



**Action Schools! BC – Healthy Eating Pilot
January 2006 – June 2007**

**Final Report
Results and Recommendations**

March 2009

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Final Report
Results and Recommendations
A Report to the Ministry of Healthy Living and Sport provided by the 2010 Legacies
Now Society**

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Executive Summary

Action Schools! BC is an evidence-based model designed to assist elementary schools create individualized action plans to integrate physical activity and healthy eating into the school environment.

Action Schools! BC – Healthy Eating was developed in response to the evidence that effective dietary strategies have shown some success in maintaining healthy body weights and preventing overweight and obesity. In view of the current rise in the rates of childhood overweight and obesity, it is critical to explore effective strategies to prevent childhood obesity.

The Action Schools! BC – Healthy Eating initiative was conducted from January 2006 to June 2007 in ten pilot schools throughout British Columbia. A total of 516 male and female elementary school students aged 8-12 years (grades 4 to 6) consented to participate (292 intervention and 224 usual practice).

The student participants were from a diversity of ethnic origins: 43.4 percent were North American, 16.4 per cent were East and South-East Asian, 12.2 per cent were South Asian, 6.8 per cent were North American Aboriginal, 3.9 per cent were European, 0.8 per cent were Mixed, 0.6 per cent were African, and 0.4 per cent were South and Central American. There was no response from 15.4 per cent of the participants.

The ten participating schools were selected to represent geographic, socioeconomic and size variation. Five schools were recruited to participate as intervention schools, and a second set of five schools were selected as matched usual practice schools.

The pilot included a comprehensive evaluation component, which consisted of both student level outcomes and a formative evaluation. The purpose of the outcome evaluation was to determine the effectiveness of the initiative in increasing student's consumption of vegetables and fruit. Student level outcomes were measured at four points during the pilot: November 2005 (T1), May/June 2006 (T2), September 2006 (T3) and May 2007 (T4). The formative evaluation provided evidence regarding implementation fidelity and feasibility, and also explored teachers' perceived barriers and facilitators to implementation. Teacher focus groups were conducted at two times during the pilot: June 2006 and June 2007. An interim report describes the results of both the student level and formative evaluation from Pilot Phase I (January to June 2006).

The outcome evaluation measured the following variables:

- Number of servings of fruit, vegetables and combined vegetables and fruit eaten per day
- Number of different vegetables and fruit eaten per day (i.e. variety)
- Daily frequency of fruit, vegetable and combined vegetable and fruit consumption
- Knowledge of the importance of vegetables and fruit to disease prevention, attitudes to eating vegetables and fruit, and perceptions of the social environment related to vegetables and fruit

- Willingness to try new vegetables and fruit

The formative evaluation measured the following variables:

- Fidelity of the School Action Teams to the whole school model
- Fidelity of the teachers to delivery of classroom dose
- Feasibility and teacher satisfaction of the model and resources

The outcomes of the Action Schools! BC – Healthy Eating pilot showed that the model is effective at impacting students' patterns of vegetable and fruit consumption. The results showed that the Action Schools! BC – Healthy Eating initiative produced significant differences between usual practice and intervention schools over time in the following variables:

- Number of servings of fruit consumed per day
- Number of servings of combined vegetables and fruit consumed per day
- Number of different vegetables and fruit consumed per day (variety)
- Per cent of vegetables and fruit tried from a fixed list
- Willingness to try new vegetables and fruit

The formative evaluation indicated that teachers implemented a mean of 2.02 classroom healthy eating activities per week and completed 76% of actions planned across 3.0 Action Zones. Teachers were highly satisfied with the Action Schools! BC – Healthy Eating resources and support provided. Teacher focus groups identified the main implementation barriers as time constraints, and lack of coordination amongst staff and support from administrators; the main facilitators were identified as support from the Support Team, the Action Schools! BC – Healthy Eating resources and grant money, and student enthusiasm. The pilot teachers all stated that they would continue to be involved in the initiative as early adopter Action Schools! BC – Healthy Eating schools in September 2007.

The following recommendations emerged from the Action Schools! BC – Healthy Eating Pilot for provincial dissemination (September 2007):

- Fully integrate healthy eating into the Action Schools! BC initiative
- Invest in teachers
- Provide grant money to support classroom tasting activities
- Support further evaluation of implementation of classroom tasting activities
- Expand the model to encompass middle school and secondary school
- Engage community nutritionists to support and promote Action Schools! BC – Healthy Eating
- Engage community partners to promote and support school-based initiatives
- Revise the Action Schools! BC – Healthy Eating resources as per the formative evaluation results
- Explore alternative methods of engaging the families of Grade 4-7 students

1. Introduction

1.1 What is Action Schools! BC?

Action Schools! BC utilizes a socio-ecological school-based model that integrates physical activity and healthy eating to provide more opportunities to make healthier choices within the school environment. It is a provincial initiative and is funded by the BC Ministry of Healthy Living and Sport and Ministry of Education, in partnership with the 2010 Legacies Now Society.

Action Schools! BC adopted a phased-in approach; a physical activity strategy originated as a response to the physical inactivity epidemic in elementary school students, and the development of a comprehensive healthy eating component has followed.

1.2 What is Action Schools! BC – Healthy Eating?

Action Schools! BC – Healthy Eating utilizes the Action Schools! BC whole-school framework to affect eating behaviors, and specifically the intake of vegetables and fruit, of BC elementary school students.

Action Schools! BC – Healthy Eating is a unique model for promoting healthy food choices among school children. Some of the key features of this initiative include:

- Providing educators with the tools to develop and implement individualized school Action Plans to guide them in the creation of a comprehensive school nutrition program;
- Facilitating the formation of collaborative partnerships that allow for ongoing stakeholder engagement and interaction. At the macro-level, three agencies in British Columbia are engaged in a partnership to implement and evaluate the Action Schools! BC – Healthy Eating model: the Ministry of Healthy Living and Sport, the Ministry of Education, and 2010 Legacies Now Society. These agencies engaged in a further partnership within a provincial advisory committee, which included representatives from core community practitioners, researchers and the school community. At the meso- level, a technical advisory group (TAG) comprised of teachers, community nutritionists, and a representative from environmental health engaged in a partnership to provide guidance in the development of the program and resources;
- Integrating a systematic evaluation of eating behavior outcomes and a comprehensive process evaluation of teacher satisfaction and fidelity to the model to guide the continued development and evolution of the resources and model;
- Utilizing a socio-ecological framework that integrates classroom-based student-focused efforts to increase vegetable and fruit intake with a whole-school

approach that addresses goals based on identified needs across six Action Zones within the school;

- Providing educators with a comprehensive training workshop to decrease the perceived complexity and increase perceived compatibility with the Action Schools! BC – Healthy Eating resources;
- Having the potential to increase healthy food choices, and therefore decrease chronic disease risk factors amongst school children.

1.3 The Action Schools! BC – Healthy Eating Vision

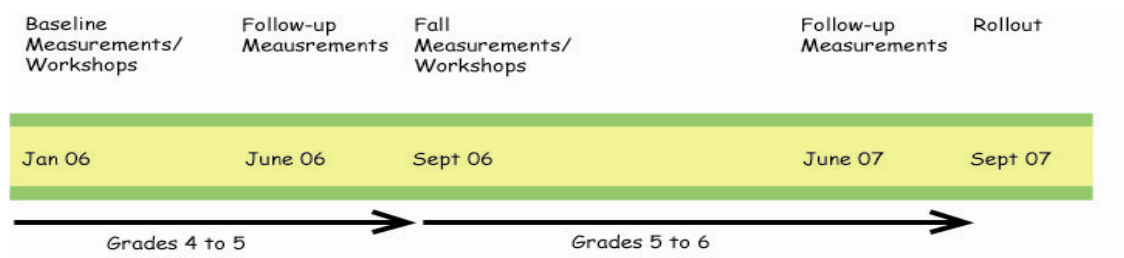
- To integrate the healthy eating and physical activity components of Action Schools! BC to create one comprehensive whole-school health promotion initiative.
- To integrate healthy eating into the fabric of elementary schools, and maintain this integration through partnerships with family and community.
- To achieve long-term, measurable and sustainable health benefits.

1.4 The Action Schools! BC – Healthy Eating Pilot

The development, implementation and evaluation of the Action Schools! BC – Healthy Eating pilot occurred from January 2006 to June 2007. The healthy eating pilot was divided into 2 Phases. Phase I (January 2006-June 2006) measured the effects of the intervention on students in grades 4 and 5, and Phase II (September 2006-June 2007) measured the effects of the intervention on those same students, now in grades 5 and 6. The pilot included a comprehensive evaluation of students’ behavior change and a formative evaluation to determine teacher satisfaction of and fidelity to the model, and feasibility of implementation. Student level outcomes were measured at four points during the pilot: November 2005 (T1), May/June 2006 (T2), September 2006 (T3), and May 2007 (T4) (Figure 1). Formative focus groups were conducted in June 2006 and June 2007.

Phase II also included the development, implementation and process evaluation of a Grades K-3 *Classroom Healthy Eating Action Resource*.

Figure 1 Pilot Timeline



1.5 The Purpose of this Report

The purposes of this report are fourfold:

- i. To provide an overview of the rationale behind the model;
- ii. To provide a description of the Action Schools! BC – Healthy Eating pilot
- iii. To provide the results of the Action Schools! BC – Healthy Eating pilot;
- iv. To provide recommendations for the future evolution and provincial dissemination of Action Schools! BC – Healthy Eating.

2. The Rationale Behind the Action Schools! BC – Healthy Eating Model

2.1 The Overweight and Obesity Profile

The rate of overweight and obesity in Canadian youth has more than doubled over the past 25 years (Tjepkema & Shields, 2005). In 2004, 26% of Canadian children aged 2 to 17 were overweight or obese, and 8% were obese (Tjepkema & Shields, 2005). This increased incidence of childhood obesity and associated risk factors is alarming when considering the evidence that risk factors and health behaviors in children track over time and are predictive of adult profiles (Meininger, 2000). The concomitants of obesity, such as cardiovascular disease, Type 2 diabetes, hypertension, and multiple cancers result in diminished quality of life and life expectancy, and also account for a significant proportion of total health care expenditures (Canadian Institute for Health Information, 2004).

2.2 The Cost of Overweight and Obesity

Obesity and co morbid chronic diseases place a significant burden on the British Columbia economy, both in terms of direct health care costs and indirect costs, such as lost productivity and premature mortality. When the cost of obesity is considered as a separate entity, it is estimated as similar to that of Type 2 diabetes and 1.25 greater than the direct costs of heart disease (Canadian Institute for Health Information, 2004). Indirect costs attributable to obesity are estimated between \$350-450 million annually (Action Schools! BC, 2004). The total economic cost of obesity for B.C. in 1997 was estimated between \$730 million and \$830 million (between 0.8 per cent and 0.9 per cent of B.C.'s Gross Domestic Product).

2.3 The Impact of Healthy Eating

Effective dietary strategies have shown some success in weight reduction and /or maintenance of healthy body weights. Although evidence suggests that a simple message targeting a specific eating behavior is more effective than a broader healthy eating message (Perry et al., 1998; Baranowski et al., 2000; Lytle et al., 1998), relatively few investigators have examined the influence of particular food groups on intake and body weight (Rolls, Ello-Martin, & Tohill, 2004). However, recent data shows that children

and adolescents aged 2 to 17 years who eat fruit and vegetables 5 or more times a day are substantially less likely to be overweight or obese than are those whose fruit and vegetable consumption is less frequent (Tjepkema & Shields, 2005). Youth who consume fruit and vegetables less than 3 times per day experience an overweight/obesity rate of 28.9%. In comparison, the incidence rate of those that consume fruit and vegetables 5 or more times per day is 23.3% (Tjepkema & Shields, 2005). This data is in accordance with research conducted by Epstein et al. (2001) that provided preliminary evidence that increasing fruit, vegetables and juice intake among obese children led to a lower BMI. The authors speculated that this was due to the fact that promoting fruit and vegetable consumption is a positive message and potentially displaces fat in the diet.

2.4 Vegetable and Fruit Consumption: The Present Picture

Despite the benefits of consuming a diet high in vegetables and fruit, data indicate that this is the food group that is most poorly consumed by children:

- Based on data from the 2004 Canadian Community Health Survey, 59% of Canadian children and adolescents were reported to consume vegetables and fruit less than five times a day.
- Action Schools! BC 2004 pilot data showed that 75% of the 515 students in grades five and six did not eat the recommended minimum of 5 servings of and vegetables and fruit a day (House, 2005).

This data is especially alarming considering evidence that suggests that dietary patterns are established and consolidated in childhood and adolescence (Kelder et al., 1994; Domel et al., 1993), and that consuming more vegetables and fruit in childhood is predictive of more healthful dietary patterns among adults (Meininger, 2000).

2.5 Why Focus on School Children?

Consistent evidence suggests that schools may be an ideal vehicle for the delivery of healthy eating interventions for childhood obesity (Sallis, Chen & Castro, 1995; Meininger, 2000; Simons-Morton, 1991; Donnelly et al., 1996; Story, 1999; Perry et al., 1998; French & Stables, 2003). Schools provide children with daily contact with teachers for 10 months per year for 13 years (Sallis, Chen, & Castro, 1995), and thus provide an opportunity for promoting healthy eating messages within the context of the classroom (Meininger, 2000). In some contexts, schools also provide a significant proportion of total daily energy intake for most students (French & Stables, 2003), and also provide opportunities for reinforcing health behaviors through the school environment and culture (e.g. school meal programs, cafeteria, tuck shop, fundraising events).

In addition, evidence suggests that risk factors and health behaviors in children track over time and are predictive of adult profiles (Meininger, 2000). Thus, it becomes paramount

that children develop healthy eating behaviors early in life to set the stage for their future health status.

3. Action Schools! BC – Healthy Eating

3.1 The Action Schools! BC – Healthy Eating Model

Action Schools! BC – Healthy Eating is a provincial initiative and is funded by the BC Ministry of Healthy Living and Sport and Ministry of Education, in partnership with the 2010 Legacies Now Society. The initiative utilizes a socio-ecological model based on a comprehensive school health paradigm to target healthy eating in elementary schools (grades four to seven). The purpose of Action Schools! BC – Healthy Eating is to make the healthy choices the easy choices for school children.

The Action Schools! BC model shares many of the unique components of the comprehensive school health promotion (CSHP) framework, which relies on a whole-school approach. This comprehensive approach to school health promotion is guided, in part, by the following principles: 1) a coordinated, comprehensive approach to health and learning by integrating curriculum, the school environment and culture, and the community; 2) involvement of the whole community of students, parents, staff and local agencies in school activities; 3) collaborative, participatory decision making processes; 4) staff and parent well being is integral to the school activity; 5) partnerships result in action which is more effective, efficient and sustainable (O’Dea & Maloney, 2000).

Consistent with the collaborative, participatory decision making process that is integral to the CSHP framework, the Action Schools! BC model provides resources and tools for schools to create individualized Action Plans that provide increased opportunities to make healthy choices across six Action Zones. These six Action Zones integrate classroom learning, the school environment and culture, and the family/community. Also consistent with the CSHP framework, Action Schools! BC facilitates the formation of collaborative partnerships between government, researchers, educators and community practitioners that allow for ongoing stakeholder engagement and interaction.

3.2 Action Schools! BC – Healthy Eating Components

3.2.1 Action Zones

Pilot Phase I of Action Schools! BC – Healthy Eating utilized six Action Zones within the school to integrate multiple components within the whole-school approach. This model is rooted in the socio-ecological framework, which proposes that health outcomes are influenced by multiple physical, social and cultural environmental dimensions, as well as by a variety of personal attributes (Stokols, 1996). The Action Schools! BC – Healthy Eating *Planning Guide* provided educators with intervention ideas in each of the six Action Zones. One of the recommendations that emerged from the formative

evaluation of Pilot Phase I was to collapse the six Action Zones into the following three Action Zones: School Environment, Classroom Action, and Family & Community. Thus, Pilot Phase II condensed the intervention ideas into these three Action Zones.

Examples of activities relevant to each zone include:

- i. **School Environment Zone:** *Makes healthy food choices the easy choices by providing more opportunities for students to choose healthy food and by promoting healthy foods.*
 - a) Develop and implement policies that address healthy food choices including vending machines and food services.
 - b) Create an Action Schools! BC – Healthy Eating bulletin board to celebrate successes, promote the benefits of healthy eating, post information, and share upcoming events and programs with staff, students and families.
 - c) Place healthy living or “Action Schools” on the staff agenda and provide an opportunity to plan and share experiences and resources.

- ii. **Family & Community Zone:** *Fosters a partnership with families and community practitioners and resources to engage in and support the healthy eating messages.*
 - a) Organize and invite families to a school-wide healthy eating event (e.g. cultural potluck).
 - b) Distribute the monthly Action Schools! BC – Healthy Eating newsletters to parents.
 - c) Schedule the Action Schools! BC – Healthy Eating Support Team to facilitate a workshop informing the school’s parent groups about Action Schools! BC.

- iii. **Classroom Action Zone:** *Provides creative ideas to foster learning and encourage consumption of vegetables and fruit.*
 - a) Implement the Classroom Healthy Eating Action Resource activities.
 - b) Implement one tasting activity/month.
 - c) Integrate healthy eating activities into other subject areas.

In both Pilot Phases I and II, the Classroom Action Zone was the only Action Zone in which the teachers were requested to complete specific actions, which were supported by the *Classroom Healthy Eating Action Resource* (see section 3.2.5). However, Pilot Phase I was more prescriptive and requested that teachers implement a minimum of two classroom healthy eating activities per week, and one tasting activity per month. One of the recommendations that emerged from the formative evaluation of Pilot Phase I was to restructure the *Classroom Healthy Eating Action Resource* into units to accommodate teachers’ predominant teaching styles, which also allowed for a more realistic weekly dose of healthy eating activities required in the Classroom Action Zone.

To accommodate these recommendations, in Pilot Phase II teachers were requested to implement 2 Vegetable and Fruit Campaigns, one in the fall and one in the spring. Each Campaign included a menu of learning activities and 1 Vegetable and Fruit Fiesta.

Teachers were also requested to implement tracking activities, snacking activities, and tasting activities in their classrooms. Teachers were encouraged to implement 1 vegetable and fruit tasting activity per month in their classrooms. The *Classroom Healthy Eating Action Resource* included a menu of tasting activities from which the teachers could choose to implement. To further support them in the implementation of the tasting activities, each teacher received a small grant of \$12.50 per month with which to purchase the vegetables and fruit. The goal of these tasting activities was to expose the children to the look, smell and taste of new vegetables and fruit, and thus increase their familiarity and willingness to try new vegetables and fruit. Previous research suggests that 10-15 exposures to a novel food are required to enhance preference for that food (Birch, McPhee, Shoba & Steinberg, 1987). The changes in food acceptance that result from repeated exposure are probably attributable to "learned safety" (Birch, 1996).

In Pilot Phase II, teachers were also asked to implement a minimum of three actions toward reaching personalized goals in the School Environment and Family & Community Action Zones.

3.2.2 The Action Team

Action Teams comprised of teachers, administrators, parents and community nutritionists were created in each school to support and sustain efforts towards the promotion of healthy living. Action Teams were responsible for completing a set of inventories and developing an individualized Action Plan for the school.

Each Action Team selected their action goals across the Action Zones from a menu of choices designed to promote healthy food choices throughout the school. After the Action Teams developed their Action Plans, they were provided with a training workshop and healthy eating resources and materials.

3.2.3 The Action Plan

Each school completed an Action Plan (Appendix D) that guided their efforts to increase opportunities for healthy food choices throughout the school. The Action Team set goals in each Action Zone and identified steps to accomplish them. Goals and actions could be related to maintaining programs already in place, building on existing school goals, or initiating new programs. The Action Schools! BC – Healthy Eating Support Team was available to help Action Teams develop their Action Plans.

3.2.4 Whole School Action

The Action Schools! BC pilot focused on grades 4 to 6, however action across the Action Zones contributed to the promotion of healthy eating messages throughout the whole school. Information about Action Schools! BC was shared at school assemblies, in the

school newsletter, and through healthy eating bulletin boards. The organization of whole school events such as cultural potlucks and “stone soup” lunches also involved and activated the whole school.

The whole school strategies supported the healthy eating messages delivered in the classroom. Pilot teachers received the Action Schools! BC – Healthy Eating training workshop and resources to support the delivery of effective healthy eating messages within the classroom.

3.2.5 Teacher Training and Resources

Action Schools! BC – Healthy Eating enhanced school capacity to implement healthy eating strategies throughout the school by providing teachers and schools with training and resources.

- i. *Classroom Healthy Eating Action Resource (CHEAR):* The CHEAR provided the teachers with creative healthy eating activities to implement in their classrooms. The activities were developed to provide teachers with creative ideas to enhance student: 1) knowledge and attitudes regarding vegetables and fruit, 2) skills in preparing vegetables and fruit, 3) willingness to try vegetables and fruit, and 4) consumption of vegetables and fruit.
- ii. *Healthy Eating Action Pack:* The Healthy Eating Action Pack included posters, DVDs, books, a cooler and gel pack, fruit and vegetable preparation utensils (colander, chopping board, grater, scrub brush, paring knife) and all other materials that were necessary to implement the CHEAR activities.
- iii. *Planning Guide for Schools and Teachers:* The Planning Guide included: 1) a set of Inventories to guide the Action Team in the development of the Action Plan, and 2) creative ideas to support the Action Team in achieving the goals across the Action Zones as established in the Action Plan.
- iv. *Action Pages:* This user-friendly resource linked teachers, parents, coaches and community instructors to the multitude of resources available to support healthy eating in school children.
- v. *Family Healthy Hamper:* The Family Healthy Hamper was developed to meet the Pilot Phase I recommendation to enhance the active engagement of students’ families in the initiative. The Healthy Hamper contained vegetable and fruit focused information, games, tracking activities and recipes. Each student was given the opportunity to take the Healthy Hamper home to share with their families for a week.

The Action Schools! BC – Healthy Eating Support Team provided a variety of support and teacher training to the pilot schools. The Support Team facilitated a half-day

planning session with each Action Team to review the *Planning Guide* and to support the completion of the school inventories and the development of their Action Plans. The teachers then attended a comprehensive training workshop facilitated by the Master Trainer, which was focused on the Classroom Action resources.

The Support Team also offered additional support throughout the pilot with the facilitation of additional workshops (e.g. to the PAC and school staff), and connected schools to community organizations that could move the Action Plan forward (e.g. Breakfast for Learning).

The Master Trainer also provided additional support to teachers with the implementation of classroom healthy eating learning and tasting activities.

3.2.6 Partnerships

The Action Schools! BC – Healthy Eating model facilitated the formation of collaborative partnerships that allowed for ongoing stakeholder engagement and interaction. Multisectoral partnerships, which foster active participation of various stakeholders in the decision-making process, have been associated with increased relevance, feasibility, and long-term sustainability of initiatives (Gillies, 1998). Action Schools! BC – Healthy Eating engaged multiple stakeholders to guide the development and implementation of the intervention model. At the macro- level, three agencies in British Columbia were engaged in a partnership to implement and evaluate the model: the Ministry of Health (renamed the Ministry of Healthy Living and Sport), the Ministry of Education, and 2010 Legacies Now Society. These agencies engaged in a further partnership within a provincial advisory committee, which included representatives from core community practitioners, researchers and the school community. At the meso- level, a technical advisory group (TAG) comprised of teachers, community nutritionists, and a representative from environmental health engaged in a partnership to provide guidance in the development of the program and resources.

4. The Evaluation

The Action Schools! BC – Healthy Eating pilot included a comprehensive evaluation component that incorporated measurements of both student level outcomes and process of implementation. The purpose of the outcome evaluation was to determine the effectiveness of the Action Schools! BC – Healthy Eating model for positively affecting students': 1) intake of vegetables and fruit, 2) knowledge, awareness and attitudes regarding vegetables and fruit, and 3) willingness to try vegetables and fruit. The purpose of the process evaluation was to determine: 1) teacher and school fidelity to the model, 2) feasibility of implementation, and 3) satisfaction (i.e. perceived implementation barriers and facilitators) of teachers, parents and students. This data was used for formative purposes with a view to driving the development and evolution of Action Schools! BC – Healthy Eating into an effective and feasible initiative.

4.1 Who Was Evaluated?

Students in grades 4 to 6 whose parents signed informed consent forms participated in the outcome evaluation. Teachers, parents and students participated in focus groups, and teachers completed written surveys and classroom logs as part of the process evaluation.

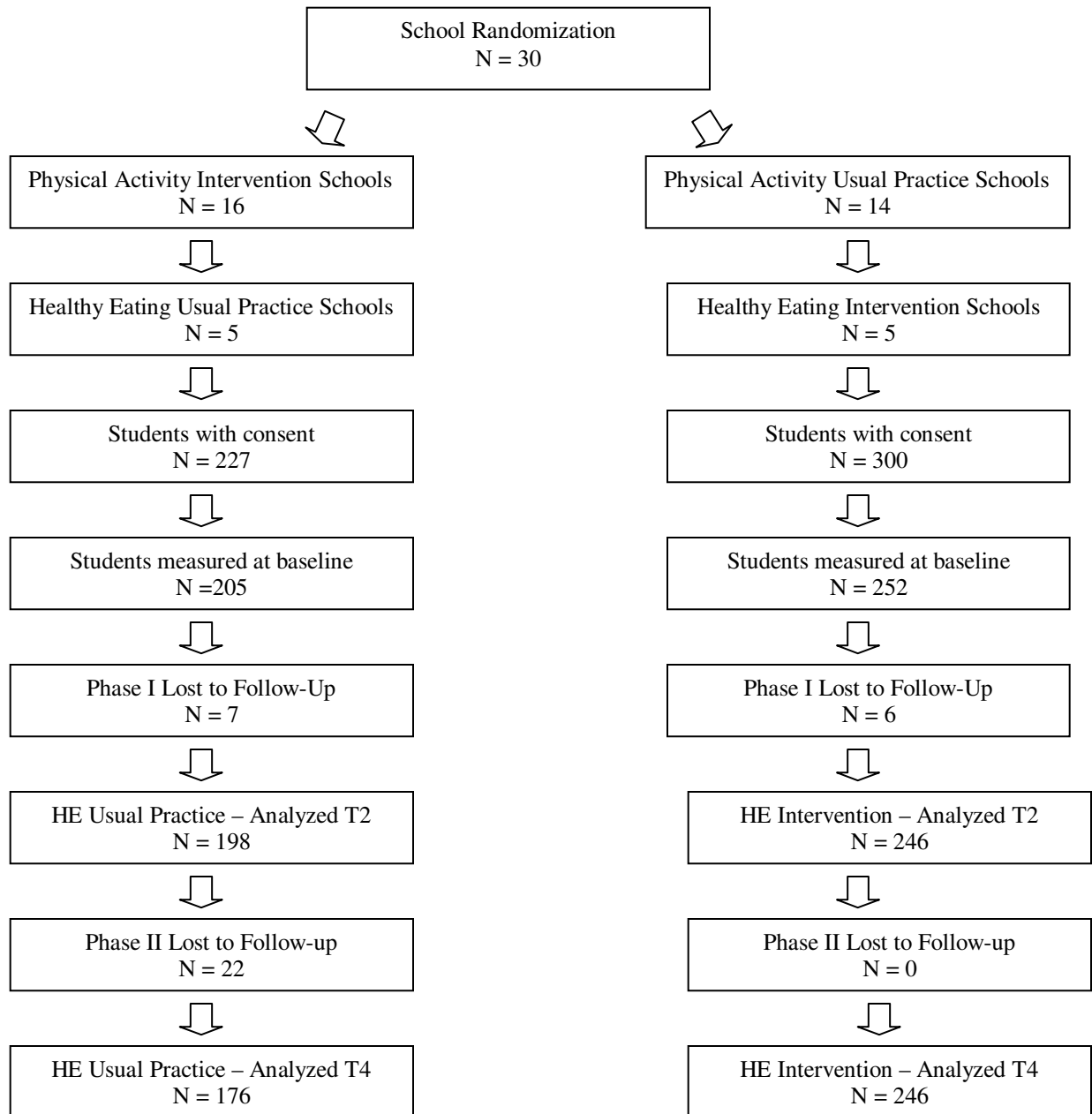
4.1.1 School and Student Recruitment

The schools recruited for the Action Schools! BC – Healthy Eating pilot were part of the larger Action Schools! BC provincial dissemination trial, which consisted of 30 schools throughout the province, 16 intervention and 14 usual practice. From these usual practice schools, five schools that represented geographic, socioeconomic and size variation were recruited as Action Schools! BC – Healthy Eating intervention schools. A second set of five schools were selected from the physical activity intervention schools to act as matched healthy eating usual practice schools.

Initial meetings were held with each intervention school in January 2006, where the Action Schools! BC – Healthy Eating Support Team outlined the roles and responsibilities of the teachers and Action Teams for the duration of the pilot.

Participants were elementary school students aged 8-12 years (grades 4 to 6), males and females, and of various races and ethnicities. All children in grades 4 and 5 in September 2005 were invited to participate (total of 829 children), and these same children were followed through the next school year in grades 5 and 6. Informed consent was given by parents of 527 children (300 intervention and 227 usual practice), and 457 children participated in the baseline measurements (252 intervention and 205 usual practice). In Pilot Phase I, the attrition rate was 2.5%, and thus 444 children completed the June 2006 measurements (246 intervention and 198 usual practice). There was a further slight attrition in Pilot Phase II, and a total of 422 students completed the June 2007 measurements (246 intervention and 176 usual practice) (Figure 2).

Figure 2 School and Student Recruitment

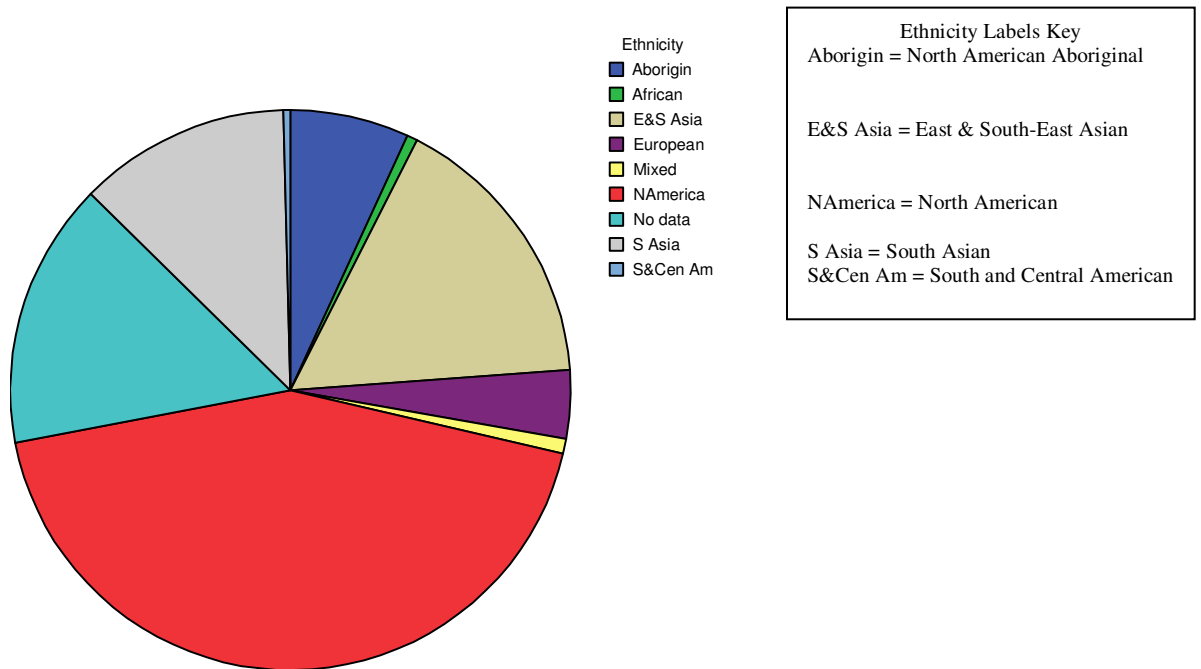


4.1.2 Ethnicity of Student Participants

Ethnicity of the Action Schools! BC – Healthy Eating participants was determined by having parents classify their own and their child’s ethnicity on a Healthy History Questionnaire that they completed for their child.

The Action Schools! BC – Healthy Eating student participants were from a diversity of ethnic origins: 43.4 per cent were North American, 16.4 per cent were East and South-East Asian, 12.2 per cent were South Asian, 6.8 per cent were North American Aboriginal, 3.9 per cent were European, 0.8 per cent were Mixed, 0.6 per cent were African, and 0.4 per cent were South and Central American. There was no response from 15.4 per cent of the participants (Figure 3).

Figure 3 Ethnic Origins of Action Schools! BC – Healthy Eating Pilot Participants



4.1.3 Descriptives of Participating Schools

Socio-economic profile of the communities was obtained from Canadian Census Information and was measured as the median family income. School total population was provided by the school administrators.

The five school districts represented wide socioeconomic strata. The average family incomes in two of the Districts (\$51, 268 and \$50, 096) were below both provincial and national averages (\$54, 840 and \$55, 016, respectively). In comparison, the average family income in the other three Districts (\$76, 525, \$60, 536 and \$74, 244) were well above the provincial and national averages.

The total student populations of the five intervention schools were: 160, 201, 303, 317, and 693 students.

4.1.4 Study Design

The Action Schools! BC – Healthy Eating Pilot was conducted over 18 months from January 2006 to June 2007. Schools were recruited based on size, geographic and socioeconomic variation, and were assigned to one of two conditions:

- Usual Practice (5 schools)
- Intervention (5 schools)

4.2 What Was Evaluated?

4.2.1 Student Level Outcomes

Action Schools! BC – Healthy Eating student level outcomes were measured at 4 points during the Pilot: T1 in November 2005, T2 in May/June 2006, T3 in September 2006, and T4 in May 2007. Trained Action Schools! BC Measurement Team members conducted four healthy eating questionnaires with the students using established protocol. Approximately 10 children were brought into the testing room (empty classroom, library or gymnasium) at a time, and the questionnaires were administered orally to the students on a one-to-one basis by the measurement team. In addition to the healthy eating questionnaires administered, the measurement team asked the children to complete the Physical Activity Questionnaire for children (Crocker et al, 1997), and the team also measured each student's height and weight at this time. Each child had approximately 45-60 minutes to complete the questionnaires and anthropometric measurements.

Vegetable and fruit consumption

The number of servings of fruit, vegetables and combined vegetables and fruit consumed was measured using a 24-Hour Food Recall questionnaire, which was designed to measure nutrient intake. The Action Schools! BC – Healthy Eating measurement team asked the child to list everything he or she ate or drank during the previous day. Prompts (e.g. food models, food packages, plates, measuring cups and spoons, rulers) were used to

aid the students in their recall of specific food products and/or portion sizes eaten. The 24-hour recall questionnaire has been shown to provide valid estimates of food intake in children by Lytle et al. (1993), Van Horn et al. (1990), and Mullenbach et al. (1992).

The frequency per day that fruit, vegetables and combined vegetables and fruit were eaten was measured using a Food Frequency Questionnaire (FFQ) (Appendix A). The FFQ was adapted from the US National Cancer Institute's (NCI) National Institutes of Health: Eating at America's Table Study Quick Food Scan (NCI, 2000), which assesses monthly vegetable and fruit intake. The revised FFQ required the students to recall their typical weekly intake of vegetables and fruit, as divided into morning, afternoon and evening time periods. FFQs have previously been validated for use in children by Byers et al. (1993), Baranowski et al. (1997), and Domel et al. (1994).

Vegetable and fruit knowledge, attitudes and perceptions

Knowledge of the importance of vegetables and fruit to disease prevention, attitudes to eating vegetables and fruit, and perceptions of the social environment related to vegetables and fruit were assessed using a Knowledge, Attitudes and Perceptions (KAP) survey (Appendix B) adapted from the Alberta Cancer Board's 1999 Knowledge Attitudes Behavior (KNAB) population-based survey (House, 2005). This survey was based on two previously validated questionnaires; the 5-A-Day for Better Health Program survey and the 1990 Behavioral Risk Factor Surveillance System (BRFSS) survey. Validation studies for the 5-A-Day survey yielded correlations in the range of 0.47-0.56 with longer food frequency questionnaires, 24-hour recalls, and 3-day food records (Campbell et al., 1999; Serdula et al., 1993; Thompson et al., 2000). The BRFSS survey was validated against multiple day food records and 24-hour recalls (Sedula et al., 1995). The KAP survey used in AS! BC – HE was further modified to increase the appropriateness for use with children by revising the Likert scale from a scale of zero to ten, to a 4-point scale of “agree”, “in the middle”, “disagree”, or “don't know” (House, 2005). “Don't know” and “disagree” received a score of zero. The content of the revised scale was validated for use in children in grades five and six by House (2005).

Willingness to try new vegetables and fruit

Food neophobia is defined as an unwillingness to try new foods (Pliner, 1994). The Food Choices Scale for Children (Appendix C) was used to measure students' willingness to try new vegetables and fruit. This questionnaire was drawn from the Food Neophobia Scale (FNS) (Pliner & Hobden, 1992) and the Food Neophobia Scale for Children (FNS-C) (Galloway, 2003), both of which focused on broad food categories. The Food Choices Scale for Children was further adapted to focus specifically on fruit and vegetables. Previous studies have demonstrated that the FNS has good internal consistency (Cronbach $\alpha = .88$) and test-retest reliability (Pearson correlations, range = .8-.9) (Falciglia et al., 2004).

The Food Choices Scale for Children included 8 items, each one of which had a 7-point Likert-response set: strongly agree, agree, sort of agree, no opinion, sort of disagree,

disagree, and strongly disagree. All the items were coded 1 to 7 so that a higher value indicated greater willingness to try new vegetables and fruit (i.e. lesser neophobia).

4.2.2 Formative Evaluation

Fidelity to the Whole School Model

School Action Plans (Appendix D), monthly progress reports and year-end reports were used to answer the questions: 1) did Action Teams plan across the Action Zones, and 2) were actions implemented across the Action Zones?

Fidelity to Classroom Dose

Weekly Activity Logs (Appendix E) were used to assess teacher fidelity to implementation of classroom healthy eating activities. The Activity Logs were collected weekly by the Master Trainer. Teachers at usual practice schools completed a modified version of the Activity Logs.

Feasibility and Satisfaction of the Model

Focus groups were conducted with teachers (Appendix F) in the springs of 2006 and 2007 to assess the satisfaction and feasibility (i.e. perceived barriers and facilitators to implementation) of the Action Schools! BC – Healthy Eating model. Teacher surveys (Appendix G) were also conducted in the spring of 2007 to identify teacher satisfaction with the resources and tools.

5. The Results – Student Level Outcomes: What Did We Find?

5.1 Vegetable and Fruit Consumption

Research Question: Was participation in Action Schools! BC – Healthy Eating an effective means to increase vegetable and fruit consumption of children?

What was the children’s pattern of vegetable and fruit consumption at the beginning of the study?

The number of servings of fruit, vegetables, combined vegetables and fruit, the frequency per day that vegetables and fruit were eaten and the variety of vegetables and fruit eaten at baseline is provided (Table 1).

There were significant differences between conditions for vegetable and fruit consumption. Students at usual practice schools ate 1 more servings of fruit and more than 1 more servings of combined vegetables and fruit than students at intervention

schools. The number of vegetables and fruit eaten per day (variety) was also greater in usual practice schools by 0.5 of a vegetable or fruit.

Table 1 Baseline number of servings, frequency and variety of vegetables and fruit

Dependent Variable	Intervention (n = 252)	Usual Practice (n = 205)
Fruit servings	2.39	3.38
Vegetable servings	1.89	2.14
Vegetable and fruit servings	4.28	5.52
Vegetable and fruit frequency/day	3.78	4.05
Number of vegetables and fruit eaten/day (variety)	3.38	4.08

At baseline, neither students in intervention or usual practice schools met Canada’s Food Guide’s minimum recommendation of 6 servings of vegetables and fruit per day for children aged 9 to 13 years. Only 37.2% of the students across both conditions reported consuming five or more servings of fruit and vegetables per day (mean number of servings = 4.84).

What was the children’s pattern of vegetable and fruit consumption at the end of the study?

Did the children’s pattern of vegetable and fruit consumption change more in one condition than in the other condition?

5.1.1 24-Hour Food Recall

Servings of vegetables and fruit

Significant intervention effects were found for the number of servings of fruit and for combined vegetable and fruit servings (Table 2). Servings of fruit and combined servings of vegetables and fruit decreased at usual practice schools while there was a slight increase at intervention schools. Although the changes were relatively small, there is a clear trend towards increased consumption of vegetables and fruit in intervention schools, and decreased consumption in usual practice schools (Graph 1).

No significant effects of the intervention were found for servings of vegetables between conditions over time, although the trend shows an increase in intervention schools and a decrease in usual practice schools for vegetable consumption (Table 2).

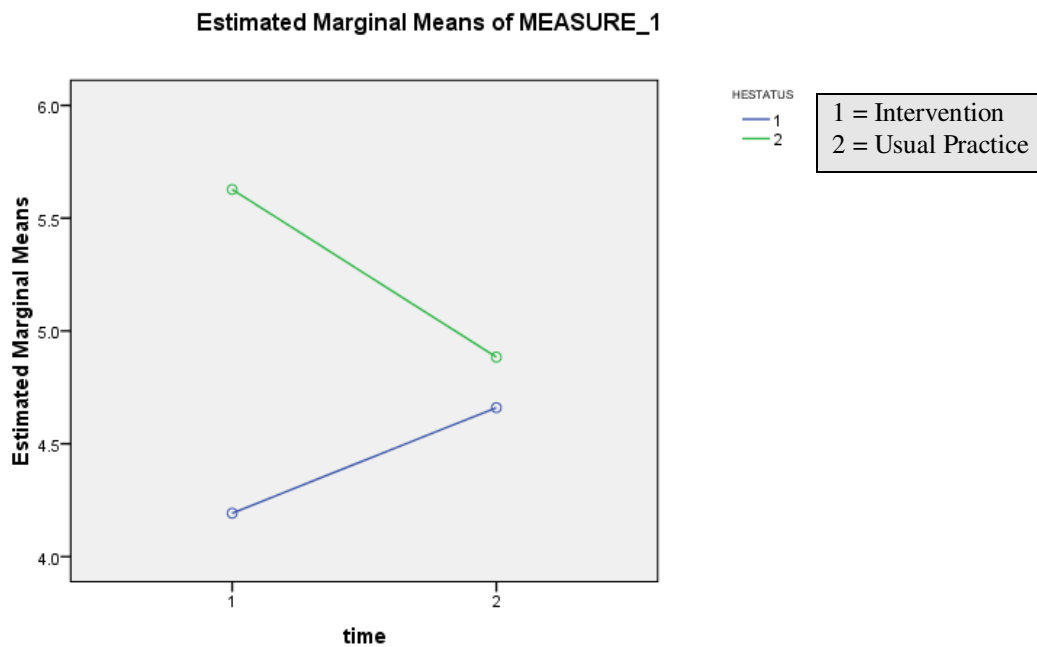
Table 2 Intervention effects for servings of vegetables and fruit

Dependent Variable	Condition	Baseline (T1)	18-month Follow-up (T4)	Change
Servings of Fruit	Intervention	2.39	2.55	+0.16 *
	Usual Practice	3.38	2.85	-0.53
Servings of Vegetables	Intervention	1.89	2.13	+0.24
	Usual Practice	2.14	2.00	-0.14
Servings of Fruit & Vegetables	Intervention	4.28	4.68	+0.40*
	Usual Practice	5.52	4.85	-0.67

*Change significantly different than usual practice ($p \leq .05$)

Students' servings of vegetables and fruit increased at Action Schools! BC – Healthy Eating schools and decreased at usual practice schools.

Graph 1 Intervention effects for servings of vegetables and fruit



Variety of vegetables and fruit eaten

Significant intervention effects were found for the variety of fruit and vegetables eaten (Table 3).

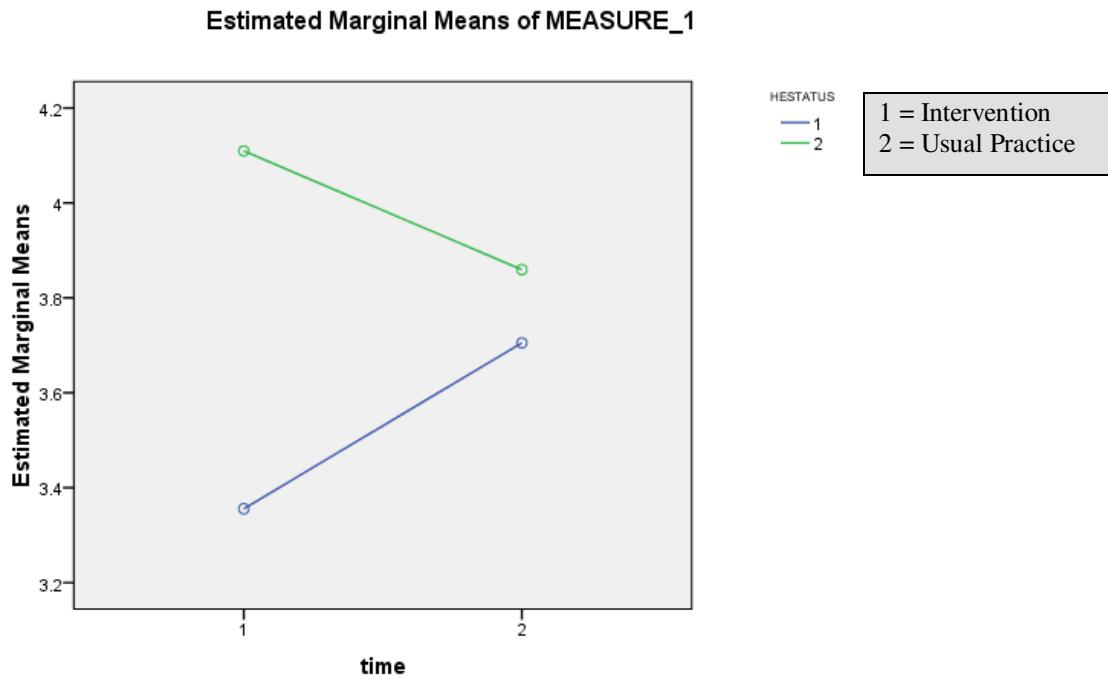
Table 3 Intervention effects for variety of vegetables and fruit eaten

Dependent Variable	Condition	Baseline (T1)	Follow-up (T4)	Change
# different FV (Variety)	Intervention	3.38	3.70	+.32*
	Usual Practice	4.08	3.87	-.21

* Change significantly different than usual practice ($p \leq .05$)

The variety of vegetables and fruit eaten increased in intervention schools, and decreased in usual practice schools (Graph 2).

Graph 2 Intervention effects for variety of vegetables and fruit eaten



The significant intervention effects found for the number of different vegetables and fruit eaten may be partially due to the tasting activities that the students experienced in their classrooms. These tasting activities exposed the students to a diverse range of vegetables and fruit that they may otherwise not have had the opportunity to taste. Research suggests that exposure to novel foods reduces food neophobia (Pliner, Pelchat, & Grabski, 1993; Frank & Kalisewicz, 2000), and that children without food neophobia

have greater food variety than children with food neophobia (Falciglia et al., 2000; Cooke, Carnell & Wardle, 2006).

5.1.2 Food Frequency Questionnaire

No significant intervention effects were found for daily frequency of consumption of vegetables and fruit. The number of times per day that fruit was eaten decreased for students at both intervention and usual practice schools. Although the number of times per day that vegetables were eaten increased slightly at both intervention schools and usual practice schools; the increase was greater at Action Schools! BC – Healthy Eating schools.

Students' daily frequency of vegetable consumption increased at Action Schools! BC – Healthy Eating schools by 20% more than at usual practice schools.

5.2 Knowledge, Attitudes and Perceptions of Vegetables and Fruit

Research Question: Was participation in Action Schools! BC – Healthy Eating an effective means to positively affect children's knowledge of the importance of vegetables and fruit to disease prevention, attitudes to eating vegetables and fruit, and perceptions of the social environment related to vegetables and fruit?

How did children from the two conditions differ in their vegetable and fruit knowledge, attitudes and perceptions at the beginning of the study?

Children's baseline cumulative scores for health knowledge, perceptions of the social environment and feelings about vegetables and fruit (affect) are provided. In addition, a score of "percent tried" was generated by asking students to identify the vegetables and fruit they had tried from a fixed list (Table 4).

Table 4 Baseline scores for health knowledge and attitudes, and percent tried

Dependent Variable	Intervention (n = 246)	Usual Practice (n = 203)
Knowledge	3.92	4.04
Social	3.90	3.78
Affect	4.46	4.29
Percent Tried	0.78	0.83

At baseline, there were significant differences between conditions for the percent of vegetables and fruit tried from a fixed list. Children at usual practice schools reported having tried 5% more vegetables and fruits than children at intervention schools.

How did children in the two conditions differ in their vegetable and fruit knowledge, attitudes and perceptions at the end of the study?

Did children’s scores from one condition change more than children’s scores from the other condition?

There were no significant intervention effects found for health knowledge, perceptions of the social environment or feelings about vegetables and fruit. Although the results were not significant, there was a trend for students’ scores at intervention schools for perceptions of the social environment and feelings about vegetables and fruit to increase more than at usual practice schools.

A significant intervention effect was found for the percentage of vegetables and fruits tried from a fixed list of potential vegetables and fruit (Table 5).

Table 5 Intervention effects for percentage of vegetables and fruit tried

Dependent Variable	Condition	Baseline (T1)	Follow-Up (T4)	Change
Percent Eaten	Intervention	78%	88%	10%*
	Usual Practice	83%	89%	6%

* Change significantly different than usual practice ($p \leq .05$)

Students at Action Schools! BC – Healthy Eating schools increased their percentage of vegetables and fruits tried from a fixed list by 4% more than students at usual practice schools.

5.3 Willingness to Try New Vegetables and Fruit

Research Question: Was participation in Action Schools! BC – Healthy Eating an effective means to positively affect children’s willingness to try new vegetables and fruit?

How did children from the two conditions differ in their willingness to try new vegetables and fruit at the beginning of the study?

Children’s baseline scores for their willingness to try new vegetables and fruit are provided (Table 6). Scores at baseline were not significantly different between conditions.

Table 6 Baseline scores for willingness to try new vegetables and fruit

Dependent Variable	Intervention (n = 237)	Usual Practice (n = 149)
Willingness to try new vegetables and fruit	38.46	40.28

How did children in the two conditions differ in their willingness to try new vegetables and fruit at the end of the study?

Did children’s scores from one condition change more than children’s scores from the other condition?

A significant intervention effect was found for students’ willingness to try new vegetables and fruit (Table 7).

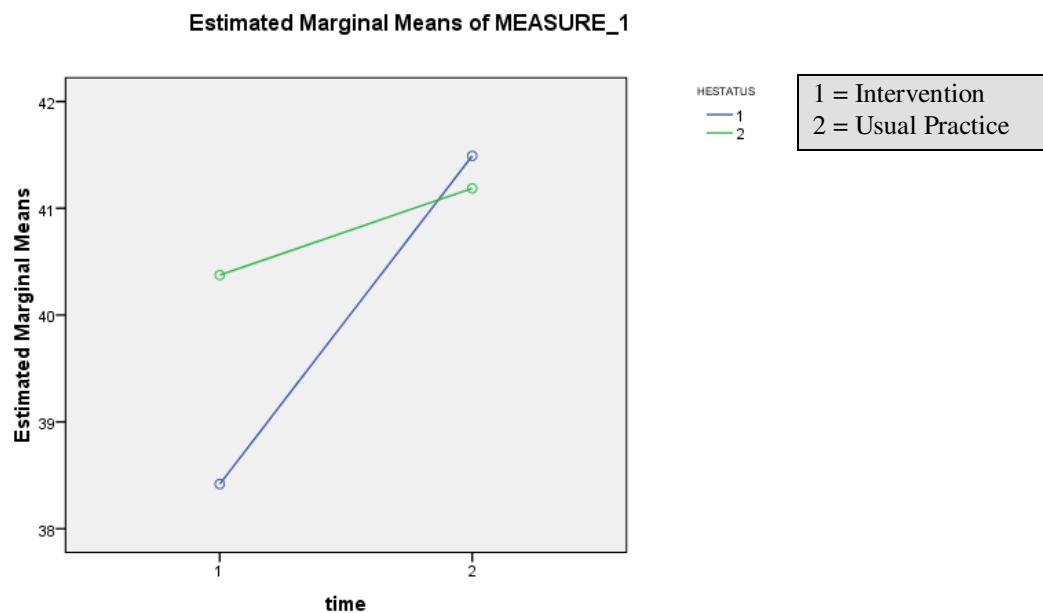
Table 7 Intervention effects for willingness to try new vegetables and fruit

Dependent Variable	Condition	Baseline (T1)	Follow-Up (T4)	Change
Willingness to try	Intervention	38.46	41.43	2.97*
	Usual Practice	40.28	41.34	1.06

* Change significantly different than usual practice ($p \leq .05$)

Students at Action Schools! BC – Healthy Eating schools increased their willingness to try new vegetables and fruit by 5% more than students at usual practice schools (Graph 3).

Graph 3 Intervention effects for willingness to try new vegetables and fruit



The significant effect on students’ willingness to try new vegetables and fruit suggests that Action Schools! BC – Healthy Eating may have a long-term positive impact on

students' vegetable and fruit consumption. Research states that multiple exposures to novel foods are often required to enhance preference for and willingness to try new foods (Birch, McPhee, Shoba & Steinberg, 1987). In Pilot Phase I, students received an average of 3.12 tasting episodes and results did not show a significant change in willingness to try. However, by the end at Phase II, students had received an average of 7.16 tasting episodes. The additional tasting activities may have been sufficient to impact students' willingness to try new vegetables and fruits.

6.0 The Results - Formative Evaluation: What Did we Find?

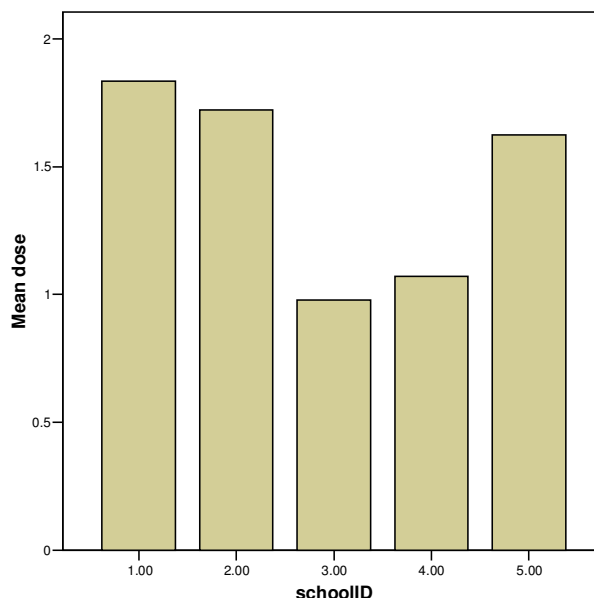
The results from the formative evaluation of Phase I of the Pilot drove revisions to the Action Schools! BC – Healthy Eating model and resources for Phase II.

6.1 Phase I Fidelity to Classroom Implementation

Research Question: Did teachers implement the classroom activities as requested?

In Phase I, teachers were requested to choose and implement 2 healthy eating learning activities per week and 1 tasting activity per month. Phase I Activity Logs showed that the mean dose of healthy eating activities implemented in the classroom was 1.27 activities per week for intervention schools (Graph 4), and 0 for usual practice schools.

Graph 4 Phase I Dose of healthy eating activities delivered/week/school



6.2 Phase I Fidelity to the Whole School Model

Research Question: *Did the schools plan and implement across the six Action Zones?*

Phase I Action Plans revealed that all five intervention schools planned across the six Zones as suggested by the Action Schools! BC – Healthy Eating model. Year-End Reports (June 2006) showed that 80% of planned activities were implemented across a mean of 4.8 Zones (Table 8).

Table 8 Phase I Fidelity to the Whole School Model (June 2006)

School	# Zones Planned Across	# Zones with Completed Actions by June, 2006
School 1	6	5
School 2	6	5
School 3	6	5
School 4	6	5
School 5	6	4

6.3 Phase I Feasibility of Delivering the Action Schools! BC – Healthy Eating Model

Research Question: *What were the barriers to implementation of classroom activities?*

Focus groups and informal interviews with teachers revealed that the prevailing barrier to the implementation of classroom healthy eating activities was time, and that the most common barriers to the implementation of classroom tasting activities were time and money.

Research Question: *What were the facilitators to implementation of classroom activities?*

Facilitators to the implementation of classroom activities were the Action Schools! BC – Healthy Eating resources, support from the Support Team, and student enthusiasm.

Research Question: *What were the barriers to implementation of the whole-school model?*

An identified barrier to the implementation of activities across the six Action Zones was the perceived struggle to categorize goals appropriately in each of the six Zones. Teachers voiced confusion regarding how each Action Zone was best represented by healthy eating goals.

6.4 Recommended Revisions to the Model and Resources for Phase II

Based on the Phase I formative evaluation, the following revisions were made to the model and resources for Pilot Phase II (September 2006 – June 2007):

- Collapse the 6 Action Zones into 3 (School Environment, Classroom Action, and Family & Community)
- Develop a more comprehensive *Planning Guide* that includes supportive documents to aid the Action Teams in taking action in the School Environment and Family & Community Zones
- Develop a *Family Healthy Hamper* to encourage the active engagement of students' parents in the initiative
- Restructure the *Classroom Healthy Eating Action Resource* into units to accommodate teachers' predominant teaching styles, which will also allow for a more realistic weekly dose of healthy eating activities required in the Classroom Action Zone.

6.5 Phase II Fidelity to Classroom Implementation

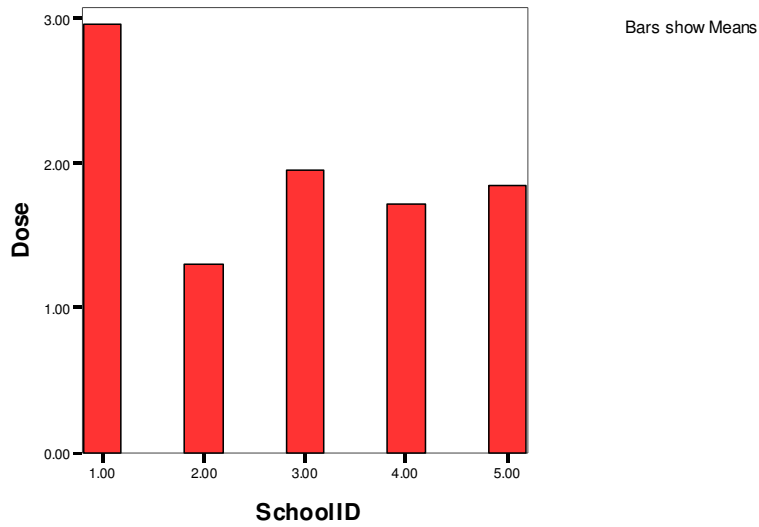
Research Question: Did teachers implement the classroom activities as requested?

The Action Schools! BC – Healthy Eating Classroom Action Zone placed different expectations on the teachers in Phase II of the pilot as compared with Phase I. The *Classroom Healthy Eating Action Resource* was restructured to include two Vegetable and Fruit Campaigns, each of which included 3 learning activities and a Vegetable and Fruit fiesta. Teachers were asked to implement one Campaign in the fall and one Campaign in the spring. Teachers were also asked to choose and implement monthly tracking, tasting and snacking activities as provided in the *Classroom Healthy Eating Action Resource*. These changes reflect both the findings from the Phase I formative evaluation and also current research that suggests that interventions implemented with a high intensity (e.g. a comprehensive Campaign implemented over 1-month) are more effective than those that are implemented with less intensity (e.g. 1-2 lessons per week over the entire school year).

What did we find?

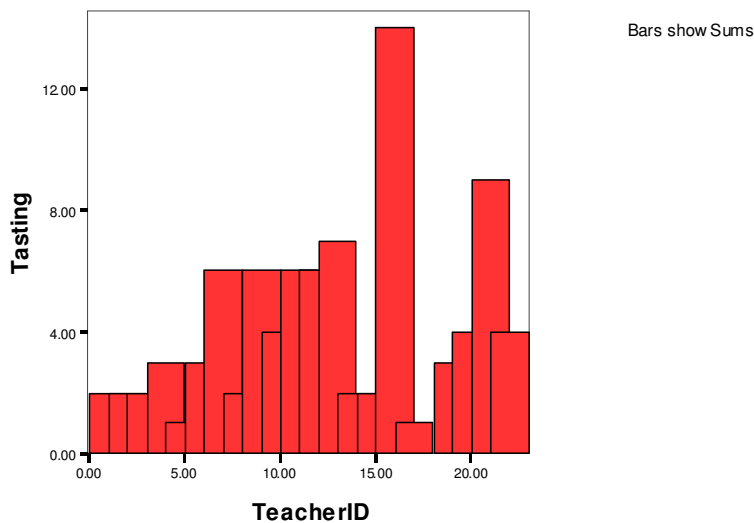
Phase II activity logs showed that the mean dose of healthy eating activities delivered in the classroom increased in Phase II to 2.02 activities per week, despite the absence of a prescribed weekly dose (Graph 5).

Graph 5 Phase II Mean dose of healthy eating activities/week/school



The Activity Logs also revealed a wide variation in the number of tasting activities implemented by pilot teachers, with a mean of 4.05 tasting episodes (Graph 6).

Graph 6 Phase II Total number of tasting activities/teacher



Focus groups revealed that the most common barriers to the implementation of classroom tasting activities were time and money. Teachers stated that buying, washing, cutting and preparing the produce for the tasting activities required extensive time. Although pilot teachers were provided with a monthly grant of \$12.50 for the purchase of vegetables and

fruit, this amount often limited the amount of food the teachers could afford to purchase for the tasting activity. In addition, teachers expressed concern regarding the continued sustainability of the classroom tasting activities if this grant money did not continue post-pilot.

6.6 Phase II Fidelity to the Whole School Model

Research Question: *Did the schools plan and implement across the three Action Zones?*

The Action Schools! BC – Healthy Eating whole school model differed in Phase II as compared with Phase I in that it collapsed the six Action Zones into three (Classroom Action, School Environment, and Family & Community). This change reflected the Phase I findings that teachers struggled to categorize goals appropriately in each of the six Zones and requested that the goals be condensed into three Action Zones. Teachers were asked plan and implement Actions toward reaching goals in all three Action Zones.

What did we find?

Phase II Action Plans showed that all five schools planned across the three Action Zones. Schools planned a mean of 3.0 actions per Action Zone, which is 1.0 more actions per Action Zone than in Phase I. Year-End Reports (June 2007) showed that 76% of planned actions were implemented across the three Zones (Table 9).

Table 9 Phase II Fidelity to the whole school model (June 2007)

School	# Zones Planned Across	Mean # Actions Planned per Zone	Mean # Actions Implemented per Zone by June 2007
School 1	3	3.0	2.0
School 2	3	4.0	3.0
School 3	3	2.7	2.3
School 4	3	2.7	2.0
School 5	3	2.7	2.0

6.7 Phase II Feasibility of Delivering the Action Schools! BC – Healthy Eating Model

Research Question: *What were the barriers to implementation of classroom or school-wide activities?*

Teacher focus groups and surveys revealed that, similar to the Phase I results, the prevailing barrier to the implementation of classroom healthy eating activities was lack of time. This was especially true for the tasting activities, as many teachers felt

overwhelmed by the perceived time needed to purchase, wash, and prepare the produce for the tasting activity.

A second barrier that emerged from the focus groups was the challenge of coordinating all classrooms to participate in school-wide events due to teachers’ schedules and competing demands, lack of communication amongst staff, and lack of support from school administrators (Table 10).

Table 10 Phase II Barriers to implementation

Themes: Barriers	Teacher Quotes:
Time constraints	“There’s not enough hours in the school day to teach everything that teachers can, and this is just adding one more thing to it so there’s not much that you can do about that.”
Lack of staff coordination, communication, and administrator support	<p>“...but all our prep time is different so to ever try and coordinate so that your classes are together it’s very difficult within a school to coordinate those kinds of activities.”</p> <p>“If the principle sets the tone throughout and if you’ve got the principle on board then the teachers feel supported and urged... we didn’t really have that.”</p>

Research Question: What were the facilitators to implementation of classroom or school-wide activities? (Table 11)

The main facilitators to implementation of classroom activities that emerged from the teacher focus groups and surveys were similar to those from Phase I. Support from the Master Trainer and the Action Schools! BC Support Team was most consistently recognized as a major facilitator to maintaining teacher enthusiasm and motivation for implementation of the classroom healthy eating activities. The resources and grant money were also widely recognized as facilitating factors. Finally, the students’ enthusiasm encouraged teachers to continue implementing the classroom healthy eating activities. Students were especially enthusiastic about the tasting and snacking activities (Table 11).

Table 11 Phase II Facilitators to implementation

Themes: Facilitators	Teacher Quotes:
Support from the Support Team	“Having you guys come in every once and a while just to make sure we are keeping up on things, I think helped me to make sure I was doing it every week or every month.”
Action Schools! BC – Healthy Eating resources and grant money	<p>“Giving us some freedom with the funds, giving us some money to support it, it was helpful.”</p> <p>“The resources – both the hands on things that we got, and our kits – those were great. And the grant money for tasting activities – it was critical.”</p>
Student enthusiasm/motivation	“The students really enjoyed it more than I thought they would, I thought it’s fruit, but they were very excited about apples and oranges.”

6.8 Phase II Teacher Satisfaction

Research Question: How satisfied were teachers with the Classroom Healthy Eating Action Resource and supporting materials?

Phase II focus groups and surveys showed that teachers were “very satisfied” with the resources and materials that they received. Teachers stated that the *Classroom Healthy Eating Action Resource* and *Action Kit* provided them with everything they needed to easily implement creative healthy eating activities in their classrooms. The majority of teachers preferred the format of the *Classroom Healthy Eating Action Resource* in Phase II as compared with that in Phase I for the following reasons: the increased project-based work more naturally linked to other curriculum subjects, making it easier to integrate healthy eating into the core curriculum; the snacking activities were very popular with the students and were quick and easy to implement; expectations were “simplified” so that teachers were more confident that they were meeting the minimal requirements; the learning activities were grade specific and more condensed so that they could be implemented over one or two months. However, teachers also stated that they found the grade-wide Vegetable and Fruit Fiestas difficult to implement due to the challenge of coordinating classrooms.

Research Question: How satisfied were teachers with the Action Schools! BC – Healthy Eating teacher training?

The teacher evaluation forms from five training workshops facilitated by the Action Schools! BC – Healthy Eating Support Team in Pilot Phase II indicated high levels of satisfaction with the training workshops. Following the training workshops, teachers stated that they felt confident in their abilities to implement the activities in the

Classroom Healthy Eating Action Resource after the training session and rated their intentions to implement the activities as high.

7.0 Action Schools! BC – Healthy Eating Grades K-3

The Action Schools! BC Healthy Eating Pilot Phase II included the development of a Grades K-3 *Classroom Healthy Eating Action Resource*. Three schools were selected to pilot the Grade K-3 *Classroom Healthy Eating Action Resource*, *Action Kit* and the *Family Healthy Hamper* for three months (March to May 2007). Teacher focus groups (Appendix H) and surveys (Appendix I) informed the development and evolution of the Grades K-3 resources.

Formative focus groups with teachers during early development of the Grades K-3 resources revealed that the model for Action Schools! BC – Healthy Eating Grades K-3 should include the following: choice-based model with no grade specifications; creative center activities; thematic activities to complement primary teaching style of utilizing themes; wide variety of activities ranging from colouring and word searches to more complex learning activities; opportunities to read to students; strategies for communication with and engagement of families; opportunities for classroom tasting activities; grant money for tasting activities.

Teacher focus groups and surveys in May/June 2007 showed that teachers were “highly” satisfied with the Action Schools! BC – Healthy Eating Grades K-3 resources. Teachers stated that the *Classroom Healthy Eating Action Resource* and *Action Kit* provided them with the tools necessary to implement creative and fun healthy eating activities in their classrooms. They felt that the format of the written resource was age-appropriate and encouraged facilitation of “snacking on healthy eating activities”. Teachers also stated that the *Family Healthy Hamper* was extremely useful for engaging families in the Action Schools! BC – Healthy Eating initiative, and that both students and parents expressed appreciation of the *Family Healthy Hamper* activities, recipes, and nutrition information.

The pilot teachers all stated that they would like to continue their involvement with the initiative as an early adopter Action Schools! BC – Healthy Eating school in September 2007.

8.0 Conclusions

The outcomes of the Action Schools! BC – Healthy Eating pilot showed that the model is effective at positively impacting students' pattern of vegetable and fruit consumption. The Action Schools! BC – Healthy Eating model had significant impacts on the following variables:

- Number of servings of fruit consumed per day
- Number of servings of combined vegetables and fruit consumed per day
- Number of different vegetables and fruit consumed per day (variety)
- Percent of vegetables and fruit tried from a fixed list
- Willingness to try new vegetables and fruit

Research indicates that increased exposures to new vegetables and fruit increase children's preference for and willingness to try vegetables and fruit (Pliner, Pelchat, & Grabski, 1993; Frank & Kalisewicz, 2000). Students received a mean of 7.16 tasting activities over the duration of the 18-month pilot. The significant intervention effects on willingness to try new vegetables and fruit (Phase II) suggests that the increased number of tasting activities provided over time impacted students' preference and self-efficacy for trying new vegetables and fruit.

The formative evaluation indicated that teachers implemented a mean of 2.02 classroom healthy eating activities per week, which was an increase of 0.75 healthy eating activities per week from Phase I.

Focus groups and surveys indicated that teachers were "very to highly" satisfied with the Action Schools! BC – Healthy Eating resources and support provided. Teacher focus groups identified the main implementation barriers as time constraints, and lack of staff coordination and administrator support. These barriers represent the current culture of schools and are likely to be experienced regularly. Many of the pilot teachers identified successful strategies to overcome these barriers.

The main facilitators were identified as support from the Support Team, the Action Schools! BC – Healthy Eating resources and grant money, and student enthusiasm. Teachers described their many positive experiences, and also those of the students, as participants of the Action Schools! BC – Healthy Eating initiative.

The pilot teachers all stated that they will continue their involvement in the initiative as early adopter Action Schools! BC – Healthy Eating schools in September 2007.

9.0 Recommendations

Based on the formative evaluation and the positive impact of the Action Schools! BC – Healthy Eating pilot on students’ pattern of vegetable and fruit consumption, the following recommendations have been made to enhance, support and sustain the initiative during provincial dissemination:

1. Fully integrate healthy eating into the Action Schools! BC initiative

Physical activity and healthy eating complement and support each other, and the full integration of these two components will result in a comprehensive healthy living initiative. Whenever possible, integrating the written resources (e.g. *Planning Guide* and *Action Pages*) will make it easier for schools to implement both components.

Although teachers stated that collapsing the six Action Zones into three simplified the development of school Action Plans for the Action Schools! BC – Healthy Eating Pilot Phase II, it is recommended that the model for dissemination include healthy eating actions for all six Action Zones in order to align with the physical activity model.

2 Invest in teachers

Action Schools! BC – Healthy Eating pilot teachers described the training and support that they received as critical to the success of the initiative. Following the training workshop, teachers felt confident in their abilities to deliver the initiative and rated their intention to implement the activities in their classrooms as high. Teachers felt empowered and energized to bring healthy eating into their schools.

3. Provide grant money to support classroom tasting activities

Teachers unanimously agreed that students were enthusiastic and engaged in the vegetable and fruit tasting activities, and that these tasting activities influenced their preferences for vegetables and fruit. The Pilot Phase II significant effect on students’ willingness to try suggests that the tasting activities had a positive impact. Teachers consistently stated that the grant money was an essential facilitator for continued implementation of these tasting activities.

4. Support further evaluation of implementation of classroom tasting activities

Pilot teachers described multiple barriers to the delivery of regular classroom tasting activities, but they also recognized the significant benefits to students’ preference for vegetables and fruit. Further exploration is necessary to determine: the minimum dose of tasting activities that are required to impact students’ willingness to try new vegetables and fruit; the dose of tasting activities that teachers can realistically implement per year; and the internal supports that are needed for teachers to implement regular tasting activities.

5. Expand the model to encompass middle school and secondary school

Benefits will continue only if programs are available to students at every grade level. This is especially true with vegetable and fruit consumption, which declines as children reach adolescence.

6. Engage community nutritionists to support and promote Action Schools! BC – Healthy Eating

Community nutritionists who work with the school community are in an ideal position to encourage schools to become registered Action Schools! BC – Healthy Eating schools, and to support schools in the implementation of the healthy eating activities. Ensuring that community nutritionists remain informed partners will help them to identify places that they can be involved and supportive of the initiative.

7. Engage community partners to promote and support school-based initiatives

There are other BC non-government organizations that do extensive work to promote healthy eating within the school environment, for example: the BC Dairy Foundation, the Heart and Stroke Foundation, and the BC Healthy Living Alliance. Maintaining strong partnerships and regular communications with these organizations will ensure that initiatives can cross-promote and support one another in the efforts to improve the food environment and eating behaviours of school-aged children.

8. Revise the Action Schools! BC – Healthy Eating resources as per the formative evaluation results

Teachers suggested that the *Family Healthy Hamper* is an age-appropriate family resource for students in Grades K-3, but that students in Grades 4-7 found it too young. Thus, it is recommended that the *Family Healthy Hamper* is provided to all classrooms of students in Grades K-3.

Teachers found the Vegetable and Fruit Fiestas difficult to implement due to time constraints, and the challenge of coordinating staff and gaining administrator support. However, teachers enjoyed the grade specific units that included project-based activities. Thus, it is recommended that the *Classroom Healthy Eating Action Resource* be revised to include grade specific units that build to goal setting activities rather than Vegetable and Fruit Fiestas.

9. Explore alternative methods of engaging the families of Grade 4-7 students

The active engagement of students' parents is important to influence the food that is available at home and to reinforce the healthy eating messages being delivered at school. However, it is also increasingly difficult to engage families as children reach adolescence.

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Action Schools! BC

ID: _____
Checked by: _____

Food Frequency Questionnaire Fall 2005

Name: _____ Date: _____

We would like to know about some of the foods you eat. For each food listed please fill in how often you usually eat a portion of the size stated. If you eat the food:

- ♦ every day or more than once a day, fill in how many times you have it per day
- ♦ less than once a day but more than one a week, fill in the times per week
- ♦ less than once a week, but more than once a month, fill in the times per month
- ♦ less often than once a month, or never eat it, put an 'X' under 'do not eat'.

Example: Janice has a glass of orange juice every morning, along with two slices of toast. She usually has two sandwiches at lunch, and eats french fries about 3 times per week. She almost never eats cauliflower.

eat	Per day	Per week	Per month	Don't
Orange Juice, 1 cup	1	_____	_____	
French fries, regular serving	_____	3	_____	
Cauliflower, ½ cup (125 ml)	_____	_____	_____	
X				
Bread or toast, 1 slice	6	_____	_____	

	NUMBER OF TIMES I EAT THE FOOD			
eat	Per day	Per week	Per month	Don't
Bread or toast, 1 slice or 1 roll	_____	_____	_____	-

Muffin, 1 large	_____	_____	_____	-

Pizza, 1 medium slice	_____	_____	_____	-

Cheeseburger or veggie burger				

with cheese	_____	_____	_____	___-

Cheese: 1 slice processed OR 1 piece hard cheese (plain or in sandwich)	_____	_____	_____	___-

Broccoli, ½ cup (125 ml)	_____	_____	_____	___-

Gai-lan (Chinese broccoli), ½ cup	_____	_____	_____	___-

Bok- choy (Chinese cabbage), ½ cup	_____	_____	_____	___-

Ice cream (large scoop)	_____	_____	_____	___-

Frozen yogurt (large scoop)	_____	_____	_____	___-

Fast food milkshake	_____	_____	_____	___-

Cottage cheese, ½ cup	_____	_____	_____	___-

	Per day	Per week	Per month	Don't
eat				
Yogurt, small (174 ml) carton or equivalent	_____	_____	_____	___-

Canned salmon or sardines with bones, ½ small can	_____	_____	_____	___-

Soft drink, 1 can or large glass	_____	_____	_____	_____

Tofu, 2 oz (60 gm)	_____	_____	_____	_____

Milk on cereal	_____	_____	_____	_____

Orange juice, 1 cup	_____	_____	_____	_____

Milk (any type including chocolate), 1 cup	_____	_____	_____	_____

Macaroni & cheese, 1 cup (250 ml)	_____	_____	_____	_____

I usually drink (choose one only)

_____milk OR

_____chocolate milk OR

_____soy milk OR

_____rice milk

Are you allergic to any foods?

_____NO

_____YES: (what foods? _____)

Do you use any **vitamin and/or mineral** supplements? (**This question is not about medications**)

	Daily	>3x/week	1-3x/week	
<1/week				
Multivitamin	_____	_____	_____	_____
Multivitamin/mineral	_____	_____	_____	_____
Iron	_____	_____	_____	_____
Vitamin C	_____	_____	_____	_____
Calcium	_____	_____	_____	_____
Other	_____	_____	_____	_____

What is the brand/name of the supplement? _____

Fruit and Vegetable Food Frequency Questionnaire

Think about what you usually ate last week

- Please think about all the fruits and vegetables that you ate last week. Include those that were:
 - Raw and cooked,
 - Eaten as snacks and at meals,
 - Eaten at home and away from home (restaurants, friends), and
 - Eaten alone or mixed with other foods

- 1) Over the past week, how many times per week or day did you drink 100% fruit juice such as orange, apple, grape or grapefruit juice? Do not count fruit drinks like Kool-Aid, lemonade, Hi-C, iced tea, cranberry juice drink and Tang.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Never	1-2x	3-4x	5-6x	1x	2x	3x	4x	5+times
	/wk	/wk	/wk	/day	/day	/day	/day	/day

- 2) Over the last week, how often did you eat french fries or fried potatoes?

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Never	1-2x	3-4x	5-6x	1x	2x	3x	4x	5+times
	/wk	/wk	/wk	/day	/day	/day	/day	/day

- 3) Over the past week, how often did you eat other white potatoes? Count baked, boiled, and mashed potatoes, potato salad, and white potatoes that were not fried.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Never	1-2x	3-4x	5-6x	1x	2x	3x	4x	5+times
	/wk	/wk	/wk	/day	/day	/day	/day	/day

MORNING

- 4) Think about all the food you ate at your morning meal and snacks over the last week. On how many days did you eat fruit for your morning meal or morning snacks? Count any kind of fruit – fresh, canned, and frozen. Do not count juices.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Never	1-2 days/wk	3-4 days/wk	5-6 days/wk	Every day

5) Think about all the foods you ate at your morning meal and morning snacks. On how many days did you eat vegetables for your morning meal or morning snacks? Count lettuce salads, vegetables in mixtures (i.e. Sandwiches, omelettes casseroles, Chinese dishes, stew, stir-fry, soup etc.). tomato pasta sauce and all other raw, cooked and canned vegetables. Do not include white potatoes.

Never 1-2 days/wk 3-4 days/wk 5-6 days/wk Every day

LUNCHTIME AND AFTERNOON

6) Think about all the foods you ate at lunchtime and for your afternoon snacks last week. On how many day did you eat fruit and lunchtime or for your afternoon snacks? Count any kind of fruit – fresh, canned, and frozen. Do not count juices.

Never 1-2 days/wk 3-4 days/wk 5-6 days/wk Every day

7) Think about all the foods you ate at lunchtime and for your afternoon snacks. On how many days did you eat vegetables at lunchtime or for you afternoon snacks? Count lettuce salads, vegetables in mixtures (i.e. sandwiches, omelettes casseroles, Chinese dishes, stew, stir-fry, soup etc.), and all other raw, cooked and canned vegetables. Do not include white potatoes.

Never 1-2 days/wk 3-4 days/wk 5-6 days/wk Every day

SUPPERTIME AND EVENING

8) Think about all the foods you ate at suppertime and for your evening snacks last week. On how many days did you eat fruit at suppertime or for your evening snacks? Count any kind of fruit – fresh, canned, and frozen. Do not count juices.

Never 1-2 days/wk 3-4 days/wk 5-6 days/wk Every day

9) Think about all the foods you ate at suppertime and for your evening snacks. On how many days did you eat vegetables at suppertime or for your evening snacks? Count lettuce salads, vegetables in mixtures (i.e. sandwiches, omlettes, casseroles, Chinese dishes, stew, stir-fry, soup etc.), and all other raw, cooked and canned vegetables. Do not include white potatoes.

Never 1-2 days/wk 3-4 days/wk 5-6 days/wk Every day

Thank You

ID: _____
Checked by: _____



Action Schools BC

Fall 2005
Fruit and Vegetable Attitudes & Perceptions Survey

Name: _____ Date: _____

- 1) How many servings of fruit and vegetables do you think you should eat every day to stay healthy? _____
- 2) How would you rate the amount of vegetables and fruit you eat now? Would you say it is (Tick the best answer)
- very high high in the middle low very low
- 3) Rate each question on whether you agree, in the middle (neutral), disagree or don't know.
- a) Eating fruit and vegetables could help you prevent cancer
- Agree In the middle Disagree Don't know
- b) Eating fruit and vegetables could help you prevent heart disease
- Agree In the middle Disagree Don't know
- c) I like the taste of fruit
- Agree In the middle Disagree Don't know
- d) I like the taste of vegetables
- Agree In the middle Disagree Don't know
- e) My family eats lots of vegetables and fruit
- Agree In the middle Disagree Don't know
- f) My friends eat lots of vegetables and fruit
- Agree In the middle Disagree Don't know
- g) Eating vegetables and fruit makes me feel better
- Agree In the middle Disagree Don't know

4. Tick ✓ all of the fruits and vegetables you think are grown in British Columbia

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> Green/Red/Orange Pepper | <input type="checkbox"/> Onion | <input type="checkbox"/> Watermelon |
| <input type="checkbox"/> Cabbage | <input type="checkbox"/> Zucchini | <input type="checkbox"/> Honeydew melon |
| <input type="checkbox"/> Cauliflower | <input type="checkbox"/> Orange | <input type="checkbox"/> Cherry |
| <input type="checkbox"/> Broccoli | <input type="checkbox"/> Apple | <input type="checkbox"/> Pineapple |
| <input type="checkbox"/> Celery | <input type="checkbox"/> Pear | <input type="checkbox"/> Papaya |
| <input type="checkbox"/> Lettuce | <input type="checkbox"/> Blueberry | <input type="checkbox"/> Grapefruit |
| <input type="checkbox"/> Carrots | <input type="checkbox"/> Raspberry | <input type="checkbox"/> Grape |
| <input type="checkbox"/> Cucumber | <input type="checkbox"/> Strawberry | <input type="checkbox"/> Plum |
| <input type="checkbox"/> Tomato | <input type="checkbox"/> Banana | <input type="checkbox"/> Peach |
| <input type="checkbox"/> Potato | <input type="checkbox"/> Cantalope | <input type="checkbox"/> Nectarine |
| <input type="checkbox"/> Apricot | <input type="checkbox"/> Mango | <input type="checkbox"/> Kiwi |
| <input type="checkbox"/> Asparagus | <input type="checkbox"/> Yams | |

5. Tick ✓ all of the BC apples and pears that you have heard of

Apples

- | | | |
|--------------------------------------|---|---------------------------------------|
| <input type="checkbox"/> Macintosh | <input type="checkbox"/> Red Delicious | <input type="checkbox"/> Spartan |
| <input type="checkbox"/> Gravenstein | <input type="checkbox"/> Cameo | <input type="checkbox"/> Granny Smith |
| <input type="checkbox"/> Fuji | <input type="checkbox"/> Transparent | <input type="checkbox"/> Royal Gala |
| <input type="checkbox"/> Jonagold | <input type="checkbox"/> Golden Delicious | |

Pears

- | | | |
|--------------------------------|-----------------------------------|-------------------------------|
| <input type="checkbox"/> Anjou | <input type="checkbox"/> Bartlett | <input type="checkbox"/> Bosc |
|--------------------------------|-----------------------------------|-------------------------------|

6. Tick ✓ all of the fruits and vegetables you have eaten or tasted.

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> Green/Red/Orange Pepper | <input type="checkbox"/> Onion | <input type="checkbox"/> Watermelon |
| <input type="checkbox"/> Cabbage | <input type="checkbox"/> Zucchini | <input type="checkbox"/> Honeydew melon |
| <input type="checkbox"/> Cauliflower | <input type="checkbox"/> Orange | <input type="checkbox"/> Cherry |
| <input type="checkbox"/> Broccoli | <input type="checkbox"/> Apple | <input type="checkbox"/> Pineapple |
| <input type="checkbox"/> Celery | <input type="checkbox"/> Pear | <input type="checkbox"/> Papaya |
| <input type="checkbox"/> Lettuce | <input type="checkbox"/> Blueberry | <input type="checkbox"/> Grapefruit |
| <input type="checkbox"/> Carrots | <input type="checkbox"/> Raspberry | <input type="checkbox"/> Grape |
| <input type="checkbox"/> Cucumber | <input type="checkbox"/> Strawberry | <input type="checkbox"/> Plum |
| <input type="checkbox"/> Tomato | <input type="checkbox"/> Banana | <input type="checkbox"/> Peach |
| <input type="checkbox"/> Potato | <input type="checkbox"/> Cantalope | <input type="checkbox"/> Nectarine |
| <input type="checkbox"/> Apricot | <input type="checkbox"/> Mango | <input type="checkbox"/> Kiwi |
| <input type="checkbox"/> Asparagus | <input type="checkbox"/> Yams | |

7. Have you ever talked at school about where your fruit and vegetables come from?

Yes No Not sure

8. Have you ever talked at school about the reasons for buying fruit and vegetables grown in BC rather than from other places (e.g. California)?

Yes No Not sure

9. Have you ever talked with your parents about where your fruit and vegetables come from?

Yes No Not sure

10. Have you ever talked with your parents about the reasons for buying fruit and vegetables grown in BC rather than from other places?

Yes No Not sure

11. Have you ever talked with your parents about why fruit and vegetables are good for you?

Yes No Not sure



Action Schools! BC

ID: _____
Checked by: _____

Food Choices Scale for Children – Fall 2005

Name: _____

Date: _____

Please rate the extent to which you agree or disagree with each statement.
Please write the appropriate number in the box beside each statement.

Strongly Agree	Agree	Sort of Agree	No Opinion	Sort of Disagree	Disagree	Strongly Disagree
7	6	5	4	3	2	1

1. I will eat a fruit or vegetable that I've never tried before.
2. It is scary to eat a fruit or vegetable that I've never tried before.
3. I like fruit and vegetables from different countries.
4. Fruit and vegetables from other countries look too strange to eat.
5. At a friend's house, I will try a new fruit or vegetable.
6. When my parent or caregiver asks me to eat a fruit or vegetable I've never had before, I will eat it.
7. I am very picky about the foods I will eat.
8. I will eat almost anything.



School Action Plan

School Year: _____

Complete this form to develop your School Action Plan. Use the Action Schools! BC Planning Guide or contact the Action Schools! BC Healthy Eating Support Team to assist you. Phone 250-472-0107 email: healthyeating@2010legaciesnow.com

School and SD#: _____

Completed by: _____

Date Completed: _____

When completed please fax this form to Action Schools! BC Healthy Eating Support Team: Fax 250-472-1001 or give it to the Master Trainer

Goal Statement (see Planning Guide)	Actions	Dates or Timing for Action
Action Zone: School Environment		
Action Zone: Classroom Action		
Action Zone: Family and Community		

School Name Brooksbank
 Teacher Angela McKay
 Grade 6/7
 Week of _____

Weekly Activity Log

Fax to 250-472-1001
 Or give it to the Master
 Trainer during visit



Monday	DUR	Tuesday	DUR	Wednesday	DUR	Thursday	DUR	Friday	DUR
<input type="checkbox"/> Introduction Activity		<input type="checkbox"/> Introduction Activity		<input type="checkbox"/> Introduction Activity		<input type="checkbox"/> Introduction Activity		<input type="checkbox"/> Introduction Activity	
<input type="checkbox"/> 5 to 10 A Day Campaign Activity		<input type="checkbox"/> 5 to 10 A Day Campaign Activity		<input type="checkbox"/> 5 to 10 A Day Campaign Activity		<input type="checkbox"/> 5 to 10 A Day Campaign Activity		<input type="checkbox"/> 5 to 10 A Day Campaign Activity	
<input type="checkbox"/> 5 to 10 A Day Fiesta Day!		<input type="checkbox"/> 5 to 10 A Day Fiesta Day!		<input type="checkbox"/> 5 to 10 A Day Fiesta Day!		<input type="checkbox"/> 5 to 10 A Day Fiesta Day!		<input type="checkbox"/> 5 to 10 A Day Fiesta Day!	
<input type="checkbox"/> Celebrating V&F Campaign		<input type="checkbox"/> Celebrating V&F Campaign		<input type="checkbox"/> Celebrating V&F Campaign		<input type="checkbox"/> Celebrating V&F Campaign		<input type="checkbox"/> Celebrating V&F Campaign	
<input type="checkbox"/> Celebrating V&F Fiesta Day!		<input type="checkbox"/> Celebrating V&F Fiesta Day!		<input type="checkbox"/> Celebrating V&F Fiesta Day!		<input type="checkbox"/> Celebrating V&F Fiesta Day!		<input type="checkbox"/> Celebrating V&F Fiesta Day!	
<input type="checkbox"/> Rethink Your Drink Activity		<input type="checkbox"/> Rethink Your Drink Activity		<input type="checkbox"/> Rethink Your Drink Activity		<input type="checkbox"/> Rethink Your Drink Activity		<input type="checkbox"/> Rethink Your Drink Activity	
<input type="checkbox"/> Crunch & Sip		<input type="checkbox"/> Crunch & Sip		<input type="checkbox"/> Crunch & Sip		<input type="checkbox"/> Crunch & Sip		<input type="checkbox"/> Crunch & Sip	
<input type="checkbox"/> Placemat Activity		<input type="checkbox"/> Placemat Activity		<input type="checkbox"/> Placemat Activity		<input type="checkbox"/> Placemat Activity		<input type="checkbox"/> Placemat Activity	
		<input type="checkbox"/> Healthy T-Day				<input type="checkbox"/> Healthy T-Day			

Did you do a tasting activity this week?

Yes No

Did you do a tracking activity this week?

Yes No



ActNowBC



**Action Schools! BC – Healthy Eating
Teacher Focus Group Interview Schedule
Spring 2007**

1. What factors do you think helped you to implement Action Schools! BC – Healthy Eating (consider both classroom activities and whole-school activities)?
2. What factors do you think made it difficult for you to implement Action Schools! BC – Healthy Eating (consider both classroom activities and whole-school activities)?
3. Are there milestones or achievements in the past year that you think are particularly important?
4. What impact (+/-) has Action Schools! BC – Healthy Eating had in the school?
5. What are the major lessons you learned this year through participating in Action Schools! BC - Healthy Eating?
6. What is the likelihood that your school will continue implementing Action Schools! BC - Healthy Eating?
7. What improvements could be made to the Action Schools! BC - Healthy Eating initiative and resources to enhance its chances of success in other schools and classrooms?
8. What factors do you think will facilitate the long-term sustainability of Action Schools! BC - Healthy Eating?
9. What factors do you think will be a challenge to the long-term sustainability of Action Schools! BC – Healthy Eating?

**Action Schools! BC – Healthy Eating Pilot
Teacher Feedback Survey
June 2007**

Please check the activities that you implemented in your classroom this year:

	Did you like it?	
	Yes	No
<u>Student introduction</u>		
What is Action Schools! BC – Healthy Eating?	<input type="checkbox"/>	<input type="checkbox"/>
Trying New Vegetables and Fruit	<input type="checkbox"/>	<input type="checkbox"/>
Bracelet Fun: Tracking your vegetables & fruit	<input type="checkbox"/>	<input type="checkbox"/>
<u>5 to 10 A Day Campaign</u>		
<i>Grades 4-6:</i>		
What is the 5 to 10 a Day for Better Health Message	<input type="checkbox"/>	<input type="checkbox"/>
<i>Grade 4:</i> Determining Serving Sizes	<input type="checkbox"/>	<input type="checkbox"/>
<i>Grade 5:</i> 5 A Day the Easy Way	<input type="checkbox"/>	<input type="checkbox"/>
<i>Grade 6:</i> Help Yourself to Vegetables and Fruit	<input type="checkbox"/>	<input type="checkbox"/>
<i>Grades 4-6</i>		
Tasting Party	<input type="checkbox"/>	<input type="checkbox"/>
Tracking Your Vegetables and Fruit	<input type="checkbox"/>	<input type="checkbox"/>
Vegetables and Fruit Fiesta	<input type="checkbox"/>	<input type="checkbox"/>
<u>Celebrating Vegetables and Fruit Campaign</u>		
<i>Grade 4:</i> Plant Parts	<input type="checkbox"/>	<input type="checkbox"/>
<i>Grade 5:</i> What are the 5 colour groups?	<input type="checkbox"/>	<input type="checkbox"/>
<i>Grade 6:</i> What is locally grown?	<input type="checkbox"/>	<input type="checkbox"/>

Grades 4-6:

- | | | | |
|------------------------------------|--------------------------|--------------------------|--------------------------|
| Tasting Party | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tracking Your Vegetables and Fruit | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Vegetables and Fruit Fiesta | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Healthy Snacking Campaigns

- | | | | |
|----------------|--------------------------|--------------------------|--------------------------|
| Healthy T-Days | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Crunch & Sip | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Re-Think Your Drink Campaign

- | | | | |
|-----------------------------|--------------------------|--------------------------|--------------------------|
| Re-Think Your Drink Contest | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Teaspoons of sugar | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Math Activity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Create a Sugar Display | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Coke Float Activity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Drop the Pop Challenge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Monthly Activities

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| Food Group Placemats | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Bracelet Fun | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 A Day the Colour Way | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Vegetable and Fruit Classroom Challenge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please rate the following questions on the given scale of 1 to 5:

1. What do you think about the written resources provided?

1	2	3	4	5
Not Useful		Somewhat Useful		Extremely Useful

2. What do you think about the “bin” and its contents?

1	2	3	4	5
Not Useful		Somewhat Useful		Extremely Useful

3. Rate your level of satisfaction with the amount of grant money provided for the purchase of fruit and vegetables for tasting activities.

1	2	3	4	5
Not Satisfied		Somewhat Satisfied		Extremely Satisfied

4. Rate your overall level of satisfaction with the Family Healthy Hamper

1	2	3	4	5
Not Satisfied		Somewhat Satisfied		Extremely Satisfied

5. How important was the support provided by the facilitator?

1	2	3	4	5
Not Important		Somewhat Important		Extremely Important

6. How would you describe your administrator’s support for the program?

1	2	3	4	5
Not Supportive		Somewhat Supportive		Extremely Supportive

**Action Schools! BC – Healthy Eating
K-3 Teacher Focus Group Interview Schedule
Spring 2007**

1. Which activities in the Action Schools! BC – Healthy Eating K-3 resource did you enjoy implementing? And why?
2. Were there any activities in the resource that you did not like? Why?
3. Did you adapt any of the activities? Are there any improvements that you would like to be made to the activities in the resource?
4. Are there any activities that you would like to be added to the resource?
5. Are there any activities that you would like to be removed from the resource?
6. Was there any equipment supplied in the Action Bag that you did not use, or did not like? Why?
7. What was the most useful or most liked equipment that was supplied in the Action Bag?
8. Are there any changes to the format of the resource that you feel would make the activities easier to implement?
9. What made it easier for you to implement the activities in the Healthy Eating resource (e.g. workshop, grant money, Action Bag, resource format)

Action Schools! BC – Healthy Eating Pilot
K to 3 Teacher Feedback Survey
 June 2007

What grade do you teach? _____

Please check the activities that you implemented in your classroom this year.

Did you like it?

Yes No

Learning About Vegetables and Fruit

Student Introduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
What is a Vegetable or Fruit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Size, Shape and Colour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vegetable and Fruit Families	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where Do Vegetables and Fruit Come From?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Edible Plant Parts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Growing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 a Day the Colour Way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Colourful Eating Celebrations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Serving Size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Tracking

Fruit and Vegetable Diary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apple Sticker Competition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bracelet Fun: Tracking Your Vegetables and Fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did You Eat Your Colours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vegetable and Class Challenge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thematic Units

Growing Vegetable Soup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All About Apples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick to the “Yes” box to indicate which bin contents you utilized:

	Did you like it?		
	“Yes”	Yes	No
Healthy Eating Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parent Letters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vegetables, Vegetables! And We Love Fruit books	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fruit and Vegetable flash cards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fruit and Veggie Fun! Activity Booklet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
What is a Fruit? Poster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
What is a Vegetable? Poster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
From Farm to Table Transparency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant Parts Poster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Root Viewer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laminated Fruit and Vegetable Colour groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creative Pockets Rainbow of Colors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creative Pockets Colorful Eating Celebrations!	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How Big is a Serving? Poster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bracelets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 A Day the Colour Way Charts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fruit and Vegetable Challenge chart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Growing Vegetable Soup Book	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thematic Unit: Food and Nutrition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Johnny Appleseed Book	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Giving Tree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thematic Unit: Apples for Ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Action Schools! BC
Provincial Advisory Committee**

Represented Organizations

2010 Legacies Now Society
Ministry of Health
Ministry of Education
BC School Trustees Association
Principals and Vice Principals Association of BC
BC Confederation of Parent Advisory Councils
Provincial Intermediate Teachers Association
Middle School Teacher Representative
BC Centre of Excellence for Women's Health
Ministry of Tourism, Sport and the Arts
BC Medical Association – Athletics and Recreation Committee
University of British Columbia, Faculty of Medicine
University of Victoria, Faculty of Physical Education
JW Sporta
BC Recreation and Parks Association
Dietitians of Canada, BC Region
The Directorate of Agencies for School Health

**Action Schools! BC – Healthy Eating
Technical Advisory Group
Membership List**

Teacher Representatives:

Carol Mitchell, School District 44
Jane Brown, School District 39
Carla Dunn, School District 68
Danielle Conard, School District 61

Community Nutritionist Representatives:

Areli Hermanson/Tracy Cullen, Vancouver Island Health Authority
Sydney Massey/Lynne Sawchuk, BC Dairy Foundation
Sheryl Giudici, Interior Health Authority
Cathy Richards, Interior Health Authority

Environmental Health Representative:

Lynn Wilcott, Center for Disease Control