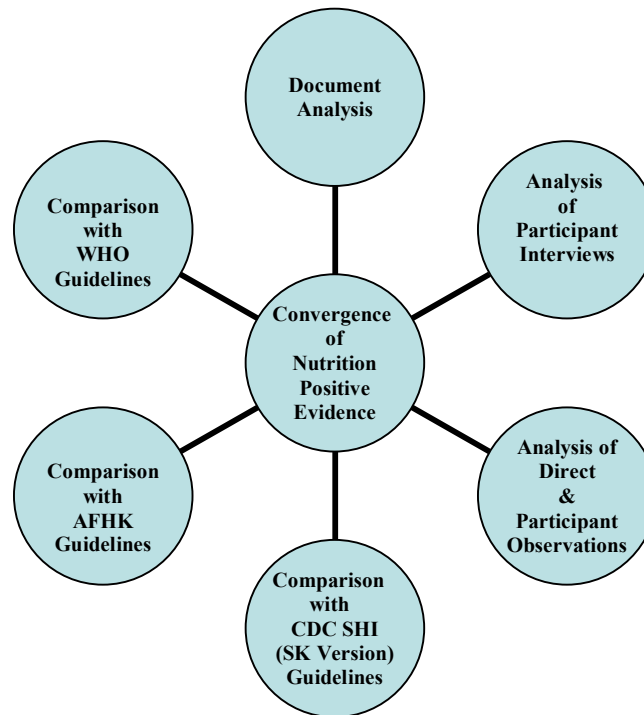
#### **2.6.2.1 A Descriptive Strategy**

Two general strategies were used to analyze the data collected in this study. First and foremost, a descriptive framework was used to ‘generate knowledge of the practical and the particular’ of the Nutrition Positive incentive program (Yin, 2003). As explained earlier, this process is in keeping with the first steps of preparing for a process evaluation. After coding, and searching for themes within categories, an attempt was made to answer each research question, using information collected from participant interviews, documents and observations. Data were then used to relate the findings to the theories and models discussed in the background and literature review. Figure 2.4 illustrates the relationships between these strategies.

### 2.6.2.2 Analytic Generalizations to Theoretical Propositions

As opposed to statistical generalization, qualitative case studies rely on *analytical generalization*. In analytical generalization, the investigator strives to generalize a particular set of results to some broader theory (Morse & Richards, 2002; Yin, 2003). It should be noted that the Nutrition Positive incentive program was not originally based on an identified theory or conceptual guideline. It was modeled after a program called the School Nutrition Incentive Program (SNIP) promoted by nutrition specialists working within Calgary's Regional Health Authority (CRHA, 2001). Given this limitation, study findings were compared and contrasted with WHO guidelines, and the AFHK and SHI models. The purpose was to blend NP program descriptions with cognitive understandings of model school programs (Yin, 2003). This orientation not only helps to guide and organize the case study analysis, but aligns Nutrition Positive with established models for best practice.

**Figure 2.4: Illustration of Analytic Strategies\***



\* Figure drawn by author with reference to Yin, 2003 (p.100).

## CHAPTER 3 – METHODOLOGY

This section describes the methodology used to gather data on the characteristics, issues, challenges and related concerns associated with the Nutrition Positive incentive program. The selection of the study population, sources of evidence, ethical considerations, and methods of triangulation are described.

### 3.1 Selection of Study Population

#### 3.1.1 Purposeful Sampling

Rather than employing random sampling, qualitative researchers seek valid representation with techniques such as purposeful sampling. In this type of sampling, the investigator chooses cases or subjects because of their characteristics (Morse & Richards, 2002). The researcher selects information-rich cases strategically, depending on the study type, purpose and resources. In this study, I sought to illustrate or highlight what was typical, normal or average (Typical Case Sampling). I also sought to represent members of certain groups such as the two school divisions, regular elementary and community schools (Criterion Sampling). I also sought recommendations from people (principals) who knew other persons (teachers and nutrition coordinators), who would be information-rich sources (Snowball, Nominated or Chain sampling) (Patton, 2002). Both school and participant selections are described in greater detail next. Table 4.1 summarizes the characteristics of the schools and participants.

##### 3.1.1.1 School Selection

A purposeful sampling technique (Norwood, 2000; Morse & Richards, 2002) was used to select schools from the categories designated below:

- ◆ **Level 1:** Schools registered 1-2 years with Nutrition Positive
- ◆ **Level 2:** Schools registered 3-4 years with Nutrition Positive
- ◆ **Level 3:** Schools registered 5-7 years with Nutrition Positive

Designations for the implementation phases of schools were divided in this manner as indicated in the *Saskatoon Nutrition Positive Manual* (2006-2007). In the first and second year, a Nutrition Positive school is expected to plan activities from the Curriculum Enhancement and Healthy Environment categories of the manual (SNPM, 2006-2007). They are to use “Nutrition Positive Recommendations” to guide food selection and learn about healthy food policies to begin planning their own. In year 3 and beyond, they continue activities from the two categories previously suggested and implement (written) healthy food policies created for the school. By selecting schools in this manner, I could capture schools at different phases or stages of Nutrition Positive implementation.

In addition to these categories, school locations were considered. The goal was not to represent every socio-economic area or ethnic community in Saskatoon, but to survey a typical sample of schools across the city. This was done to develop an understanding of the issues, concerns and success factors which may have influenced the implementation of nutrition guidelines. Schools were invited to participate from the North, South, East, West and Central areas of the city. In each area, the intent was to match a school from the Saskatoon Public School Division with one in the Greater Saskatoon Catholic School Division. There was no plan to make comparisons between the two school divisions, their policies or practices. This was simply an attempt to give each school division equal opportunity in the research project.

One Community School and another applying for Community School status were included in the study. Since Community Schools are designated specifically to address poverty and other complex social issues in Saskatchewan; nutrition programs providing lunch and snacks are part of the Community School philosophy and therefore funded in these schools (Henry et al., 2006). Including them in this study provided a means of understanding how the Nutrition Positive program was implemented in schools with their own food services. Most elementary schools do not have food services on a regular basis.

Letters of invitation were sent to a total of fifteen elementary school

principals including Appendices: 7, 9, 10 & 11. Of all the Nutrition Positive schools contacted, eight agreed to participate in the study. Those eight represented four public schools and four separate schools. Two of the schools had been Nutrition Positive for five to seven years (Level 3). Four schools were Nutrition Positive for three to four years (Level 2). Two schools were only in their first or second year of implementation (Level 1). One school was a Community School and another was applying for Community School status. The schools that declined to take part in the study and indicated they were too busy with other programs and commitments at the end of the school term.

### **3.1.1.2 Participant Selection**

One of the concerns faced was how to go about finding appropriate participants for the study population. Because the objective of the study was to gain an informed understanding about the views, characteristics, goals and practices relating to the implementation of Nutrition Positive incentive program, I focused on individuals whose work would likely give them some understanding of the issues involved, and/or who were also in positions to potentially effect change. In assessing the various approaches to achieving this objective, I believed this information would be obtained from a small sample of principals and teachers (or nutrition coordinators) at individual schools. Previous research indicates teachers and principals are the prime instigators of nutrition policies and guidelines in Saskatchewan schools (Berenbaum, 2004). Parents and students were not sought as participants because interviewing them would primarily reflect program outcomes rather than implementation strategies. Parents and students are intended to be the major recipients of the Nutrition Positive initiative (SNPM, 2006-2007).

From the eight Nutrition Positive designated schools, eight elementary school principals, four teachers and two nutrition coordinators from within the Saskatoon Public and Greater Saskatoon Catholic School divisions were selected for this study. To identify some potential interviewees the technique of snowball sampling (Maykut & Morehouse, 1994) was used “to locate subsequent

participants... very different from the first.” The sampling method adopted for this study began with an initial contact with a key informant (the principal) who, in turn, directed the researcher to other information-rich sources (teachers or nutrition coordinators). Lincoln and Guba (1985) recommend that snowball sampling should be terminated once the sample becomes saturated with first-order meaning and that the criterion invoked to determine when to stop sampling is informational redundancy, not statistical confidence level. They also state that “a dozen or so interviews, if properly selected, will exhaust most valuable information; to include as many as twenty will reach well beyond the point of redundancy”. A total of fourteen interviews were conducted in this study; eight principals, four teachers and two nutrition coordinators and saturation was reached.

### **3.2 Sources of Evidence**

#### **3.2.1 Document Analysis**

Prior to conducting on-site interviews and observations, the documents provided by Nutrition Positive representatives were examined carefully. It was useful to become familiar with the program’s purpose, goals, and recommendations before discovering how information had been received, perceived and implemented by the case schools. Documents included the *Saskatoon Nutrition Positive Manual* (2006-2007), school and Nutrition Positive newsletters and fliers, school lists from the Nutrition Positive representatives and policy documents created by the schools.

#### **3.2.2 Semi-structured Interviews**

Semi-structured, in-depth interviews were conducted with principals, teachers and/or nutrition coordinators, selected from each school category surveyed. In other words, Levels: 1-2 years, 3-4 years and 5-7 years Nutrition Positive were represented. (The selection process was described in Section 3.1.1.2.) The semi-structured interview approach was chosen because the research strategy requires probing the participants’ beliefs, opinions and insights to describe their perceptions regarding the implementation of the Nutrition Positive incentive program in the schools. Such information would be difficult to obtain through a structured interview



process where rigid questions tend to limit opportunities to pursue further elaboration. The semi-structured interviews consisted of open-ended questions intended to understand participant's perspectives about program fidelity, dose, reach and other factors of interest.

An interview guide (Appendix 9) was developed for the study by the primary researcher in collaboration with the research supervisor. The guide was designed to address research questions including: (1) the characteristics of the Nutrition Positive program as perceived by principals, teachers and nutrition assistants, and (2) the issues, challenges and related concerns, associated with the implementation of the program in schools.

After the first two interviews, the interview guide was modified during its execution, because question number nine seemed repetitive and lengthy. In subsequent interviews, question nine was modified by skipping over parts already answered and emphasizing parts not already covered. Bogdan & Biklen (2003), state that qualitative interviews should offer the interviewer considerable latitude to pursue a range of topics, and offer the subject a chance to shape the content of the interview. Bogdan and Biklen (2003) also state with semi-structured interviews you can be confident of getting comparable data across subjects, but you might lose the opportunity to understand how the subjects themselves structure the topic. In following the guide during the interviews, I found that I needed to be flexible with the questions and cognizant of what topics had been covered, to give the participants more freedom to express themselves.

Prior to each interview, participants received a package containing an information letter, interview guide and consent form (Appendices: 8, 9 & 10). The information letter explained some background to the study and logistics. Participants were asked to sign and return the consent form, which described the purpose of the study, possible benefits and risks, data collection procedures, confidentiality assurance, acknowledgement of their right to withdraw from the study anytime without retribution, and persons they could contact for information and questions.

Face-to-face interviews were conducted at the schools at a time that was convenient to each participant, between March 27<sup>th</sup> and June 14<sup>th</sup>, 2007. Each interview lasted 40-60 minutes, and was moderated by the researcher. The sessions were audio-taped on two audio cassette recorders (one digital and one mini-cassette). Participants who had not already given written permission were asked to sign the consent forms for recording the interview and conducting the school tour.

Transcribing was done by a professional transcriber during the period between July and September, 2007. Participants were given an opportunity to review the transcript of his/her interview and were invited to provide additional comments or clarification if desired. All fourteen participants reviewed their transcripts and granted permission to use, by an e-mail or phone message between July, 28<sup>th</sup> and October 31<sup>st</sup>, 2007. A cookbook was sent to each participant along with a letter of appreciation for their participation in the study, in late 2007.

### **3.2.3 Site Visits / Observations**

During the site visits, informal, direct observations and digital photos were made in the school environment (with permission). A checklist was also used during the school visit (Appendix 11) to note whether the Nutrition Positive message or influence was evident in various parts of the school building. Although, it was not possible to view all criteria, some observations helped corroborate information received during the interviews. Additional field notes were made post-visit to record impressions and reflections. Some principals supplied copies of policy documents, school newsletters and other materials which were filed for later consideration.

### **3.3 Ethical Considerations**

The study was approved by the University of Saskatchewan Behavioral Research Ethic Review Board in December, 2006 (Appendix 1). Permission to conduct research was also received from both the Greater Saskatoon Catholic School division and the Saskatoon Public Schools before the study was conducted. Principals were contacted by letter to obtain permission to include the schools in the study. Teachers and nutrition coordinators at each participating school also gave permission.

Form letters were taken to the school to obtain participant consent for conducting the interviews. Participants and schools had the option of withdrawing from the study at any time.

Neither the names of the participants nor the names of the schools appear in any written reports or documents. All audiotapes, interviews, and field notes are to be stored in locked filing cabinets at the University of Saskatchewan for at least five years after completion of the study.

### **3.4 Triangulation**

During this study, the data sources were triangulated (see Section 2.6.1.1) to provide multiple measures of the same phenomenon, in a manner encouraging convergent lines of inquiry (Morse & Richards, 2002; Yin, 2003). Multiple sources of evidence included data from documents, direct observations and semi-structured interviews from the eight case-study schools.

Since, conceptual guidelines were used to gain different perspectives on the same data set (generated from the same research questions) triangulation also occurred within the analysis phase of this study. First, the Nutrition Positive program was considered specifically in terms of the World Health Organization Comprehensive School Health and Promotion Guide. Then, the Action for Healthy Kids Critical and Essential Criteria, and the Center for Disease Control School Health Index (as modified by Saskatchewan nutritionists) were used to generalize the findings to standards for model programs. This was done to better discuss the characteristics and concerns associated with the Nutrition Positive program.

## CHAPTER 4 - RESULTS

This section begins with a general description of the schools and participants. There were characteristics unique to each situation to be considered along with the qualitative data analyzed under each research question. All of the schools were elementary schools offering kindergarten (K) through grade eight (8). Four schools were from the Greater Saskatoon Catholic School Division and another four schools were from the Public School Division of Saskatoon. The first part of this section will summarize the characteristics of each school and participant, while keeping the identity of each school and participant as confidential as possible.

Individual descriptions of each case study school are followed by presentations of the data organized under each research question. The data under each research question has been arranged according to the categories or themes that emerged from a careful study of the interview transcripts. Primarily, the themes under research question # 1 reflect the benefits of the program, as indicated by the participants interviewed. Under research question # 2, the issues, challenges and related concerns associated with the implementation of the program are listed.

The Results Section ends with a look at the models for best practice identified in the literature review. The purpose of the literature review was to identify models used in evaluating school health and nutrition program effectiveness. Several models were found and presented in that section. Three checklist tables will compare the Nutrition Positive program, as implemented in the case study schools, with these models for best practice. Nutrition Positive will be compared with the *World Health Organization's Comprehensive School Health Education and Promotion* guidelines, the United States' *Action for Healthy Kids Evaluation Model* and Saskatchewan's adaptation of the *Center for Disease Control School Health Index* guidelines. Statements supporting the reasoning for each score will follow.

#### **4.1 General Description of the Schools and Participants**

All of the Grades K-8 elementary schools have been coded by a letter of the alphabet and by a level, representing the number of years enrolled as Nutrition Positive. Level 1 refers to those schools that have been Nutrition Positive for one to two years at the time of the interviews. Level 2 refers to those schools with Nutrition Positive membership between three to four years, and Level 3 between five and seven years. The first two levels are important because Nutrition Positive guidelines suggest certain implementation activities and policy work at each stage. Please refer to Section 2.4, which describes the Nutrition Positive incentive program, and a more complete outline of these guidelines. Level 3 is important because it represents schools that have been members of Nutrition Positive since its first years of inception. It would be expected that these schools would represent a mature or more fully developed version of the Nutrition Positive program and that participants would represent the voices of experience.

The fourteen participants in the study were coded according to the school they were from (A, B, C, D, E, F, G or H), the level (1, 2, or 3) of their school, which represents years of Nutrition Positive membership, and whether the participant was a principal (P), teacher (T) or nutrition coordinator (NC). For instance, participant A1P is a principal from School A, which is in Level 1 or within its first or second year of Nutrition Positive membership. Similarly, participant F2T is a teacher from School F, which is in Level 2 of membership. Level 2 means that the school has been Nutrition Positive for three to four years. Participant G3NC is a nutrition coordinator at School G, which is in Level 3 or five to seven years Nutrition Positive. Table 4.1 summarizes school and participant characteristics, at the time of the study.

It should be noted, school divisions are encouraged to compile community and school information that demonstrate a critical need for additional supports, such as demographic information, socio-economic statistics, justice statistics, health information, transience rates and school/student profiles, to apply for Community School status (Saskatchewan Learning, 2008). Schools G 3 and H3 are respectively a

Community School and one applying for Community School funding. Both principals (G3P and H3P) related information during the interviews that reflected their knowledge of school and community statistics. Non-Community School principals were also aware of school and community information, which is conveyed in the following school descriptions.

#### **4.1.1 School A1**

This was a school of about 270 students. The principal described the school neighborhood as middle class. The community was changing, with more mature families moving in. About 1-2 % of the student population was described as transient. There were new Canadians moving into nearby apartments until they could afford a house in another neighbourhood (A1P, April 17, 2007). This school was designated as Level 1- Nutrition Positive. The principal explained that while he was aware of the Nutrition Positive mandate, manual and examples from other schools that were involved in the program, he himself was experiencing some difficulty in trying to implement the program. His reasons appear to be linked to his own personal values, including his eating style. In reference to the implementation of Nutrition Positive, he said:

What you're really doing is encroaching on personal eating habits, or family eating habits and people think you're just being intrusive. It's not our place to be intrusive, so we have to be quite cognizant and cautious of that. You see if I'm going to be promoting it, I have to live it. I can't justify it by saying one thing and doing another, that's hypocrisy. And so I'm a firm believer that I cannot change a person's way of eating and doing things if I don't do it (A1P, April 17, 2007)

In contrast, the teacher interviewed expressed an opposite viewpoint. Because of his beliefs he had no difficulties implementing Nutrition Positive guidelines in his classroom:

**Table 4.1: Characteristics of Schools and Participants\***

<b>School Code</b>	<b>Nutrition Positive Level</b>	<b>Participants Interviewed</b>	<b>Principals' Code &amp; Time Employed at School</b>	<b>Other Participants' Code &amp; Time Employed at School</b>	<b>Other Programs at School</b>
<b>A</b>	<b>1</b>	<b>Principal &amp; Teacher</b>	<b>A1P</b> 4 years	<b>A1T</b> 3 years	<i>In Motion™</i>
<b>B</b>	<b>1</b>	<b>Principal</b>	<b>B1P</b> 1 year	—————	<i>In Motion</i>
<b>C</b>	<b>2</b>	<b>Principal</b>	<b>C2P</b> < 1 year	—————	CHEP-Lunch <i>In Motion</i>
<b>D</b>	<b>2</b>	<b>Principal &amp; Teacher</b>	<b>D2P</b> 4 years	<b>D2T</b> 10 years	<i>In Motion</i> CHEP-Lunch
<b>E</b>	<b>2</b>	<b>Principal &amp; Teacher</b>	<b>E2P</b> 4 years	<b>E2T</b> < 1 year	<i>In Motion</i> Good Food Box Inc.
<b>F</b>	<b>2</b>	<b>Principal &amp; Teacher</b>	<b>F2P</b> 3 years	<b>F2T</b> 4 years	<i>In Motion</i>
<b>G</b>	<b>3</b>	<b>Principal &amp; Nutrition Coordinator</b>	<b>G3P</b> 2 years	<b>G3NC</b> < 1 year	Community School CHEP B, L & S
<b>H</b>	<b>3</b>	<b>Principal &amp; Nutrition Coordinator</b>	<b>H3P</b> < 1 year	<b>H3NC</b> 6 years	Applying for Community School Status CHEP-lunch

\*Table prepared by author using data gathered from participant interviews.

I'm a very healthy eater. In my own classroom, I'm always talking about the importance of nutrition. I don't give out a lot of candy in my room, only occasionally as a treat. Sometimes I'm a little bit outspoken when we have fundraisers and we have candy bags being sold and what not. I don't agree with that (A1T, April 17, 2007).

#### **4.1.2 School B1**

The principal at this school had been involved with Nutrition Positive for approximately five years. However, this particular school was designated in Level 1 of the program. The school neighbourhood was described as a reasonably comfortable upper middle class neighbourhood without a lot of needs. The school

was fairly new and built in great collaboration with the community. Everything was celebrated with cake and goodies. The principal stated that there was some cognizance among parents that there was a lot of celebrating. They were looking to celebrate in healthier ways (B1P, June 14, 2007). That was one of the reasons for initiating Nutrition Positive.

The school population was described as being ninety-five per cent (95%) Canadian-born, with the remaining five per cent (5%) represented by immigrant families. Unlike many neighbourhoods, this neighbourhood had lots of stay-at-home parents. Consequently, the principal reported that many parents were actively involved in lunch supervision, fundraising efforts, parent councils and other committees.

During the school tour, there were several examples of the Nutrition Positive influence. The principal mentioned that the vice principal (also a member of the Nutrition Positive committee) ran a cooking club after school for the Grades 3-5 students. It involved about 15-20 children for about two months of the year. I was shown a Nutrition Positive box in the staff room that supplied students in need with a light lunch. The principal also mentioned that their vending machine used to contain carbonated beverages, but they had changed it to fruit drinks and water. The school identified itself as Nutrition Positive with a front door poster. The principal indicated that they had developed a school nutrition policy which was a modified version of the resource developed by the Public Health Nutritionists of Saskatchewan Working Group (2004).

#### **4.1.3 School C2**

At School C2 the principal described the make-up of the student population to be largely Canadian-born, with about thirty per cent (30%) of Aboriginal ancestry (C2P, March 27, 2007). The principal had been there for less than a year, replacing the principal who had initiated the Nutrition Positive program, two years earlier. Unfortunately, the teachers that would have been key informants regarding Nutrition Positive were on leave. The principal was now leading the program, but said: "I don't



think I can honestly do it justice. These ladies took the Nutrition Positive and the *in motion* activities and really incorporated it all together and I think it blended well (C2P, March 27, 2007).”

Even though this principal was new to the program, he seemed to understand and promote Nutrition Positive and other food-related school programs. For instance, this school received support from the CHEP program with bag lunches provided to children who needed them and snacks for the pre-kindergarten and kindergarten classes. The principal estimated that they would serve lunch to approximately ten children daily and snacks to all of the pre- and kindergarten classes. There was no vending machine in this school, but a milk program was described.

On the tour of the school, I was able to observe evidence of Nutrition Positive in the physical environment. This included posters near the school entrance, on a hall bulletin board beside the *in motion* display, and in the Pre-Kindergarten classroom. Copies of the most recent Nutrition Positive newsletter were generally sent home with the school newsletter to parents.

#### **4.1.4 School D2**

School D2 was a large school with an estimated population of 500 students (D2T, May 15, 2007). The principal described the ethnic makeup of the school in the following way:

If you want to think of the school in terms of three groups, we have the Aboriginal group; we have the non-Aboriginal group; and we also have the ones who are recent immigrants to Canada. They all want to do what’s right for their kids. Roughly we have...5 per cent (5%) recent immigrant and 23 per cent (23%) Aboriginal (D2T, May 15, 2007).

School D2 appeared to be very enthusiastic about Nutrition Positive. This was evidenced by their use of Nutrition Positive resources such as the Captain Carrot costume, the manual, the theme song and attendance at Nutrition Positive workshops and sharing sessions. During the school tour, I was able to observe evidence of the

Nutrition Positive message at the school entrance and on bulletin boards in the hallways. There was no vending machine at this school. Children in one classroom were making bannock (an Aboriginal bread) while I was there.

#### **4.1.5 School E2**

School E2 resides in a middle-class neighbourhood within Saskatoon. The school population was largely made up of Canadian-born children with only a minority of immigrant families represented. The current principal initiated the Nutrition Positive program four years ago, upon first joining the school staff. The teacher-participant was new to the staff and was in fact just beginning her teaching career. She was enthusiastic about Nutrition Positive because of some experiences during her teaching internship.

Other nutrition-related programs coordinated within this school and mentioned by the participants included: *in motion*, a hot lunch program, and the Good Food Box. The *in motion* program preceded Nutrition Positive and the current principal. Once a month, a classroom takes turn planning and serving a hot lunch for the entire school, as a fundraiser to support special activities. The Good Food Box program (a division of CHEP) seemed to reinforce the Nutrition Positive initiative in this school. The principal thought that the Good Food Box program offered a good incentive for Nutrition Positive, because it encouraged people to order boxes of vegetables and healthy foods through the school (E2P, April 5, 2007).

The Nutrition Positive philosophy was highly evident at this school. For example, a large bulletin board in the front foyer was devoted exclusively to Nutrition Positive messages. The principal had the Nutrition Positive manual in her office, and made reference to it often. Nutrition Positive and other nutrition messages were regularly used in the school's monthly newsletters. In contrast, the staff room sported a Coke machine, cupcakes, jelly beans and pizza boxes on the tables. When asked about the foods in the staff room the principal stated:

Yeah, it's baby steps, you know what I mean? ... We're going into Easter, and so I've had cupcakes laid on my desk. So, I'm thinking are we there yet?

No... Were too many bags of carrots put on my desk today? No... Cupcakes are still part of the culture, part of what we are and how we celebrate (E2P, April 5, 2007).

#### **4.1.6 School F2**

School F2 was another large school with approximately 500 students. Of that 500, approximately 16 per cent (16%) were recent immigrants, and 1 per cent (1%) were Aboriginal. The principal stated: “We’ve got a number of kids that need ESL classes (English as a Second Language) (F2P, May 8, 2007).”

This school was unique in that it had developed a written policy as recommended by the guidelines in the Nutrition Positive manual. The principal stated that it was meant to promote an environment in which healthy snacks were the norm and positive choices were modeled. The policy was more of an in-house working document. Portions of it were published in the school newsletter (F2P, May 8, 2007).

When asked about the role of nutrition in the curriculum, the principal expressed uncertainty about the grades and subject areas in which nutrition was actually taught. However, participants at this school mentioned some great program ideas with strong curriculum connections. For example, I was given a copy of the menu for a fundraising project to assist ‘hungry’ children. A class ‘restaurant’ offered customers a meal, beverage and dessert. The students planned the menu, cooked the food, served the meal, and cleaned up afterward.

The Nutrition Positive program at this school was administered by members of a Professional Learning Community (PLC). The principal explained how the PLC group worked:

All schools have their own PLC groups and we have a variety of them here. Our people choose which ones they want to work in. Nutrition Positive, *In Motion* and Wellness are one group. They’ve done a lot to focus on nutrition. Professional staff and non-professional staff work together. They’re the driving force for our growth and knowledge on these topics (F2P, May 8, 2007)

The principal also mentioned that the Student Leadership Council and the Parent Advisory Council were quite involved in promoting Nutrition Positive.

I observed nutrition information on a hall bulletin board and an advertisement for an upcoming popcorn sale. There was nothing indicating that this was a Nutrition Positive school in the front entrance. Two vending machines were available for staff and student use. The student one contained juice and water. The staff one contained carbonated beverage-type drinks. There was no CHEP-supported breakfast or lunch program instituted at this school (F2P, May 8, 2007).

#### **4.1.7 School G3**

School G3 was an elementary Community School. The principal suggested that the school was in a unique part of the city; and for many students transportation was a problem. Approximately 85 per cent (85%) of the estimated 180 student population were of First Nations and/or Métis decent.

In this school, the Nutrition Coordinator's role was to prepare breakfast, mid-morning snack, and lunch. Food supplies for these meals were received through donations from various community agencies or from supplies purchased with CHEP funding. On average about 45 students participated in breakfast and 55 to 60 in lunch. Mid-morning snack was universal and available to all students in pre-kindergarten through to grade eight. In addition, milk was available to grade one and grade two students with their lunch. The remaining students paid fifty cents if they wanted milk (G3NA, March 29, 2007). There was no vending machine at this school. Nutrition Positive and other nutrition-related posters were only observed in the kitchen and lunch-room.

It was difficult to get a clear picture of past program activities within the school, given that both the principal and nutrition coordinator had been in position for less than two years. For example, both participants had a hard time separating Nutrition Positive from the CHEP school meal program. The principal stated: "Sometimes I have a problem with differentiating the two. There's just no history because a lot of our staff have changed (G3P, March 29, 2007)."

#### **4.1.8 School H3**

The principal referred to School H3 as a ‘perimeter school’ in the central part of Saskatoon, with a student population of approximately 150. The ethnic makeup was described as about 60 per cent (60%) non-Aboriginal and 36 per cent (36%) Aboriginal. The principal described the school’s nutrition environment:

We have a limited budget. We have the CHEP lunch program. We’re not officially a CHEP breakfast facility, but we do that on our own. There is a pop machine, but when I took over, I moved it into storage. The kids don’t have access to it. We provide chocolate or white milk for the students (H3P, May 25, 2007).

The principal had been there less than one year, but was still aware of the Nutrition Positive program through another school where he had worked previously. Although, both principal and nutrition coordinator seemed to be aware of the differences between CHEP and the Nutrition Positive program, neither was aware of the location of the Nutrition Positive manual in the school. Despite that shortcoming, this school seemed to reflect many implementation strategies suggested by the Nutrition Positive manual. This was likely due to the previous years of Nutrition Positive membership.

#### **4.2 Findings Related to Research Question 1:**

*What are the characteristics (e.g. purpose, goals, and implementation strategies) of the Nutrition Positive incentive program?*

This section addresses participants’ perceptions of the characteristics of the Nutrition Positive program under ten basic themes, derived from an analysis of the interview transcripts. Participants outlined many positive or beneficial aspects of the program, which will be described within this section. Tables 4.2 through 4.11 present quotations from the interview transcripts, which best reflect participant viewpoints and observations under each category. The summaries following the tables will highlight the major findings and include information from the *Saskatoon Nutrition Positive Manual* (2006-2007) where appropriate.

#### 4.2.1 Participants' Understanding of the Nutrition Positive Purpose & Goals

At the beginning of the interview, participants were asked about their understanding of the Nutrition Positive program - including the program's purpose and goals. Later on, participants were asked if the goals established for the program were meeting the diverse needs of the students at their school. The responses in Table 4.2 reflect their understanding of the programs original purpose and goals, as stated in the Nutrition Positive manual.

**Table 4.2: Participants' Understanding of the NP Purpose & Goals**

<b>Main Points:</b>	<b>Participants Comments:</b>
<b>To: Provide Information ...</b>	Nutrition Positive, to my knowledge, is to provide the students and the community with information about healthy eating, healthy nutritional choices and options (B1P, June 14, 2007).
<b>Raise Awareness ...</b>	My understanding of Nutrition Positive is basically to raise awareness about healthy eating and lifestyles. I think the school has a huge responsibility (E2P, April 5, 2007).
<b>Educate ...</b>	It's an initiative that exists to support and educate students, teachers and the community about nutrition and making healthy choices and how important that is within the school setting (D2T, May 15, 2007).
<b>Respond to Needs ...</b>	I kind of look at it as more of a philosophy of eating better and having our school kind of respond to the nutritional needs of our kids (G3P, March 29, 2007).
<b>Modify Behavior...</b>	It is to practice healthy eating. You know the whole encouragement of healthy lunches, and putting limits on what students can bring for lunch and kind of looking at that, as well as anything that's being done in the school (C2P, March 27, 2007).
<b>Give Support...</b>	My goal is to be there, to ensure that if they have questions or queries or concerns, that they're being addressed in the school (B1P, June 14, 2007).

Most participants were able to articulate the Nutrition Positive purpose in their own words: 'Nutrition Positive exists to create and support a healthy food environment in Saskatoon school communities.' When it came to the goals however, most participants expressed them less succinctly, if at all. The Nutrition Positive

goals are stated in these terms:

1. To create a healthy food environment Nutrition Positive works to affect change in: awareness, education, behavior, policy and long term health and learning benefits.
2. To support healthy food environments Nutrition Positive works to establish partnerships and provide resources. (SNPM, 2006-2007).

Most participants spoke more about their own school's focus or objectives. For example, some spoke about increasing awareness about what constitutes a healthy lunch or snack. Few referred to improved behavior, policy development, relationships with partners, maintaining program resources, long term health benefits; such as increasing the capacity for learning and overall health, or reducing childhood obesity and other chronic diseases related to nutrition (SNPM, 2006-2007).

#### **4.2.2 Initiation and Reasons for Starting the Nutrition Positive Program**

Participants were asked about how the program was initiated at their school and about how they personally learned about the program. They were also asked to discuss, the reasons why the program was started in their school. Table 4.3 depicts a sample of their responses.

Generally, most participants identified the school administration as the vehicle for initiating the Nutrition Positive program in their schools. Messages from the board office came through the superintendents to the principals and then to the school staff. In most cases this involved a presentation at a principal's meeting made by the school board representative from the Nutrition Positive Advisory Committee. I asked one principal if he felt any pressure to join and he replied: "It was voluntary. You know (the superintendent) suggested some of the benefits that other schools reaped from it, and highly encouraged us to look at the activities that were in the binder and how they could be used. It was good (A1P, April 17, 2007)."

Some participants mentioned being in contact with or receiving messages from representatives within Public Health Services in the Saskatoon Health Region. Several attended workshops conducted by nutritionists from Public Health and/or

CHEP Good Food Inc. throughout the school year. Others mentioned that the school nurse provided them with materials or encouragement at the beginning of their experience with Nutrition Positive. In all cases, initiation required a team effort and a recognition of the need for the program in the school.

**Table 4.3: Initiation and Reasons for Starting the Nutrition Positive Program**

	<b>Participants Comments:</b>
<b>Main Points:</b>	<b>Initiation:</b>
<b>Through the School Hierarchy ...</b>	It was advertised a number of times on the internet and the email system – and then we had a presentation at one of our principal meetings about four years ago. I brought that back to the staff (D2P, May 1, 2007).
<b>Other Informants ...</b>	I actually first found out about it through a community newspaper. I read an article – I believe it's <i>The Sun?</i> And that was about three years ago, or so (D2T, May 15, 2007).
<b>Main Points:</b>	<b>Reasons:</b>
<b>Awareness of Trends in Society ...</b>	Well, I can assume that it was probably kids coming to school hungry and having trouble learning. Poverty in the area (G3NC, March 29, 2007).
<b>Awareness of Trends at School ...</b>	Students maybe don't have proper nutrition at home. We're hoping that while they're with us; they are getting some good quality food (H3P, May 25, 2007).
<b>Personal Beliefs and Passions ...</b>	I noticed that the kids had a lot of candy and pop in their lunches, so I just told parents that I had a policy in my own classroom. We were noticing things (A1T, April 17, 2007).
	It's just a passion of mine. It's always been of interest to me, healthy eating and good nutrition. I just believe that we have a responsibility to really support that wholeheartedly and to help families (E2P, April 5, 2007).

Reasons for starting the Nutrition Positive program varied from school to school. For some, it was an awareness of health trends in our North American society:

You always hear about obesity and all the health related problems with Type 2 diabetes. I was watching *Super-size Me* and the person was talking about



the fact that she runs on the treadmill for forty minutes. That burns off about two or three hundred calories; which, really, is almost nothing if you're not watching your diet. That's when I started realizing, the importance of managing your diet (F2T, May 8, 2007).

Several participants talked about noticing that children were bringing 'junk' food to school in their lunches. They expressed a desire to influence student decision-making through the school program, where they knew they had some opportunity to do so. Role modeling and teaching students about healthy choices was seen as a moral responsibility by some educators.

In fact, some participants stated that it was their strong personal belief and passion about healthy eating and good nutrition that motivated their involvement in the program. Whether it was their keen interest in nutrition and physical fitness or their compassion for those living in poverty; they wanted to see their students getting some good quality food at school.

#### **4.2.3 General Management, Delivery & Implementation**

The teachers and principals were asked about who managed or oversaw the delivery and implementation of the Nutrition Positive initiative in the school. They were also asked to talk about who usually participated in planned Nutrition Positive activities and programs. Table 4.4 offers a sample of their responses.

The Nutrition Positive Advisory Committee recommends that schools create their own Nutrition Positive committee made up of administrators, teachers, students, parents, a public health nurse and food coordinator (if applicable) in the first year of the program. This committee is meant to identify nutrition goals important to the individual school (SNPM, 2007). It is through this committee that the general management, delivery and implementation of school nutrition programs should occur.

Of the eight schools interviewed, three had actual Nutrition Positive committees and three others had Nutrition Positive committees combined with

**Table 4.4: General Management, Delivery and Implementation of the Program**

<b>Main Points:</b>	<b>Participants Comments:</b>
<b>The Nutrition Positive Committee ...</b>	<p>Who administers it? We have a team here of parents and teachers and administrators. There is a staff member, a grade five teacher, the vice principal and resource room teacher, and myself. There are three parents on the committee as well (B1P, June 14, 2007).</p> <p>So our <i>In Motion</i> committee really is our NP committee. So we try to do both of them in an effort to be well balanced; with good exercise and that sort of thing. We also have good food that balances with that... so that's the intent of having both committees together (A1P, April 17, 2007).</p>
<b>Student Leadership Councils ...</b>	<p>I also work with the student leadership group. I'm their advisor.... I try to profile nutrition when we're planning events (E2P, April 5, 2007).</p> <p>We have a Student Leadership Committee, and they've said this year, 'Let's do something about Nutrition Positive.' They've become involved (D2P, May 1, 2007).</p>
<b>Teachers and Other Staff ...</b>	<p>As far as who administers it, I think it's all the teachers and the staff in the school who support the program and promote it in their own classrooms; as well as the CHEP person as far as making nutritious lunches (H3NC, May 25, 2007).</p>

*in motion* and/or Wellness groups. It was questionable whether the remaining two schools had formal committees. All schools had principals and teachers involved with the administration of the program. Only one school had parents on their committee. None of the schools had students on their committees. However, several schools mentioned that the Parent Advisory Council, Student Leadership Team and Public Health nurse assisted the committee in its work on a volunteer or temporary basis. In schools offering CHEP Good Food Inc. sponsored meal(s), the nutrition coordinator was often a Nutrition Positive committee member. Non-committee teachers and other school staff were generally supportive of the program.

It should be noted that in most schools inspiration for program delivery and implementation was spear-headed by one or two persons who had a passion or strong

personal commitment to nutritional health. One highly motivated teacher stated:

I was brought up in a family that was very healthy in terms of our eating.

I'm really thankful that my mom and dad did that because it really taught me a lot. And I think I'm a better person for it (A1T, April 17, 2007).

#### **4.2.4 Nutrition Positive Activities and Curriculum Connections**

Several interview questions explored for understanding in these areas. The participants were asked about who participated in Nutrition Positive activities and about what content was delivered during Nutrition Positive sessions. They were also asked to express an opinion about how the school's Nutrition Positive program objectives addressed concepts related to nutrition information. I asked about the students' ability to access nutrition information at school. I asked specifically about nutrition curriculum and at what grade levels nutrition would be taught. Table 4.5 describes the main types of activities and connections.

The interviewees described a number of nutrition-related activities in their schools. Some were directly related to the dissemination of Nutrition Positive information. Many classes made posters and bulletin board displays to bring attention to nutrition topics or up-coming Nutrition Positive events. Most schools included Nutrition Positive material in their school newsletters, displays or student assemblies. Other activities were tied to seasonal celebrations or special school events. At one school, the principal dressed up as Captain Carrot and handed out bags of baby carrots for Halloween. Another school tried a different twist at Christmas and sold mandarin oranges along with their candy canes. Several participants stated that at sporting events and dances, the concessions contained healthy alternatives like vegetable cups and pure fruit juices along with the usual chips and pop. Similarly, hot lunches in some Nutrition Positive schools were moving towards including alternatives like yogurt and fresh fruit, instead of the typical donut or cupcake selections. Some mentioned that their classrooms took advantage of Nutrition Positive funding for cooking activities, free popcorn machine bookings and year-end watermelon feeds.

**Table 4.5: Nutrition Positive Activities and Curriculum Connections**

	<b>Participants Comments:</b>
<b>Main Points:</b>	<b>Activities</b>
<b>Seasonal Activities ...</b>	I was Captain Carrot and handed out baby bunny carrots to each and every student on Halloween (B1P, June 14, 2007).
<b>Dances ...</b>	At some of our dances ... the concession sells little vegetable cups with dip. I can't get over it. That stuff sells like hot cakes! It goes faster than the chips and the Coke, if you can believe it (C2P, March 27, 2007).
<b>Sporting Events ...</b>	Typically for sporting events we cut up oranges to help quench the thirst (D2P, May 1, 2007).
<b>Hot Lunches ...</b>	When we're planning those hot lunches ... we try to make sure that we're offering healthy alternatives (E2P, April 5, 2007).
<b>Assemblies ... Posters ...</b>	We had trays of vegetables that we passed around at our assembly. Also, we had students write up Nutrition Positive advertisements and posters and relate them to items that could be used in a decent lunch (D2P, May 1, 2007).
<b>Displays ... Surveys... and</b>	In the past, our student leadership team has put together little sugar displays. That comes directly from the Nutrition Positive kit.... (E2P, April 5, 2007).
<b>Community Activities ...</b>	<p>Student Leadership Council... is talking about doing a survey of students. Questions like: Do you think you eat a lot of junk food? Are you eating fruits and vegetables? How much exercise do you get? - those kinds of things (F2T, May 8, 2007).</p> <p>We have lots of community events where we have our families in and during those times we often provide free meals for our families (G3P, March 29, 2007).</p>
<b>Main Points:</b>	<b>Curriculum Connections</b>
<b>Grade Levels...</b>	There are optional units for every level, and room for flexibility in terms of incorporating the philosophy and goals of Nutrition Positive in the Health strand. However, we are encouraged to make curriculum connections and teach across the curriculum; link things together as much as possible (D2T, May 15, 2007).
<b>Integration into Other Classes ...</b>	<p>One of our teachers would incorporate it into mathematics (A1P, April 17, 2007)</p> <p>We've had teachers who have done Science fairs with displays directly related to healthy eating (E2P, April 5, 2007).</p>

According to the principals and teachers interviewed, nutrition is taught in Health or Lifestyle classes at specific grade levels. Teachers have incorporated nutrition information into other curriculum areas, such as Mathematics, Computers, Science, French and Structured Success classes. One teacher stated that the Grade Seven teacher had some kids working on nutrition posters and videos. Also that Grade four students did a lot of work on nutrition labelling. They wanted to teach all of these things as part of the curriculum (BIP, June 14, 2007).

#### **4.2.5 NP Program Communications and Community Involvement**

Participants were asked about the framework used for delivery of the Nutrition Positive program in their schools, which involved communication. They were also asked about the students' ability to share concepts with family, peers and community members. Principals and teachers also volunteered information about program communications and community involvement as they talked about other aspects of the program. Table 4.6 lists some of the information shared about program communications and community involvement.

The participants interviewed said that most nutrition information is communicated through the teaching that goes on in the classroom. Students also learn information incidentally by participating in day to day events. One principal stated that in K-3 classrooms, treats are prevalent, so administrators made suggestions to the classroom teachers. In turn, the teachers communicated to the students and parents that it was alright celebrate with cake once in awhile, but that it should be limited.

A variety of communication tools were described as being used by teachers and principals within the school setting and community. School staff shared information at staff meetings, or posted information in daily communication books, professional learning binders or school websites. They talked to parents at Parent Council meetings and sent home weekly newsletters with the students. Nutrition and program information was passed on to the students through the Student Leadership Team and General Assembly meetings, as well as through intercom announcements.

**Table 4.6: NP Program Communications and Community Involvement**

	<b>Participants Comments:</b>
<b>Main Points:</b>	<b>Program Communications</b>
<b>Meetings ...</b>	Yes, I've been to meetings where school representatives came. Actually that was very helpful. It was nice to hear the real life experiences of other teachers. They certainly gave some good ideas that we'd like to try at this school (E2T, April 5, 2007).
<b>Websites ...</b>	I just distribute our information binder. I make staff aware of some websites and stats from the internet. I put the web addresses in our common drive and then I make notes in the daybook and mention it at the staff meeting. I've done a couple Power Points over the last couple of years. I'm trying to work with the staff and encourage them (F2T, May 8, 2007).
<b>Daybooks ...</b>	
<b>Power Points ...</b>	
<b>Newsletters ...</b>	You know when we get the information from Nutrition Positive we do share that with our community. Every once in a while we'll put little blurbs in our weekly newsletter (G3P, March 29, 2007).
<b>Main Points:</b>	<b>Community Involvement</b>
<b>Parents and Parent Council ...</b>	The parents are involved through the hot lunch program and our Parent Advisory Council (B1P, June 14, 2007).
<b>Community Exposure ...</b>	Our school is used quite extensively by community groups. We also have exposure at our Christmas concerts and our Home and School functions. What we serve showcases that nutrition is important to us. People see our posters and say, "Oh, this is a Nutrition Positive school (E2P, April 5, 2007).
<b>Community Involvement ...</b>	We have a lot of neat volunteers that come in and we utilize them in a number of ways throughout our school. We have an after school cooking program where kids are reading recipes and learning math. We also have an Elder who works in the nutrition room, making bannock, stew, and more ethnically or culturally related foods (E2P, April 5, 2007).

Displays, posters and bulletin boards lined the school hallways with Nutrition Positive and other news, for both school and outside community members.

Participants expressed appreciation for the support of Nutrition Positive program coordinators. They enjoyed conversing with representatives from other

schools at meetings arranged by Nutrition Positive. Good ideas were shared from real life experience. They also found suggestions in the Nutrition Positive Manual to be very helpful, especially for making up their own school newsletters.

Community involvement largely centered on parental participation in the Parent Advisory Councils at each school. Occasionally, schools had volunteers directing programs or acting as guest speakers and/or instructors during assemblies or for classroom activities. Some schools ran nutrition related programs, such as cooking clubs after school hours.

#### **4.2.6 School Use of Nutrition Positive Program and Other Resources**

Enough evidence appeared during the interviews to warrant including information about the school use of Nutrition Positive program and other resources in the results section. Table 4.7 lists some participant comments.

Most principals and teachers were very happy with the resources available through the Nutrition Positive Advisory Committee. When I asked if the Nutrition Positive resource people were helpful, one teacher responded:

Yes, oh yeah... they've sent me resources. They sent me a DVD with some student work on it. So they've been really good. We got Captain Carrot in for the assembly, so they're really helpful (F2T, May 8, 2007).

The Nutrition Positive Manual contains hundreds of pages of information. The first three sections describe the program's purpose, goals and information on how to register and what to strive for in the first three years. Then it makes nutritional recommendations on what to serve most often, sometimes, and least often. Next, it presents suggested activities, ideas and resources such as the Nutrition Positive theme song written by Doug Campbell in both Prairie Dog and Jamaican versions. A Food Group Dance and Nutrition Rap are examples of resources developed by Nutrition Positive schools. Finally, annual summaries of school success stories are included. The Appendices make up the bulk of the manual with four sections including: Curriculum Enhancement resources; Healthy Food Environment reports, articles and program descriptions; Healthy Food Policy examples from Saskatchewan and other

parts of the world; and Background Information including Saskatoon’s Food Charter and other documents.

**Table 4.7: School Use of Nutrition Positive Program and Other Resources**

	<b>Participants Comments:</b>
<b>Main Points:</b>	<b>Nutrition Positive Resources</b>
<b>The people who direct the program ...</b>	I think there’s certainly a lot of support from the people who direct the program. I know they have popcorn machines downtown that we certainly have access to. Whenever we go to a meeting, they’re always giving us a free something, whether it’s a pencil, or a little cookbook, anything to enhance our school program (E2T, April 5, 2007).
<b>Newsletters and Fliers ...</b>	The flyer, and the newsletter are really, really helpful because rather than having to reinvent the wheel, they help us in writing our own newsletters (E2P, April 5, 2007).
<b>Workshops and Manuals ...</b>	They have workshops and sharing sessions at the beginning of the school year and they provide a really wonderful resource binder. It has everything from rap songs to recipes and just tons of resources.
<b>School Summaries ...</b>	So, we’ve used that quite extensively and we’ve contributed to it, of course, every school contributes. You set goals in the fall, you do various activities throughout the year and then you do a summary at the end (D2T, May 15, 2007).
<b>Main Points:</b>	<b>Other Resources</b>
<b>Business Partners ...</b>	I recently did a presentation at the Royal Bank. They’re a business partner for us. They fundraise and we use the money completely on the kids (H3P, May 25, 2007).
<b>Other Professionals ...</b>	One of the moms is a nutritionist and she’s done some research to tell us which kinds of pizza have the fewest grams of fat (E2P, April 5, 2007).  We have our Public Health Nurse who works with the classes quite a bit... We had a month where we would go around and award kids if they were eating a healthy lunch - we had a healthy lunch look out (C2P, March 27, 2007).

In addition to the manual (or binder), participants referred to the monthly flier, the workshops, sharing sessions and the Nutrition Positive personnel as very



valuable resources. They also appreciated the use of the Captain Carrot costume, the popcorn machine, and funds for special projects provided by the Advisory Committee members, and Corporate Sponsors. Other resources mentioned favourably included the Public Health Nurses, Nutrition Assistants and business partners associated with some schools. Teachers made use of materials such as videos, DVDs and internet websites on nutrition and health topics as they applied program suggestions.

#### 4.2.7 Incentives and Rewards used with the Nutrition Positive Program

Participants discussed the adoption of policies and positions regarding the distribution of foods on school property. Table 4.8 details information about incentives and rewards discussed during these conversations.

**Table 4.8: Incentives and Rewards used with the Nutrition Positive Program**

<b>Main Points:</b>	<b>Participants Comments:</b>
<b>Funding ...</b>	What we try to do is provide funding for food experiences in the classroom. If there are opportunities to bring people in to speak on what is good nutrition, we'll certainly provide the revenue for that (A1P, April 17, 2007).
<b>Food -Related Rewards &amp; Incentives ...</b>	Rewards are generally of a nutritious nature. Teachers believe that if you're going to reward the class or a person, then it will have to be celery or fruit or something of that nature (D2P, May 1, 2007).
<b>Non-Food-Related Rewards and Incentives ...</b>	<p>We'll put their names in a draw for different prizes and that sort of thing (G3P, March 29, 2007).</p> <p>We get two or three gift certificates from the Co-op per year and we use those for food-based classroom activities (D2T, May 15, 2007).</p> <p>A lot of our teachers are not big on giving out candy as rewards. I know they use stickers and time on the computer as a reward. Some students have to earn points to earn rewards (H3NC, May 25, 2007).</p>

As part of creating a healthy food environment, it is suggested that administrators and teachers ensure the use of healthy food or non-food items as classroom incentives and/or rewards (SNPM, 2006-2007). There is a concern that

using candy or ‘junk’ food as a reward or incentive sends the wrong message to students and reinforces poor eating behaviors. Certainly bookmarks, stickers, draws and points collected for non-food or nutritious food items are positive examples. Also, funding for speakers and other resources was well appreciated as an incentive.

#### 4.2.8 Mentorship and/or Role Modeling in the Schools

Participants seemed to mention role modeling when asked about who oversaw the delivery and/or implementation of the initiative in the school. Comments about mentorship came up when they were asked about what models or frameworks were used for development and delivery of the Nutrition Positive initiative in the school. Table 4.9 gives examples of some participant comments.

**Table 4.9: Mentorship and/or Role Modeling in the Schools**

<b>Main Points:</b>	<b>Participants Comments:</b>
<b>Teachers Modeling for Students ...</b>	<p>I think you will find individual teachers who really promote a healthy lifestyle. These kinds of individuals are nutrition conscious themselves... they will talk about it, and look at alternatives with their students (A1P, April 17, 2007).</p> <p>We should be role models. We should be teaching students about healthy eating and encouraging them to bring certain items in their lunch and to stay away from certain foods (A1T, April 17, 2007).</p>
<b>Teachers Modeling for other Teachers ...</b>	<p>I was interning last year and my cooperating teacher was very much into nutrition. I saw ...some of the things that she implemented in her class, so when I heard about Nutrition Positive it kind of interested me (E2T, April 5, 2007).</p>
<b>A Good Work but Room to Grow ...</b>	<p>We sit down with the kids and we certainly share in the meals. We don't go around telling our kids not to eat chips and then walk around with potato chips ourselves. So, are we modeling it? Yes. Do we have some room to grow? Yes (G3P, March 29, 2007)!</p>

Under the Nutrition Positive category Healthy Food Environment, “school staff (are to) act as role models for students by eating healthy food (SNPM 2006-2007).” Participant comments reflect that this is happening to some degree. There are some teachers who sit down and eat meals with the students and encourage them to

select nutritious foods. There are individual teachers who really promote a healthy lifestyle and positive eating in their classrooms. They ask questions that stimulate discussions on food-related topics in order to change student behaviors. Many teachers model a positive lifestyle with their own food choices.

Students also model to other students. One teacher described what students were doing through their Student Leadership Council (SLC). Apparently, they had a history in their school of a lot of treat days or Spirit Days where they sold candies and candy canes and different kinds of things. The SLC was starting to limit candy sales and look at alternate foods to serve (F2T, May 8, 2007).

One school involved in the study went beyond its' own school environment to find good role models for students:

We've had at least two assemblies where a guest speaker has come in. The head coach of the Saskatoon Hilltops Football team spoke about the benefits and the necessity of healthy eating. A teacher at Walter Murray Collegiate was a high performance basketball athlete. As a Physical Education/Health teacher, she spoke about the benefits (B1P, June 14, 2007).

It shouldn't be overlooked that teachers also mentor other teachers. As a first-year teacher, E2T (April 5, 2007) mentioned that her internship supervisor inspired her interest in nutrition. Teachers within the public system's Professional Learning Community "look up information on the internet, for personal growth in Nutrition Positive, *in Motion* and Wellness, and then they share their learning and excitement with the rest of the staff (F2P, May 8, 2007)." Thus, role modeling and mentorship occurs at many different levels in Nutrition Positive schools.

#### **4.2.9 Participants' Reflections on Nutrition Positive Program Outcomes**

Question nine on the interview guide asked about how the schools' Nutrition Positive program objectives provided opportunities to address student outcomes. Six sub-questions pinpointed specific areas of concern such as: nutrition concepts, ability to access nutrition information, ability to practice healthy eating behaviors, ability to use goal setting, and decision-making skills, ability to practice concepts

learned and to share these concepts with family, peers and community members.

Table 4.10 summaries participant comments on program outcomes.

Though the principals, teachers and nutrition coordinators had difficulty identifying improvements in student behaviors and outcomes; they had many positive comments about the program. All of them felt that the program was beneficial at the school level. Several mentioned that awareness about nutrition had been heightened and that it had become part of the ‘language or lingo’ of the school.

**Table 4.10: Participants’ Reflections on NP Program Outcomes**

<b>Main Points:</b>	<b>Participants Comments:</b>
<b>Influencing Choices for Life ...</b>	I think it’s good that there are programs like Nutrition Positive. We’re going to have to teach kids how and what to eat. At least, we should have some influence over what they eat at school. It might help them in the long run and carry over into adult life (A1T, April 17, 2007).
<b>Heightened Awareness and Enthusiasm ...</b>	The awareness amongst the students is certainly heightened and they’re certainly talking about it. They know what it means to be a Nutrition Positive school. The lingo is there, but the actions are maybe a bit slower to follow (E2P, April 5, 2007).
<b>Enjoying the Food ...</b>	Most students really like healthy choices and they feel good about them. It’s not as if they’re always going to go home and ask for broccoli, for example; but when those foods are celebrated in the school setting, or even served, they’re crazy over them! ...It’s really fun to work with the kids....they’re enthusiastic. I just think it’s such an excellent initiative, and I think we need to keep doing it and trying to make it better. We need to keep improving it and to keep people enthusiastic (D2T, May 15, 2007).
<b>Enjoying the Program ...</b>	
<b>A long term journey....</b>	I don’t know if I can say that there’s improvement, but I can say that it’s certainly something that is in the minds and in the mindset of students, teachers and parents in the school You can make small incremental changes that will really make a difference over time. We’re not there yet, and I don’t know if we ever will be. I think it’s a long term journey (E2T, April 5, 2007).

Students and staff were talking about Nutrition Positive and what it represented.

When healthy food choices were made interesting and fun, the students responded.

They really enjoyed the food and showed their enthusiasm. There was hope that the

Nutrition Positive influence would carry over into the adult life of the students. It was recognized that changes would be incremental and that positive outcomes would occur over the long term.

#### 4.2.10 Participant Reflections on Nutrition Positive Implementation

Threaded throughout the responses to all questions, emerged a number of participant reflections on the implementation process. The voices of experience expressed a number of views on program implementation. The following table (Table 4.11) summarizes the main views expressed by the participants of this study.

**Table 4.11: Participant Reflections on NP Implementation**

<b>Main Points:</b>	<b>Participants Comments:</b>
<b>Moderation and Respect...</b>	<p>I guess it's important to teach kids everything in moderation. Sometimes people choose to always eat healthier things. I think it's honouring that and sort of making that available (E2P, April 5, 2007).</p> <p>We care about our students. Basically what it boils down to is - we want to help. ...Part of our mission is life-long learning - they can continue to learn about nutrition and become better consumers. Students can be more responsible for their own health. It's a matter of education (D2T, May 15, 2007).</p>
<b>Options and Choices...</b>	<p>The biggest mandate that I've experienced is about options or choices. We want a balance- we don't want to take away every treat. We just want to make sure that something healthy is also offered (B1P, June 14, 2007).</p>
<b>One Step at a Time...</b>	<p>I think that what we have is a good program, we have a very gentle program and the influence is spreading slowly throughout the school. One would hope that as time goes on, it spreads into the families and maybe into the community to a greater extent than it has in the past. It'll take time (D2P, May 1, 2007).</p> <p>I like the idea of us taking the higher ground sort of thing. I think that we can make progress. If we can make progress with the teachers, or maybe change one kid... it can make a big difference (F2T, May 8, 2007).</p> <p>By making things fashionable you can change people's viewpoints and hopefully shift their paradigm entirely. Are we expecting immediate results? No. We're happy with making small steps in the right direction (F2P, May 8, 2007).</p>

First, most participants said that there should be moderation and a respect for the power of choice and that there should be a balance in what is offered. It is felt that more healthy options should be offered along with the ‘junk foods’, so that those who want something healthier have that choice and vice versa. Some participants expressed that severe restrictions of treats and ‘junk foods’ might cause an underground or black market effect. Instead, the healthier options should be made fashionable, popular and more attractive. Others believed that peoples’ viewpoints can change and that someday the paradigm may shift entirely.

Participants expressed that change happens slowly, so it should be taken in small steps. Even with a good program, the influence will take time to spread from the school to the families and then to the greater community. Part of it involves educating the students as consumers to be life-long learners. It’s a matter of education and it requires a team effort to promote the program. One participant mentioned the responsibility of ‘taking the higher ground’. Another mentioned that even if Nutrition Positive only changes one child, it would be worthwhile.

#### **4.3 Findings Related to Research Question 2:**

##### ***What issues, challenges and related concerns are associated with the implementation of the program in schools?***

Although participants described the characteristics of the Nutrition Positive incentive program as being primarily beneficial, they also described a number of issues, challenges and concerns associated with implementing the program. Tables 4.12 to 4.21 present key comments selected from schools at different stages of Nutrition Positive implementation. Each table and the paragraphs following, represent specific issues, challenges or concerns.

##### **4.3.1 Program Involvement-Principals, Teachers and Nutrition Coordinators**

As stakeholders involved in Nutrition Positive schools, principals, teachers and nutrition coordinators identified a number of challenges concerning their involvement with the program. These points were represented universally, across all

schools. Table 4.12 summarizes these points.

Having enough time and opportunity to do justice to the Nutrition Positive program was expressed most consistently as a challenge for school staff.

**Table 4.12: Program Involvement – Principals, Teachers and NCs**

<b>Main Points:</b>	<b>Participant Comments:</b>
<p><b>Need Teachers on Board ...</b></p>	<p>The first challenge is, you know, getting teachers on board. Teachers are a busy species, so there might be some resistance (A1T, April 17, 2008).</p> <p>You have to have everybody on staff - on side. When everybody's on board I think we'll be more successful (H3P, May 25, 2007).</p> <p>It can't just be one person's job. There is a lot on teachers' plates (G3P, March 29, 2007).</p>
<p><b>Need Time &amp; Opportunity...</b></p> <p><b>Need Excited Promoters...</b></p>	<p>Time is at a premium. We've got so many demands upon us in terms of the curriculum and in terms of other things that we need to do. We can't do everything, so we select. Unfortunately, it's a question of time. So what we need now is a program called 'Time Positive' (D2P, May 1, 2007).</p> <p>To really promote this and do it justice, you've got to have time and you've got to have opportunity. You need individuals in the school who are really promoting it and are really kind of excited about it (C2P, March 27, 2007).</p>
<p><b>Need Correct Motives...</b></p> <p><b>A Gentle Approach.....</b></p>	<p>We're cautious, because there have been times where perhaps in our zealously to promote good healthy eating, we've had parents question us on the motives. The fact is, as a parent they have a right to give their child any food they want to. The best we can do is to create awareness, provide valuable information and we hope that they listen to it and heed it... We cannot force the situation. When we've tried to, we've been bitten. So, after you've been bitten a number of times, you become cynical (A1P, April 17, 2007).</p>

Many participants spoke about the demands put upon them in terms of curriculum and other school programs. School personnel needed to be selective in what they agreed to take on during the year because of the work load.

Once Nutrition Positive was selected, most participants recognized the need for enthusiastic individual(s) on board that could promote the program to others.

Getting the school team to share the philosophy and support the program was sometimes a challenge.

One principal spoke about the situation:

F2T was initially the lone wolf promoting Nutrition Positive and I think he probably got a little discouraged. He was giving us information and not everyone was buying into it. We talked about how everything's a slow process and we worked towards being better Nutrition Positive supporters (F2P, May 8, 2007).

Most participants recognized that in order for the program to be successful, everyone on staff needed to be invested and involved. However, most participants also realized that no one could force the situation. Participants sometimes experienced resistance from fellow staff, or from others inside or outside the school. In those cases, principals and teachers could only create awareness and provide valuable information in hopes that it would eventually be respected and adopted. A few participants mentioned that the approach needed to be a gentle one with positive motivation behind every step. Others mentioned that school staff still needed to respect the individual's (whether parent's or student's) power of choice, while implementing the program.

#### **4.3.2 Program Involvement – Students, Parents and Community**

None of the schools involved students directly as members of the Nutrition Positive committee, as suggested in the *Saskatoon Nutrition Positive Manual* (2006-2007). Apparently, students were mainly involved as recipients of program messages and activities. In some cases, teachers asked students for input and suggestions in their own classrooms. In other cases, older students involved in a student leadership group would decide to include Nutrition Positive as part of their mandate. Often this group had guidance from a principal or teacher to focus on nutrition issues, but that wasn't always successful. The students mainly chose to 'do their own thing' and if that included nutrition, then it became a priority. If not, then it wasn't incorporated at that level of school leadership. Table 4.13 presents comments which disclose the



involvement of students, parents and community members in the case study schools.

**Table 4.13: Program Involvement – Students, Parents and Community**

<b>Main Points:</b>	<b>Participant Comments:</b>
	<b>Students:</b>
<b>Students on the NP Committee...</b>	No, we haven't put any students on our committee. It's not to say that teachers don't canvas their students in their classroom to get a general idea of their ideas (A1P, April 17, 2007).
<b>Student Leadership Groups...</b>	<p>The student Leadership team is not specifically Nutrition Positive, but certainly Nutrition Positive would be one aspect of their role (E2P, April 5, 2007).</p> <p>The teachers who work with the Student Leadership Council have gone to the committee a few times to talk about different nutrition ideas. But basically the students have been running their own kind of thing (F2T, May 8, 2007).</p>
<b>Students in General ...</b>	I don't think they're all on board (with Nutrition Positive). Some of the lunches they bring are filled with processed food - not very healthy at all (H3P, May 25, 2007).
	<b>Parents and Community Members:</b>
<b>Parents on NP Committee ...</b>	No we haven't any parents on our committee (A1P, April 17, 2008).
<b>Parent Councils ...</b>	<p>Each year that we've had Nutrition Positive we've presented the idea to Parent Council and given them some ideas as to how they could become involved. They've said, "That sounds like a terrific idea, but we don't have the time (D2P, May 1, 2007).</p> <p>I made a presentation at a Parent Council meeting ...there were questions and a little bit of resistance. They were unsure and afraid that it would be like a policing atmosphere (D2T, May 15, 2007).</p>
<b>Parents in General....</b>	There was a great reluctance to accept the Nutrition Positive program in the school for various reasons, whether there had been horror stories, or people just had this preconceived notion that Nutrition Positive wasn't fun. I don't know (A1P, April 17, 2007).
<b>Community Involvement...</b>	Do we engage the community? Well, I guess indirectly through some of the school activities, but not directly with community members (F2P, May 8, 2007).

Parents and community members were not included on the Nutrition Positive

committees in most case study schools. Only one school, out of the eight interviewed, had parents on their committee. Some principals reported that they had tried to involve parents through the school Parent Councils. In one case, there was interest expressed by the Parent Council, but time constraints prevented them from getting involved. In other cases, there was resistance and suspicions about the program. Usually, the latter was resolved with reassurance, diplomacy and tact on the part of program promoters.

Only one school experienced outright confrontation with parents regarding nutrition-related school policies. In that case, parents felt that the school was infringing on basic human rights. They felt that the school had no right to dictate what people chose to eat. It is unclear whether this was the result of ulterior motives on the part of a parent, poor communication of school goals, or preconceived prejudices towards the program itself. The principal said he had talked to parents who were representatives for a chocolate company. Apparently, a child was giving away a lot of candy to his school friends. The principal said that these are the realities that you have to deal with, in trying to promote healthy eating at school. It's not just 'black and white'; there are 'grey' areas to deal with. Community members were not often directly involved with the school nutrition program. Indirectly, they may have been aware of school activities involving nutrition and participated in them occasionally. One principal mentioned that the formation of School Community Councils might serve to enhance community participation in the future.

#### **4.3.3 Sustainability and Staff Turnover**

Participants were asked if they thought the program was sustainable beyond the current year. Their answers were directly linked to comments about staff turnover and recognizing the need for continued nutrition/health programming in the school. Table 4.14 lists some of their responses about sustainability and staff turnover.

**Table 4.14: Sustainability and Staff Turnover**

<b>Main Points:</b>	<b>Participant Comments:</b>
<b>Committing to the Program ...</b>	<p>Sustainability depends on the vision of the principal, committee and staff. As long as you have a core group that's invigorated and committed, as long as they don't get turned off or discouraged, you can sustain it (A1P, April 17, 2007).</p> <p>Its sustainable because it's a good program. What it needs is people, it needs personnel within the school to promote it and keep it going (D2P, May 1, 2007).</p>
<b>Replacing the Lost...</b>	<p>We assign different jobs at the beginning of the year, and Nutrition Positive is one area. I like to think that if I leave this school; that other staff members are still going to believe how important it is and that it's something that's worthy of continuing ....Having key people on the committee to make decisions is a requirement. If you lose people, you have to make sure the ones remaining 'pick up the ball' (E2P, April 5, 2007).</p>
<b>Recognizing the Needs...</b>	<p>The community and the neighbourhoods aren't changing around here, so we're going to continue to have kids who need to be fed. But, it's more than just a feeding thing. We're trying to help our kids develop some positive lifestyle skills. I think it will be sustainable because kids aren't coming to us having all those habits already established (G3P, March 29, 2007).</p>

All of the participants believed that the program was sustainable with a few qualifications. They believed that the program was a good, but it needed a core group of committed people leading it. In view of the rapid turnover of staff in schools, most recognized a need for succession after a change in personnel. This was a key point, considering that twelve out of fourteen of those interviewed had been at their schools for less than four years each. Eight out of the fourteen had been at their schools less than three years each (Table 4.1). One of the principals thought Nutrition Positive would always be sustainable because there would always be a need to teach children good health habits and lifestyle skills.

#### 4.3.4 Integration with Other Programs

In answering other questions, participants mentioned several points concerning the integration of other approaches with Nutrition Positive. Table 4.15 lists some of the participant comments.

**Table 4.15: Integration with Other Programs**

<b>Main Points:</b>	<b>Participant Comments:</b>
<b>All important...</b>	I think that Nutrition Positive and <i>in motion</i> <sup>TM</sup> need to be combined. They are both so important. It's got to be a 'big picture' or 'both sides' approach (F2T, May 8, 2007).
<b>Need to work Together....</b>	Nutrition Positive and CHEP are working hand in hand. Sometimes I have a problem with differentiating the two (G3P, March 29,2007).
<b>Problems with Differentiation and Interference...</b>	<p>You don't get the programs mixed up, but they do interfere with one another. You not only have to eat well, you have to exercise with <i>in motion</i> activities. So we use a two-pronged approach at the moment (D2P, May 1, 2007).</p> <p>We have done <i>Jump Rope for Heart</i> and <i>Hoops for Heart</i> this year, which is also to promote the Nutrition Positive, and <i>in motion</i> (H3NC, May 25, 2007).</p>

All of the case study schools were integrating Nutrition Positive with other life-style and/or nutrition programs. In some cases this constituted a two- or three-prong approach. Six of the eight schools interviewed were also *in motion*<sup>TM</sup> schools. The only two that weren't *in motion* schools were the Community School (G3) and the one applying for Community School status (H3). Four of the eight case study schools were also receiving funding from CHEP Good Food Inc. at various levels. One school was also involved in the CHEP Good Food Box program.

Most of the participants viewed this integration of programs positively. However, one principal said that they had a problem differentiating the programs from one another. This was most obvious in the schools that had financial support for student meal programs. Another principal commented that the programs didn't

get mixed up, but they interfered with one another.

#### **4.3.5 Cultural and Social Issues**

Participants' comments about social and cultural issues generally arose when they were asked about the reasons for initiating the Nutrition Positive program in their schools. Some of the points were also mentioned during responses to the interview question about program challenges. Table 4.16 includes a number of quotations concerning cultural and social issues cited from the participant interviews.

There was general agreement among the participants that cultural and social issues influence the implementation of school programs such as Nutrition Positive. One teacher summarized the major concerns very well:

It's difficult to overcome a cultural mindset of fast, easy food. It's difficult to compete with the billion dollar ad campaigns that are creating the wants that are turning into needs for people. I think when you're dealing with people it's pretty easy to get them to say the right thing. But it's difficult to get them to make it an actualized part of their life at home, when no one's looking (F2T, May 8, 2007).

In other words, schools are in direct competition with the 'junk food' media ad campaigns; the round-the-clock accessibility on every street corner; and the largely-portioned, 'value' meals available in our present day society. Even when nutritious food is promoted, it is difficult to say whether students/people are actually incorporating it into their daily lives (F2T, May 8, 2007).

One principal felt that there was a large attitudinal problem to overcome in the general community. He felt that it was important to promote healthy eating in a positive way, along with good humour and fun. He advised against forcing the issues and creating negative attitudes. Other related concerns had to do with the home-life of school-aged children and their family dynamics. Several participants mentioned that parents have a lot to deal with these days. Many parents are working outside the home and have little time for food preparation. Sometimes, children are responsible for purchasing or preparing their own lunches. In other cases, the families are living

in poverty and there just isn't a lot of choice when it comes to available food.

**Table 4.16: Cultural and Social Issues**

<b>Main Points:</b>	<b>Participant Comments:</b>
<b>Competition ...</b>	<p>The biggest challenge is the culture of the community or society, which tends to promote non-nutritious food items. You'll rarely see an advertisement advocating eating broccoli. But you'll see many advertisements advocating something sweet. So, we've got some competition (D2P, May 1, 2007).</p> <p>I'd say a challenge is a donut shop and a convenience store on every corner and the accessibility of junk food (D2T, May 15, 2007).</p>
<b>Attitudinal Issues ...</b>	<p>You're dealing with an attitudinal issue. Huge challenge, huge, huge, huge challenge! I think that's the number one challenge, to be able to convince the community that this is the way to go. And doing it in a positive way, a humorous way - a fun way is really important. If you're going to be doing it in a way that creates animosity and fear and fighting and monitoring and policing in general; you just destroy all the good will that you're trying to create and promote (A1P, April 17, 2007).</p>
<b>Family Dynamics:</b>	<p>I think people are just so busy now-a-days that they just don't have time to... cook wholesome meals. They'll buy the highly processed foods from the grocery store and have those. Or they'll pick something up. Fast food's cheap and every fast food restaurant has its value menu nowadays. I think the family dynamics have really changed (A1T, April 17, 2007).</p> <p>Some of these parents say: 'You get your lunch ready' or 'Here's five bucks, go out and get something'. What are kids going to do? They're going to buy a big bottle of pop and a bag of chips (C2P, March 27, 2007).</p>

#### **4.3.6 School Committees, School Policies, Rules and Guidelines**

Participants were asked if their school had adopted or discussed adopting policies/positions regarding the sale or distribution of foods on school property. They were also asked about their Nutrition Positive committee; if not mentioned

when they spoke about the delivery and implementation of the program in the school. Responses ranged widely, and are represented by the comments in Table 4.17.

As stated earlier under research question one; three schools had formal Nutrition Positive committees; three had committees that were combined with that of other programs and two did not have operational committees at all. Since the committee is meant to be the decision-making body governing Nutrition Positive activities in the school, it is an area of concern for the case study schools. Most of the committees described consisted of only two to three members. Rarely were students, parents or other community members included.

In the third year and beyond, Nutrition Positive schools are to begin implementing a Healthy Food Policy that has been created by and for their schools (SNPM, 2006-2007). Two of the eight schools in this study had created a written policy. One of the policy documents, from a Level 2 school (3-4 years Nutrition Positive), had been written after a series of committee meetings with much dialogue, debate and dedication to the cause. The other was a modified version of a document already in existence and was created by a Level 1 school (1-2 years Nutrition Positive). Although the other six schools were without a written policy, they seemed to be operating under their own rules or understandings, nonetheless. The interpretation of Nutrition Positive Manual guidelines (SNPM, 2006-2007) varied from school to school. Two contrasting messages regarding unwritten policies on contraband foods appear below:

- 1) It is to a point that they know, flat out, if they get caught with a pop, it is going in the garbage. It's the bottom line kind of thing with that (C2P, March 27, 2007).
- 2) To go to a school dance and to offer carrot sticks and water is not going to cut it. First of all, you're trying to build team spirit and fun. If we only have a dance once every 3-4 months, we think we can offer some candy and a fruit cup, as long as there's choice (B1P, June 14, 2007).

**Table 4.17: School Committees – Policies, Rules and Guidelines**

<b>Main Points:</b>	<b>Participant Comments on Committees:</b>
<b>Formal Committees ...</b>	<p>This is exclusively a Nutrition Positive committee and we meet once a month. We talk about the needs of our students (B1P, June 14, 2007).</p> <p>I spearheaded the Nutrition Positive committee originally and I still oversee it. The principal and I are the only two members (D2T, May 15, 2007).</p>
<b>Mixed or Informal Committees ...</b>	<p>When I say committee, our actual committee is both <i>in motion</i>™ and Nutrition Positive. So we're working on different things in both of those areas. We kind of expanded this year to what we call Wellness (F2T, May 8, 2007).</p> <p>We have a group of teachers that plan <i>in motion</i> activities and I think there's a little bit of cross over there. I wouldn't call it a specific Nutrition Positive committee; it's mostly to do with exercising (A1T, April 17, 2007).</p> <p>Well, there are only two involved. It might not be a formal committee (E2T, April 5, 2007).</p>
<b>Non-Operational Committees ...</b>	<p>We don't have a committee at this point, but that is certainly something that we want to do in the future (G3P, March 29, 2007).</p>
<b>Main Points:</b>	<b>Policies and Guidelines:</b>
<b>Written Policies ...</b>	<p>We pretty much followed the policy developed by the Public Health Nutritionists of Saskatchewan Working Group. We sort of customized it for our school (B1P, June 14, 2007).</p> <p>To develop a policy you have to go through quite a few series of meetings – of dialoguing around what's appropriate. We've got a long way to go, but we at least we've represented what we think is healthful living in written form (F2P, May 8, 2007).</p>
<b>Unwritten Rules, Guidelines And Approaches ... A bit too fast....</b>	<p>We're sometimes stuck between a rock and a hard place. We don't have any super-sized ice drinks coming into the school. Is it written? No, it's just a common understanding (G3P, March 29, 2007).</p> <p>They said, 'OK, you need to set goals and organize promotions and those kinds of events.' We felt was that this was going a little bit too fast for us The Nutrition Positive people wanted us to go a little faster than we were prepared to go (D2P, May 1, 2007).</p>



#### **4.3.7 Vending, Fundraising, Rewards and Incentives**

Information about vending, fundraising, rewards and incentives was given at various points throughout the interview process. The main issues of concern are listed in Table 4.18.

Comments from the interview transcripts indicate that most schools don't participate in more than one or two fundraising events throughout the year. Individual classrooms and sports teams may seek funds for special projects, or the Parent Advisory Council may make a profit from a Hot Lunch or a Fun Day. Participant schools seemed to be making an effort to advocate positive food choices along with the usual foods at such events. The comments made by participants in regards to fundraising also reflected some feelings of frustration. For example, most found that trying to fundraise with foods other than donuts, chocolate bars or candy did not always yield as high a profit for equivalent effort. Most schools were trying to make a compromise between the two extremes; easy money with the sweets and treats versus hard-earned cash with the healthier sales products.

Nutrition Positive schools are also encouraged to promote a Healthy Food Environment by removing non-nutritious foods from their vending machines (SNPM, 2006-2007). Four of the eight case study schools had completely removed all vending machines. One school had hidden the machine out-of-sight in a janitor's room, away from the main traffic areas in the school. Apparently, some staff still used it in this location. Of the three remaining schools, two had vending with pop-like drinks available for staff only. One of those also had vending with pure fruit and other drinks available for students. The last school had one vending machine in the hall with water, pure fruit and other fruit-type drinks available for everyone. Thus, most schools were promoting a healthier environment in terms of vending. Yet, some held a double standard for students and staff.

The quotations in Table 4.18 are representative of the comments by participants in all eight schools. Most admitted that their school was 'not where it should be' in the area of classroom incentives. Both teachers and principals stated

**Table 4.18: Vending, Fundraising, Rewards and Incentives**

	<b>Participant Comments:</b>
<b>Main Points:</b>	<b>Vending and Fundraising:</b>
<b>Fundraising tends to be with ‘junk food’ because it’s easier that way ...</b>	<p>We do have fundraising events and of course the things that sell are the things that are not nutritionally positive, like chocolate and donuts (D2P, May 1, 2007).</p> <p>I think some things get served at our tournaments and track and field days because it’s easier to go and pick up some candy and hot dogs (A1T, April 17, 2007).</p> <p>Everybody’s overworked and you could have four or five fruit sales to make what you would make in a one day with a long john or donut sale. So it is, I guess, it’s a little frustrating for staff (H3P, May 25, 2007).</p>
<b>Pressure from Vending Companies... Vending location and machine content varies from school to school....</b>	<p>All the companies want to kick in the door and say, ‘Let’s get a pop machine in here.’ We’re approached quite a bit (C2P, March 27, 2007).</p> <p>The contents of the machine were dictated to us primarily by the person who owned the machine. First of all, we had to take out the advertising, which was one little skirmish that we had. Then we had to change things from the heavily sugared drinks to something better (D2P, May 1, 2007).</p> <p>We do not have pop machines in the school. Well, not accessible to the kids, anyways. Down in the far room there is a Coke machine, but I think the teachers very seldom go down there. It’s not visible to students (H3NC, May 25, 2007).</p>
<b>Main Points:</b>	<b>Classroom Rewards and Incentives:</b>
<b>Frequent Practices ...</b>	<p>Some teachers give out stickers and some give out candy (H3P, May 25, 2007).</p> <p>Parents like to bring cupcakes. We’re trying to change that to a healthful snack. It’s not easy to break a paradigm when parents are 25 or 30 years old and have been doing it all their lives. So it’s a slow process and it’s a direction (F2P, May 8, 2007).</p>
<b>Frustrations...</b>	<p>I think I need to quit this committee. I feel like I’m banging my head against the wall. I was just bringing up some issues, and...I was seeing that people had a lot of different ideas and philosophies around treats. All these things were coming up and I didn’t see how we could win (F2T, May 8, 2007).</p>

that in some classrooms, candy and other sweet treats are used to reward and to celebrate special occasions. In some cases this is done in moderation; in others, it is the norm. One teacher was so disappointed with his school's progress, that he refused an end-of-the-year reward offered by Nutrition Positive. Another principal was more philosophical and looked at progress in this area as a 'slow process' or a 'direction'. Changing the idea of 'treat' was likened to changing a paradigm or a generational tradition.

#### **4.3.8 Role Modeling and Mentoring**

Comments about role modeling and mentorship were made throughout the interview process. Participants were also asked what models or frameworks were used for the development and delivery of the initiative, and responses included ideas about adults' role modeling to students and schools mentoring each other. Table 4.19 represents a sample of responses.

One of the Nutrition Positive goals is "to teach the importance of role modeling healthy eating both in and out of school (SNPM, 2006-2007)." Participants universally agreed that role-modeling or mentoring good nutrition practices at school was important. One principal pointed out that the challenges come when the stakeholders are at philosophical extremes regarding what is in the best interest of the child. Personal beliefs and practices often get in the way of sending clear messages to children. The adults in a school may say one thing and do another. For instance, they may promote eating fresh fruit, but personally still love candy, chocolate and pop. They may not give a donation of donuts to the children, but they'll put them in the staff room instead. School personnel often presented a 'broken front' in regards to nutritional practices. Administrators didn't feel that they could mandate what staff did on their coffee break, or dictate lifestyle choices. So they were encouraging better choices and hoping for gradual changes in the school role models, as well. There were also comments regarding parental practices and modeling at home. One principal stated that some of the lunches brought to school are filled with highly processed foods and not very healthy at all. He felt that parents probably found it

**Table 4.19: Role Modeling and Mentoring**

<b>Main Points:</b>	<b>Participant Comments:</b>
<p><b>Philosophical Extremes....</b></p> <p><b>A broken front...</b></p> <p><b>Lack of personal commitment ...</b></p> <p><b>Double Standards...</b></p>	<p>While we can't dictate, we should be role modeling what is in the best interest of the child. So, the only challenge is if you have somebody who is of a philosophical extreme one way or another (B1P, June 14, 2007).</p> <p>Staff, well, broken front – you know, we've got some that are totally committed and some that are just dying to have a Coke at recess. They make their own lifestyle choices (F2P, May 8, 2007).</p> <p>You see if I'm going to be promoting it I have to live it. I'm a firm believer that I cannot change a person's way of eating and doing things if I don't do it. I love my chocolates; I love my candy; I love Coke. I mean I love those things (A1P, April 17, 2007).</p> <p>We have, every once in a while, donations of donuts. We usually use those for meetings with the adults We recognize that's not necessarily the best (G3P, March 29, 2007).</p>
<p><b>Very Little Modeling at Home ...</b></p>	<p>There are some individuals that are getting themselves up (in the morning). They're in charge of grabbing their lunch. They don't have any modeling at home, so it's difficult for us (C2P, March 27, 2007).</p>
<p><b>Need more Mentorship between Schools</b></p>	<p>I think this is a very good program, but it needs more mentorship. It needs principals and committees to be able to go and see other schools in action (A1P, April 17, 2007).</p>

easier to purchase these foods to send along in lunch kits. He commented that students making their own lunches will often take a quick bag of chips instead of something nutritious (H3P, May 25, 2007). Another principal sympathized with busy parents with little time for shopping. He said that families may be in the same boat as himself, with their cupboards empty, rather than full of healthy choices (C2P, March 27, 2007).

One principal suggested that school committees need the mentorship of

other successful schools in order adopt new Nutrition Positive methods and templates. It was felt that actually seeing the schools in action would be of benefit. It was thought that this might help to rule out the trial and error period during Nutrition Positive implementation.

#### **4.3.9 Curriculum, Nutrition Positive Manual and Newsletters**

Information about the use of the formal Saskatchewan Learning nutrition curriculum, the Nutrition Positive Manual and Nutrition Positive newsletters was given at various points throughout the interview process. Most participants discussed their concerns and issues, while answering the question about what frameworks or models were used for the development and delivery of the initiative in their school. Table 4.20 reflects participant remarks concerning these documents.

A number of concerns emerged as nutrition curriculum was discussed with the participants. First of all, it didn't seem that many principals or teachers knew at exactly which grades nutrition concepts were to be taught. One principal said that there was no guarantee that nutrition was taught in every classroom, even if it was in the curriculum. Another insinuated that it might not be done on a regular basis because of time constraints and heavy curriculum loads.

Those teaching nutrition as part of the curriculum at their grade level, felt that they needed more resources. One teacher said that it would be really nice to have more teacher- and student- friendly resources available at every grade level.

Participants from two of the schools surveyed didn't know where the Nutrition Positive Manual was in the school and weren't very familiar with its contents. One of these schools had been a Nutrition Positive Level 1 member, and the other had been a Level 3 member. Comments from the other Level 3 School were also unusual. In asking about the Nutrition Positive manual, the principal's response was vague and the Nutrition Coordinators' response indicated that they were unfamiliar with the manual. The Level 3 schools seemed to equate the CHEP sponsored meal program with Nutrition Positive. The participants were fairly new to their positions at these particular schools, yet the schools had been Nutrition Positive

for a long time. One principal was concerned that the newsletter was not the best way to communicate with some parents. He was looking for a better way of transmitting nutrition information.

**Table 4.20: Curriculum, Nutrition Positive Manual and Newsletters**

<b>Main Points:</b>	<b>Participant Comments:</b>
<p><b>Nutrition Curriculum not required or monitored ...</b></p> <p><b>Need teacher-friendly resources...</b></p>	<p>There are 22 classrooms and you can't guarantee that every person is touching on nutrition curriculum (B1P, June 14, 2007).</p> <p>One of the challenges is that unless it's actually in your curriculum level, you're not really required to teach specific units on nutrition at every grade level. It would be really nice to have a few more resources that were easily accessible to teachers at every level. Fun resources for students (D2T, May 15, 2007).</p>
<p><b>Nutrition Positive Manual not used...</b></p>	<p>The Nutrition Positive Manual could be one of those things that could be in the school, but it hasn't been pointed out. Maybe it's in the library, on a shelf in the library, or in the office, I don't know (A1T, April 17, 2007).</p> <p>I don't know if we have a Nutrition Positive manual at the school (H3P, May 25, 2007).</p>
<p><b>Newsletters not always the best means of communication...</b></p>	<p>I don't know how many of them (parents) are realistically reading the newsletters. Effectively communicating with parents is probably a key that we need to be better at (H3P, May 25, 2007).</p>

#### **4.3.10 Awareness of Other Approaches and Assessing the Program**

Towards the end of the interview, the participants were asked: “Are you aware of any other schools that have exemplary or interesting approaches to initiating the program?” Most principals and teachers had not had contact with other schools and were not aware of other approaches. Only a few participants understood what other schools were doing through attending Nutrition Positive meetings or working at other schools (Table 4.21 first part). The participants also agreed that it was difficult to assess the program and whether it had an effect on the eating behaviors of their

students. They identified three key areas that could provide means of assessment, as identified (Table 4.21 second part).

It was felt that student lunches were something that could be assessed. From observations during lunch hours, principals and teachers noted that most students had nutritious lunches. However, there were also students with highly processed, pre-packaged foods on a regular basis. It was mentioned that this may be more of a reflection on the persons packing the lunches than on actual student choices.

At least one principal mentioned that awareness among students had been heightened. This was evident in the language of the students and the ‘talk’ around the school. Students at that school were talking about healthy eating and seemed to understand that they were a Nutrition Positive school. Other schools had students involved in putting on assemblies, and directly involved with promoting the Nutrition Positive program. However, the respondents cautioned that this may not have translated into long term changes in behavior.

Student behavior was also identified as a possible area of assessment. One teacher gave anecdotal evidence that children change their behavior depending on when and what they have eaten. She noticed a big difference in children who had breakfast in the morning as opposed to those who did not. She also noticed a difference in student activity levels after eating treats. Her own practice was to give treats at the end of the day rather than at the beginning.

Despite information going home in newsletters, most teachers and principals didn’t notice a change in parent or student behaviors in the home setting or in the community. It was felt that unless the people were already motivated to practice healthy eating behaviors, the information sent home from the school was not going to make much difference. The schools with community partnerships weren’t very hopeful either: “We have a lot of community partnerships. I could go on and on about our partnerships – but are they really closely tied to our nutrition program? I’d have to say no (G3P, March 29, 2007).”

**Table 4.21: Awareness of Other Approaches and Assessing the Program**

<b>Main Points:</b>	<b>Participant Comments on Other Approaches:</b>
<p><b>Many not aware of what other schools are doing...</b></p>	<p>I can't say that I've heard too much, I'm kind of in my own little bubble (A1T, April 17, 2007).</p> <p>No idea. Not outside of this boundary. I would be guessing (F2P, May 8, 2007).</p> <p>Not really. No, I don't. I just recently started here. Healthy snack sales have been the extent of my learning about seeing what other schools are doing (H3P, May 25, 2007).</p> <p>I guess not, one school doesn't stand out in my mind. But I've enjoyed going to the sharing sessions and hearing what other schools do. Some are forthright in terms of encouraging healthy choices (D2T, May 15, 2007).</p>
<b>Main Points:</b>	<b>Assessing the Program:</b>
<p><b>Students' Lunches may give evidence ...</b></p> <p><b>Not much change...</b></p>	<p>That's a difficult one to assess. The only thing we could suggest about that is to take a look in their lunch bags and assume that somebody is deciding on what to eat (D2P, May 1, 2007).</p> <p>It would be a stretch to say I've noticed a big change. I still see many processed foods. I guess I'm not seeing much change (H3P, May 25, 2007).</p>
<p><b>Students' Talk may give evidence...</b></p> <p><b>Small changes...</b></p>	<p>I haven't seen any evidence, other than the students being involved in an assembly; talking and promoting healthy choices (B1P, June 14, 2007).</p> <p>Are we necessarily seeing it in practice? I think there are some small changes, but there's a ways to go yet. I think certainly the awareness amongst the students is certainly heightened (E2P, April 5, 2007).</p>
<p><b>Students' Behavior may give evidence of a difference...</b></p>	<p>We do notice a difference when students are eating healthy, as opposed to not eating healthy. They get hyper and they get excited. I think a treat once in a while is fine. But, there are times I would never give them a treat - at the beginning of the day for instance (E2T, April 5, 2007).</p>



#### **4.4 Comparison of Nutrition Positive to Three Models for Best Practice**

In this section, study results will be compared and contrasted with guidelines and criteria for the school-based health promotion programs outlined in the literature review. These include the *World Health Organization's Comprehensive School Health and Promotion* priority statements; the “Action for Healthy Kids Critical and Essential Criteria”, and Saskatchewan’s adaptation of the *U.S. Center for Disease Control School Health Index Guidelines* (“Healthy School Food Policies and Guidelines Checklist”). After careful consideration of Nutrition Positive documents and implementation practices, each guideline or criteria has been given a designation as either: Fully in Place (FIP); Partially in Place (PIP); Under Development (UD); Not Done (ND); or Not Applicable (NA). The AFHK evaluation instrument includes one other designation and that is - No Information (NI).

This evaluation has been done in order to further describe the characteristics of the Nutrition Positive program. The following tables, checklists and explanations assist in answering both research questions and represent both Step 1 and 2 of the Process-Evaluation Planning sequence (see Section 1.4 and Section 2.5).

##### **4.4.1 Nutrition Positive and WHO Comprehensive School Health Guidelines**

The guidelines listed in Table 4.22 were published in the *Comprehensive School Health Education and Promotion Report* by the WHO Expert Committee in 1997. These priority statements were to aid institutions in strengthening the promotion of healthy eating among school children, globally (WHO, 1997). The table boxes indicate the contribution Nutrition Positive appears to be making towards meeting these priorities, based on participant remarks from the case study schools and an analysis of Nutrition Positive documents.

Guidelines one, two and three in Table 4.22 are partially met by the Nutrition Positive program. Nutrition Positive program planners recognize the school as an effective entry point for health promotion and intervention. According to the SNPM (2006-2007), the purpose of Nutrition Positive is ‘to create and support a healthy food environment in Saskatoon school communities’. Also, a goal of

Nutrition Positive is to support nutrition teaching within the school curriculum. The program emphasizes the importance of role modeling healthy eating both in and out of school (SNPM, 2006-2007). Thus, the intention of Nutrition Positive is to follow the guidelines and enable children at all levels to learn critical health and life skills.

However, study results indicated that not every Nutrition Positive school enables children at all levels to learn critical health and life skills (Guideline 1). Participants stated that they were not required to teach specific units on nutrition at every grade level (D2T, May 15, 2007) and principals couldn't guarantee that every teacher was touching on nutrition curriculum (B1P, June 14, 2007). Schools are used as entry points for promotion and interventions (Guideline 2). However there is no data collected to determine whether Saskatoon Nutrition Positive schools are more effectively serving as entry points for health promotions and interventions after six to seven years of program implementation (SNPM, 2006-2007).

Teachers and school staff are valued and provided support (Guideline 3) through workshops, sharing sessions, resource speakers, and both print and audio-visual materials supplied by the Nutrition Positive Advisory Board (SNPM, 2006-2007). Participant interviews in this study suggest that teachers don't always take full advantage of these supports. This is because teachers are not aware of what is available or because teachers are over-burdened with other concerns (A1T, April 17, 2007) (D2P, May 1, 2007). Teachers suggested the need for ready-to-use teacher- and student-friendly nutrition lessons (D2T, May 15, 2007). Some mentioned that the curriculum doesn't include nutrition topics at every grade level, so it is difficult to incorporate health promotion principles (B1P, June 14, 2007).

Points four and five in Table 4.22 are both under development. Point four is concerned with cooperation between the community and school in terms of health promotion. Nutrition Positive seeks to increase community awareness of nutrition issues that impact health and learning. Through establishing community and business partnerships, it seeks to promote positive relationships within the community. In addition, it recommends that parents have a voice on the Nutrition Positive

Committee (SNPM, 2006-2007). In practice, Guideline four seems to be difficult to achieve at the school level. Parental and community involvement in the case study schools appeared to be minimal, at least in the area of health and nutrition promotion

**Table 4.22: WHO Guidelines Compared to NP in Case Study Schools<sup>♦</sup>**

<b>World Health Organization Guidelines</b>	<b>FIP *</b>	<b>PIP*</b>	<b>UD*</b>	<b>ND*</b>	<b>NA*</b>
<i>1. Every School should enable children and adolescents at all levels to learn critical health and life skills.</i>		PIP			
<i>2. Every School should more effectively serve as an entry point for health promotion and a location for health interventions.</i>		PIP			
<i>3. Teachers and school staff should be valued and provided with the necessary support to enable them to promote health.</i>		PIP			
<i>4. The community and the school should work together to support health and education.</i>			UD		
<i>5. School health programs should be well designed, monitored, and evaluated to ensure their successful implementation and their desired outcomes.</i>			UD		

♦ Adapted from (WHO, 1997)

\* **FIP** = Fully in Place; **PIP** = Partially in Place; **UD** = Under Development; **ND** = Not Done; **NA** = Not Applicable

Community schools appeared to have more community members involved as volunteers for meal preparation, meal service and for teaching specific cooking skills to students (F2P, May 8, 2007) (E2P, April 5, 2007). One principal stated that further development would occur when School Community Councils were formed in the future (H3P, May 25, 2007).

Guideline five is concerned with the design, monitoring, and evaluation of school health programs to ensure their successful implementation and their desired outcomes. Overall, Nutrition Positive appears to be a well organized program, with the program purpose, goals and recommendations for creating a healthy food environment, a healthy food policy and ideas for curriculum enhancement clearly stated in the manual (SNPM, 2006-2007). However, the present means of monitoring and evaluation (as described in earlier sections) are highly subjective. It is difficult to determine if program implementation is successful or if desired outcomes are being reached with the present forms of program evaluation.

Nutrition policy is presently being developed by the Nutrition Positive Advisory Committee in co-operation with Greater Saskatoon Catholic School Board principals (R. Mireles, personal communications, January 22, 2008). In Saskatchewan, provincial nutrition policy guidelines are currently under development and should be unveiled in the fall of 2008. There is also an inter-governmental committee that is developing school nutrition guidelines, which are intended for all schools in the province. These are being built upon much of the work that has already been done by the public health nutritionists and their partners (V. Jerome, personal communications, February 6, 2008; C. Chu, personal communications, April, 28 2008). Whether this will have much impact on the identification, allocation, mobilization and coordination of resources to support school health programs at local/national levels remains to be seen.

#### **4.4.2 The NP Program and the Action for Healthy Kids<sup>®</sup> Criteria**

The “Action for Healthy Kids What’s Working Database Submission Form” may be completed and submitted by school personnel or program planners wishing to have school-based approaches assessed by AFHK personnel (AFHK, 2006c). Alternately, the Criteria may be used by education decision-makers in evaluating prospective approaches, in shaping the development of new approaches, or helping potential donors evaluate the success of approaches that are being considered for funding (AFHK, 2004b). Table 4.23 lists the AFHK Essential Criteria and Table

4.24 lists the AFHK Critical Criteria discussed in Section 2.3.1 of the Literature Review. As it is implemented in case study schools, Nutrition Positive is rated in comparison with the criteria and scored according to the AFHK scheme. Each set of criteria points are presented under a separate sub-heading.

#### **4.4.2.1 The AFHK Ten Essential Criteria**

There is not enough information available to determine if criterion number one is met. Saskatoon's Nutrition Positive wasn't based on identified professional theories. No underlying theories have been specified in any current descriptions of the program. The approach was based on a program developed by the Calgary Regional Health Authority called the "School Nutrition Incentive Program" (SNIP) in 1991-1992. In turn, SNIP garnered many ideas from a health promotion initiative called "Health Challenge" from the Simcoe County District Health Unit in Ontario (Calgary Regional Health Authority, 2001). All three programs were developed by professionals familiar with health promotion theory and practice. Whether the program is consistent with professional and/or national standards of practice remains to be determined. In Canada, standards of practice vary from province to province, city to city and school to school.

In view of the increased number of schools adopting the Nutrition Positive program over the past eight years, the approach appears to be practical and realistic (Criterion 2 = 3 points). The Nutrition Positive program is a support system or guide for schools to use in developing their own approach to nutrition issues. Most participants identified the support and resources available through the Nutrition Positive Advisory Committee as being very helpful. They identified the SNPM (2006 - 2007), the monthly newsletter, the sharing sessions, the financial support, the use of equipment, and audio-visual resources as being very useful. The schools with motivated leaders have gone on to find their own resources and partnerships for enhancing their nutrition program. Other schools, with less organization and motivation appear to exhibit inadequate implementation of Nutrition Positive guidelines. This has resulted in a weaker program in those schools. For instance,

some schools do not have an active nutrition committee, and do not use the manual when planning (A1T, April 17, 2007) (D2T, May 15, 2007) (G3P, March 29, 2007). This is not the responsibility of the Nutrition Positive program, but rather the responsibility of the school implementing the program. Although practical and realistic, the program is not implemented fully in all schools, because of unique situations at individual sites.

Full marks (3 points) are due for Criterion 3. The Nutrition Positive purpose is clearly written within the first few pages of the SNPM (2006 - 2007) and participants from the eight case study schools were able to articulate the program purpose in their own words. Individual schools were adapting program goals to create a healthy food environment in their own setting (Goal I). They were also establishing their own partnerships and resource bases (Goal II). It should be noted that Nutrition Positive program goals weren't intended to be used as individual school objectives or guidelines (SNPM, 2006-2007). Each school is meant to develop its own policies and guidelines.

Criterion 4 states that the approach should have specific and measurable objectives that address one or more of the following: Knowledge, Attitudes, Skills, Behaviors, Policy and School Environment. The Nutrition Positive manual specifically lists seven goals/objectives: 1) to increase awareness - of nutrition issues that impact health and learning by the school and community; 2) to support education – by teaching nutrition within the curriculum and role-modeling healthy eating; 3) to improve behavior – by increasing the frequency of healthy food choices by children and adults in school environments; 4) to encourage policy – by communicating the need for policy development around nutrition and healthy eating; 5) to promote long term health and learning benefits – by increasing health and learning capacity and decreasing childhood obesity and other nutrition-related chronic diseases; 6) to establish partnerships – to support healthy food environments by maintaining positive working relationships with partners; and 7) to provide resources – by maintaining and generating human, print and financial resources to

**Table 4.23: AFHK Essential Criteria as Related to NP in Case Study Schools ♦**

Essential Criteria	FIP*	PIP*	ND*	NI *	NA *
	3	1	0	NI *	NA *
1. <i>The approach is based on professional theories and is consistent with professional and/or national standards of practice.</i>				NI	
2. <i>The approach is practical and realistic.</i>	3				
3. <i>The goal/purpose of the approach is clearly stated and easy to understand by multiple audiences.</i>	3				
4. <i>The approach has specific and measurable objectives that address one or more of the following:</i> <i>a) Knowledge</i> <i>b) Attitudes</i> <i>c) Skills</i> <i>d) Behaviors</i> <i>e) Policy</i> <i>f) School Environment</i>		1 1 1			
5. <i>The approach is</i> <i>a) age or developmentally</i> <i>b) culturally relevant.</i>	3	1			
6. <i>The approach is</i> <i>a) engaging to students</i> <i>b) interactive and</i> <i>c) skills-based.</i>		1 1 1			
7. <i>The approach can be adapted to a variety of situations and environments</i>	3				
8. <i>The approach can be assessed, monitored &amp; includes an evaluation component.</i>		1			
9. <i>The goals of the approach are supported by results from evaluation data.</i>				NI	
10. <i>The approach supports easy implementation by providing:</i> <i>a) Clearly written instructions</i> <i>b) Training resources</i> <i>c) Contact information for help</i> <i>d) Instructions/materials in languages besides English</i>	3 3 3		0		
<b>Grand Total Score</b> – add all points, divide by number of criteria evaluated (excluding NA and NI) X 100 for Total Score.	$\frac{38}{19} = 2.00 \times 100 = 200$				

♦ Adapted from: Action for Healthy Kids Evaluation Form (AFHK, 2004)

\* **FIP** = Fully in Place; **PIP** = Partially in Place; **ND** = Not Done; **NI** = No Info; **NA** = Not Applicable

schools (SNPM, 2006 - 2007).

In scoring the essential criteria under AFHK # 4, I considered the information required on the “SNPM Nutrition Positive Assessment Form” (found on page 12 of the program manual) and that on the “Nutrition Positive 2006-2007 Summary Form” (found on pages 14(a) - 14(b) of the program manual), which are to filled out by school staff annually. AFHK Criteria 4a, 4b and 4c were scored with partial fulfillment (1 point each) because there weren't very many form items listed for knowledge, attitude or skill areas on either SNPM form. AFHK Criteria 4d, 4e and 4f were given full points (3 points each) because there were numerous SNPM items listed for behavior, policy and school environment, on each SNPM form. Although not objectively measured, most of the goals/objectives under AFHK points 4d, 4e and 4f were subjectively reported each year.

In keeping with essential criterion number five, the Nutrition Positive approach has been designed to be used with students of any age or developmental level. Basic principles for healthy eating can be adapted to any classroom, school or cultural setting. Nutrition education resources are suggested in the SNPM (2006 - 2007) for Grades K through 12. For instance, food labeling lesson plans, videos and DVDs on nutrition topics, and display kits on the amount of sugar in soft drinks are available on loan from Public Health Services, Saskatoon. Numerous suggestions for implementing the program are given in the manual and at sharing sessions throughout the school year. In practice, participants in this study were using many of the resources provided to make the program, both age and developmentally appropriate. They were also seeking out resources and materials independent from those provided by the program. Thus, Criterion 5a was considered fully in place. However, when asked if they were making the program culturally relevant, most interviewees could not cite examples of how that was being done in their schools. Since only the Community Schools made an effort in this area, criterion 5b was only partially fulfilled in Nutrition Positive case study schools.

The Nutrition Positive approach was unique in each school and classroom.



In some of the case study schools, it was obvious that the approach was engaging to students, interactive and skills based (Criterion 6). One teacher gave examples of students working on nutrition posters and videos. Students were burning DVD's of a message they had created to promote Nutrition Positive (B1P, June 14, 2007). Other classes created a nutrition trivia game called "Who Wants to Feel like a Million Bucks?" Some students decorated hats with food themes and displayed them in a healthy hat parade. As part of a science class, students determined the amount of fat in fast foods and made a display (SNPM, 2006 - 2007). However, not all case study schools demonstrated such creativity, engagement and integration of the nutrition message into student activities and curriculum. Whether this Essential Criteria was met depended on the leadership in the individual school and classroom. For these reasons, all points under Criterion 6 were considered partially met in Nutrition Positive case study schools.

Qualitative evidence from this study indicates that Nutrition Positive can be adapted to a variety of situations and environments (Criterion 7). The eight case study sites represent schools from a variety of locations and socio-economic areas in Saskatoon. One Community School and one applying for community school status were included in the study. All of the schools were adapting the Nutrition Positive program to their situation and environment. Some of the schools were implementing the program more effectively than others. This was not solely due to the program, but rather to the efforts of school leadership. Criterion 7 was considered fully met.

Criterion eight queries whether the approach can be assessed and monitored and whether it includes an evaluation component. Upon registration and at the end of the academic year, Nutrition Positive schools are asked to self-assess and evaluate their programs on specific forms included in the manual or start-up package. Included with the registration form, each school fills out a Nutrition Positive Assessment checklist and separate Planning form at the beginning of each academic year (SNPM, 2006). The Assessment Checklist includes twenty-one check points including statements like: 'Our school always promotes healthy eating for students by offering

nutrition education according to the curriculum' (SNPM, 2006-2007). The "Nutrition Positive Planning Form" requires schools to specify what actions and activities will be carried out in the areas of Curriculum Enhancement, Healthy Food Environment and Healthy Food Policy within the current year. In April, each school must send in a "Summary Form" with a checklist of activities in each of the aforementioned areas and a column for 'Number of People Affected'. The checklist includes forty-seven check points including these examples:

- Held a Nutrition Positive Assembly
- Used healthy food or non-food items for classroom incentives/rewards
- Healthy Food Policy about Vending Machines

These forms are collected by a Nutrition Positive Advisory Committee member and filed at the Saskatoon Health Region Office. Nutrition Positive success stories are included in the following year's manual. Under each school's name and contact person is a summary of the school Goals, Actions and Impact for that year. This is the type of assessment and monitoring that is carried out by the Nutrition Positive program. The approach is monitored, but it is not evaluated objectively. Thus, this criterion is only partially fulfilled.

Similar to criterion number eight, criterion nine has to do with the goals of the approach being supported by results from evaluation data. As mentioned earlier, the first goal of the Nutrition Positive program is to create a healthy food environment by affecting changes in Awareness, Education, Behavior, Policy and/or Long-term Health and Learning Benefits. The second goal is to support healthy food environments by establishing and maintaining partnerships and providing resources to schools in the program. At this point in time, there is no clear connection between evaluation data collected and the goals of the approach. In other words, the data collected is self-reported and highly subjective. The current arrangement would not be an accurate reflection of whether the program is truly meeting its' goals or not. An outcome evaluation would be necessary to make those determinations. This was rated no information.

Criterion number ten, contains a number of sub-criteria related to the ease of program implementation. The Nutrition Positive program supports implementation by providing clearly written, user-friendly instructions in the form of the Saskatoon Nutrition Positive Manual. Contact information to obtain additional resources is also included in each manual, as well as at training/sharing sessions held by the Nutrition Positive Advisory Committee throughout the school year. At this point in time, instructions and materials are not supplied in other languages. Participants of this study did not mention a need for instructions and/or materials in a language other than English. Therefore, all criteria (except 10d) were considered fully in place.

#### **4.4.2.2 The Five Critical Criteria**

The AFHK Critical Criteria were those selected on a combination of rank and information gathered from stakeholders closest to the school environment (e.g. teachers, administrators, school food service staff, students and school nurses). Table 4.24 lists the five critical criteria on the left and the Nutrition Positive program scores in the columns on the right.

At this point in time, there is not enough information available to determine if the first two Critical Criteria are being met in Nutrition Positive schools. None of the participants involved in the study mentioned any problems related to financing the Nutrition Positive program. The only school that mentioned funding problems was the one applying for Community School status. Their problems had more to do with supporting the breakfast/lunch program for students in need of assistance, rather than the Nutrition Positive program itself. Whether the approach fits into required school mandates or provincial nutrition standards cannot be determined until the Ministry of Education and Saskatoon School Boards finalize guidelines for Saskatchewan and city schools. In order to determine whether the Nutrition Positive program has an effect on student achievement outcomes, a full scale process and/or outcome evaluation would have to be performed. This has not been attempted, so the fulfillment of this criterion cannot be determined.

There is evidence from the case study interviews that criterion number three

was fully met within the Nutrition Positive program. Participants mentioned examples of nutrition being integrated into classes other than Health and Lifestyles. Nutrition topics had been incorporated into French, Science, Mathematics, Music, Art and Computer Science classes within the case study schools. Saskatchewan schools do not have an official coordinated school health model, but there was evidence of program involvement by other health professionals and health-related organizations such as: in motion, CHEP Good Food Inc. and The Good Food Box. Several participants mentioned the valuable input from Public Health nurses and nutritionists, either as assistants in program planning or as resource persons. This third critical criterion could be fulfilled by the Nutrition Positive program, depending on the individual school's implementation strategies.

Criterion 4 appears to be partially met in Nutrition Positive schools. All relevant stakeholders (except students) are involved in the Advisory Committee, which plans and administrates the Nutrition Positive program. The Nutrition Positive Advisory Committee includes representatives from the Greater Saskatoon Catholic School Board, the Public School Board, Public Health Services, CHEP Good Food Inc. the University of Saskatchewan, School Food Coordinators, parent representatives and other community members (SNPM, 2006-2007).

However at the school level, the Nutrition Positive committee does not universally include all relevant stakeholders. Participant reports indicate that student and parent representation was often absent on school committees. Yet, in principle, the approach seemed to have strong support from school administrators and teachers. Those interviewed for this study felt that the Nutrition Positive program was sustainable beyond the current year (Criterion 5). Participants mentioned that to maintain the program, the school needed a core committed group that recognized the need for the program over the long term. They also emphasized that key leaders needed to be replaced when lost to attrition or movement within the system. Therefore, this criterion was considered fully met by Nutrition Positive.

**Table 4.24: The AFHK Critical Criteria as Related to NP in Case Study Schools ♦**

<b>Critical Criteria Standards for Assessment for School-Based Approaches for Increasing Good Nutrition in Schools</b>	<b>FIP* 3 Points</b>	<b>PIP* 1 Point</b>	<b>ND* 0 Points</b>	<b>NI* </b>	<b>NA* </b>
<i>1. The approach is cost-effective and resources (e.g. staff, budget, grant dollars) are available for its implementation.</i>				NI	
<i>2. The approach fits into required school mandates, has a positive effect on student achievement outcomes and would help to meet state nutrition and physical activity standards.</i>				NI	
<i>3. The approach can be integrated across curricula, feasibly implemented within a school schedule and aligned with a coordinated school health model.</i>	3				
<i>4. The approach has strong support from critical audiences (e.g. students, parents, teachers and administrators), and all relevant stakeholders were involved with its planning.</i>		1			
<i>5. The approach is sustainable, not just a one-time or irregularly implemented event.</i>	3				
<b>Grand Total Score</b> – add all points, divide by number of criteria evaluated (excluding NA and NI) X 100 for Total.	$\frac{7}{3} = 2.33 \times 100 = 233$ <b>Makes the Grade 3</b>				

♦Adapted from: Action for Healthy Kids Evaluation Form (AFHK, 2004)

\* **FIP** = Fully in Place; **PIP** = Partially in Place; **ND** = Not Done; **NI** = No Info; **NA** = Not Applicable

**Scoring Results/ Interpretation:**

250-300 Points = Excellent;  
**200-249 Points = Makes the Grade;**  
 150-199 Points = Shows Potential;  
 ≤ 149 Points = Promising

#### **4.4.3 NP and Saskatchewan Adaptation of School Health Index Guidelines**

The “Healthy School Food Policies and Guidelines Checklist” has been adapted from the *CDC School Health Index for Physical Activity and Healthy Eating*, as well as *Nutrition Guidelines for Schools: Saskatchewan School Boards Association Research Report*. It was meant to assist schools in developing and implementing policies and guidelines for healthy school foods and to assist schools in tracking their progress (Heart & Stroke Foundation, 2005). Of the nineteen guidelines listed in Table 4.25, thirteen have been identified as being addressed by the Nutrition Positive program. Guidelines that are partially fulfilled will be presented first; and those considered not applicable, last.

Guidelines 1-3, 6-8, 12-16, 10 and 18 are partially fulfilled in Nutrition Positive case study schools. Concerning guidelines 1 and 2, Nutrition Positive included all of the identified stakeholders (except students) in developing its own goals/purpose/mission/vision and policy statements (SNPM, 2006-2007). The Advisory Board also made recommendations that similar stakeholders be consulted when individual Nutrition Positive schools created and implemented their own policies and nutrition guidelines. In practice however, this does not happen on a regular basis. In most schools, the principal and one or two teachers form the Nutrition Positive Committee (D2T, May 15, 2007) (E2T, April 5, 2007). Parents, students and other community members were not often represented on the Nutrition Positive Committee, but advised or supported the committee with certain projects (A1P, April 17, 2007) (F2P, May 8, 2007).

Nutrition Positive schools that use the SNPM or attend workshops sponsored by the program should be aware of local public health recommendations regarding healthy foods and less healthy foods, as referred to in guidelines 3, 6 and 12 of Table 4.25. Numerous examples of healthy foods are suggested in the SNPM for use at special events, class parties, field trips, lunches and reward/treat times. Program materials make it very clear what types of foods should be served “Most Often”, “Sometimes”, and “Least Often” (SNPM, 2006-2007).

**Table 4.25: SHI Guidelines as Related to NP in Case Study Schools ♦**

Healthy School Food Policies and Guideline Checklist	FIP*	PIP*	UD*	ND*	NA*
1. All stakeholders including school staff, parents, students, school board etc, will participate in policy/guideline development & implementation.		PIP			
2. Stakeholders, students and staff decide on goal/purpose/mission/vision of policy statement.		PIP			
3. Healthy foods and less healthy foods are defined and understood (e.g. schools are aware of local public health recommendations.)		PIP			
4. School meal programs and emergency food provided comply with set recommendations.					NA
5. Adequate time and space is provided for students to eat meals at school. School includes time for hand-washing before meals & snacks.					NA
6. Healthy foods are served at special events, in class parties, field trips, staff lunches & before or after school programs.		PIP			
7. Foods in schools complement learning objectives of health curriculum.		PIP			
8. All stakeholders including school staff, parents, students, school board members have opportunities to learn about healthy eating.		PIP			
9. Food service staff and volunteers receive regular nutrition and food safety training.					NA
10. Healthy foods are promoted and advertised.		PIP			
11. Acceptable foods - clearly identified.					NA
12. If rewards or treats are offered, nutritious foods or non-food items are used.		PIP			
13. Healthy foods are competitively priced and readily available in the school (e.g. Cafeteria).		PIP			
14. Plans are in place to ensure all children have access to nutritious food while at school.		PIP			
15. Fund raising efforts are supportive of health.		PIP			
16. Catering companies and outside vendors adhere to food guidelines.		PIP			
17. Food waste and disposable packaging are minimized.					NA
18. Guidelines widely publicized- communicated to students, parents, staff & visitors.		PIP			
19. Individual staff avoid comments about weight and dieting & accept all shapes & sizes.					NA

♦ Adapted from: Healthy School Food Policies Checklist (Heart & Stroke Foundation, 2006)  
**FIP** = Fully in Place; **PIP** = Partially in Place; **UD** = Under Development; **ND** = Not Done;  
**NA** = Not Applicable

Concerns arose during implementation because not all school staff followed Nutrition Positive guidelines (F2P, May 8, 2007) (G3P, March 29, 2007). Some school staff had extreme personal philosophies regarding foods/treats, or had strong opinions about imposing dietary restrictions (A1P, April 17, 2007) (B1P, June 14, 2007).

Ideally, guidelines 7 and 8 would be met if Nutrition Positive's recommended practices were followed and understood by school staff, parents, students and school board members. The program advocates and provides opportunities for learning about healthy eating. It holds an orientation in-service in October, which is often part of the "Opportunities to be *in motion*" conference. A Nutrition Positive presentation can be booked with resource nutritionists for a school staff or parent council session. Nutrition information and tips are provided so that schools can reinforce the nutrition message in a newsletter, flier or an information package sent home to every family (SNPM, 2006-2007). If schools were to follow the Nutrition Positive recommendations, foods offered and served would complement the learning objectives of the health curriculum.

Realistically, these guidelines are only partially met in schools. Non-compliance, time constraints, and lack of opportunity are barriers to achieving these ideals (F2P, May 8, 2007) (H3P, May 25, 2007). Participant teachers often did not have enough time, background training or resources to do justice to a subject that was not a priority topic (C2P, March 27, 2007) (D2P, May 1, 2007). In fact, many principals and teachers had difficulty remembering where nutrition topics were located in the curriculum (A1T, April 17, 2007) (H3P, May 25, 2007). Also less than ideal was the fact that only two of the eight schools mentioned taking part in the Nutrition Positive orientation/information/sharing sessions (D2T, May 15, 2007) (E2P, April 5, 2007). Nutrition Positive is providing the resources and opportunities, but not all schools are taking advantage of them.

Guidelines 13 and 14 will be considered together. All of the case study schools had a plan for dealing with children who came to school without a breakfast or lunch. Whether it was a sponsored cafeteria-type meal or an emergency food box



in the staff room, most schools had made some provision for emergencies (C2P, March 27, 2007) (E2P, April 15, 2007). Excluding special events and vending, food pricing was not an issue, since most elementary schools in Saskatchewan do not have cafeterias, canteens or other regular food services. Community schools are provided with funding for student food services, and this often includes breakfast, lunch and snacks (Henry et. al., 2004). Many of the case study schools mentioned a milk program in which children could buy milk at reasonable prices or they were provided milk free of charge (C2P, March 27, 2007) (F2P, May 8, 2007) (G3P, March 29, 2007) (H3P, May 25, 2007).

Also partially fulfilled were guidelines 15 and 16 of Table 4.25. Under the influence of Nutrition Positive, many schools had adopted guidelines promoting healthy eating in fundraising and vending efforts. Although not without some battles and frustrations, most schools had managed to remove vending machines or change their content to more nutritious items for students (C2P, March 27, 2007) (D2P, May 1, 2007) (H3NC, May 25, 2007). Guidelines for fundraising and hot lunches had begun to infiltrate the mindset of parent and student councils, such that healthier alternatives were being offered in case study schools (E2T, April 5, 2007) (F2P, May 8, 2007). Participants mentioned items such as oranges, fruit cups, yogurt, baby carrots, salads, popcorn, pretzels, pure fruit juices, flavored water, and milk as being offered instead of, or along with some 'empty-calorie' vending and/or fundraising items (B1P, June 14, 2007).

As mentioned previously, observations in case study schools verified the promotion of both healthy foods (Guideline 10) and the Nutrition Positive guidelines (Guideline 18) by a variety of methods. Many schools had the Nutrition Positive poster in the front entrance or highly visible on a bulletin board display (D2, May 1, 2007) (E2, April 5, 2007). Colorful advertisements for popcorn sales and a healthy restaurant fundraiser were also observed (F2, May 8, 2007). Some classrooms had devoted bulletin boards to art projects featuring healthy foods (C2, March 27, 2007). In some cases, it was felt that the foods served at school programs were sending a

positive message about the school's food policy and practices (B1, June 14, 2007). All Nutrition Positive case study schools mentioned making nutrition and program information regularly available through school newsletters, fliers or web sites.

Table 4.25 guidelines numbered 4, 5, 9, 11 and 17 are more applicable to high schools with cafeterias, or to Community Schools which provide food services on a regular basis. The Nutrition Positive Manual informs the reader about some of these topics in its Appendices. However, participants in this study were not questioned about Food Safety, nutrition training, emergency situations or food packaging and labeling issues. There weren't any comments on these issues for they rarely apply at the elementary school level. For these reasons the guidelines were rated not applicable.

Guideline 19 is addressed on the "Nutrition Positive Assessment Form", included with the school registration each year. Individual staff members are encouraged to model healthy eating for students by accepting people of all shapes and sizes and to avoid comments about weight and dieting (SNPM, 2006-2007). The topic is highlighted in Nutrition Positive program materials. However, none of the participants mentioned these points as being important for role models in the school setting. The "Nutrition Positive 2006-2007 Summary Form", sent in by participating schools at the end of the academic year, did not have a corresponding topic area on its checklist. Therefore, this guideline was also rated not applicable.

#### **4.4.4 A Composite of the Results**

After reviewing the data generated from an examination of Nutrition Positive documents, interview transcripts and 'best practice' criteria/guidelines, a number of program strengths (see Table 4.26) and areas needing improvement (see Table 4.27) have emerged. A synopsis of the table information appears below.

Nutrition Positive effectively serves as an entry point for health promotion in Saskatoon elementary schools (Table 4.26). While providing principals, teachers and other school staff with the necessary supports to enable children to learn critical life and health skills; it is also practical and realistic. The program can easily be adapted

to different age and developmental levels, and a variety of cultures. The Nutrition Positive Advisory Committee and the *Saskatoon Nutrition Positive Manual* provide multiple resources for ease of program implementation. Schools may adapt the program for use: across curricula, within school timetables, and concurrent with other health-related programs. Nutrition Positive schools attempt to provide healthy, “serve most often” foods for student mealtimes, special events, fundraising activities, vending machines and classroom rewards. The program appears to be sustainable beyond its first year of implementation, as long as enthusiastic leaders are in place.

Improvements to the program could be made in a number of areas (Table 4.27). It is recommended that schools include all stakeholders, including parents and students when forming the school-based Nutrition Positive committee. All school committee members need to participate in developing written school policies and guidelines, as well as learning about healthy eating themselves. School activities and foods offered need to more consistently and uniformly compliment the curriculum and Nutrition Positive goals and objectives. Nutrition Positive guidelines/materials need to be widely publicized and communicated to students, parents, staff and visitors in a timely manner. The Nutrition Positive approach needs to specify measurable objectives and requires a better design for its assessment, monitoring and evaluation components. Instructions and materials with cultural relevance, in languages in addition to English would help expand program resource materials.

**Table 4.26: Summary of NP Program Areas – Demonstrating Strength\***

- Nutrition Positive assists schools in serving as entry points for health promotion and as locations for health interventions (WHO, 1997).
- Nutrition Positive works with schools to enable children and adolescents at all levels to learn critical health and life skills (WHO, 1997).
- Nutrition Positive values teachers and school staff and provides them with the necessary supports to enable them to promote health (WHO, 1997).
- The purpose and goals of Nutrition Positive are clearly stated and easy to understand by multiple audiences (AFHK, 2004b).
- Nutrition Positive is practical, realistic and easily adapted to a variety of situations and Environments (AFHK, 2004b).
- Nutrition Positive can be rendered age or developmentally appropriate and culturally relevant (AFHK, 2004b).
- Nutrition Positive supports easy implementation by providing user friendly instructions, training resources, and contact information to obtain support and additional resources (AFHK, 2004b).
- Nutrition Positive can be integrated across curricula, implemented within a school schedule & aligned with a coordinated health model (AFHK, 2004b).
- Healthy foods are promoted and advertised in effective Nutrition Positive schools (Heart and Stroke Foundation, 2005).
- If rewards or treats are offered, nutritious foods or non-food items are used in effective Nutrition Positive Schools (Heart and Stroke Foundation, 2005).
- Plans are in place to ensure all children have access to nutritious food while at a Nutrition Positive school (Heart and Stroke Foundation, 2005).
- Fundraising efforts are supportive of healthy eating in effective Nutrition Positive schools (Heart and Stroke Foundation, 2005).
- Catering companies and outside vendors adhere to food guidelines in effective Nutrition Positive schools (Heart and Stroke Foundation, 2005).
- Nutrition Positive is a sustainable program (AFHK, 2004b).

\* Adapted by author from references indicated after each guideline.

**Table 4.27: Summary of NP Program Areas - Needing Improvement\***

- Nutrition Positive goals need to be supported by results from evaluation data (WHO, 1997) (AFHK, 2004b).
- The Nutrition Positive approach needs to specify measurable objectives and requires a better design for its assessment, monitoring and evaluation components (WHO, 1997) (AFHK, 2004b).
- Nutrition Positive needs to demonstrate that it has a positive effect on student achievement outcomes and helps to meet provincial and school board nutrition standards (AFHK, 2004b).
- Nutrition Positive needs stronger support from critical audiences (students, parents and community members) in order to work together to support health and education (WHO, 1997) (AFHK, 2004b).
- Nutrition Positive school committees need to include all relevant stakeholders in their membership (Heart & Stroke Foundation, 2005) (AFHK, 2004b).
- All Nutrition Positive school stakeholders need to participate in policy/guideline development and implementation, as well as to learn about healthy eating themselves (AFHK, 2004b) (Heart & Stroke Foundation, 2005).
- Foods offered and served in Nutrition Positive schools should consistently and uniformly complement the learning objectives of the health curriculum and nutrition program (Heart & Stroke Foundation, 2005) (AFHK, 2004b).
- Nutrition Positive guidelines need to be widely publicized and communicated to students, parents, staff and visitors in a timely manner (Heart & Stroke Foundation, 2005).
- Within the Nutrition Positive school, more emphasis needs to be placed on individual staff members avoiding comments about weight and dieting; and accepting people of all shapes and sizes (Heart & Stroke Foundation, 2005).
- In order to expand, the Nutrition Positive program may need instructions and materials with cultural relevance and in languages in addition to English (AFHK, 2004b).

\* Adapted by author from references indicated after each guideline.

## CHAPTER 5 - DISCUSSION

The purpose of this study was to gain a deeper understanding of the Nutrition Positive incentive program, including program development, strategies used by the individual schools, and challenges and related concerns associated with program implementation. Most participants gave favorable, salutary responses when asked to describe various aspects of the program. However, they also mentioned some issues involved in implementing the incentive program in their schools. In this chapter, the major themes and study findings will be summarized and discussed in relation to the scientific literature. The themes include: Cultural and Social Issues; The School Nutrition Positive Committee; School Policies and Nutrition Positive; Nutrition Curriculum and Teaching; School Personnel and Nutrition Positive; Community, Parents and Nutrition Positive; Students and Student Outcomes; Integration of Programs; Program Promotion Strategies and Other Program Considerations. After that, the three models for best practice will be critiqued as evaluation tools for school-based health promotion programs.

### 5.1 Key Findings and Themes

**Cultural and Social Issues:** Participants cited one of three reasons for starting the Nutrition Positive program in their school: 1) a strong personal belief or passion about health and fitness; 2) an awareness of negative trends in student eating habits; and/or 3) an awareness of dangerous health trends in our society. Most viewed the wider cultural or social environment as a serious barrier to program success.

Statistics Canada (as cited in Berlinic, 2007, p. 6) validates some of the concerns expressed by participants in this study. According to the data, 18% of Canadian children ages 2-17 are overweight and just over 8% are obese, for a combined total of 26% Canadian children being overweight or obese. Similarly, 19%

of Saskatchewan children aged 2-17 are overweight and 10% are obese, for a combined total of 29% Saskatchewan children being overweight or obese. Therefore, Saskatchewan's combined overweight and obesity rates in children (aged 2-17) are 3% higher than the national average. Percentages of overweight and obesity are relatively high among residents of Saskatoon (35%), which is the largest urban community of Saskatchewan (Shields, 2006).

Since 1981, there has been a secular trend toward an increase in BMI of 0.1 kg/m<sup>2</sup> per year among Canadian children (Stock, Miranda, Evans, Plessis, Ridley, Yeh & Chanoine, 2007). In the last 25 years, overweight rates more than doubled (from 14% to 29%) and obesity rates tripled (from 3% to 9%) in Canadian adolescents aged 12-17 years of age (Berlinic, 2007). Adults (aged 18-56) show a similar trend over the last 10 years. The National Population Health survey (a longitudinal survey) has recorded Body Mass Index (BMI) changes from 1994/1995 to 2004/2005 in a set of Canadian adult respondents. Over this 10 year period, adult males have shown an average increase in BMI of 29.7%. Canadian adult females have shown an average increase of 27.5% (Statistics Canada, 2008).

The Body Mass Index is calculated by dividing a person's body weight (in kilograms) by his/her height (in meters) squared. The definition for childhood overweight (formerly termed obesity) is having a BMI  $\geq$  95<sup>th</sup> percentile for age and gender, whereas children who are at risk of being overweight (formerly termed overweight) is having a BMI between the 85-94<sup>th</sup> percentiles for age and gender (Murnan, Price, Telljohann, Dake & Boardley, 2006). An analysis of National Health and Nutrition Examination Survey (NHANES) data (as cited in Katz, O'Connell, Yeh, Nawaz, Njike, Anderson, Cory & Dietz, 2005) indicated that an adult BMI of  $\geq$  30.0 and/or  $\geq$  35.0 (grade II obesity) resulted in increased morbidity and mortality in the United States in 2000. The same analysis reported excess deaths among the underweight with a BMI <18.5. However, those with a BMI of 25.0 to < 30.0 (overweight) were not associated with excess mortality (Katz et al., 2005).

Research has clearly shown that many chronic degenerative diseases such as

diabetes, heart disease and cancer have their roots in early food habits. Unfortunately, the increasing rate of childhood obesity has also increased the potential for early onset of both acute and chronic conditions. For instance, Type 2 diabetes was formerly diagnosed in later life, but recently Health Canada has reported Type 2 diabetes as being diagnosed in children as young as 5-8 years old (as cited in Public Health Nutritionists of Saskatchewan, 2004, pp. 3-7).

In addition to the factors just mentioned, participants in this study thought the implementation of school nutrition programs to be negatively influenced by problematic societal trends such as: the multi-million dollar media ad campaigns for ‘junk food’; the round-the-clock accessibility of super-sized value meals on every street corner; and the physical inactivity caused by excess television viewing and computer use. Many also identified a change in family dynamics as contributing to the problem. Several participants mentioned that some parents have little time for food preparation. Teachers have noticed a lot of pre-packaged, highly-processed, nutrient-poor foods in students’ lunches. Apparently, some students were responsible for preparing or purchasing their own school lunch and often choose the high calorie, snack-type foods. In other cases, it was thought that families were experiencing food insecurity because of poverty and had little choice when it came to supplying food for their children. *The Nutrition Guidelines for Schools Report* (Public Health Nutritionists of Saskatchewan, 2004) also identifies similar social trends as precursors to health issues in Saskatchewan communities.

**The School Nutrition Positive Committee:** The SNPM (2006-2007) recommends that the Nutrition Positive program be administered by a school-based committee. Formed in the first year of the program, the committee should include school administrators, teachers, students, parents and a health nurse or food/nutrition coordinator (if applicable).

The general management of the school-based Nutrition Positive program was described by participants during the interview process. A majority of the case study schools had Nutrition Positive committees (six out of eight schools). Only three



had formal committees. Another three had committees which were informal or mixed with that of another program. Two schools did not have an identifiable committee. Most committees were made up of a principal and a teacher or a nutrition coordinator. Only one committee had parent members, and none of the committees included student members. A few participants mentioned that a health nurse had sat on their committee at one time, but no longer. Student Leadership Teams and Parent Advisory Councils only occasionally took up the Nutrition Positive mandate. Overall, the Nutrition Positive committees were not ideal in terms of their makeup, and not implemented as suggested by the Nutrition Positive Advisory Committee.

Current literature does not include research on the implementation of school-based health committees per se, but Franks, Kelder, Dino, Horn, Gortmaker, Wiecha & Simoes (2007) describe the lessons learned from three successful school health promotion programs. One of the most important features of the Coordinated Approach to Child Health (CATCH), Planet Health and Not-On-Tobacco programs was “the involvement of stakeholders (e.g., teachers, students, other school personnel, parents, nonprofit organizations and professional organizations) during all phases of program development and dissemination (Franks et al., 2007).” The Nutrition Positive Advisory Committee has operated under these parameters, but the individual schools have not followed their excellent example.

Creating public health partnerships with schools can be challenging. Franks et al., (2007) cite many reasons. For instance there are numerous academic and non-academic demands placed on schools. School programs often lack sufficient funds, are subject to political vicissitudes, exist in complex bureaucracies that foster fragmentation, and vary across localities. Despite these problems, public health and education sectors have worked together successfully in the past. Results from the U.S. School Health Policies and Programs Study 2006 (O’Toole, Anderson, Miller & Guthrie, 2007) indicate many instances of stakeholders working together on school food service or nutrition activities at state and district levels. For instance, nutrition services staff worked with health education staff (in 60% of the districts & 94% of

the states); health services staff (in 55% of the districts & 82% of the states); physical education staff (in 44% of the districts & 78 % of the states); food commodity organizations (in 45 % of the districts & 94% of the states); Action for Healthy Kids (94 % of the states); local health departments (in 45 % of the districts); and colleges/universities (in 12 % of the districts & 94% of the states) to name a few.

Nutrition Positive schools should be encouraged to collaborate and form partnerships with other health agencies at city, municipal, provincial and perhaps even national levels. Individual schools also need to be impressed with the importance of including all potential stakeholders on Nutrition Positive committees which develop school policy and implementing nutrition guidelines.

**School Policies and Nutrition Positive:** By year three, Nutrition Positive schools are encouraged to incorporate a ‘Healthy Food Policy’ to maintain Nutrition Positive status and continue to have opportunities for rewards and incentives (SNPM, 2006-2007). Only two of the eight case study schools had developed a written policy for nutrition practices in their schools. Surprisingly, these were Level 1 and 2 schools. The other six schools seemed to be operating under informal, unwritten guidelines.

The “Nutrition in Manitoba Schools Consultation Report” (Dietitians of Canada, 2006) stated similar findings regarding school policies. The majority of Manitoba schools consulted did not have comprehensive written food and nutrition policies in place as part of their school plans. Although most schools indicated that they could see the benefits of having written policies, a small number of schools felt that there would be no benefit to having food and nutrition policies or guidelines in place. Specific concerns related to the loss of freedom of choice; compromised student safety, should students choose to leave school property to obtain food not available at school; loss of revenue and increased food costs. Schools that had been successful in undertaking a change found that in most cases it was easier to write policies and guidelines than it was to follow them.

One of the major findings of the Heart and Stroke study entitled *Nutrition in*

*Saskatchewan Schools: Policy, Practice and Needs* (Berenbaum, 2004) was most Saskatchewan schools had no guidelines for using food as fundraising items. Foods typically sold for fundraising included baked goods, chips, chocolate bars, candy and juice. Vending machines and canteens were the most common food service available in schools and typically served pop, chips, chocolate bars, candy, juice, milk, sandwiches, baked goods and ice cream. Nutrition Positive schools in this study have demonstrated strides have been made to improve the situation. All of the Nutrition Positive schools had either removed their vending machines or altered their contents to include only nutritious options for the students. In most cases, foods sold for fundraising now included healthier options alongside the less healthy ones.

**Nutrition Curriculum and Teaching:** Most of the participants in this study described a number of Nutrition Positive activities and curriculum connections within their schools. Activities ranged from providing nutritious foods at seasonal celebrations, sporting events or dances; to creating nutrition-related messages on bulletin boards, posters, and displays. Nutrition content was part of the Health or Lifestyle curriculum and taught at different grade levels. Sometimes, it was integrated into other classes such as Mathematics, Science or French. However, it was stated that unless nutrition was actually in the curriculum level, it was not likely to be taught. Teachers were pressed for time and student-friendly materials/resources were not widely available. The principals stated they couldn't guarantee that every classroom was touching on nutrition, even if it was in the curriculum.

In contrast, in the study conducted for the Heart and Stroke Foundation of Saskatchewan (Berenbaum, 2004), the majority of schools offered nutrition education for students in lessons conducted by teachers. However, the most common way nutrition activities were incorporated was through incidental teaching. Usually, nutrition lessons were taught by covering a unit on a specific topic in a short period of time. In other words, the nutrition component of the teaching unit was minimal or incidental.

Lessons learned from several prominent school-based programs in the

United States reveal similar curriculum concerns. Although more than 80% of U.S. school districts require health education to be taught in their elementary, middle and high schools, less than half provide a curriculum for teachers (Franks et al., 2007). In addition, the available curricula have rarely undergone rigorous evaluation to demonstrate their effectiveness, and they are often out-of-date when compared with current practice standards. The Franks study recommended that to gain the support and enthusiastic participation of teachers, prepared lessons aligned with state education standards be provided along with sufficient training and flexibility in delivering the materials. It was learned that participation of all parties was crucial to developing teaching materials that were well accepted by everyone (Franks et al., 2007).

Teacher education is another issue of concern related to the transmission of nutrition/health curricula. An overview of the School Health Policies and Programs Study (Kann, Brener & Wechsler, 2007), one of the most comprehensive assessments of school health programs ever conducted in the United States, mentions that only 13% of elementary school teachers have an undergraduate major, undergraduate minor or a graduate degree in health education. Many US districts adopt policies requiring newly hired teaching staff to be certified, licensed or endorsed to teach health education at middle school and high school levels, but no similar policies are evident at the elementary level. Considering the scarcity of North American elementary school teachers with an educational background in health, there should be provision for resources and training to enable and support school staff in teaching critical topics in schools (WHO, 1997). The Nutrition Positive program coordinators seem to provide ample support and training, but participant responses in this study indicate that very few take advantage of the resource and assistance available to them.

The literature also includes information on novel approaches to nutrition curriculum and teaching, which could be incorporated into approaches like Nutrition Positive. For instance, Native North American learning styles were incorporated into

a culturally appropriate, school-based diabetes prevention program in Sandy Lake, Ontario (Saksvig, Gittelsohn, Harris, Hanley et al., 2005). The “Sandy Lake Diabetes Prevention Curriculum” was created using multiple resources, including the Coordinated Approach to Child Health (CATCH) and Kahnawake Schools Diabetes Prevention curriculum. Third, fourth and fifth grade Ojibway-Cree students learned through observation and practice, storytelling, cooperative and intergenerational learning, role modeling, humor and tradition. The curriculum included 16 weekly, 45 minute teacher-led lessons. This intervention also included family, peer, environmental and school meal components. There was evidence that the culturally adapted materials were an effective means of reaching the Sandy Lake Native children and modifying the risk factors related to diabetes and obesity (Saksvig et al., 2005). It is important to note that best practice guidelines suggest school-based approaches be culturally relevant with instructions or materials in languages in addition to English (AFHK, 2004b). Perhaps Nutrition Positive should consider this.

Another interesting approach to teaching nutrition curriculum involved two elementary schools located along the Sunshine Coast of British Columbia. This pilot study compared the effect of a peer-led health promotion program for the prevention of obesity and eating disorders in one intervention school and one control school (Stock et al., 2007). Older students (grades 4 through 7) were given direct instruction from one intervention teacher and were paired with younger students (grades K through 3) for the whole school year. The older students then acted as teachers for their younger ‘Health Buddies’. All lessons (2-3 hours/week for 21 weeks) included nutrition, physical activity and healthy body image components. Compared with control students; both older and younger intervention students showed an increase in healthy-living knowledge, behavior and attitude scores. Student-led teaching may be another way to promote a healthy lifestyle in elementary and middle school students.

**School Personnel and Nutrition Positive:** Under the Nutrition Positive category “Healthy Food Environment” (SNPM, 2006-2007) there were a number of strategies to be employed. Some strategies include recommendations for school

personnel. For instance, school employees are encouraged to act as role models for students by eating healthy food. Classroom rewards and incentives are to include healthy alternatives or non-food items. Every case study school exhibited pro-active practices in these areas. However, a number of issues, concerns and frustrations surfaced during the interview process.

In terms of role-modeling, participants recognized that school staff represented a broken front. Not everyone was on board with the program. Principals felt that they could not force teachers to comply with certain nutritional habits, because teachers had the freedom to choose their own lifestyles. Policies for class incentives and rewards varied from school to school, and teacher to teacher.

Every school mentioned that some teachers were still giving out candy as rewards. This was a major source of frustration for some school committee members. However, it was recognized that there were wide philosophical extremes in regards to the meaning of 'treat'. Some schools also held a double standard for students and staff. For example, staff might have carbonated beverages and chocolate bars in their vending machine, but students had water and pure fruit juices in theirs.

These findings are corroborated by other studies in the literature. The "Food-related beliefs, eating behavior, and classroom food practices of middle school teachers" were studied in 16 schools, in a metropolitan area of the upper Midwest, United States in 1999-2000 (Kubik, Lytle, Hannan, Story & Perry, 2002). Teachers in sixth, seventh and eighth grade classrooms were surveyed. Questions addressed teachers' classroom food practices, eating behavior while at school, personal health, and attitudes about the school environment. It was found that the use of food as an incentive or reward for students was a common classroom practice, and most of the foods used did not support the development of healthy eating patterns in young adolescents. Candy was the most frequently used item (73%), followed by cookies/doughnuts (37%), sweetened drinks (35%) and pizza (28%). Many teachers did not role model healthy eating behaviors at school. Prevalent use of beverage and snack vending machines was of concern. Teachers purchased sweetened drinks

(57%) and high-fat or high-sugar snacks (85%) and consumed them at school. The teachers who exhibited these behaviors were significantly correlated to a low perception of personal health, a high-fat diet, and low support for the school food environment.

Similarly, a report released in May, 2007 by the US School Nutrition Association called “From Cupcakes to Carrots: Local Wellness Policies One Year Later” surveyed 976 school nutrition directors (as cited in School Nutrition Association, 2007). Implementation progress was tracked for school policy topics including nutrition education, physical activity and nutrition guidelines. Survey results indicated that more than 83% of the survey respondents noted increased healthful food options in the cafeteria. However, less than 95% of the schools had set standards for a la carte foods and beverages sold through school nutrition programs. In addition, less than 50% of the schools/districts had successfully implemented changes for food sold outside of the school nutrition/meal program. Implementation had been more of a challenge for foods available through school stores, fundraisers, food rewards given by teachers and food served at classroom party celebrations. Thus, controlling foods consumed outside of a planned cafeteria or meal venues seems to be a universal challenge for schools.

According to the review article by Peterson & Fox (2007), there is limited evidence that making changes in school food environments leads to changes in students’ weight status and/or adiposity. The idea of changing school food environments has inspired more than 200 legislative bills (2003-2005) to limit the availability of competitive foods and/or to establish nutrition standards for foods sold on school campuses in the United States. However, the Robert Wood Johnson Foundation reported that only 13% of these bills were passed because of resistance to state governance of issues that are viewed as being the purview of local school districts and parents. Also, competitive foods are viewed as a potential source of revenue and limiting them may cause negative impacts (as cited in Peterson & Fox, 2007). A similar New Brunswick study will be discussed later, under the heading:

### Other Program Considerations.

Another important finding in this study has to do with school personnel and program sustainability. All participants thought that the Nutrition Positive incentive program was a good program and sustainable for more than the current school year. As long as there were enthusiastic people on the committee willing to promote it, participants thought that Nutrition Positive would continue at their school. It was recommended, considering the rapid turnover of staff in schools, that lost committee members be replaced as soon as possible. They also stressed that Nutrition Positive leaders or committee members needed to be excited and enthusiastic about the program.

It was recognized that there needed to be Nutrition Positive ‘champion(s)’ in the school setting in order to have an effective program. This finding is similar to the results of the Action Schools B.C. pilot evaluation. In the McKay et al. (2004) study, students in schools with a liaison/master trainer or a supported school champion demonstrated statistically significant improvements in dietary requirement awareness, physical activity levels, heart health and academic performance. Qualitative data in this study suggests similar results. Enthusiastic, knowledgeable leaders with personal convictions about teaching health concepts seemed to have the most active and compliant Nutrition Positive school programs. Program fidelity was not related to the number of years that a school had been registered with Nutrition Positive, but to the qualities of the person(s) leading the initiative in the school.

**The Community, Parents and Nutrition Positive:** In Nutrition Positive schools (other than in the Community Schools) community involvement was not considered high. Parents may have been involved on the Parent Advisory Committee, but not on the school Nutrition Positive committee. Other community members were invited to share in special occasions or Home and School events, but this was not considered frequent practice. Participants hoped that the Nutrition Positive influence may have been evident to the community, by the foods served at events or by the posters displayed in the school. Overall, it was felt that communication with the



larger community was minimal regarding nutrition topics.

Research suggests that the family environment can contribute to the development of childhood obesity (Peterson & Fox, 2007). Parents and primary care givers are in effect ‘policy makers’ in the home environment. Parents make decisions about food availability in the home and shape their children’s dietary practices. They also impact children’s opportunities for recreation and physical activity. Parents also control access to money that can be used to purchase foods outside of the home. It was found that adding parent and family involvement components to CATCH school-based interventions increased students’ knowledge and improved attitudes, but did not lead to significant changes in health behaviors or lead to improvements in BMI or any other physiologic outcomes (Nader, Sellers & Johnson et al., 1996). However, a program adaptation of “Know Your Body” implemented in Jerusalem added parental involvement and community-wide campaigns to find significant improvement in BMI among treatment students relative to controls (as cited in Peterson & Fox, 2007). Another study among 50 Israeli youth aged 14 to 19 documented a 29% reduction in the percent overweight among those who had been treated seven years earlier with a parent only approach, compared with a 20% reduction in those treated with a child-only approach (as cited in Peterson & Fox, 2007). Generally, this shows that programs that involve both school and family components are more effective than those that are managed separately.

An interesting study (Murnan et al., 2006) examined 334 Ohio parents’ perceptions of the role of elementary schools in preventing childhood overweight. A questionnaire was developed based primarily on School Health Index guidelines (Centers for Disease Control and Prevention, 2006). Findings from the study showed that 96% parents were supportive of school based interventions focusing on healthy eating, physical activity and the school environment to help reduce the prevalence of overweight in elementary children. From the SHI healthy eating, school food services, and physical education components, the following percentages represent how many parents thought these factors were very important:

- Importance of schools not using food as reward/punishment = 73%
- Importance of teaching benefits of healthy eating = 70%
- Importance of school fund-raising to not sell candy, chips, pop = 64%
- Importance of teaching to accept different body sizes = 60%
- Importance of teaching how to select healthy food group items = 56%
- Importance of students' access to nutritious vending machines = 51%
- Importance of students having no access to vending machines = 42%
- Importance of all items from the physical education component  $\leq$  50%
- Importance of measuring a child's BMI = 16%

It is interesting that the parents considered the health education curricula as more important than the physical activity topics within the curricula. Very few parents rated measuring a child's BMI as important. The authors surmised that parents may not have understood that information or how to change it. Parents supported the idea of limiting or prohibiting access to unhealthy foods and beverages in elementary schools in Ohio. It would be interesting to find out if Saskatchewan parents would have similar perceptions.

**Students and Student Outcomes:** When asked about assessing program outcomes, Nutrition Positive case study participants identified three main areas where this might be done: 1) by examining students' lunches; 2) by listening to students' talk; and 3) by noticing students' behavior. None of the principals, teachers, or nutrition assistants could identify definite changes in student outcomes as a result of the program. However, they had many positive comments and were hopeful that over a period of time the program would have an influence on student lifestyle and nutrition choices.

A recent study entitled "Students' Perceptions of the Impact of Nutrition Policies on Dietary Behaviors" (Vecchiarelli, Takayanagi & Neumann, 2006) used both qualitative and quantitative methods to document the development, implementation, and impact of two recent Los Angeles Unified School District (LAUSD) comprehensive nutrition policy documents. Questionnaires were

administered to 399 12<sup>th</sup> grade students in two LAUSD high schools. Over 50% of all students indicated that the policies impacted the foods and beverages they consumed at school, whereas only about 20% indicated that the policies impacted what they ate or drank at home or outside of school. Interestingly, more female students agreed with the policies and paid more attention to what they ate and drank as a result of the policies compared to the male students.

The authors (Vecchiarelli et al., 2006) stated that some students may have been substituting unhealthful foods and beverages they previously consumed at school with an increased consumption of these unhealthy foods outside of school. Some of the qualitative data revealed comments to that effect. Three of the students' comments were:

- 1) By taking away the food it gives kids a reason to go home and eat all these junk foods because at school they haven't eaten anything all day.
- 2) If anything, this ban makes me binge on junk food when I get home because I get so hungry and I don't like the enforced healthy food at school.
- 3) I don't think that changing the way a student eats at school will affect the way they eat outside of school - unless it begins in elementary school.

The authors (Vecchiarelli et al., 2006) concluded that removing unhealthy food items from schools might not be enough to improve students' overall dietary behaviors. A coordinated multi-level approach including nutrition education, physical education, and parental involvement along with policies and modifications in food service was recommended.

Students were not interviewed in the Nutrition Positive study. Further research is needed to determine if Nutrition Positive is influencing student knowledge, attitudes and/or behavior and whether any changes are carried over into the non-school environment.

**Integration of Programs:** Most Nutrition Positive schools were integrating other programs, such as *in motion* and CHEP Good Food Inc. along with the Nutrition Positive program. Some participants thought that this was working very

well and that a many-pronged approach was better than one. However, several community school participants were confused about the differences between Nutrition Positive and their CHEP sponsored school meal program. Their confusion was evident in the responses to the interview questions.

One principal stated that multiple school programs ‘interfere’ with each other. He may have been referring to the fact that school leaders were promoting more than one program at a time. This might be considered a stressful thing for those burdened with the task of constantly trying to merge a number of initiatives. Perhaps that’s why several schools have decided to merge their Nutrition Positive committee with their *in motion* committee and work on both of them at the same time.

Many teachers and principals commented that the number of programs, promotions and other activities they had to deal with in a school year was prohibitive. It was to the point that they had to set priorities and make decisions about what they could and could not manage each year. In the research literature, no one seems to address the issue of multiple programs in schools and the competition and confusion that may cause for school personnel trying to implement all of them simultaneously. This may be a finding unique to this study that deserves further investigation.

Several studies mention that strong linkages with other groups and organizations would enhance schools’ efforts in serving children and families. The “Manitoba Schools Consultation Report” (Dietitians of Canada, 2006) mentioned that schools told them providing good nutrition within the school was valuable; however, taking on additional tasks to achieve this was time consuming, and at most schools expertise in the area of nutrition was limited. It was suggested that a person within the school or district should be hired to act as a resource person and to coordinate planning and implementation activities. This may be an alternative that would also assist Saskatchewan schools in coordinating multiple programs in health promotion.

The US National Institutes of Health (NIH) have called for the development and evaluation of comprehensive “trans-site” interventions to achieve sustained prevention and control of child obesity (Peterson & Fox, 2007). Trans-site

interventions could connect different organizations that care for children and their families, potentially providing continuity, reinforcement and synergy in promoting health behavior change. Such an approach would be considered primary prevention of obesity through single, site-specific interventions targeting populations at risk. The proposed venues include: Before and After School Programs; Cooking Clubs; YMCA/YWCAs; Boy Scout/Girl Scout programs; and physical activity clubs.

School nurses are also considered potential ‘sites’ for trans-site approaches to obesity prevention and control. They are positioned to promote healthy eating and physical activity behaviors in schools. Anthropometric measurements/assessments could screen for students at risk and form the basis for guidance or follow up by a pediatrician (Chomitz, Collins, Kim, Kramer, McGowen, 2003). Some may disagree with this approach due to the fact that it may stigmatize children or create problems in schools without nurses or access to the ‘sites’ proposed. Interesting as it sounds, it still does not address the problem of schools overburdened with the integration and management of multiple programs. The multi-site concept, unless very well coordinated, might even add to the burden on school personnel.

**Program Promotion Strategies:** Strategies for Nutrition Positive program promotion, transmission and/or communication were identified as including: meetings and assemblies, newsletters, posters, and community involvement. Meetings included those put on by the Nutrition Positive Advisory Council. Participants that attended these sharing sessions with other schools gave very positive reports. On the whole, principals and teachers complemented the Nutrition Positive representatives, the manual and newsletters as being very helpful and valuable resources. However, two of the schools didn’t seem to know the location of the Nutrition Positive manual and were not using it as a resource or communication tool. One school principal complained that the Nutrition Positive newsletter was often received a month late. Perhaps there is room for improvement in these areas.

Staff meetings and student assemblies were also vehicles for Nutrition Positive communications/promotions. Certain schools were excellent examples, with

high staff and student involvement in communicating nutrition messages to others. Other schools were more moderate in their approach to transmitting nutrition information. Nutrition posters and displays were evident at some schools, but not in others. Most participants mentioned using Nutrition Positive information in their weekly school newsletters. Only one principal questioned the use of newsletters as a means of communicating with parents. He felt that a better method should be developed for Community schools, because many parents had less than a Grade 9 education. Perhaps publishing the newsletter in another language would help reach the variety of cultures represented in Community Schools.

Nutrition Positive school promotion methods are similar to those used by other school initiatives. For instance, the “School Health Policies and Programs Study” (O’Toole et al., 2006) mentioned that 96 % of the schools involved in their study gave menus to students. Many used posters and other materials promoting healthy eating habits to display in the cafeteria (83%) or other areas of the school (37%). 68% of the schools used articles about the nutrition services program in a school newsletter, newspaper, Web site or other publication. Some schools collected suggestions from students (60%), staff (57%) and family members (42%) about the school nutrition services program. 53% used nutrition messages during announcements. (For more information on the effectiveness of using public address systems to deliver nutrition messages to children please refer to: Folta, Goldberg, Economos & Bell et al., 2006.) A number of schools conducted taste tests with students (40%) and/or family members (10%). About 25% of all schools had a committee that included students who provided suggestions for the school nutrition services program. Another 25% had a health education class conducted by a school food services staff member. These percentages reflect the frequency of various means of nutrition promotion/communication in U.S. schools. The Nutrition Positive case study schools were using some of the more popular methods.

Outside the boundary of their own school, case study participants had no idea what other schools were doing with the program. When asked if they were

aware of other approaches to the program, most participants replied negatively. One principal suggested that schools should mentor one another. He felt that it would be beneficial for school committee members to visit other sites to get a first hand view of how a successful program was implemented. Only a few interviewees were aware of other approaches because they had attended the Nutrition Positive sharing sessions on a regular basis.

Perhaps a larger media advertising campaign, promoting the Nutrition Positive mascot, logo, song and philosophy would enhance community awareness and involvement. Schools seem to be joining the program at exponential rates. The larger community of Saskatoon needs to know what is happening in schools. There may be potential for Nutrition Positive beyond the classroom setting.

**Other Considerations:**

Saskatoon, Saskatchewan's Nutrition Positive approach is meant to encourage a 'bottom up' development of the program from the school committee level (R. Mireles, personal communications, June 8, 2006). The literature gives many examples of 'top down' school nutrition approaches instituted from the government or legislative level. There is evidence that these initiatives have had success in administering and regulating school meal programs, but that they haven't had much success in terms of changing the overall dietary habits of students or school staff. In fact, the response to these 'top down' approaches has often been short-term, controversial and in some cases oppositional. In the following paragraphs, child nutrition programs and policies in Canada and the United States will be discussed. The outcomes of several 'top down' approaches will be reviewed. Then, the researcher will conclude this sub-section with some general comments about Nutrition Positive.

In 1991, Health and Welfare Canada identified schools as an ideal setting in which to reach students, and recommended that provincial and municipal governments initiate comprehensive and coordinated school nutrition policies. In response to meeting the Federal recommendation, Nova Scotia and Saskatchewan

published guidelines to help districts or schools develop policies, but enacted no provincial-level policy. Manitoba, Newfoundland and Labrador completed surveys on school nutrition policy. Prince Edward Island investigated the possibility of developing a policy, and an Ontario school board published a handbook containing suggestions for nutrition policy. New Brunswick adopted a provincial nutrition policy in 1991 (McKenna, 2003).

New Brunswick's "Food and Nutrition Policy for New Brunswick Schools" was the first policy in Canada developed by a department of education. There is much to be learned from their experience. Policy development occurred primarily at the departmental level; districts and schools exerted little influence. The policy goal was to develop good eating habits among the province's school children by:

- 1) Ensuring the availability of high-quality nutritious foods;
- 2) Incorporating nutrition education throughout the school environments, and
- 3) Ensuring students' access to food.

The department of education retained overall control of the policy and districts were to appoint nutrition representatives to help with implementation.

When the policy was proclaimed, the objective dealing with nutritious foods contained a clause that led to so much controversy that the department retreated from full implementation. The clause stated:

Low sugar foods should be emphasized. Milk and fruit juices should be the sole beverages. Food services should not provide students with items such as fruit drinks, soft drinks, candy, chips, chocolate bars, deep fried foods, doughnuts and other foods high in fat, sugar and/or salt (as cited in McKenna, 2003).

There were profit issues. School, student and parent groups were very concerned about their ability to support school programs if they could no longer sell certain popular foods. There were student choice issues. Opinions were divided between those who supported a 'broad choice' (food service caterers, food companies, school principals, and student council groups) and those who supported a 'healthy choice' (department of education, some principals and teachers, district nutrition



representatives). There were policy interpretation issues. Districts and schools were unsure how to implement the policy because of a lack of clarity.

There was also a fourth issue that caused significant resentment among educators and administrators. The initial approach to implementation was very 'top down'. Departmental personnel expected the districts and schools to implement the policy without question. The reactions included phrases like:

- The policy angered just about every person in the province dealing with it.
- The policy was dictatorial, even though it wasn't formally intended to be.
- Basically we had a revolt on our hands from the students and staff.
- It was mass chaos, upheaval, and uprising. Opposition was strong.

In the end, non-implementation occurred mainly through inaction. The author felt that the New Brunswick experience may help to explain why nutrition policies are not widespread in Canada (McKenna, 2003).

Indeed, the Canadian approach to child nutrition policy and programming is quite different from that of the United States. Provision of a nationally legislated policy framework for child nutrition programs in the United States has made important differences in delivery of services, especially in the area of available funding (Henry, Allison & Garcia, 2003). Key national policy objectives in the US ensure provision of free or reduced-price meals to elementary school children from financially disadvantaged homes and universal access to all the nation's school children. In fact, Child Nutrition Services in the US have strong political support and national data on the status of school meal programs are collected regularly. In contrast, Canada has no national legislation or government regulation authorizing provision of meals to schoolchildren. Provincial differences exist regarding the form school-based nutrition programs take, and how they are administered and funded. The absence of broadly available resources, including human, organizational and administrative impedes the sustainability of school nutrition programs in Canada. Most Canadian school meal programs are volunteer-driven and funded through a variety of ad hoc mechanisms and only a small percentage of children have access to

them. Data on the status of school meal and other nutrition programs is not collected regularly in Canada (Henry et al., 2003).

Despite the advantages school nutrition programs in the United States have in terms of resources and universality, the literature provides little evidence that legislated school nutrition services have changed long-term eating behaviors or improved life-style and nutrition choices in school children or adolescents. In 2004, the federal legislation that reauthorized the National School Lunch Program and the School Breakfast Program required that all participating school districts establish a local school wellness policy by the beginning of the 2006-2007 academic year (Peterson & Fox, 2007). One year following the implementation of national US federally mandated school wellness policies, a survey of 976 school nutrition directors revealed an interesting trend (Academic Search Primer, 2007). Survey results indicated that less than 50% of schools/districts had successfully implemented changes for food sold outside of the school nutrition/meal program. This included food available through school stores, fundraisers, food rewards given by teachers and food served at classroom party celebrations. In other words, the students were eating a planned breakfast and lunch, but had opportunity to purchase or receive foods of questionable quality from sources outside of the school meal program.

Results from the US CDC “School Health Policies and Programs Study 2006 (SHPPS 2006)” (O’Toole et al., 2007) describe the characteristics of both school nutrition services and the foods and beverages sold outside of school meals program. Computer assisted interviews were conducted with personnel in a nationally representative sample of elementary, middle and high schools (n = 944).

The SHPPS 2006 study found that nutrition services program practices in many schools needed improvement. Few states required schools to restrict the availability of deep fried foods, to prohibit the sale of foods with low nutrient density, or to make healthful beverages available outside of the school nutrition services program. While many schools served healthful foods and beverages outside of the school nutrition services program, many also sold items high in fat, sodium

and added sugars. More than 1/5 of the schools allowed students to buy food and beverage items from vending machines or school stores during the lunch period, thereby providing a disincentive for participation in the school lunch program. Some elementary, middle and high schools (up to 50%) allowed students to purchase these items before classes started in the morning and at any time during the day. While there was some improvement in the quality of foods sold a la cart (since the 2000 SHPPS study), a majority of schools still offered regular-fat cookies, baked goods, frozen yogurt, ice cream and high-sugar drinks in vending machines, school stores and a` la cart. Student clubs, sports teams, and the PTA were still allowed to fundraise with products typically high in fat and added sugars. Nearly 25% of the schools allowed students to buy fund-raising items during lunch periods. Nearly all the states and most districts did not provide much policy support on behalf of healthy school nutrition environment. One study recommended that policy changes needed to be implemented in all school environments, so that students could change their source of foods and thereby avoid dietary changes (O'Toole et al., 2007).

The biggest challenges to implementing policies affecting the school environment, mentioned in the U.S. studies (Academic Search Primer, 2007; O'Toole et al., 2007) were similar to those mentioned in the New Brunswick study (McKenna, 2003). The US school nutrition personnel said that finding affordable products that met policy nutrition standards was difficult. In addition, monitoring and enforcing the policies was a concern. They also mentioned that student acceptance of the policies was difficult to achieve (Academic Search Primer, 2007).

Depending on the preparation and administration of 'top-down' approaches to change; such programs may be subject to attitudes of resistance, anger, confusion, frustration, non-compliance and apathy. Some of the same attitudes were expressed by a few of the Nutrition Positive participants. However, most school personnel in this study were positive, hopeful and co-operative. A number of philosophies and ideas for implementing the Nutrition Positive program were expressed. Some participants felt that progress could be made incrementally, by making changes

slowly, one step at a time. More than one mentioned that moderation and respect should be the underlying program values, and that options and choices should always be available for staff and students. Rather than eliminating all questionable foods, it was felt that some ‘junk’ foods should still be available, so that students wouldn’t feel pressured to develop an ‘underground’ or ‘black’ market. It was felt that a program promoting healthy food choices couldn’t be forced. Positive choices could be made fashionable by offering attractive foods and an inviting program.

It is this researcher’s belief that the Nutrition Positive Advisory Committee has taken a wise approach in addressing the concerns of overweight/obesity and other nutritional issues for Saskatoon school children. Indeed, the Nutrition Positive mandate has been designed to encourage the participation of all stakeholders in the process of implementation. It has been designed to be a progressive, capacity-building approach. Despite a number of areas needing improvement, I believe that the program is growing and developing into an effective vehicle for change. By continuing to encourage ‘grassroots’ development, progress will be slow and difficult to monitor. This type of change cannot be forced or legislated. It not only involves education and public health spheres, but the whole cultural and societal environment.

## **5.2 Reflections on Using the Models for Best Practice**

In this study, the “WHO-Comprehensive School Health and Promotion Guidelines” (WHO, 1997); the “Action for Healthy Kids<sup>®</sup> Evaluation Model” (AFHK, 2004b); and the “Healthy School Food Policies and Guidelines Checklist” (adapted from the CDC- SHI and other guidelines) (Heart & Stroke Foundation, 2005) were used to help describe a Canadian children’s health and nutrition program more fully. The theoretical orientation provided by these models for best practice helped to guide and organize the case study analysis. Using the three models in triangulation also led to a fuller understanding of the phenomena called Nutrition Positive. Under the following bolded headings, I discuss, describe and critique aspects of each model as they were applied in this study.

**The Applied WHO Guidelines:** Reading the document *Promoting Health through Schools: Report of a WHO expert committee on comprehensive school health education and promotion* (WHO, 1997) was an excellent preparation and background for this study. It was an educational experience to learn about global perspectives on trends in school health, and the benefits and barriers common to health programs and strategies used at the international, national and local levels. The WHO guidelines used in this case study were some of the principles and priorities recommended by the Expert Committee. After a comprehensive review of the current global status of school health programs and the opportunities, strategies, and research that could be used to improve them, both now and in the future; the committee agreed on ten principles/priorities.

Only five of the ten principles or priority statements were reviewed in this study, because the remaining five were beyond the parameters of Nutrition Positive and/or the local school program. Either they were more legislative (e.g. concerning human rights), related to another field of health care (e.g. mental health or safety), or global (international/national) in nature. The five WHO guidelines not included were:

- Investment in schooling should be improved and expanded
- The full educational participation of girls should be expanded
- Every school should provide a safe learning environment for students and a safe workplace for staff
- Policies, legislation, and guidelines should be developed to ensure the identification, allocation, mobilization, and coordination of resources at the local, national, and international levels to support local school health programs.
- International support should be further developed to enhance the ability of Member States, local communities, and schools to promote health and education.

The original WHO document lists the priority statements with an explanation following each. It does not present the 10 statements in checklist form as

illustrated in Table 4.22. The checklist was designed by the researcher to reflect the format used in both the “AFHK<sup>®</sup> Evaluation Form” and the “Healthy School Food Policies and Guidelines Checklist”. Most of the WHO guidelines were rated partially in place or under development in terms of the Nutrition Positive program.

It was not difficult to determine the relationship of the Nutrition Positive program to the WHO guidelines. By considering the data from Nutrition Positive documents and the semi-structured interviews, I rated each category in terms of the program ‘Dose delivered’ (the amount of intervention provided by the intervention team), ‘Dose received’ (the extent of engagement shown by the target population), and program ‘Reach’ (the awareness and uptake of the intervention outputs by the target population). I believe that Tables 4.22, 4.23 and 4.24 help to describe Nutrition Positive program fidelity, at least in terms of recognized models for best practice.

**The Applied AFHK<sup>®</sup> Criteria:** It is possible that this is the first Canadian study to use the AFHK Criteria. AFHK personnel were not aware of any previous Canadian programs evaluated for the “What’s Working Database” (Kim Blum, personal communications, 2008). By applying the evaluation instrument, I was able to discover more about Nutrition Positive and critique the AFHK instrument.

One of the strengths of the AFHK evaluation instrument lies in the fact that the criteria were developed using an expert panel of stakeholders, which represented 27 national organizations, government agencies, administrators, teachers, parents, students, nutrition and public health professionals. The process used to derive the criteria was inclusive and innovative (see Section 2.3.1 for a description). The criteria that evolved provided the backbone of a comprehensive assessment tool. The evaluation instrument is relatively easy to use and seems very applicable to a broad range of school-based approaches.

However, the AFHK scores for Nutrition Positive should be interpreted with great caution. With scores of 200 (Essential Criteria) and 233 (Critical Criteria), Nutrition Positive results may be interpreted as ‘Making the Grade’, which is between ‘Excellent’ and ‘Shows Potential’. While using the AFHK evaluation

instrument for Nutrition Positive, a number of difficulties became apparent.

According to the literature, any decision-maker or school professional should be able to use the AFHK evaluation instrument (AFHK, 2004d). There are phone numbers to call if one needs help. However, it is doubtful that most school personnel using this scoring instrument would take the time to find out if they were interpreting the scheme correctly. I had no previous experience scoring programs with the AFHK evaluation instrument, so AFHK personnel were contacted by phone and by e-mail. I was told that two individuals normally score each program for the “What’s Working” database. These reviewers do not receive training prior to using the instrument. I was also told:

Sometimes the evaluations are subjective. We have had two different reviewers result in two very different scores. We hope to revisit our “What’s Working” evaluation forms in the future to make sure they are the best tools to assess these programs (K. Blum, personal communications, 2008).

In some cases reviewer bias, inexperience, or misinterpretation may cause the scores to be less reliable than desired. Personally, I had some problems deciding how to score certain criteria.

It was difficult to decide if a criterion was partially or fully met, especially in a mixed category. For instance, consider Essential Criterion # 4 f ) The approach has specific and measurable objectives that address the school environment. A Nutrition Positive goal is ‘to increase the use of healthy food in school environments’ (SNPM, 2006). The Nutrition positive manual does not list specific objectives for this goal. However, the “Nutrition Positive Assessment Checklist”, which is filled in and included with the registration information each year, includes school environmental factors to evaluate. School personnel are to check off factors such as:

- Our school always promotes healthy eating for students by offering healthy food in all school or classroom programs (e.g. class parties, after school gym programs)
- We always sell healthy food choices (e.g. ‘Serve most often Foods’) in

vending/drink machines

Similarly the “Nutrition Positive 2006-2007 Summary Form”, which is filled out by school personnel at the end of the academic year, includes environmental factors such as:

- Served healthy Hot Lunches
- Sold healthy food in school cafeteria/canteen
- Served healthy food in food program (e.g. CHEP)

Although not entitled objectives, these checklist points are more specific than the Nutrition Positive goals. It is arguable whether these checklist points are measurable. The word ‘always’ (see assessment form examples above) is a blanket term and it might be difficult to make judgments about such statements. Similarly, the term ‘healthy’ could be misinterpreted. Perhaps, a scoring scheme with more options (e.g. a Likert scale) would be a better reflection of the school reality.

In scoring Essential Criterion # 4 for Nutrition Positive, I was rather lenient. I scored 4a, 4b and 4c with a partial fulfillment because there weren’t very many Nutrition Positive manual references for knowledge, attitude and skill areas. I gave 4d, 4e and 4f full points because there were more Nutrition Positive manual references for behavior, policy and school environment areas. Another reviewer may have given only partial points for each area, since it is arguable whether the checklist points are truly specific or measurable objectives. This is one criterion which may not be reliably scored.

Some of the criteria are vague and can be interpreted in more than one way. For instance, should Criterion # 6 be scored according to the way schools actually implement the program or according to the intentions of the original program? The Nutrition Positive program encourages schools to make the approach a) engaging to students, b) interactive and c) skills-based. It provides materials and resources in order to make this possible. If I were to score according to program intent, there would be full points in each of these categories. However in practice, schools varied widely in implementation. Because of variations in implementation practices, I only



gave each category partial fulfillment. Once again, another reviewer may have scored this criterion differently, resulting in a different total score.

Caution in interpreting AFHK scores should be taken because the criteria were developed by stakeholders for programs in the United States. There are some differences between Canadian and US systems that may alter interpretations. Under Curriculum Integration, for instance, the submitter is asked: “How does the initiative align with a coordinated school health model?” Very few Canadian schools are involved in a coordinated health model, so it would be difficult for US reviewers to fully interpret a Canadian program. The US database may not be a domain to which case study findings should be generalized or compared.

In addition, the AFHK scores are based on the information and observations gathered in eight case study schools. This represents 8/53 or 15% of the Saskatoon schools enrolled with Nutrition Positive in the academic year of 2006-2007. Perhaps a different set of schools would have represented a different picture of program implementation and resulted in different AFHK final scores and interpretation.

After studying the Nutrition Positive program in detail, I feel confident using the scoring scheme as a *descriptive* tool. Overall, the criteria have been valuable tools for examining Nutrition Positive. However, I believe that more written information should be provided alongside the AFHK evaluation form, in order to assist those interpreting how to use the AFHK instrument. A note of caution in interpreting the scores should also be added to the evaluation form. Alternately, the criteria could be rated with terms such as: FIP = Fully in Place; PIP = Partially in Place; UD = Under Development; ND = Not Done; and NA = Not Applicable, similar to those used on other checklists (see Table 4.25). This could replace the numerical scoring and interpretive labeling currently used on AFHK Essential and Critical evaluation forms.

**The Applied “Healthy School Food Policies and Guidelines Checklist”:**  
In discussing the “Healthy School Food Policies and Guidelines Checklist”, it would be interesting to look at which portions of the CDC School Health Index (CDC, 2006) were used to develop it. The CDC SHI is a rather comprehensive, lengthy tool

involving eight components or modules of questions. (See Appendix 2 for a sample of those questions.) After an examination of both the checklist and the SHI questions, it appears that the SHI modules entitled: “Healthy School Environment”; “Health Education”; and “Nutrition Services” were used to develop a number of the points in the “Healthy School Food Policies and Guidelines Checklist”.

Considering how vital parental and community involvement is to the successful outcome of nutrition programs in schools (WHO, 1996; WHO, 1997; Peterson, 2007 & Nader, 1996), it would have been valuable to include some points from the “Family and Community Involvement” (Module 8) portion of the CDC SHI document. For instance, the SHI question: “Does the school give families opportunities to learn about health and safety topics through educational materials sent home and involvement in school sponsored activities?” could be adapted for use in the checklist. Similarly, principals, teachers, nutrition coordinators and other school staff are important ‘healthy eating’ role models for students in the school environment. Many of these adults also face nutrition-related health risks (Franks et al., 2007; Kann et al., 2007; Katz et al., 2008 & Kubik et al., 2002). Directing some points from the “Health Promotion for Staff” (SHI Module 7) onto this checklist may have been helpful. At least 5 of the points on the “Healthy School Food Policies and Guidelines Checklist” were not applicable to the elementary school setting, unless it was designated a Community School. Most elementary schools do not have a regular meal program or food service, so checklist items numbered 4, 9, 11, 13 and 17 do not apply. Perhaps another checklist more specifically designed for the elementary school could be designed with items from the CDC SHI “Family and Community Involvement” and “Health Promotion for Staff” modules included. The present checklist could continue being applicable to Community and High schools.

## **CHAPTER 6 - CONCLUSION**

### **6.1 Conclusions**

Boards of Education, superintendents, principals, teachers and other school staff have an obligation to ensure the health and well-being of students while at school. By creating an environment that encourages good nutrition, schools are promoting healthier lifestyles for their students and their families. By educating elementary students to make proper food and nutrition choices, schools may enhance adolescent health and reduce the incidence of adult-onset chronic disease. Future economic losses due to health care costs and lost productivity may be curbed by present school nutrition and other health promotion programs.

Nutrition Positive is a very good health promotion program that ‘makes the grade’ as it is implemented in Saskatoon elementary school settings. The goal and purpose of the program is clearly stated and understandable by school audiences. The program is cost effective, practical, realistic and easily adapted to a variety of situations and environments. It can be rendered engaging to students, developmentally appropriate and culturally relevant. Nutrition Positive supports implementation by providing user friendly instructions, contact information, training and additional resources for teachers and other school staff. It can be integrated across curricula, feasibly implemented within a school schedule and effectively aligned with other school health programs. Nutrition Positive is a sustainable program, not just an irregularly implemented event. It appears to have strong support from its critical audiences (students, parents, teachers and administrators) and relevant stakeholders (public health staff, school board representatives, corporate sponsors, university advisors and community members).

Nutrition Positive demonstrates potential for excellence and could be a

model for best practice in promoting healthy eating in schools. In order to reach its full potential Nutrition Positive mainly needs improvement in its assessment, monitoring and evaluation components. Nutrition Positive goals need to be supported by evaluation data. Measurable objectives need to be specified in order to demonstrate that the program has a positive effect on student achievement and that it helps to meet both provincial and school board nutrition standards. At the school level, Nutrition Positive committees need to include all relevant stakeholders. Principals, teachers, parents, students and others need to participate in policy development and implementation, as well as learn about healthy eating themselves.

School leaders need to champion the Nutrition Positive program with excitement and enthusiasm. Other school staff should represent a united front in complying with school policies about classroom rewards and treats. Foods offered and served in Nutrition Positive schools should consistently and uniformly compliment the learning objectives of the health curriculum and nutrition program. Catering, fundraising and vending should support healthy eating and adhere to school food guidelines. Double standards for students and staff should be avoided when implementing school nutrition policies and practices. Program information needs to be more effectively communicated to new principals/staff and the larger community, in order to ensure continuity and garner support for the Nutrition Positive program.

Having said this, I think it is appropriate to reiterate some of the study participants' reflections on Nutrition Positive program outcomes and their philosophies for program implementation. All of the participants thought that Nutrition Positive was a valuable addition to their school program. They felt that the program was influencing choices for life. It was heightening awareness and enthusiasm for good nutrition and increasing the students' enjoyment of a variety of foods. They stressed the importance of teaching 'everything in moderation'. They felt that dietary options and choices were important when offered 'in balance'. No one was expecting immediate results. Most were happy with making small steps in the right direction.

## 6.2 Strengths and Limitations of the Study

The overall purpose of this study was fulfilled. A thorough description of the Nutrition Positive incentive program was obtained through examining program development and implementation strategies used by representative schools in Saskatoon. A number of issues, challenges and related concerns were identified by primary stakeholders - the principals, teachers and nutrition coordinators involved in implementing the program in schools. The qualitative information gleaned from this study will add to the body of research examining health promotion in schools. It assists in fulfilling the universal need to understand the characteristics of and strategies used to develop, implement and evaluate programs designed to promote healthy eating and lifestyle behaviors among children.

A search of the literature and communications with experts in the field indicate that this was likely the first Canadian study to use the Action for Healthy Kids<sup>®</sup> program evaluation tool and critique its scoring method and interpretation scheme. The study may also be unique in that it used the *Saskatchewan Healthy School Food Policies and Guidelines Checklist* (a modification of the CDC School Health Index) and the World Health Organization guidelines to compare a school-health program with both local and international models for best practice.

The study was limited in that it was not a full-scale process evaluation. Parents, students and community members were not interviewed. Their responses would have provided valuable information about program implementation strategies and the outcome of program methods. For instance, interviewing parents about program communications may have revealed more about the effectiveness of newsletters, fliers and other nutrition information taken home by the students.

Purposeful sampling techniques were used to select eight particular schools for this study. The study only looked at schools in different areas of Saskatoon; other urban and rural schools implementing Nutrition Positive may have demonstrated different results. Consequently, findings should only be generalized to other settings with caution. However, triangulation in data collection and analysis has served to

eliminate sources of error and make program examination more complete.

### **6.3 Recommendations for Further Research**

Future research is needed to conduct a full process evaluation for the Nutrition Positive program. The present study could be used to develop a set of questions to finalize the full process evaluation plan. The new plan needs to consider program resources, the changing context (new policies and guidelines from Saskatchewan government and school board sources) and any improvements made to program evaluation methods. Surveys or interviews with students, parents and community members should be included in the approach, along with principals, teachers and other stakeholders. The inclusion of other urban centers and rural schools would be ideal. In time, an outcome evaluation would be beneficial in order to determine the long range effectiveness of the Nutrition Positive program on student health and longevity.

Other Canadian studies are needed which compare school health programs with the guidelines for best practice outlined by the Action for Healthy Kids<sup>®</sup> Essential and Critical Criteria evaluation instrument (AFHK, 2004b). Further research could involve developing a new evaluation tool based on Saskatchewan's "Healthy School Food Policies and Guidelines Checklist" adapted from the CDC School Health Index (CDC, 2006). This could involve a combination of the 'best' models for best practice, to produce one suited specifically to elementary schools without regular food services.

Last but not least, more studies using qualitative research techniques are needed to provide critical information to school and health education personnel involved in planning and implementing school-based interventions. Information from qualitative studies can help re-tool interventions so that they are more feasible to implement and more appealing – and therefore more likely to be effective and sustainable over the long term (Peterson & Fox, 2007).

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## APPENDICES

## Appendix 1: Letter from Ethics Office



Ethics Office

Room 302 Kirk Hall  
117 Science Place  
Saskatoon SK S7N 5C8 Canada  
Telephone: (306) 966-2975  
Facsimile: (306) 966-2069

**To:** Carol J. Henry


**Date:** December 18, 2006

**Re:** The Nutrition Positive Incentive Program in Saskatoon Elementary Schools A Case Study (Beh 06-300)

Thank you for submitting the research protocol entitled "The Nutrition Positive Incentive Program in Saskatoon Elementary Schools a Case Study". It has been determined that your project is under the category of program evaluation and is therefore exempt of the ethics review process. This decision is based on the information provided to the ethics office on November 29, 2006.

It should be noted that though your project is exempt of ethics review, your project should be conducted in an ethical manner (i.e. in accordance with the information that you submitted). In regards to this, the Behavioural Research Ethics Board would like to make the two following recommendations: 1) The letters to the directors of education, principals and to the teachers should include the information about the photographs, and 2) the letter to the principals should include the information that the director has approved the study but that this does not require that the principal allow the research. Also, please include a similar statement in the letter to the teachers with regards to the principal's approval. It should also be noted that any deviation from the original methodology and/or research question should be brought to the attention of the Behavioral Research Ethics Board for further review.

Sincerely,

  
**Dr. John Rigby, Chair**  
Behavioural Research Ethics Board  
University of Saskatchewan  
Room 306 Kirk Hall, 117 Science Place  
SASKATOON SK S7N 5C8 CANADA  
Phone: 966-7075 Fax: 966-2069  
Email: john.rigby@usask.ca

## Appendix 2: CDC School Health Index Questions

### Module 1 Healthy School Environment

1. Does the school have a representative committee that meets at least twice a year and oversees school health and safety policies and programs?
2. Does the school or district have written policies that govern all of the following areas related to student health and safety?
  - health education curriculum
  - school food service
  - food and beverages available on campus beyond school food service
  - health promotion for staff
  - family and community involvement
  - school physical environment etc.
3. Does the school communicate its school health and safety policies in all of the following ways?
  - staff orientation and staff meetings
  - student orientation
  - student handbook
  - staff handbook
  - parent handbook and/or newsletters
  - contracts with outside vendors and organizations that rent school facilities
  - announcements at school events
  - community meetings
4. Do school's staff and environment promote a sense of connectedness in students and their families? (See website for full list of questions # 4, 5 & 6)
7. Does the school prohibit giving students food as a reward and withholding food as punishment? Is this prohibition consistently followed?
8. Do school fundraising efforts support healthy eating by selling non-food items or foods that are low in fat, sodium and added sugars (e.g., fruits, vegetables, pretzels, air-popped popcorn) instead of by selling foods that are high in fat, sodium or added sugars (e.g., candy)?
9. Does the school prohibit the sale and distribution to students of foods of minimal nutritional value (e.g., soft drinks, candy, chewing gum) throughout the school grounds during the entire school day?
10. Does the school prohibit the sale and distribution to students of other foods of low nutritive value (e.g., chocolate bars, donuts, fried potato chips and juice drinks) throughout the school grounds during the entire school day?
11. Do most teachers schedule time for students to wash their hands before meals and Snacks?

(Centers for Disease Control and Prevention, 2006)



## **Module 2 Health Education**

1. Do students receive health education in all grades?
2. Do all who teach health education use a sequential health education curriculum with state or national standards for health education?
3. Do all who teach health education use active learning strategies and activities that students find enjoyable and personally relevant?
4. Do all who teach health education train students on the skills needed to adopt healthy lifestyles by giving students opportunities to practice these skills rather than just having them learn facts? (e.g., reading food labels, planning healthy snacks etc.)
5. Do all who teach health education use a variety of culturally appropriate examples and activities that reflect the communities cultural diversity?
6. Do all who teach health education use assignments and projects that encourage students to interact with family members and community organizations?
7. 8. 9. Do all who teach health education participate in professional development/continuing education in health and safety education and classroom management techniques?
10. Does the health education curriculum address the essential healthy eating topics? (18 topics are listed on the website)

## **Module 3 Physical Education**

No Nutrition or cross-cutting questions were evident in this module.

## **Module 4 Nutrition Services**

Only 3 questions were relevant to schools without breakfast or lunch programs.

7. Do most sites outside the cafeteria offer appealing low-fat fruits, vegetables or dairy products?
9. Do students have at least 10 minutes to eat breakfast and at least 20 minutes to eat lunch, counting from the time they are seated?
13. Does the school provide students with a clean, safe, and pleasant cafeteria (eating area), according to the 9 guidelines listed on the website?

## **Module 5 Health Services**

1-4 Does the school nurse or other health services provider (if present in the school) promote health and safety in the school and establish strong links with school district services and community resources?

5-6 Is there a system for collecting student medical information and is all pertinent information communicated in writing to all appropriate school staff? Does a consulting school health physician assist with school health programs?

(Centers for Disease Control and Prevention, 2006)

7. Does the school nurse or other health services provider identify students with health problems affected by nutrition (e.g., anemia, diabetes, eating disorders, food allergies, and overweight/obesity)? Are those students referred to the most appropriate school-based or community-based services?

### **Module 6 Counseling, Psychological and Social Services**

- 1-3 Does the school counseling, psychological or social services provider promote health and safety of students and their families by addressing and promoting healthy eating topics, as well as establishing strong links with school district services and community resources? Have referral providers/services been identified and are they available for students and their families?
4. Does the school counseling, psychological or social services provider identify students with health problems affected by nutrition? Are those students referred to the most appropriate school-based or community-based services?

### **Module 7 Health Promotion for Staff**

- 1- 4 Does the school or district offer staff member's physical health screenings, stress management, weight management or other health promotion programs that are accessible, free or low-cost at least once a year?

### **Module 8 Family/Community Involvement**

1. Does the school give families opportunities to learn about health and safety topics through educational materials sent home and involvement in school sponsored activities?
2. Does the school's parent education program address all of the following (8 listed including monitoring daily activities, modeling healthy behaviors, praising and rewarding desirable behavior etc.) effective parenting strategies?
3. Do parents and other community members help plan and implement all or nearly all school health and safety programs?
4. Does the school staff inform students and their families about community-based health and safety programs that cover healthy eating and other topics?
5. Do community members have access to indoor and outdoor school facilities, outside school hours to participate in or conduct health promotion and education programs?
5. Do students and parents have opportunities to provide both suggestions for school meals and feedback on the meal or nutrition program?

(Centers for Disease Control and Prevention, 2006)

### Appendix 3:

#### **Healthy School Food Policies and Guidelines Checklist**

The following checklist can assist schools in developing and implementing policies and guidelines for healthy school foods. This can also be used to track progress.

<i>Schools are encouraged to call their Public Health Nutritionist for a copy of "Nutrition Guidelines for Schools".</i>	<b>Fully in Place</b>	<b>Partially in place</b>	<b>Under development</b>	<b>No</b>	<b>Not Applicable</b>
All stakeholders including school staff, parents, students, school board etc, will participate in policy/guideline development and implementation					
Stakeholders, students and staff decide on goal/purpose/mission/vision of policy statement					
Healthy foods and less healthy foods are defined and understood (e.g. schools are aware of local public health recommendations)					
School meal programs and emergency food provided comply to with set recommendations					
Adequate time and space is provided for students to eat meals at school. School includes time for hand-washing before meals & snacks					
Healthy foods are served at special events, in-class parties, field trips, staff lunches, and before or after school programs etc					
Foods offered and served in schools complement learning objectives of health curriculum					
All stakeholders including school staff, parents, students, school board members have opportunities to learn about healthy eating					
Staff and volunteers involved in food provision receive regular nutrition and food safety training					
Healthy foods are promoted and advertised					
Acceptable foods to be offered are clearly identified					
If rewards or treats are offered, nutritious foods or non-food items are used.					
Healthy foods are competitively priced and readily available in the school (e.g. cafeteria, canteen and servery)					
Plans are in place to ensure all children have access to nutritious food while at school					
Fund raising efforts are supportive of healthy eating					
Catering companies and outside vendors adhere to food guidelines					
Food waste and disposable packaging are minimized					
Guidelines are widely publicized and communicated to students, parents, staff and visitors					
Individual staff members avoid comments about weight and dieting; accept people of all shapes and sizes					

**Adapted from: School Nutrition Advisory Coalition. Feeding The Future: School Nutrition Handbook  
Centers for Disease Control and Prevention, School Health Index For Physical Activity and  
Healthy eating  
Nutrition Guidelines for Schools: Saskatchewan School Boards Association Research Report**

(Heart and Stroke Foundation, 2005)

**Appendix 4: Action for Health Kids Evaluation Form**

# evaluation of the “what’s working” database

To ensure the value of AFHK’s “What’s Working” database, each approach currently in the database was assessed using the Essential Criteria. Since these approaches were collected prior to the development of these new criteria, some database entries do not include sufficient information to apply all of the Essential Criteria. Therefore, a scoring scheme was developed that would not penalize approaches based on a lack of information or inapplicability of a criterion to a particular approach. Following is the scoring scheme and a sample evaluation form.

Scoring for Essential Criteria:

- Criteria were fully met = 3 points
- Criteria were partially met = 1 point
- Criteria were not met at all = 0 points

Scores for approaches in the “What’s Working” database were tallied, divided by the number of criteria evaluated (excluding those that were not applicable or did not have information), and then multiplied by 100 for the total score.

**SAMPLE EVALUATION FORM**

Name of Approach/Program: \_\_\_\_\_  
 Reviewer Name: \_\_\_\_\_

Essential Criteria – Standards Assessment for School-Based Approaches to Increasing Physical Activity and Good Nutrition	Points Met (place X in box)				
	No (0)	Partial (1)	Yes (3)	N/A	N/I
1. The approach is based on professional theories and is consistent with professional and/or national standards of practice.					
2. The approach is practical and realistic.					
3. The goal/purpose of the approach is clearly stated and easy to understand by multiple audiences.					
4. The approach has specific and measurable objectives that address one or more of the following: a. Knowledge b. Attitudes					



(Action for Healthy Kids, 2004)

Essential Criteria – Standards Assessment for School-Based Approaches to Increasing Physical Activity and Good Nutrition	Points Met (place X in box)				
	No (0)	Partial (1)	Yes (3)	N/A	N/I
c. Skills d. Behaviors e. Policy f. School environment					
5. The approach is: a. Age or developmentally appropriate b. Culturally relevant					
6. The approach is: a. Engaging to students b. Interactive c. Skills-based					
7. The approach can be adapted to a variety of situations and environments.					
8. The approach can be assessed and monitored and includes an evaluation component.					
9. The goals of the approach are supported by results from evaluation data.					
10. The approach supports easy implementation by providing the following: a. Clearly written and user-friendly instructions b. Training resources c. Contact information to obtain technical support or additional resources d. Instructions or materials in languages in addition to English					
<b>Total points for Essential Criteria by column:</b>					
<b>Essential Criteria Total Points:</b>					

(Action for Healthy Kids, 2004)

Critical Criteria – Adoptability/Implementation Assessment	Points Met (place X in box)			
	No (0)	Partial (1)	Yes (3)	N/A
1. The approach is cost-effective and resources (staff, budget, grant dollars) are available for its implementation.				
2. The approach fits into required school mandates, has a positive effect on student achievement outcomes and would help to meet state nutrition and physical activity standards.				
3. The approach can be integrated across curricula, feasibly implemented within a school schedule, and aligned with a coordinated school health model.				
4. The approach has strong support from critical audiences (e.g., students, parents, teachers and administrators) and all relevant stakeholders were involved with its planning.				
5. The approach is sustainable, not just a one-time or irregularly implemented event.				
<b>Total points for Critical Criteria by column:</b>				
<b>Critical Criteria Total Points:</b>				
<b>Grand Total Score</b> – add all points, divide by the number of criteria evaluated (excluding those that were not applicable or did not have information), multiply by 100 for Total Score:				

### SCORING RESULTS AND INTERPRETATION:

- 250 to 300 points: Excellent
- 200 to 249 points: Makes the grade
- 150 to 199 points: Shows potential

There were a total of 107 approaches in the “What’s Working” database and each was evaluated. Review completed evaluations indicated that the Essential Criteria were applicable to a broad range of approaches effective in providing adequate sensitivity to stakeholder priorities and easy to use as an evaluation tool. Evaluation results yielded a median score of 214 with a wide range in scores, from 0 to 300. The majority of the “What’s Working” approaches received scores between 200 and 300. Forty-one of these had scores from 250 to 300 and 31 scored between 200 and 250. Thirteen had scores between 151 and 200, 14 had scores between 100 and 150 and eight had scores below 100. For purposes of the database assessment, it was determined that approaches between 250 and 300 represented the best of those currently in the “What’s Working” database.

(Action for Healthy Kids, 2004)

**Appendix 5:**  
**Evaluation Scores for Four Programs from the AFHK ‘What’s Working’ Database**

<b>Essential Criteria – Standards Assessment for School-Based Approaches for Increasing Good Nutrition in Schools</b>	<b>Food on the Run FOR</b>	<b>Philadelphia School Nutrition Policy Initiative</b>	<b>Q4: Live Outside the Box</b>	<b>National School Lunch Reimbursable Snack Program</b>
1. The approach is based on professional theories and is consistent with professional and/or national standards of practice.	Ni*	3	Na*	Ni
2. The approach is practical and realistic.	3	3	3	3
3. The goal/purpose of the approach is clearly stated and easy to understand by multiple audiences.	3	3	3	3
4. The approach has specific and measurable objectives that address one or more of the following:  a) Knowledge b) Attitudes c) Skills d) Behaviors e) Policy f) School Environment	a) 3 b) 3 c) 3 d) 3 e) Ni f) Ni	a) 0 b) 0 c) 0 d) 3 e) Ni f) Ni	a)0 b) 0 c) 0 d) 3 e) Ni f) Ni	a) 0 b) 0 c) 0 d) 1 e) Ni f) Ni
5. The approach is a) age or developmentally appropriate b) culturally relevant.	a) 3 b) 3	a) 3 b) 1	a) 3 b) Na	a) 1 b) Ni
6. The approach is a) engaging to students b) interactive and c) skills-based.	a) 3 b) 3 c) 3	a) 1 b) 3 c) 1	a) 3 b) 1 c) 0	a) 1 b) 0 c) 0
(AFHK What’s Working Database, 2006)				

<b>Evaluation Scores for Four Programs from the AFHK ‘What’s Working’ Database Continued...</b>				
7. The approach can be adapted to a variety of situations & environments	3	3	3	1
8. The approach can be assessed and monitored and includes an evaluation component.	3	3	3	3
9. The goals of the approach are supported by results from evaluation data.	3	Ni	0	1
10. The approach supports easy implementation by providing the following:				
a) Clearly written and user-friendly instructions	a)3	a)3	a)1	a)1
b) Training resources	b)3	b)1	b)0	b)0
c) Contact information to obtain technical support or additional resources	c)3	c)1	c)Na	c)0
d) Instructions or materials in languages in addition to English	d)3	d)3	d)0	d)3
<b>Score Interpretation:</b>	<b>Excellent</b>	<b>Makes the Grade</b>	<b>Shows Potential</b>	<b>Promising</b>
<b>Essential Criteria Total Points:</b>	<b>300</b>	<b>200</b>	<b>153</b>	<b>106</b>

\* Ni = No Information \*Na = Not Applicable

(AFHK What’s Working Database, 2006)



## **Appendix 6: Letter to Directors of Education**

Date:

Address:

### **RE: NUTRITION POSITIVE: AN INCENTIVE PROGRAM IN SASKATOON ELEMENTARY SCHOOLS**

Dear \_\_\_\_\_ :

We would like your assistance in a study that is being carried out at the College of Pharmacy and Nutrition, University of Saskatchewan. The objective of the study is to gain an informed understanding about the views, characteristics, goals and practices relating to the implementation of Nutrition Positive Incentive Program in Saskatoon schools. Findings from this study will provide valuable information to assist in the development and implementation of Nutrition Positive and other nutrition programs in schools. We are writing to seek the school division's permission to carry out the study.

We will seek a sample of principals and teachers from elementary schools at various implementation stages of the Nutrition Positive program. Once participants have consented to participate and times have been arranged for meetings at the school, interviews will take 30-40 minutes. During the researcher's visit to the school, arrangements will also be made to tour the facilities' food service or vending areas, as well as to view any bulletin boards, class or staff rooms where nutrition information may be evident. Digital photographs may be taken, but students, staff and/or school visitors will not be photographed. Pre-cautions will be taken to keep both the school and participant identity confidential.

Participation in this study is voluntary. Any participant (or school) may decline to participate or withdraw at any time with no effect on the school's relationship with the University of Saskatchewan or the researchers. A consent form (see attached) will be sent to all participants in the study. This study has been approved by the University of Saskatchewan Behavioural Research Ethics Board on December 18<sup>th</sup>, 2006 (see copy attached). Please address any questions or concerns about the research study to Dr. Carol J. Henry (research supervisor), (306) 966-5833, ([cj.henry@usask.ca](mailto:cj.henry@usask.ca)); or Brenda E. Thompson (primary researcher), (306) 373-1958, ([bet750@usask.ca](mailto:bet750@usask.ca)) College of Pharmacy and Nutrition, University of Saskatchewan.

Thank you for your attention to this request.  
Sincerely,

Carol J. Henry, PhD. RD.  
Assistant Professor  
College of Pharmacy and Nutrition  
University of Saskatchewan

## Appendix 7: Letter to Principals

Date:

Address:

### **RE: NUTRITION POSITIVE: AN INCENTIVE PROGRAM IN SASKATOON ELEMENTARY SCHOOLS**

Dear:

We would like your assistance in a study that is being carried out at the College of Pharmacy and Nutrition, University of Saskatchewan. The objective of the study is to gain an informed understanding about the views, characteristics, goals and practices relating to the implementation of Nutrition Positive Incentive Program in Saskatoon schools. Findings from this study will provide valuable information to assist in the development and implementation of Nutrition Positive and other nutrition programs in schools. We are writing to invite your participation in an interview which would explore your views on various aspects of the Nutrition Positive program at your school.

We will be seeking a sample of principals/administrators and teachers from elementary schools at various implementation stages of the Nutrition Positive program. Once participants have consented to participate and times have been arranged for meetings at the school, interviews will take 30-60 minutes. During the researcher's visit to the school, arrangements will also be made to tour the facilities' food service or vending areas, as well as to view any bulletin boards, class or staff rooms where nutrition information may be evident. Digital photographs may be taken, but students, staff and school visitors will not be photographed. Pre-cautions will be taken to keep both the school and participant identity confidential.

Participation in this study is voluntary. Any participant (or school) may decline to participate or withdraw at any time with no effect on the school's relationship with the University of Saskatchewan, Director of Education or the researchers. A consent form (see attached) will be sent to all participants in the study. This study has been approved by the University of Saskatchewan Behavioural Research Ethics Board on December 18<sup>th</sup>, 2006 (see copy attached) and the \_\_\_\_\_ Director of Education on \_\_\_\_\_ (see copy attached).

Please address any questions or concerns about the research study to:

Dr. Carol J. Henry (research supervisor), (306) 966-5833, ([cj.henry@usask.ca](mailto:cj.henry@usask.ca));  
or Brenda E. Thompson (primary researcher), (306) 373-1958, ([bet750@usask.ca](mailto:bet750@usask.ca))  
College of Pharmacy and Nutrition, University of Saskatchewan.

Thank you for your attention to this request.

Sincerely,

Carol J. Henry, PhD. RD.  
Assistant Professor/Research Supervisor  
College of Pharmacy and Nutrition  
University of Saskatchewan

Brenda E. Thompson BEd. BSc.  
Primary Researcher  
College of Pharmacy and Nutrition  
University of Saskatchewan

## Appendix 8: Letter to Teachers and Nutrition Coordinators

### RE: NUTRITION POSITIVE: AN INCENTIVE PROGRAM IN SASKATOON ELEMENTARY SCHOOLS

Dear:

We would like your assistance in a study that is being carried out at the College of Pharmacy and Nutrition, University of Saskatchewan. The objective of the study is to gain an informed understanding about the views, characteristics, goals and practices relating to the implementation of Nutrition Positive Incentive Program in Saskatoon schools. Findings from this study will provide valuable information to assist in the development and implementation of Nutrition Positive and other nutrition programs in schools. We are writing to invite your participation in an interview which would explore your views on various aspects of the Nutrition Positive program at your school.

We will be seeking a sample of principals/administrators and teachers from elementary schools at various implementation stages of the Nutrition Positive program. Once participants have consented to participate and times have been arranged for meetings at the school, interviews will take 30-60 minutes. During the researcher's visit to the school, arrangements will also be made to tour the facilities' food service or vending areas, as well as to view any bulletin boards, class or staff rooms where nutrition information may be evident. Digital photographs may be taken, but students, staff and school visitors will not be photographed. Pre-cautions will be taken to keep both the school and participant identity confidential.

Participation in this study is voluntary. Any participant (or school) may decline to participate or withdraw at any time with no effect on the school's relationship with the University of Saskatchewan, the Director of Education, your principal or the researchers. A consent form (see attached) will be sent to all participants in the study. This study has been approved by the University of Saskatchewan Behavioural Research Ethics Board on December 18<sup>th</sup>, 2006 (see copy attached); the \_\_\_\_\_ Director of Education on \_\_\_\_\_ (see copy attached); and your school principal.

Please address any questions or concerns about the research study to:

Dr. Carol J. Henry (research supervisor), (306) 966-5833, ([cj.henry@usask.ca](mailto:cj.henry@usask.ca));  
or Brenda E. Thompson (primary researcher), (306) 373-1958, ([bet750@usask.ca](mailto:bet750@usask.ca));  
College of Pharmacy and Nutrition; University of Saskatchewan.

Thank you for your attention to this request.

Sincerely,

Carol J. Henry, PhD. RD.  
Assistant Professor/Research Supervisor  
College of Pharmacy and Nutrition  
University of Saskatchewan

Brenda E. Thompson B.Ed. B.Sc.  
Primary Researcher  
College of Pharmacy and Nutrition  
University of Saskatchewan

## Appendix 9: Interview Guide

Name and Position of Respondent \_\_\_\_\_

Name of School: \_\_\_\_\_

1. What is your understanding of the Nutrition Positive Incentive program? [Explain, who administers & supports; what goals, resources, incentives are offered etc]
2. How did you learn about the Nutrition Positive program? [PROMPT- school board, school staff, some one else]?
3. Who initiated the program in your school?
4. From your perspective, can you tell me why the Nutrition Positive program was started in your school? (PROBE – for school goals, issues, concerns etc)
5. Who oversees the delivery/ implementation of the Nutrition Positive initiative in your school? [PROBE for details on the administration of the program, e.g. school advisory committee, principal's or teacher's role etc]
6. What models or frameworks are used for the development and delivery of the Nutrition Positive initiative in your school? [PROBE for specifics about how the program is designed and delivered- curriculum, special events, school environment etc].
7. Who participates in planned Nutrition Positive activities and programs? (PROBE for level of involvement e.g., students, parents, community members, teachers etc.)
8. What content is delivered during the Nutrition Positive sessions?
9. In your opinion, how do the school's Nutrition Positive program objectives provide opportunities to address student outcomes such as:  
a) concepts related to nutrition information; b) ability to access nutrition information [computer use at school, food labeling, healthy eating tips];  
c) ability to practice healthy eating behaviors to reduce health risks; d) ability to use goal-setting and decision- making skills to enhance healthy eating; e) ability of students to practice the concepts learned; and f) ability to share these concepts with family and / peers/ or community members.

10. In your view are the goals established for the program at your school meeting the diverse needs of students? [Probe cultural, ethnic, socioeconomic concerns.]
11. Has your school adopted or discussed adopting policies or positions regarding the sale or distribution of foods on school property? [If yes, probe for details surrounding the policy adoption e.g., at fundraising or special events, for classroom rewards etc.].
12. In your view, what are the challenges to the program; what suggestions would you have for resolving those challenges/ concerns in your school? (PROBE for issues concerning: initiation and implementation of the program, cooperation & support of stakeholders, cost effectiveness, availability of resources etc.)
13. In your view, is this program sustainable beyond the current school year? (Probe for How and Why answers.)
14. Are you aware of any other elementary school that has established an exemplary or interesting approach to implementing Nutrition Positive in their school that I might contact?
15. Is there anything related to the matters that we have discussed that you think I should know?

END: Thank you again for your time and interest. You should receive the transcript of this interview and comment within a month or so. I would be happy to answer any questions that may arise then or in the meantime.

## **Appendix 10: Participant Consent Form**

### **NAME OF RESEARCHERS**

Brenda E. Thompson BScHEc, BEd, MSc Student  
Carol J. Henry, PhD, Professor  
College of Pharmacy and Nutrition,  
University of Saskatchewan  
Saskatoon, SK S7N 5C6

### **TITLE OF STUDY**

**Nutrition Positive: An Incentive Program in Saskatoon Elementary Schools  
A Case Study and Preliminary Process Evaluation**

### **PURPOSE OF THE STUDY**

We would like your help in a study that is being carried out at the College of Pharmacy and Nutrition, University of Saskatchewan.

The goal of the study is to describe the Nutrition Positive incentive program, in which over 50 Saskatoon schools are currently registered. As an initial step in performing a process evaluation, an attempt will be made to gather knowledge of the practical and particular aspects of the approach. This knowledge will be compared and contrasted with criteria, guidelines and theories (from the scientific literature) related to approaches for increasing good nutrition practices in schools. Findings from this study may assist in improving the implementation of Nutrition Positive and other nutrition programs in schools.

During an interview, we would like you to discuss, with the principle investigator, Brenda Thompson, how you would describe the Nutrition Positive incentive program. We would also like to observe the school environment in order to get a better picture of how Nutrition Positive may be evident in the classroom, hallways and food service areas.

### **PROCEDURE FOR DATA COLLECTION**

After the initial consent and interview forms have been completed and returned, the interview will be scheduled at a time mutually convenient for both interviewer and principal/teacher. Preferably, the interview and school tour can take place sequentially and at the school.

During the actual interview, you can expect to spend from 30-60 minutes answering the research questions. You will have had time previous to the interview to read and think about the questions. You are encouraged to add any information that you feel is

relevant at any point during the interview, even if it is not in the interview guide. Please do not share the information discussed with your co-workers. With your permission, the interview will be audio-recorded and notes will be taken to be used for analysis later on.

The interview will be transcribed. You will be sent a copy of the transcription and notes taken during the interview for your review, to give you an opportunity to revise and clarify, so that it reflects what you intended to say. Once you are satisfied with the transcript, we ask that you sign a Transcript Release Form so that the data can be used in the study.

In addition, school principals will be sent a copy of the observation checklist, notes and any digital photos taken during the tour at the school. The principal will be given an opportunity to review and clarify the notes taken. Photos are primarily a data-gathering vehicle and will not be published in the final report. Photos will be of vending machines, bulletin boards and food service areas, not students, staff or visitors at the school. However, the photos may be used in Power Point presentations during seminars and conferences in academic settings. A Photo Release Form will be provided so that the data from the school tour can be used for such purposes. The school does not have to release the photos in order to participate in the study.

You may be quoted in the final study report. If so, you will be shown the quotations selected, and will be invited to change anything you believe misrepresents what was intended. All changes will be made at your request. Then, you will be asked to sign off on the quotation.

### **RISKS OR SIDE EFFECTS**

There should be no risks or side effects from participating in this study.

### **WITHDRAWAL FROM THE STUDY**

Your participation in this study is completely voluntary. You do not have to take part in the interviews or school tours if you don't want to. You are free to withdraw from the study at any time for any reason, without fear of negative retribution of any kind. A withdrawal will neither affect your relationship with the researchers nor with your employer. If withdrawal should occur, the data collected will not be used in the study, and will be destroyed. You may withdraw just by letting the principal investigator know that you wish to do so.

### **CONFIDENTIALITY**

Responses will be recorded by audiotape or in writing in order to complete all interviews in a short period of time. The results you provide will be kept confidential; however some anonymous quotations may be used, as is typical of qualitative

research reports. Every attempt will be made so that the source cannot be traced to the subject.

Direct observations of the school environment will be made in the form of checklists and photographs. Every effort will be made to keep the school's identity anonymous in the written report. However, it may be identifiable at seminars and conferences, because the research sample is small and photos may reveal recognizable details.

The data collected will be safeguarded and securely stored at the University of Saskatchewan for a minimum of five years as per university regulations. The only ones who will have access to the data will be the researcher, supervisor, and the auditor.

The results will be presented in aggregate form only and will be included in the researcher's thesis and may occasionally be presented at seminars and conferences. The study may also be published in journals. However, your name will not appear in any published report. Your name will not be shared with the Nutrition Positive Advisory Committee, its assistants or corporate sponsors. All identifying information, once the data collection is complete will be destroyed. You will be anonymous in all reported results of the research.

#### **CONTACT PERSONS**

If you have any questions or concerns about your rights as a subject participating in a study of this nature, please contact the Office of Research Services (966-8576) or the University of Saskatchewan Research Ethics Boards (966- 2084). If you have any questions regarding the research project itself, please do not hesitate to contact any one of the researchers at the numbers or e-mail addresses below:

Brenda Thompson [bet750@usask.ca](mailto:bet750@usask.ca) (306) 373-1958  
Dr. Carol Henry [cj.henry@usask.ca](mailto:cj.henry@usask.ca) (306) 966-5833

#### **UNANTICIPATED CHANGES TO THE STUDY**

You will be advised immediately if any new information or changes take place that might have a bearing on your decision to continue in the study.

#### **DEBRIEFING AND FEEDBACK**

After the tapes have been transcribed or notes recorded, the researcher will meet with the supervisor to discuss the findings for clarity and accuracy of interpretation. A copy of the transcription or notes/photos will also be sent to you for further clarification. The findings will be analyzed after you have reviewed the notes and sent back for your responses. A final consultation will take place with the researcher's supervisor for approval of research results.



Once the study is completed, a summary report will be made available for you to look at. The University of Saskatchewan Research Ethics Board has approved the research on December 18<sup>th</sup>, 2006.

## **SUBJECT CONSENT**

I, the undersigned, have read and understand the goals of the study and my involvement in this study. I am aware that my participation in this study is strictly voluntary. I will be anonymous in all reported results of the research. However, I acknowledge that I may be identifiable on the basis of what I say because the research sample is made of a small number of individuals in a closed group. All identifying information once the data collection is complete will be destroyed. I acknowledge that I have received a copy of the consent letter for my own records. I agree to participate in this study in the role of a key informant, and understand that I am free to withdraw from this study at any time without retribution.

[  ] I agree to have my interview audio-taped.

[  ] I do not agree to have my interview audio-taped.

[  ] I agree to giving a tour of the school in areas related to food service and nutrition information.

[  ] I do not agree to giving a tour of the school in areas related to food service and nutrition information.

\_\_\_\_\_  
Signature of Participant

Date \_\_\_\_\_

\_\_\_\_\_  
Signature of Researcher: Brenda E. Thompson, B.Sc., B.Ed.

Date \_\_\_\_\_

\_\_\_\_\_  
Signature of Research Supervisor: Carol J. Henry, PhD

Date \_\_\_\_\_

### Appendix 11: Observation Checklist

<b>Nutrition Positive Case Study- School Tour Checklist</b>			<b>Site #</b>	
<b>NP Message/ Influence Evident:</b>	<b>Yes</b>	<b>No</b>	<b>Comments:</b>	<b>Photo Taken</b>
<b>School Entrance</b>				
<b>Hallways/ Bulletin Boards</b>				
<b>Classroom(s)</b>				
<b>Vending Area(s)</b>				
<b>Lunchroom/Cafeteria/Canteen</b>				
<b>Kitchen</b>				
<b>Gymnasium</b>				
<b>Office(s)</b>				
<b>Staff Room</b>				
<b>Other</b>				