

Evaluation of the Sustain Grab 5! school fruit and vegetable project

Evaluation report
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A report commissioned from the British Heart Foundation Healthy Promotion Research Group by Sustain: The alliance for better food and farming

This report is available to download free of charge on the Grab 5! website: www.grab5.com. A print copy costs £30 plus postage and packing. Telephone: 020 7837 2250; fax: 020 7837 1141; email: sustain@sustainweb.org

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Glossary

Grab 5! titles and acronyms

Grab 5! / Grab 5! Project

A project for primary schools wanting to encourage their children to eat more fruit and vegetables.

Grab 5! project officer

A Sustain employee coordinating the Grab 5! Project in each of the three pilot project areas, supporting schools and facilitating the local steering group (see below).

Grab 5! project pack

Includes the Grab 5! action pack (see below), the Grab 5! curriculum pack (see below) and the Grab 5! model school food policy. Also:

- British Nutrition Foundation CD Rom, *Teaching Food Safety* – an interactive learning programme for teachers and school helpers who plan to teach food preparation skills to primary school children.
- British Heart Foundation *Artie Beat* information – a club for 7-11 year olds that focuses on healthy hearts. Having joined, children receive a regular newsletter, a 5 a-day fridge magnet and information about the 5 a-day message.
- Food Standards Agency, *Balance of Good Health* leaflet and poster - information on and a diagram describing a balanced diet.

Grab 5! action pack

- Defines a whole school approach.
- Gives practical suggestions on how to implement activities such as fruit tuck shops and growing schemes.
- Gives contact details of useful organisations.

Grab 5! curriculum pack

- Provides ideas for classroom activities related to food and nutrition linked to Key Stage 2 of the National Curriculum.

The Grab 5! Model School Food Policy

- Provides a framework for schools wanting to adopt a food policy.
- Sets out questions for schools to consider.

Grab 5! reward items

For example: rulers, sky spinners, balloons, stickers, carrier bags, pencils, pens.

Grab 5! school coordinator

A member of the school staff identified as the key contact and coordinator for the Grab 5! project.

Grab 5! working party

A group of over 50 national organisations from the voluntary, private and public sectors with an interest and expertise in health, education and fruit and vegetables, that helps promote and steer the development of the Grab 5! project at national level.

Local steering group

A group set up in each of the pilot project areas representing local organisations with an interest and stake in promoting fruit and vegetables to primary school children that helped develop the Grab 5! project and support schools at local level.

DILQ: Day in the Life Questionnaire

HFFQ: Having Fun with Food Questionnaire

SPAQ: School Profile and Activities Questionnaire

Organisations referred to in this report

Community Fund – Distributes money raised by the National Lottery to support charities and voluntary groups. It gives grants mainly to help meet the needs of those at greatest disadvantage in society, and also to improve the quality of life in the community. Web: www.community-fund.org.uk

Health Education Trust – A charity formed to promote the development of health education for young people in the UK. The Health Education Trust initiates and supports work with young people to encourage the growth of healthy lifestyles. It also helps to initiate and coordinate School Nutrition Action Groups (see below). Web: www.healthedtrust.com

British Heart Foundation Health Promotion Research Group – Based at the University of Oxford, carries out research which contributes to a better assessment of the burden of chronic disease (in particular cardiovascular disease), and to the development of effective methods for promoting health. It also works to influence health promotion policy and practice. The BHFHPRG undertook the evaluation of the Grab 5! Project. Web: www.dphpc.ox.ac.uk/bhfhprg/

Food Dudes – The Food Dudes Programme, developed by psychologists at the University of Wales, Bangor, is an initiative to encourage and maintain healthy eating habits in children (especially increased consumption of fruit and vegetables). Web: www.fooddudes.co.uk

Focus on Food – An education campaign run by RSA (Royal Society for the encouragement of Arts, Manufactures and Commerce), sponsored by Waitrose. It aims to raise the profile and importance of practical food education and help secure, sustain and strengthen the position and status of food in the National Curriculum. Web: www.waitrose.com/focusonfood/

Food Standards Agency – An independent food safety watchdog set up by an Act of Parliament in 2000 to protect the public's health and consumer interests in relation to food. Web: www.food.gov.uk

School Nutrition Action Groups – School based alliances in which staff, pupils and caterers, supported by health and education professionals work together to review and expand the range of food and drink to increase the uptake of a healthier diet and ensure consistent messages from the curriculum and food service. Web: www.healthedtrust.com

SureStart – A government programme supporting children, parents and communities through the integration of early education, childcare and health and family support services. Web: www.surestart.gov.uk

Cook au Van – A team of chefs/artists that ran day-long events for Grab 5! in Leeds schools, starting with a school assembly followed by cooking and art classes, ending with sharing food with parents at the end of the school day.

Other terminology used by schools

DfES – Department for Education & Skills

– Responsible for primary, secondary and higher education. Web: www.dfes.gov.uk

Beacon school – Beacon schools are schools identified by the DfES as amongst the best performing in the country, representing examples of successful practice which are to be brought to the attention of the rest of the education service with a view to sharing and spreading that effective practice to others. Web: www.dfes.gov.uk/beacon/

HAZs – Health Action Zones are partnerships between the NHS, local authorities, community groups and the voluntary and business sectors. Twenty-six Health Action Zones (HAZs) have been established in England by the government in areas of deprivation and poor health to tackle health inequalities and modernise services through local innovation.

Health Promoting School – An award given to schools for their health promotion education on topics such as drugs, emotional health and wellbeing and healthy eating. Web: www.healthpromotingschool.com

Healthy Schools Programme – A key part of the Government's drive to improve standards of health and education and tackle health inequalities. Its aim is to make children, teachers, parents and communities more aware of the opportunities that exist in schools for improving health. Web: www.wiredforhealth.gov.uk/healthy/healint.html

HSP – Healthy Schools Partnership – In this report, the term used to describe the Healthy Schools Programme in Lambeth.

National Healthy Schools Standard – The government accreditation scheme for the Healthy Schools Programme.

National School Fruit Scheme – Part of the government five-a-day programme to increase fruit and vegetable consumption (funded by the National Lottery New Opportunities Fund). Under the Scheme, all four to six year old children in state schools will be entitled to a free piece of fruit each school day (currently either an apple, banana, pear or satsuma). www.doh.gov.uk/fiveaday/schoolfruit.htm

Ofsted – a government body that monitors schools to ensure their management and teaching is effective, "*in order to improve standards of achievement and quality of education*". A team of inspectors visits every school at least once every six years.

PSHE – Personal, Social and Health Education – Comprises all aspects of a school's planned provision to promote their pupils' personal and social development, including health and wellbeing (in secondary schools, also includes the new Citizenship curriculum).

SATs – School Attainment Tests – When children reach the end of each Key Stage i.e. when they are towards the end of Year 2 and aged about 7, and at the end of Year 6 and aged about 11, they take tests that measure what all children can do when they are set the same questions. These test are known as the Standard Assessment Tests, or SATs.

Ages of children by year group

Year 3 (aged 7 to 8)
Year 4 (aged 8 to 9)
Year 5 (aged 9 to 10)
Year 6 (aged 10 to 11)

'Five a day' Community Initiatives –

Projects working to promote the consumption of five portions of fruit and vegetables a day, led by the government, and funded by the National Lottery New Opportunities Fund).

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Overview

In 2000, Sustain: The alliance for better food and farming, secured a substantial grant from the Community Fund (previously the National Lotteries Charities Board) to fund a three-year project promoting fruit and vegetables to 7-11 year olds, with a focus on low-income groups.

This report represents the completion of the pilot and evaluation phases of the Grab 5! Project. The evaluation was undertaken by the British Heart Foundation Health Promotion Research Group of the University of Oxford. It brings together experiences and understanding gained in the first year of the project's implementation, and pinpoints the key aspects of the project's success.

From the start, evaluation was an important aspect of the project's development, since the overall aim of Sustain's Grab 5! Project was to create a framework approach and a programme of activities that could be adapted and used by schools nationwide, to bring healthy improvements to children's eating habits.

Fruit & vegetable consumption: Results

Between June 2001 and July 2002, the Grab 5! approach was tested in 26 primary schools in Lambeth, Leeds and Plymouth, typically in low-income areas. One of the Leeds schools was situated in a council estate that is among the poorest in Europe.

Children's consumption of fruit and vegetables increased in all three geographical areas, particularly for fruit (see figure 1). Of the nine primary schools that took part in detailed evaluation, four schools showed 'significant change', three 'some change' and only two appeared to show 'no change'.

Complementing the increased consumption of fruit and vegetables, evaluation researchers also recorded improved awareness and

knowledge about fruit and vegetables amongst children who had participated in the Grab 5! Project. Furthermore, there was evidence of a modest reduction in consumption of high fat snacks.

Year 6 children interviewed by the evaluation researchers showed that they were aware of the Grab 5! message, and that they enjoyed the Grab 5! activities in their schools. Some children also reported a positive impact at home.

Given that fruit and vegetable consumption is usually lowest amongst low-income groups, who experience the worst health in terms of diet-related diseases, the results of the Grab 5! pilot project are very encouraging.

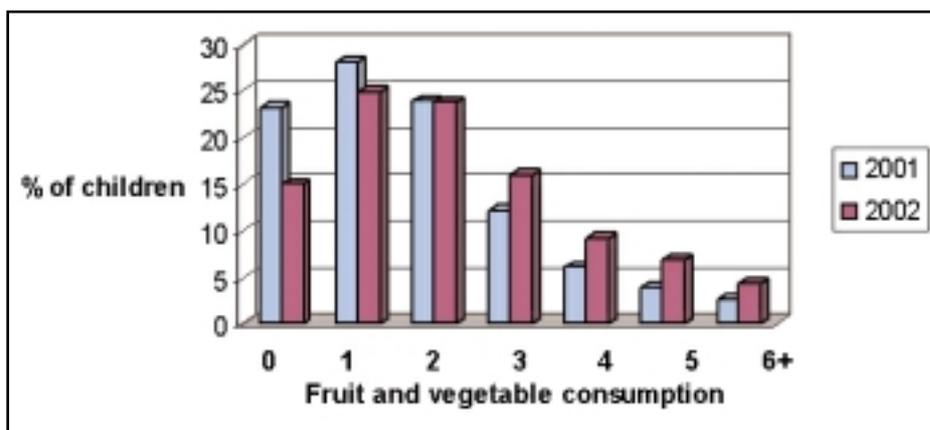
An effective approach

Increases in fruit and vegetable consumption are a testament to the effectiveness of the Grab 5! approach. It is systematic, based on sound principles of health promotion, inclusive, engaging and allows for creativity and adaptability within schools. Schools received support from Sustain's Grab 5! project officers that helped to generate ideas and maintain momentum.

Other benefits of the Grab 5! approach

The general enthusiasm and creativity with which Grab 5! was adopted and implemented in schools resulted in a large increase in activities promoting fruit and vegetables, involving staff, parents, governors and local businesses. Schools developed fruit tuck shops,

Figure 1: Total reported fruit and vegetable consumption by children, comparing responses from 2001 and 2002



growing clubs, tasting sessions and health focus weeks, amongst many other engaging projects. In this way, schools reported that they had strengthened their educational opportunities and links with the local community.

With the help of Sustain's Grab 5! project officers, many schools had also engaged with outside organisations such as the Health Action Zone, the local Healthy Schools Programme, the local authority, caterers, local businesses and health professionals. In each of the areas, Lambeth, Leeds and Plymouth, these organis-

ations formed effective multi-agency groups capable of maintaining the project in the long term.

At the end of the evaluation, people in all three areas were working on strategies to maintain the Grab 5! initiative. As a member of a local Grab 5! steering group commented:

"The process of Grab 5! shouldn't be allowed to disappear. It has been phenomenally successful and it's gaining momentum as the year is drawing to a close" (Leeds)

Grab 5! information

Several types of support and information are available that explore the opportunities presented by the Grab 5! approach, including:

The Grab 5! Action Pack

- Defines a whole school approach
- Gives practical suggestions on how to implement activities such as fruit tuck shops and growing schemes.
- Gives contact details of useful organisations.

The Grab 5! Curriculum Pack

- Provides ideas for classroom activities related to food and nutrition linked to Key Stage 2 of the National Curriculum.

The Grab 5! Model School Food Policy

- Provides a framework for schools wanting to adopt a food policy.
- Sets out questions for schools to consider.

Grab 5! website

The Grab 5! website www.grab5.com includes all of the above materials which can be downloaded free of charge. Ring-bound copies

are also available to purchase. The website also includes background to the project, an outline of what happened in the pilot project areas and details of national events such as the Grab 5! School Meal Challenge.

Grab 5! video

An introductory video to the Grab 5! project available free in CD Rom and VHS format.

Training courses

How to implement Grab 5! in your area – for organisations and individuals who want to support primary schools in their area with a healthy eating initiative, including:

- How to run Grab 5! in school – *for school staff*;
- How to encourage children to choose the healthy options at lunch time – *for school cooks*;
- How to manage a healthy school meals service – *for school management*.

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Section 1: Introduction

Reasons for developing the Grab 5! Project

The Grab 5! Project was developed because:

- There is international scientific consensus that eating at least five portions of fruit and vegetables per day reduces the risk of heart disease, some cancers and other diet-related conditions such as asthma. People in the UK consume less fruit and vegetables than consumers in many other EU countries, with average intakes of barely three portions a day.
- Children eat even less fruit and vegetables than adults, with an average consumption of less than two portions per day. During a government survey, one in five children ate no fruit in a week.
- Eating habits are formed in childhood, so we have the opportunity to break unhealthy habits during childhood and form healthy ones for years to come. With children keen to learn, schools are the ideal place to encourage healthier eating.
- Children from low-income groups have the lowest consumption of fruit and vegetables of all, and the potential health gains from eating more are the highest.

Why “Grab 5!”?

Most people are aware that fruit and vegetables are ‘good’ for them, but few know how many portions they should be eating, or the size of a ‘portion’. It is widely agreed that 80 grammes (80g) constitutes a portion size for an average adult, with portions for children being proportionately smaller. A ‘handful’ of fruit or vegetables – e.g. one apple, two plums, a helping of peas – is a rough-and-ready guide to the 80g portion size. The ‘handful’ also has the advantage of varying in size, in roughly the right proportions with the size of an adult or child’s hand. If every child grabbed five handfuls of fruit and vegetables each day, they would probably be meeting the recommended intake: hence “Grab 5!” became the name of the project.

Project preparations

Between August 2001 and July 2002 the Grab 5! Project was tested in primary schools in Lambeth, Leeds and Plymouth. The year prior to this was spent consolidating links with these three areas, developing the Grab 5! approach, producing educational and promotional materials for schools, recruiting schools and setting up local steering groups. The aim of the local steering groups was to support and maintain the project at a local level.

Lambeth, Leeds and Plymouth were chosen as the three pilot project areas because of their Health Action Zone (HAZ) status, meaning that they have particularly high levels of deprivation. Sustain had secured support for the project from the HAZs and identified partners to work with. The three areas also represented differences in terms of geography, size and ethnicity.

Originally, two Grab 5! project officers were employed, to support schools working in the three geographical areas. However, prior to the work taking place in schools, a third Grab 5! project officer was appointed in order to support participating schools in Plymouth. Each geographical area therefore had one dedicated Grab 5! project officer.

Cross-sector support

A key aim of Sustain, in running the Grab 5! Project, has been to embrace all interested bodies including the fresh, frozen, canned and dried fruit and vegetable industries, retailers, producers, community groups, policy makers, government departments, researchers and health and education experts.

To support this aim, a large national working party was established, coordinated by Sustain and chaired by Joe Harvey of the Health Education Trust, comprising experienced representatives from organisations across the private, public and voluntary sectors (see Appendix IV, p.94 for members).

Sustain has also endeavoured to link with, and build on, the experiences of other initiatives that work with schools on healthy eating and on the promotion of fruit and

vegetables. These have included:

- Government programmes such as the National Healthy Schools Standard, the National School Fruit Scheme and the five-a-day community initiatives.
- Food Standards Agency funded research projects, including one on fruit tuck shops and another on a whole-school project promoting fruit and vegetables.
- Non-governmental initiatives such as the Food Dudes programme developed by the Psychology Department of the University of Bangor; the Waitrose-sponsored Focus on Food; and School Nutrition Action Groups supported by the Health Education Trust.

Pilot projects

Letters were sent to all primary schools in Lambeth, Leeds and Plymouth, giving an outline of the Grab 5! Project, and inviting the schools to take part. Sustain's Grab 5! project officers then visited all schools that had expressed an interest in joining the project and gave details to head teachers of what participation in the project would entail.

The 26 schools that participated were chosen as those that were keen to take part, that met criteria of greatest need, and that had support and commitment from the head teacher. Once the head teachers had confirmed their commitment to the project they were asked to appoint a Grab 5! school coordinator (either themselves, the deputy head, a teacher or other member of school staff) able and willing to take on a coordinating role for the duration of the project, acting as the main point of contact for the Grab 5! project officer and for the local steering group. In the nine schools chosen for in-depth evaluation, the Grab 5! school coordinator also played a key role in reporting to researchers on the progress and outcomes of the Grab 5! Project.

Following school recruitment, the Grab 5! project officers organised training days in each geographical area and invited the Grab 5! school coordinators, plus one or two other representatives from each school to take part (June/July 2001). Training days were designed

to give school representatives the knowledge and motivation to implement the programme in their schools.

Activities in schools started in September 2001. All schools adopted a whole school approach to the project and were encouraged to adopt a food policy. Within the approach, schools identified their own scheme of work and the range of activities they intended to undertake. Activities such as growing schemes, cooking, tasting and fruit tuck shops were particularly popular.

Having identified their intended activities, schools produced action plans that, where possible, were integrated into school development plans and curriculum timetables. Action plans were reviewed termly in cooperation with their Grab 5! project officer. Where agreed, the Grab 5! project officer and members of the local steering group gave practical and financial support for implementing the activities.

Supporting materials

Every school participating in the scheme received supporting materials (see page 9 for contents of packs) including:

- The Grab 5! Action Pack.
- The Grab 5! Curriculum Pack.
- The Grab 5! Model School Food Policy.
- An electric food blender.
- A Grab 5! banner.
- A set of fruit and vegetable posters.
- A range of Grab 5! reward items, e.g. rulers, sky spinners, balloons, stickers, carrier bags, pencils, pens.
- Supporting literature, e.g. the British Nutrition Foundation CD Rom *Teaching food safety*, the British Heart Foundation *Artie Beat* information and the Food Standards Agency *Balance of good health* leaflet and poster.

Evaluation

Evaluation of the pilot phase of the project was undertaken by the British Heart Foundation Health Promotion Research Group, of the University of Oxford. The evaluation began in the summer of 2001 and ended in the summer of 2002. The main body of the evaluation involved an in-depth study of nine schools (three in each of Lambeth, Leeds and Plymouth). These were selected to represent a variety of characteristics and circumstances in

primary schools around the country. This was supplemented with information from the further 17 participating schools.

The evaluation had two components:

- An outcome evaluation using questionnaires completed by children.
- A process evaluation that involved interviewing children, teachers and other school staff, catering staff, parents, governors,

and members of local steering groups. The evaluation also included an assessment of how the Grab 5! Project had been adopted, both at the level of the local area and within each school.

This report has been produced by the British Heart Foundation Health Promotion Research Group, and is a result of the evaluation.

1.1 Main features of the Grab 5! Project

The aims of the pilot project were to:

- Increase consumption of fruit and vegetables by children aged 7-11 years, with a focus on low-income groups in schools in three areas: Lambeth, Leeds and Plymouth.
- Establish local multi-agency steering groups in each of the three pilot project areas capable of supporting the promotion of fruit and vegetable to 7-11 year olds in the longer term.
- Develop a workable model for a national programme of fruit and vegetable promotion based on experiences in the three pilot project areas.

These aims were to be met by tackling the obstacles to increasing fruit and vegetable consumption among children, through the following strategies:

Improving acceptability by:

- Creating positive peer pressure and role models.
- Developing activities that help dispel negative perceptions.
- Working with food providers to provide tasty and appealing fruit and vegetables.

Improving accessibility by:

- Creating a school environment that supports healthy eating.
- Providing opportunities for children to taste and experiment with fruit and vegetables.

- Encouraging parents to get involved in school-based activities so that fruit and vegetables might also be made available outside school.

Improving affordability by:

- Ensuring fruit and vegetables are available at low cost.
- Making maximum use of marketing by a range of retailers.

Sustain's Grab 5! project officers engaged in the following activities:

- Setting up a local steering group in each area, comprising public, private and voluntary organisations able and willing to support the project in local schools.
- Producing a Grab 5! project pack, available to all schools in the pilot project areas, containing curriculum materials and practical advice.
- Working closely with selected schools that had a large proportion of pupils from low-income families.
- Encouraging this group of selected schools to agree a decision-making process and prepare an action plan for implementing a range of activities to promote fruit and vegetable consumption.
- Providing these schools with funding, practical and other support to help them implement their chosen activities.

1.2 Aims of the Grab 5! Project evaluation

Nine schools (three in each of the three pilot project areas - Lambeth, Plymouth and Leeds) were selected as part of an in-depth evaluation of the pilot phase of the Grab 5! Project. This in-depth evaluation had two components: an outcome and a process evaluation.

The aims of the outcome evaluation were to:

- Assess any change in fruit and vegetable consumption among 7-11 year olds.
- Assess any change in knowledge, attitudes and beliefs relating to fruit and vegetables among 7-11 year olds.

The aim of the process evaluation was to:

- Analyse what could be learnt about the process of the project as a whole and about particular activities.

Additionally, information was collected about activities taking place as result of the Grab 5! Project in the other 17 schools that were chosen to take part in the pilot project.

The overall aim of the evaluation was to:

- Inform the development of a workable and effective model for a nationwide programme to promote fruit and vegetable consumption among 7-11 year olds.

Section 2

Methodology of the evaluation

Evaluating a complex project such as Grab 5! was a compromise between breadth and depth of information.

Nine schools (three in each of the three pilot project areas – Lambeth, Plymouth and Leeds) were selected as part of an in-depth evaluation of the pilot phase of the Grab 5! Project. This in-depth evaluation had two components: an outcome and a process evaluation. For details of the methods used for these components, refer to sections 2.2 and 2.3.

For the Outcome Evaluation, questionnaires were used: the Day in the Life Questionnaire; the Having Fun with Food Questionnaire; and the School Profile and Activities Questionnaire. See Appendix I to view these questionnaires.

Details of statistical analysis are in Appendix II.

For the Process Evaluation, information was gathered in nine schools through interviews with caterers, Grab 5! school coordinators, other key staff, focus groups with children, and interviews with members of local steering groups. See Appendix III for details.

All interviews and focus-group responses were analysed using 'content analysis' (Weber, 1990). The approach was that of 'realistic evaluation' (Pawson & Tilley, 1997), where 'mechanisms for change triggered by a programme' are identified in the context of the social and cultural setting of the programme. This approach negates the need for control groups.

2.1 The selection of schools

All primary schools in Lambeth, Leeds and Plymouth were invited by Sustain to take part in the Grab 5! Project, and 28 schools enrolled (two of which dropped out of the project because of too many other priorities). From these schools, nine were selected for in-depth evaluation, chosen to represent the broad cross-section of schools taking part in the Grab 5! Project. Project officers helped to select these schools, based on knowledge gained during the training days and from steering group members.

The choice of three schools from each area

was considered a representative sample to provide statistical power numerically. The selected schools reflected a wide range of sizes, ethnic groups, location and style of school meal service. Some schools were part of the National Healthy Schools Standard and some were not.

Initial contact with each school by the evaluators was made by phone. Visits were then arranged in order to meet key school staff and to establish a good working relationship with them in order to facilitate subsequent interviews and completion of questionnaires.

2.2 Outcome evaluation methods

The outcome evaluation was designed to answer the following research questions:

- To what extent and in what ways did the Grab 5! Project change the levels of fruit and vegetable consumption in 7-10 year old children in the participating schools?
- To what extent and in what ways did the Grab 5! Project change the knowledge, attitudes and beliefs of 7-10 year old children with regard to fruit and vegetable consumption?

Fruit and vegetable consumption

Consumption data for fruit and vegetables and high-fat snacks (e.g. crisps and savoury biscuits), were collected using the Day in the Life Questionnaire (DILQ) (see Appendix I). The DILQ had been validated as a method of collecting reliable information about fruit and vegetable consumption in 7-9 year old children in an earlier study (Edmunds & Ziebland 2002).

DILQs were administered in the classroom using methods from the DILQ manual (Edmunds, 2000). DILQs were completed as a class exercise, with the questions read to the children. When completing questionnaires, children gave names so that responses in 2001 could be matched with responses in 2002. Coding of questionnaires and analysis of data were also conducted following DILQ manual instructions. Data from the DILQs on the children's consumption of fruit, vegetables and high-fat snacks were analysed using the Statistical Package for Social Scientists.

DILQs were administered approximately one year apart (see Table 1).

Table 1: Timetable of administering Day in the Life Questionnaires in 2001 & 2002

Location	School	Date in 2001	Date in 2002
Lambeth	1	July 10th	July 5th
	2	July 5th	July 4th
	3	June 20th	June 3rd
Leeds	4	June 29th	June 24th
	5	June 28th	June 26th
	6	June 27th	June 26th
Plymouth	7	June 12th, 13th*	June 14th*
	8	June 8th	June 13th
	9	June 7th	June 13th

* School 7 is large, and during 2001 classes were only able to take part in the evaluation after lunch, so data were collected over two days. Classes were available for a whole day in 2002.

Knowledge, attitudes and beliefs

Information on children's knowledge, attitudes and beliefs relating to fruit and vegetables, before and after Grab 5! activities, was collected using the Having Fun with Food Questionnaire (HFFQ) (see Appendix I). The HFFQ was specially developed for this evaluation because no appropriate validated questionnaire was available. Questions about food preferences were adapted from fruit and vegetable intervention studies in the UK and the US, supplemented with knowledge questions adapted from a UK study and redesigned by a community dietitian. The selection of snacks, fruits and vegetables included in HFFQ was derived from a content analysis of over 1,000 DILQs, from the DILQ validation study and Grab 5! baseline data. The HFFQ was tested for language, ease of use and timing with a class of Year 4 children in a school situated close to the research centre, in Oxford.

Teachers administered the questionnaires in autumn 2001 and researchers did so in summer 2002. Instructions on how to administer the questionnaires were given to the teachers by phone and by letter. Researchers rather than teachers administered the questionnaires the second time for practical reasons – they were already in the school administering DILQs, and it ensured rapid completion and return.

Activities stimulated by the Grab 5! Project

To assess activities stimulated by the Grab 5! Project, a postal questionnaire, the School Profile and Activities Questionnaire (SPAQ) (see Appendix I) was sent out (before the end of the summer terms in 2001 and 2002) to the 28 schools that first expressed an interest in participating.

Early in summer 2001, two schools dropped out of the Grab 5! Project, leaving 26 schools. Those not returning the questionnaire by the end of the summer term were contacted by phone and sent second and third copies of the questionnaire in the autumn. In 2001, all 26 schools

eventually returned their questionnaire. In 2002, six schools failed to return their SPAQs (one in Lambeth, two in Plymouth and three in Leeds) giving an overall return rate of 77% (80% in Lambeth; 75% in Leeds and 77% in Plymouth).

Figure 2: Timetable of data collection for the outcome evaluation

2001							2002						
June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
DILQ							DILQ						
SPAQ							SPAQ						
HFFQ							HFFQ						
Process evaluation													

DILQ = Day in the Life Questionnaire; SPAQ = School Profile and Activities Questionnaire; HFFQ = Having Fun with Food Questionnaire

2.3 Process evaluation methods

The process evaluation was designed to answer the following research questions:

- How did the schools address obstacles to increased fruit and vegetable consumption (acceptability, accessibility and affordability)?
- What successful activities did participating schools implement? How and why were these activities successful, and how and why were they implemented?
- Which activities did participating schools find to be unsuccessful? How and why were they unsuccessful?
- What was learned that could be incorporated in a workable model for a nationwide project?

The process evaluation was based on semi-structured interviews with the Grab 5! school co-ordinators in each of the nine schools chosen for in-depth evaluation. The interviews were carried out between June 2001 and July 2002.

Grab 5! school coordinators were interviewed on three occasions, covering the following ground:

- Interview 1 placed the school in context, aiming to uncover attitudes in the school to healthy eating.
- Interview 2 discussed progress of the Grab 5! Project, explored the structures within the

school that facilitated uptake and involvement with Grab 5!, and discussed the support role of the Grab 5! project officer.

- Interview 3 involved the researcher and co-ordinator reflecting on the whole year of the Grab 5! Project.

Details of the interview schedules can be seen in Appendix III.

Information from the interviews with Grab 5! school co-ordinators was supplemented with:

- Interviews with school staff and parents.
- Focus groups with Year 6 children.
- Interviews with members of local steering groups.
- Observations and document analysis.

Interviews with school staff and parents

In all nine schools, semi-structured interviews were conducted with Grab 5! school coordinators and catering managers. Other interviewees were selected by the Grab 5! school coordinators or head teachers, chosen from teachers, learning mentors, classroom assistants, parents, governors, catering staff, and others having an interest in the project. The number of supplementary interviews varied between schools due to availability and time. In every school, views on the impact of the Grab 5! Project were gathered from at least three different perspectives: teachers, caterers, children and other school personnel (see Table 2).

Table 2: Key people interviewed to supplement interviews with the main Grab 5! school coordinators, catering staff, and focus groups with Year 6 children

Location	School	Interviewees in addition to school coordinator, catering manager & Year 6 children
Lambeth	1	1 deputy head, 1 special needs teacher, 4 parents
	2	1 head teacher
	3	2 class teachers, 2 learning mentors, 1 governor, 1 lunch-time assistant, 3 parents
Leeds	4	3 class teachers, 1 learning mentor
	5	2 learning mentors, 1 classroom assistant, 1 parent
	6	1 head teacher, 6 class teachers, 1 learning mentor, 1 special needs teacher, 2 classroom assistants, 1 lunch-time supervisor, 1 governor, 1 parent
Plymouth	7	1 deputy head teacher, 5 class teachers, 1 kitchen manager
	8	1 deputy head teacher, 1 teacher, 1 lunch-time assistant
	9	1 class teacher, 1 teaching assistant, 1 governor, 1 teacher

Focus groups with Year 6 children

The aims of the focus groups with Year 6 children (aged 10-11) were to:

- Assess the impact of the Grab 5! Project on children.
- Examine children's awareness of Grab 5! Project initiatives.
- Elucidate any changes in fruit and vegetable consumption.

Focus group schedules were developed and tested in May 2002. The focus groups took place in quiet locations with groups of between six and nine children selected by their class teachers, but without their teachers present.

Interviews with local steering groups

Interviews were conducted with members of local steering groups in all three geographical areas. The aim was to capture features of the Grab 5! Project that schools might not have been aware of, e.g. the planning and involvement of other agencies in the year before the project was presented to schools. Two steering group members from each area were interviewed. Details of interview schedules can be found in Appendix III.

Observations and document analysis

Diaries were kept by researchers to record observations made during school visits about how the Grab 5! Project was being implemented in schools. Comments relating to school documents were also recorded. The diaries were used to improve understanding of the context of the Grab 5! activities in each school.

Figure 3: Timetable of data collection for the process evaluation

2001							2002						
June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
Interview 1 with school coordinators				Interview 1 with school coordinators				Interview 2 with school coordinators				Interview 2 with school coordinators (<i>continued</i>)	
				Interviews with catering staff				Interviews with teachers, catering staff, parents				Interviews with teachers, catering staff, parents	
												Focus groups with Year 6 children	
												Interviews with local steering group members	

Section 3

Outcome evaluation results

3.1 Description of schools

In Lambeth, schools 1 and 2 were multi-storey schools, and exhibited typical inner-city school difficulties. School 3 was a beacon school in an up-and-coming area and gave a very different impression. Beacon schools are typically those with high education standards, National Healthy School Scheme status and Ofsted reports showing the school is well managed.

In Leeds, school 4 was another beacon school in an up-and-coming area, where the housing was mixed and appeared to be in a pleasant suburb. The other two schools in Leeds were very different. School 5 was situated in a poor council estate and was isolated by motorways, with very limited shopping facilities. School 6 was situated in one of the poorest council estates in Europe, and there were very few shops in the area.

All three Plymouth schools were in the same area near the naval dock yards, and situated on poor council estates. There were few shops, and the one supermarket in the immediate vicinity did not offer a good selection of fruit and

vegetables. School 7 was very large and very active, whereas in school 8 the staff were suffering stress problems and school 9 was a small school with restricted space.

Table 3 summarises characteristics of these nine schools chosen for in-depth evaluation.

The nine schools ranged from having one and half class groups per year (two in Plymouth and two in Leeds: n = 98, 93, 101 and 88 respectively) to schools with three class groups per year (one in Lambeth and another in Leeds: n = 239 and 230 respectively).

All Year 3 and 4 children (aged 7-9 years) were included in the project in 2001, and all Year 4 and 5 children (aged 8-10 years) were included in the project in 2002. In total, nearly 1,400 responses from children were gathered. Of these, 1,311 responses were gathered by means of the Day in the Life Questionnaire (2001 and 2002) and 79 were gathered from focus groups with Year 6 children. Details of the numbers of children in each school who took part in the evaluation (assessed by DILQ returns) are shown in Table 4.

Table 3: Summary of characteristics of the nine schools chosen for in-depth evaluation

Location	School	Age-range	Children on roll	% free meals	Ethnic composition
Lambeth	1	3 to 11	350	49	Caribbean 28%, white British 22%, Nigerian 13%, Portuguese 12%, Spanish 2%, Turkish 2%, Bengali 4%, other African 11%, other European 4%, other Asian 2%
	2	3 to 11	482	50	Portuguese, Spanish, Nigerian, white British, Caribbean, other African, other European, other Asian
	3	3 to 11	380	26	Caribbean 46%, white British 42%, SE Asian 3%, other European 9%
Leeds	4	5 to 11	405	21	White British, Caribbean, African, Chinese, Indian/Pakistani, Vietnamese, Arabic
	5	3 to 11	201	51	Mainly white British
	6	4 to 11	190	46	Mainly white British
Plymouth	7	3 to 11	364	47	Mainly white British
	8	3 to 11	180	31	Mainly white British
	9	5 to 11	228	22	Mainly white British

Data were collected 7th June to 10th July 2001, and 13th June to 5th July 2002, based on information made available by each school

Table 4: Number of children who took part in the evaluation study, by school, in 2001 and 2002

Location	School	2001		2002		Total
		Boys	Girls	Boys	Girls	
Lambeth	1	45	23	48	30	146
	2	46	54	50	54	204
	3	31	47	49	68	195
Leeds	4	55	58	57	58	229
	5	25	16	30	17	88
Plymouth	6	19	29	25	28	101
	7	40	42	38	50	170
	8	19	16	20	25	80
	9	26	23	25	24	98
Total		306	308	342	354	1,311

Note: A total of 614 children took part in 2001 and 696 in 2002. The figure 1,311 gives the aggregate, although this includes some children who filled in Day in the Life Questionnaires in both 2001 and 2002 (75% of the children completed the DILQ on both occasions). The

differences in numbers of children between years is accounted for by the way different schools were organised. In some schools, year groups were mixed, and some additional older or younger children took part in the evaluation.

3.2 Changes in fruit & vegetable consumption

Key points

The evaluation showed a statistically significant increase in reported fruit and vegetable consumption as well as improved awareness and knowledge about fruit and vegetables.

Overall, there was a greater increase in fruit consumption compared with vegetables.

A reduction was reported in the consumption of high-fat snacks, but this was statistically significant only in Plymouth.

All children aged 7-9 years (in Years 3 and 4: $n = 614$) from the nine schools selected for in-depth evaluation were assessed for their fruit and vegetable consumption in 2001. This data was gathered using the Day in the Life Questionnaire (DILQ), administered in the school setting. The following year, all children aged 8-10 years (in Years 4 and 5: $n = 697$) in the same schools were assessed, in order to track children's progress. On each occasion, similar numbers of girls and boys participated. In 2001, 306 girls and 308 boys took part. In 2002, 342 girls and 354 boys took part.

In 2001, the average consumption of fruit and vegetables per child was 1.73 pieces per day (standard deviation [SD]: 1.55). In 2002 the average intake had risen to 2.21 pieces per day (SD: 1.71): an increase of 0.5 pieces. This increase was statistically significant ($P < 0.000$) using the Kruskal-Wallis test. Standard deviation is a statistical term that describes the range around the mean where 95% of responses will lie.

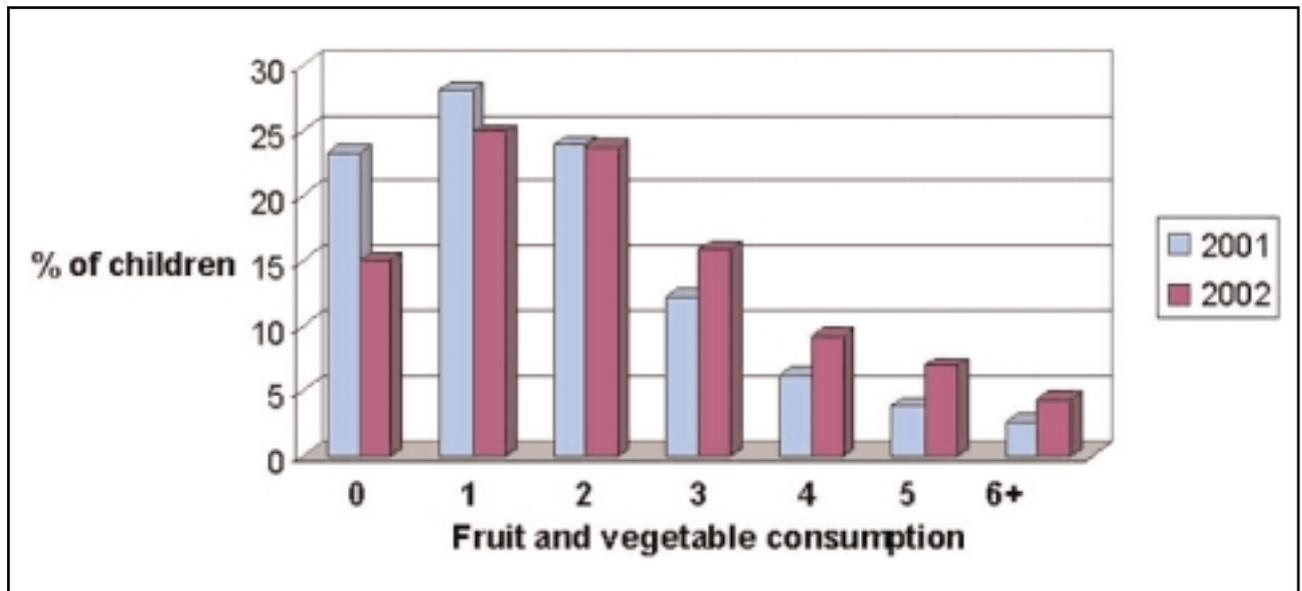
Further analysis showed that as well as a

significant increase in total fruit and vegetable consumption amongst the children, there was:

- A significant increase in fruit consumption - from 0.94 pieces (SD: 1.15) to 1.31 pieces (SD: 1.15) ($P < 0.05$).
- A significant increase in vegetable consumption - from 0.80 pieces (SD: 0.99) to 0.91 pieces (SD: 1.03) ($P < 0.05$).
- A reduction in reported high-fat snack consumption - from 0.78 items to 0.69 items, but this was not statistically significant using the Kruskal Wallis test ($P = 0.120$).
- The average increase in fruit consumption (0.37 pieces) was greater than the average increase in vegetable consumption (0.11 pieces).

The total average reported fruit and vegetable consumption of all participating children is shown in Figure 4 and Table 5.

Figure 4: Total average reported consumption of fruit and vegetables by children (24-hour recall), comparing responses from 2001 and 2002



On average, the consumption of fruit, vegetables and fruit juice was significantly increased from 1.7 to 2.2 pieces of fruit and vegetables ($P < 0.05$). Overall, there was a

notable shift in distribution, and the percentage of children reporting consumption of no fruit and vegetables (24-hour recall) dropped from 23% to 15%.

Table 5: Total average reported consumption of fruit and vegetables by children (24-hour recall), comparing responses from 2001 and 2002

Number of pieces	0	1	2	3	4	5	6+
2001 (% of children)	23%	28%	24%	12%	6%	4%	3%
2002 (% of children)	15%	26%	24%	16%	9%	7%	4%

Description of fruits and vegetables reported by children in the Day in the Life Questionnaire

Key points

The range of fruit and vegetables consumed was similar before and after the Grab 5! Project.

Children consumed more baked beans than any other vegetable, but fewer children ate

only baked beans as their only vegetable intake after the Grab 5! Project.

There was a large increase in fruit juice consumption.

In 2001, children reported eating a range of fruits and vegetables (fruits: n=20; veg: n=23). Overall, fruit juices were the primary source of fruit consumption for children (34.5%), with apples, bananas and oranges also reported as being consumed frequently.

In 2001, children reported consuming baked beans in far greater quantities than any other vegetables (40% of intake). Cucumber, carrots, peas and salad were also consumed in notable quantities.

In 2002, the range of fruits and vegetables reported was similar (fruits: n=23; vegetables: n=22). There were similar patterns of consumption in 2002, with fruit juice accounting for 40% of fruit intake, followed by apples, oranges and

bananas – as in 2001. Fruit juices accounted for the only fruit intake in 18% of children in 2001 and 2002.

In 2002, children still consumed more baked beans than any other vegetable but they now represented 14% of the reported intake, and the percentage of children recording only baked beans as their vegetable intake fell from 16% in 2001 to 9% in 2002.

Overall, there were large increases in fruit juice consumption, with notable increases in reported consumption of common fruits such as apples, bananas and particularly oranges. Changes in vegetable intake included not only a decrease in baked bean consumption, but large increases in carrots, peas and salad (see Table 6).

Table 6: Types of fruits and vegetables reported by children as having been consumed (24-hour recall), comparing responses from 2001 and 2002

Fruit	2001	2002	Vegetables	2001	2002
Fruit juices	203	301	Baked beans	162	108
Apples	150	270	Cucumber	61	87
Bananas	50	84	Carrots	43	81
Oranges	36	130	Peas	42	93
Fruit	28	40	Salad	41	83
Strawberries	24	22	Sweet corn	36	55
Peaches	22	24	Tomatoes	25	27
Melon	13	7	Vegetables	22	43
Plums	13	0	Lettuce	15	5
Dried fruit	9	6	Broccoli	5	27
Nectarines	8	5	Mushrooms	5	4
Cherries	7	8	Plantain	5	5
Grapes	7	20	Celery	3	0
Pears	7	17	Coleslaw	3	8
Satsumas	3	1	Pepper	3	0
Pineapple	2	4	Spinach	3	0
Mandarins	2	2	Yam	3	0
Apricots	1	2	Cabbage	2	17
Blueberries	1	0	Green beans	2	4
Kiwis	1	2	Onion	2	4
Mango	1	2	Turnip	2	0
Rhubarb	0	1	Pulses	1	1
Tangerines	0	5	Sprouts	1	0
Lychees	0	1	Cauliflower	0	7
Raspberries	0	1	Marrow	0	1
Redcurrants	0	1	Parsnips	0	1
			Akea	0	3
			Olives	0	1
Number of fruit and vegetable incidences reported/number of DILQs	588 (624 DILQs)	973 (754 DILQs)		409 (624 DILQs)	665 (754 DILQs)
Average per DILQ	0.94	1.29		0.65	0.88

N.B. These responses represent all the Day in the Life Questionnaires completed (n = 1,378). Most questionnaires were filled in by children in Years 4 and 5. The additional questionnaires were filled in by Year 3 and Year 6 children in schools with mixed year groups.

Differences in fruit and vegetable consumption by geographical area

Key points

In all three areas (Lambeth, Leeds and Plymouth), there was an overall increase in fruit and vegetable consumption (particularly fruit), but Plymouth did not increase to the same degree. Changes within each area between 2001 and 2002 were as follows:

- Lambeth: There were significant increases in fruit consumption and total consumption ($P = 0.000$).

- Leeds: There were significant increases in fruit consumption, vegetable consumption, and total consumption ($P < 0.05$).

- Plymouth: There was a significant increase in fruit consumption ($P < 0.05$).

There was also a modest reduction in consumption of high-fat snacks in all three areas, although this was statistically significant only in Plymouth.

In summer 2001 there were no significant differences in fruit and vegetable consumption across the three geographical areas (Lambeth, Leeds and Plymouth), i.e. children were on average consuming almost one piece of fruit (0.95), and most of one piece of vegetable (0.75) which together gave them a total intake of less than two (1.7) pieces of fruit and vegetables per day.

By summer 2002 (see Table 8), children in all three areas were consuming, on average, just over one piece of fruit per day. In Lambeth and

Leeds, children were consuming significantly more vegetables, which in turn had a significant impact on total consumption, and so children in these areas were consuming more pieces of fruit and vegetables than children in Plymouth.

However, crisp consumption fell significantly ($P = 0.032$) in Plymouth and not in Lambeth and Leeds. This suggests the Grab 5! Project may have worked differently in the three areas, or that there may have been other confounding factors.

Table 7: Children's average total consumption of fruit and vegetables in each of the three geographical areas, comparing 2001 and 2002

	Lambeth		Leeds		Plymouth	
	2001	2002	2001	2002	2001	2002
Fruit (pieces)	0.85	1.3*	1.1	1.3*	0.85	1.2*
Vegetables (pieces)	0.82	1.0	0.83	1.0*	0.71	0.7
Total consumption (pieces)	1.7	2.3*	1.9	2.3*	1.6	1.9

* These changes are statistically significant ($P < 0.05$). Kruskal Wallance was used to test for statistical significance

Differences in fruit and vegetable consumption by school

Key points

Individual schools showed a range of results from no significant increase to significant increases - the highest of which were in the beacon schools. Of the nine schools that participated in the in-depth evaluation study:

- Four schools reported significant increases in total fruit and vegetable consumption (schools 2, 3, 4 and 9).
- Three schools reported a small increase in total fruit and vegetable consumption (schools 6, 7 and 8).
- Two schools reported a small decrease in total fruit and vegetable consumption (schools 1 and 5).

Figure 5 shows the levels of fruit and vegetable consumption in each of the nine selected schools at the beginning and at the end of the Grab 5! Project.

The greatest increase was seen in school 3, where children were eating almost one extra piece of fruit and vegetables on average, followed by schools 2, 4 and 9, where children were eating about three quarters of one piece extra. In schools 6 and 8, the increases were not statistically significant, but children were still eating an extra fifth and third of one piece a day on average, respectively (see Figure 5 and Table 8). Table 8 shows changes in fruit and vegetable consumption (2001 to 2002) for each

school. Changes in consumption were complex and patterns of intake varied between schools. In one school (school 2), significant increases were seen in fruit consumption, in vegetable consumption and in total fruit and vegetable consumption; whereas in two of the schools (schools 6 and 7), consumption remained similar. In two schools, increased consumption of one category of produce was countered by decreased consumption in the other. For example, in school 1, fruit consumption increased and vegetable consumption decreased; in school 5, vegetable consumption increased and fruit consumption decreased.

Figure 5: Average total reported consumption of fruit and vegetables by children in each school (24-hour recall), comparing results from 2001 and 2002

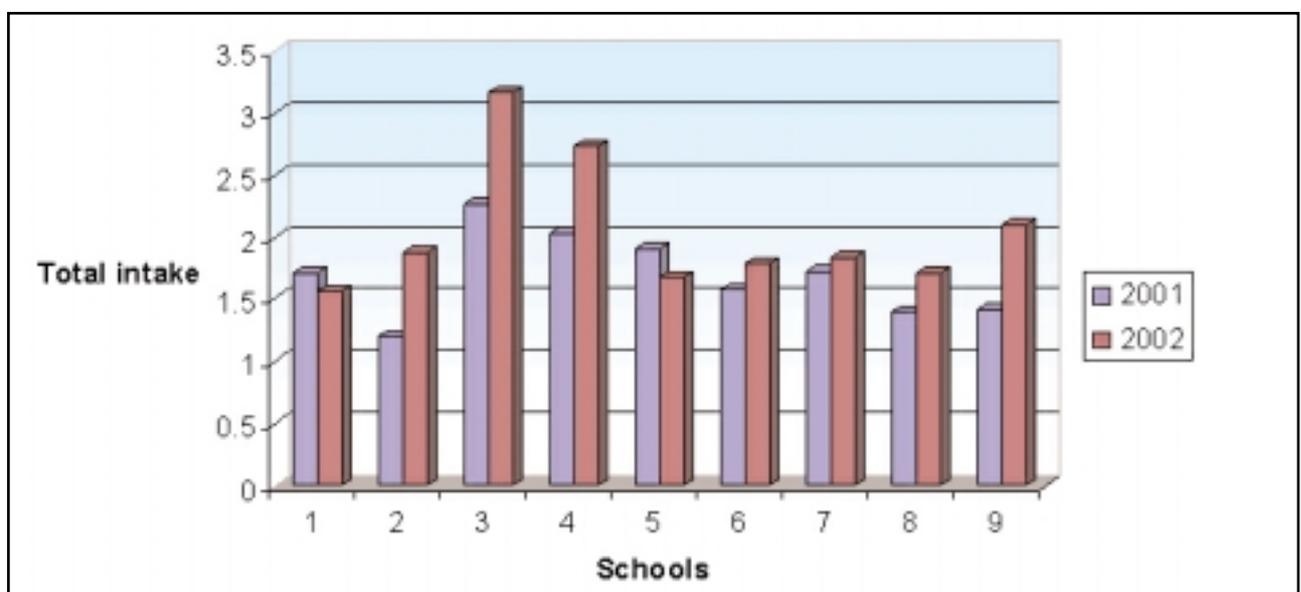


Table 8: Changes in fruit and vegetable consumption by school

Location	School	Change in fruit consumption (pieces)	Change in vegetable consumption (pieces)	Change in total consumption (pieces)	Comments on statistical significance
Lambeth	1	0.40*	-0.55*	-0.15	Significant increase in fruit consumption, countered by a significant decrease in vegetable consumption
	2	0.44*	0.46*	0.90*	Significant increases in fruit consumption, vegetable consumption, and total consumption
	3	0.45*	0.23	0.68*	Significant increases in fruit consumption and total consumption
Leeds	4	0.49*	0.22	0.71*	Significant increases in fruit consumption and total consumption
	5	-0.57*	0.35*	-0.22	Significant increase in vegetable consumption, countered by a significant decrease in fruit consumption
	6	0.27	-0.06	0.21	No significant changes
Plymouth	7	0.10	0.02	0.12	No significant changes
	8	0.35*	-0.04	0.31	Significant increase in fruit consumption
	9	0.76*	-0.06	0.70*	Significant increases in fruit consumption and total consumption

* Indicates a statistically significant change in consumption (Kruskal Wallance) between 2001 and 2002

Differences in fruit and vegetable consumption by gender

Key points

Overall, girls reported consuming significantly more fruit and vegetables than boys, but both increased their fruit and vegetable consumption during the first year of the Grab 5! Project.

On average, changes within each gender between 2001 and 2002 were as follows:

- Girls: significant increases in fruit consumption and total consumption ($P < 0.05$).
- Boys: significant increases in fruit consumption, vegetable consumption and total consumption ($P < 0.05$).

Table 9 shows the changes in fruit and vegetable consumption (2001 to 2002), with data given separately for girls and boys. It shows that at the beginning and at the end of the first year of the Grab 5! Project, girls consumed more fruit and vegetables overall than boys. Girls increased their fruit consumption and total consumption over the year, and boys increased their fruit consumption, their vegetable consumption and their total consumption. However the boys were still not eating as much as the girls. By the end of 2002, boys had achieved levels of

consumption reported by girls in 2001. For example, in 2001, girls reported eating just over one piece of fruit per day, which increased to one and half pieces; boys reported eating three-quarters of a piece of fruit per day in 2001, which increased to just over one piece in 2002.

This gender difference has been found in other studies, and is generally attributed to factors such as girls being more compliant than boys and reporting increased fruit and vegetable consumption as a weight management strategy.

Table 9: Differences in fruit and vegetable consumption by gender

	2001		2002		Comment on statistical significance between genders
	Girls	Boys	Girls	Boys	
	2001	2002	2001	2002	
Fruit (pieces)	1.10	0.77	1.49*	1.08*	Girls reported eating more fruit than boys, in both years
Vegetables (pieces)	0.86	0.73	0.94	0.86*	Not significantly different
Total consumption (pieces)	1.95	1.48	2.42*	1.93*	Girls reported greater consumption than boys, in both years

* Indicates a statistically significant change in consumption (Kruskal Wallace, $P < 0.05$) between girls and boys

Differences in fruit and vegetable consumption during the school day, and out of school

Key points

Increases in fruit and vegetable consumption were reported by children both at school and out of school, between 2001 and 2002.

The following analysis explored where increases in fruit and vegetable consumption (if any) were taking place. 'During the school day' refers to all the eating opportunities in school (two questions in the Day in the Life Questionnaire: at break and during the school meal). 'Out of school' refers to all other eating opportunities (six questions in the Day in the Life Questionnaire: at breakfast; on the way to school; on the way home; as after-school snack; at the evening meal, and at bedtime).

Increases were observed both at school and out of school, as follows:

- During the school day, fruit and vegetable consumption increased from 0.79 to 0.91 pieces (P = 0.008).

- Out of school, fruit and vegetable consumption increased from 0.95 to 1.32 pieces (P = 0.000).

Table 10 shows changes in fruit and vegetable consumption for each school, during the school day and out of school, 2001 to 2002. The majority of schools showed increases during the school day, with only two reporting significant decreases (schools 1 and 7). Children in three schools reported significant increases in fruit and vegetable consumption out of school (schools 2, 3 and 4). Two of these were beacon schools (3 and 4). In school 4, the overall increases appear to be attributable to increases in consumption out of school, suggesting that parents were responsible for most of the change.

Table 10: Changes in fruit & vegetable consumption during the school day and out of school

Location	School	Change in consumption during school day (pieces)	Change in consumption out of school (pieces)	Summary of significant changes in overall fruit and vegetable consumption (from Table 8)
Lambeth	1	-0.30*	0.0	Increase in fruit consumption, countered by a decrease in vegetable consumption
	2	0.24*	0.43*	Increases in fruit consumption, vegetable consumption and total consumption
	3	0.34*	0.57*	Increases in fruit consumption and total consumption
Leeds	4	0.18	0.63*	Increases in fruit consumption and total consumption
	5	-0.32	0.11	Increase in vegetable consumption, countered by a decrease in fruit consumption
	6	0.20 ⁺	0.0	All non significant
Plymouth	7	-0.22*	0.34 ⁺	All non significant
	8	0.37 ⁺	-0.10	Increase in fruit consumption
	9	0.53*	0.22	Increase in fruit consumption, and an almost significant increase in total consumption (P = 0.055)

* Indicates a statistically significant change in consumption (Kruskal Wallace, $P < 0.05$) between 2001 and 2002

⁺ Results were close to being significant (between 0.05 and 0.09)

Differences in fruit and vegetable consumption for a matched sub-sample of children

Key points

Data from a sub-sample of named children known to have taken part in the Grab 5! Project for the whole year showed results equivalent to the main sample.

The analyses above were performed on data for fruit and vegetable consumption reported by all Year 3 and 4 children in 2001 and all Year 4 and 5 children in 2002. However, children included their names when completing the Day in the Life Questionnaire, allowing the creation of a sub-sample of children ($n = 501$; girls: 51%) whose questionnaires were matched for both occasions. Analyses of this sub-sample represent findings from children known to be present at both times and throughout the year. Overall, equivalent results were obtained for this matched sub-sample to those shown for the whole sample (given in Tables 7 to 10, above).

The average total fruit and vegetable consumption for this sub-sample was 1.7 pieces per day in 2001, and rose to 2.2 pieces in 2002 (0.5 increase; $P < 0.000$ [Kruskal-Wallis test for statistical significance]). This sub-sample represents 75% of the larger sample, with each school contributing a similar proportion of the children. The samples were so similar that repeating all the analyses is likely to produce the same results and add little to the findings. This would be very repetitive and so the repeated analyses on this sub-sample were not conducted, and are therefore not included in this report.

Discussion of changes in fruit & vegetable consumption

How representative were the findings?

The nine primary schools chosen for in-depth evaluation represented a variety of circumstances typical of urban areas in major cities.

Increases in fruit and vegetable consumption found here were in keeping with the average increase (0.6) achieved in similar interventions in a recent review of the evidence by Ammerman et al (2002), and with the average increase in fruit and vegetables (0.4) from the APPLES project (Sahota et al, 2001) which was also set in Leeds, but with different primary schools. These results are in contrast to interventions aimed at improving the diets of UK secondary school children, in which a two-year evaluation focusing on foods consumed during the school day showed no significant increases in consumption of healthier foods. This was despite considerable input to encourage healthier diets (Parker & Fox, 2001).

Actual consumption may be higher

Although the increase in fruit and vegetable consumption during the Grab 5! Project was significant, the actual increase in children's consumption is likely to be higher for two reasons:

1. The Day in the Life Questionnaire (DILQ) provided a conservative measure of fruit and vegetable consumption because composite foods are not included (e.g. apple crumble is not included because the child may not eat any apple).

This approach allows us to make unambiguous comparisons between time one and time two. Any strategies in schools that included more fruit puddings or more vegetable toppings on pizzas would not have been picked up as there would be no method of comparing like with like at the beginning and end of the project.

2. Results from the Day in the Life Questionnaire validation study showed children of this age are about 70% accurate when remembering their fruit and vegetable consumption, i.e. they forget about 30% (Edmunds & Ziebland, 2002).

Effects on other aspects of diet

Increases in fruit and vegetable consumption

were accompanied by a modest decrease in consumption of high-fat snacks, consistent with other studies (Ammerman *et al*, 2002; Epstein *et al*, 2001). In one area (Plymouth), this decrease was statistically significant. There was some evidence from the DILQ validation study that fruit and crisps occupy the same slots in a child's diet (Edmunds & Ziebland, 2001) - for instance, as a snack at break time.

Children reported consuming fruit juices and baked beans more frequently than other fruits and vegetables in both 2001 and 2002. However, both these items count as only one portion per day no matter how much is drunk or eaten because of associated health concerns. During processing, fruit juice loses much of its dietary fibre, along with some vitamins and minerals, and the fruit sugars become extrinsic and so more damaging to teeth. With baked beans, sugar and high levels of salt may be added during processing.

For 9-18% of children, fruit juice and baked beans were the only source of fruit and vegetables in their diets, and were a significant contribution to fruit and vegetable consumption for other children too.

These average consumption levels were low compared with findings of the National Diet and Nutrition Survey (NDNS, 1997). The NDNS showed that fruit juices were consumed by around 50% of 7-10 year olds, compared with 34.5 % in the Grab 5! Project.

In the NDNS, over 60% of this age group reported eating baked beans, compared with 40% at the beginning of the Grab 5! Project.

The findings here are exactly two thirds of the NDNS figures. Both sets of figures are relative and can be compared only at face value. For instance, the NDNS findings cover seven days, whereas the Grab 5! DILQ covered one day. If DILQ data were gathered for a seven-day period, they might or might not produce results that would be more in line with the NDNS.

However, even with such considerations in mind, it would appear by the end of the Grab 5! year, children were reporting drinking less fruit juice and eating fewer baked beans than most UK children of the same age.

Differences in fruit and vegetable consumption

In general, increases in fruit consumption were more common than increases in vegetable consumption (with the exception of school 5, where vegetable consumption increased and fruit consumption declined). As an initial strategy, focusing on increasing fruit consumption may be an effective way to get children who are eating very little fruit and vegetables to increase their total consumption.

Reasons why it may have been easier to increase fruit consumption than vegetable consumption amongst children include:

- Fruit tends to be more appealing to a child's palate because it is usually sweeter than vegetables.
- Fruit is often eaten as a snack while most vegetables are eaten as part of a meal.
- Fruit usually requires less preparation, does not require cooking, and is therefore easier for schools to offer as tasters in classrooms and at break times.

All schools participating in the Grab 5! Project (except school 5) appeared to focus on the promotion of fruit consumption.

Girls reported eating more fruit and vegetables than boys, which may be due to socially desirable reporting. Girls of this age are already aware of healthy eating messages, and of the cult of thinness pervasive in society (Hill & Pallin, 1998). However, in this sample, girls also reported eating more high-fat snacks, and so socially desirable self-presentation may not have been an issue for them.

Findings from the comparison between consumption during the school day and out of school illustrate the complexity of the effects of interventions such as Grab 5!. Assumptions about efforts within any one school resulting in increased consumption cannot be made as they are influenced by the whole school context. Cultural and financial pressures in the surrounding areas, as well as food availability will affect a school's attempts to improve children's diets. However, not surprisingly, having beacon school status and a relatively less deprived catchment area improved the likelihood of children increasing their level of fruit and vegetable consumption outside school.

3.3 Changes in knowledge, attitudes & beliefs

Key points

After the Grab 5! Project, when asked to make a direct choice between a healthy and a less healthy food option, children showed a small but significant increase in preferring healthier foods, with a significant change in preferring sandwiches to crisps.

When asked to select foods they preferred from a range of options, there were significant increases in selecting healthier snacks and fruit, but there was also a significant increase

in reported preference for less healthy snacks, and no increase in preference for vegetables.

At the beginning of the evaluation, the majority of children already knew that they should eat five pieces of fruit and vegetables per day, and that fruit and vegetables contain lots of fibre, and this did not change significantly during the Grab 5! Project. But there was a significant increase in children knowing that frozen produce was as healthy as fresh.

The Having Fun with Food Questionnaire (HFFQ) (see Appendix I) was used to investigate changes in the children's knowledge, attitudes and beliefs with regard to fruit and vegetables (see Appendix II for development of the HFFQ). Data from the HFFQ had a normal distribution and so t-tests were used to test for significance ($P = 0.05$). Children were asked to assess their preference for fruit and vegetables, but also for other types of foods - giving a comparison between healthy and less healthy food options.

The following analyses are the results for each of the three sections of the HFFQ, as follows:

- Section 1 determined food preference, asking children to choose between healthy and less healthy food options (for example, between bananas and biscuits). It then asked children to identify with two fruit characters, Ollie and Cheery, associated with liking more or less fruit, vegetables and salad.
- Section 2 asked children to circle as many pictures of snacks, fruits and vegetables as they liked. Changes in attitudes towards, preference for, and knowledge about, types of foods (snacks, fruit and vegetables), were inferred from the results.

- Section 3 asked children a series of knowledge questions (for example whether frozen vegetables are as good for you as fresh ones).

Choosing between healthier and less healthy options

Table 11 shows the results of the HFFQ for all Year 3 and 4 children in 2001, and all Year 4 and 5 children in 2002.

Children were asked to make a preference choice between a healthier food and a less healthy option. Often, the choice children had was between a healthier food and a less healthy food known to be a favourite with children (e.g. ice-cream, burger), and so even a small change in reported preferences can be considered an achievement. There were small increases in preference for more vegetables and salad, but none of these responses showed a significant improvement between 2001 and 2002.

The selection of healthier food preferences did improve significantly over the course of the year, but healthier preferences remained at fairly low levels overall.

Table 11: Children's preferences for healthier foods, comparing average scores between 2001 and 2002 (Having Fun with Food Questionnaire, Section 1)

Having Fun with Food Questionnaire (summed variables) ⁺	2001		2002		P: Differences between 2001 and 2002
	Mean (SD)	% of healthier options chosen	Mean (SD)	% of healthier options chosen	
Preference for healthier foods (max score = 8)	3.1 (SD: 1.9)	39	3.3* (SD: 1.9)	41	Significant difference (P=0.017)
Preferences for: more fruit; more veg; more salad (max score = 3)	1.6 (SD: 0.9)	53	1.7 (SD: 0.9)	57	Not significant

SD = Standard Deviation

* Indicates a statistically significant change in preference ($P < 0.05$) between 2001 and 2002

⁺ See Table 12 (below) for details of specific foods that the children chose between.

Note: HFFQ responses were in line with DILQ responses.

Table 12: Percentage of children showing preference for healthier foods, comparing responses between 2001 and 2002 (Having Fun with Food Questionnaire, Section 1)

Preferences	2001 (% healthier choice)	2002 (% healthier choice)
Healthier / Less healthy		
Milk / Soft drink	50.6	46.0
Beans on toast / Sausages	38.5	34.3
Jelly and fruit / Ice cream	37.7	36.8
Banana / Biscuits	46.2	47.5
Baked potato / Chips	34.7	37.7
Sandwiches / Crisps	32.7	39.7*
Apple / Apple pie	62.1	58.8
Fish fingers / Burger	46.4	48.6
Most fruit / Some fruit	68.1	68.5
Few vegetables / One vegetable	50.6	53.3
Salad / No salad	49.3	53.8

* Indicates a statistically significant change in preference ($P < 0.05$) between 2001 and 2002

Table 12 shows that children displayed both increases and decreases in preference for healthier food options. Overall, there was a small but significant change to preferring healthier foods. The only statistically significant change was an increased preference for sandwiches over crisps.

Preference for healthier food options

Table 13 shows the results of Section 2 of the Having Fun with Food Questionnaire. There were significant increases in preference for both healthy and less healthy snacks, and an increase in preference for fruit. The preference for vegetables also increased, but not significantly.

Changes in knowledge

Table 14 shows the results from Section 3 of the Having Fun with Food Questionnaire, which measured changes in knowledge relating to fruit and vegetables. At the beginning of the evaluation, most children already knew that they should eat five pieces of fruit and vegetables per day, and that fruit and vegetables contain lots of fibre. However, after the Grab 5! Project, there was a significant increase in children who knew that frozen produce was as healthy as fresh.

Table 13: Percentage of preferences for healthier snacks, less healthy snacks, fruit and vegetables (Having Fun with Food Questionnaire, Section 2)

Having Fun with Food Questionnaire (summed variables) ⁺	2001		2002		P: Differences between 2001 and 2002
	Mean (SD)	% of healthier options chosen	Mean (SD)	% of healthier options chosen	
Healthy snacks (banana, apple, other fruit, yoghurt; (max score = 4))	2.8 (SD: 1.3)	70	3.0* (SD: 1.2)	75	Significant increase (P=0.005)
Less healthy snacks (chocolate, crisps, sweets, biscuits) (max score = 4)	2.7 (SD: 1.2)	68	3.0* (SD: 1.2)	75	Significant increase (P=0.001)
Fruit (max score = 11)	7.7 (SD: 2.6)	70	8.2* (SD: 2.6)	75	Significant increase (P=0.000)
Vegetables (potatoes excluded, max score = 12)	5.5 (SD: 2.9)	46	5.7 (SD: 3.0)	48	A small increase, but not significant

Table 14: Knowledge about fruit and vegetables, comparing average scores between 2001 and 2002 (Having Fun with Food Questionnaire, Section 3)

Having Fun with Food Questionnaire (summed variables) ⁺	2001		2002		P: Differences between 2001 and 2002
	Mean (SD)	%	Mean (SD)	%	
1. How many pieces of fruit and vegetables should you have per day? (answer = 5)	4.8 (SD: 1.2)	72	4.9 (SD: 1.0)	79	No significant change
2. Are frozen fruit and vegetables as healthy as fresh? ("yes" scores 1)	0.25 (SD: 0.4)	25	0.30* (SD: 0.4)	30	Significant increase (P=0.017)
3. Do fruit and vegetables have lots of fibre? ("yes" scores 1)	0.89 (SD: 0.3)	89	0.89 (SD: 0.3)	89	No significant change

For tables 13 and 14, SD = Standard Deviation

* Indicates a statistically significant change in preference (P<0.05) between 2001 and 2002

+ See Table 12 (previous page) for details of details of specific foods that the children chose between

Differences between schools

Key points

There were differences between schools, in food preference and knowledge, in 2001 and 2002.

Responses by school was considered more appropriate than by area for the Having Fun with Food Questionnaire (HFFQ). The HFFQ measured attitudes and knowledge, which may be more closely associate with what children are being taught in the classroom, than external influences from the area in which the school is based (unlike the Day in the Life Questionnaire, where in-school and external factors are likely to be significant).

Food preference questions (Section 1) and knowledge questions (Section 3) were chosen as most meaningful to explore changes within schools and differences between schools.

The first analysis compares schools: How different were the schools from each other in 2001? And how different were they in 2002? The second analysis compares results within each of the nine schools over the course of the year.

Comparing results between schools

Figure 6 shows the differences between schools when selecting healthier foods using the preference question (Section 1 of the HFFQ). In 2001, there were significant differences between the schools (school 2 had the lowest score), but by 2002 the results were more even, with an average preference for 3.3 healthier food items from the possible maximum of eight.

Further preference questions asked children to choose between:

- More or less fruit.
- A few vegetables or one vegetable.
- Salad or no salad.

Each of these three questions had a maximum score of one for choosing the healthier option.

More or less fruit: In 2001, the differences between schools for preferring more or less fruit were significant. By 2002, these differences were only just significant, with children reporting similar fruit preferences in each school (see Figure 7).

More or less vegetables: In 2001, the differences between schools for preferring more or less vegetables were not significant, with about 50% of the children choosing each option across all schools. By 2002 these differences were significant with children in schools 3, 5 and 6 stating a significantly increased preference for vegetables and children in schools 1 and 8 stating a significantly decreased preference for vegetables (see Figure 8).

Salad or no salad: The pattern of differences between schools for preferring more or less salad stayed constant between 2001 and 2002. There were significant differences in both years, with the lowest scores for schools 8 and 9, and higher scores for schools 2, 3 and 6 higher ($P = 0.000$) (see Figure 9).

Figure 6: Average score for healthier food preferences, by school, for 2001 and 2002

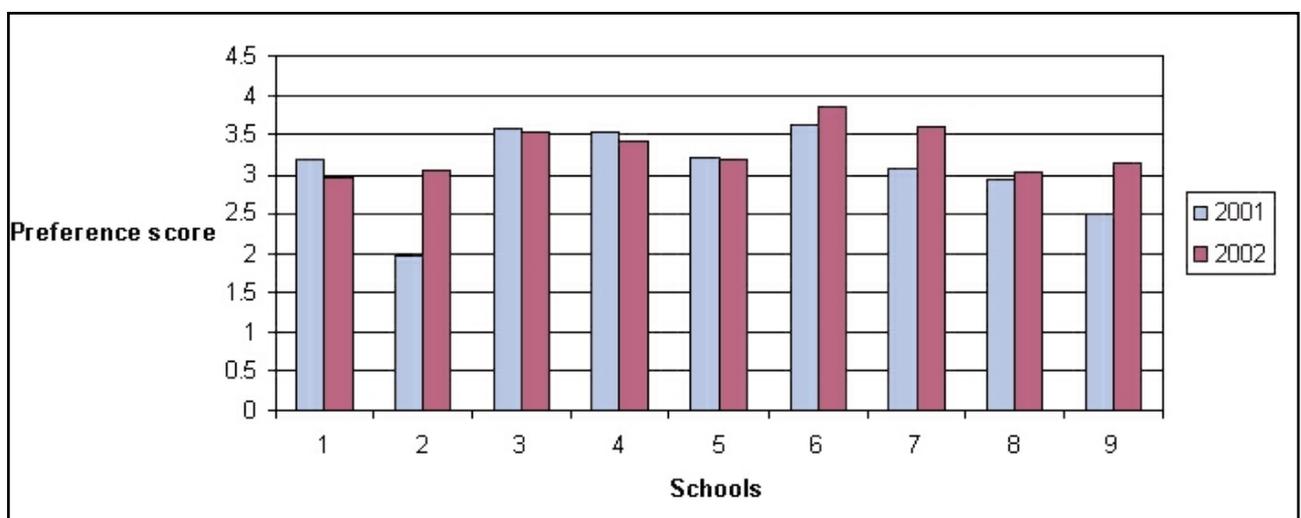


Figure 7: Average score for fruit preference, by school, for 2001 & 2002 (max score = 1)

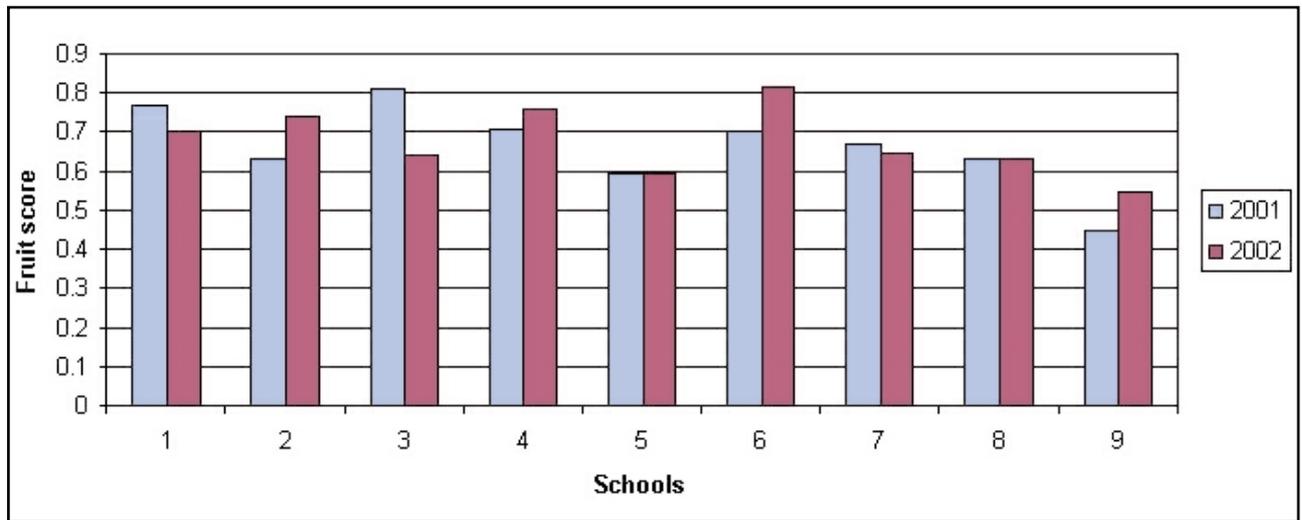


Figure 8: Average score for vegetable preference, by school, for 2001 & 2002 (max score = 1)

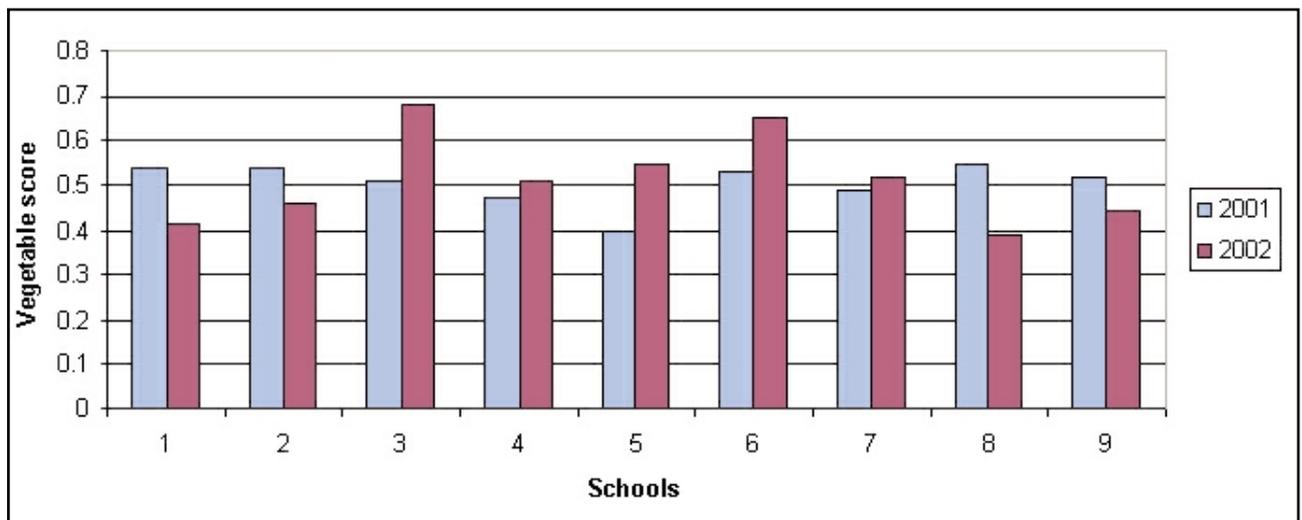
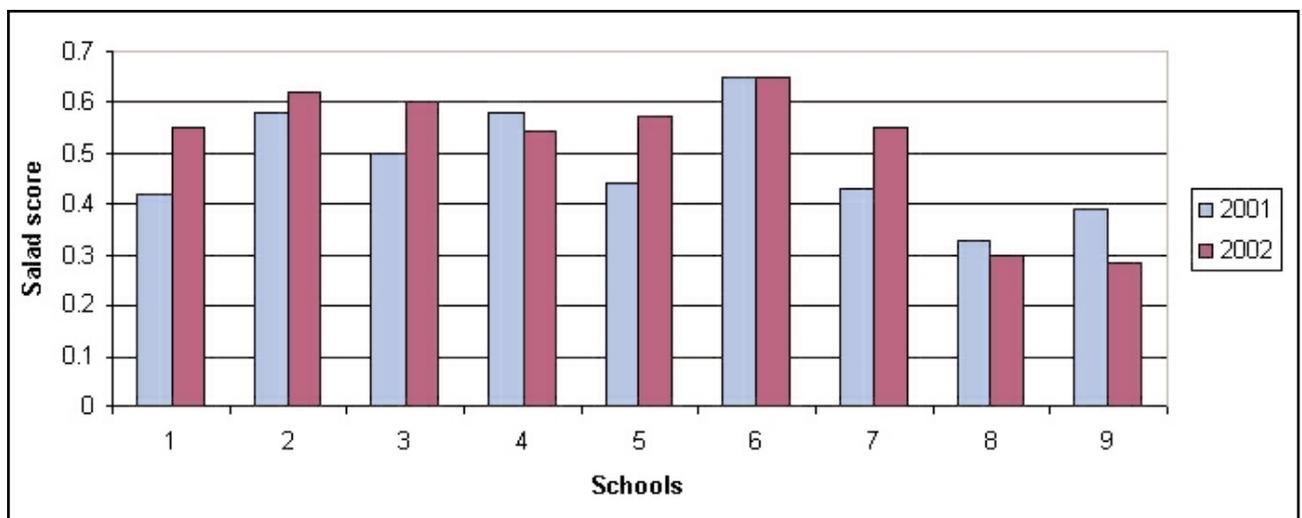


Figure 9: Average score for salad preference, by school, for 2001 & 2002 (max score = 1)



Comparing children's knowledge between schools

Comparing children's knowledge between schools, using responses to the knowledge questions shown in Table 14, showed changes between 2001 and 2002. In 2001, children in school 9 were less aware that they should eat five pieces of fruit and vegetables per day, but by 2002, most children in all participating schools knew that they should 'Grab 5!'

In both years, about one third of children

were aware that frozen produce is as healthy as fresh, but the differences between the schools for this question remained significant. In 2001, schools 1, 4 and 9 had lower than average responses. In 2002, schools 4 and 7 had lower scores, and schools 2, 3 and 6 had higher scores than average.

Children in school 4 showed less knowledge about fibre, but by 2002 there were no differences between the schools, and 90% of all children responded with the correct answer.

Responses analysed by gender

Key points

Girls tended to report greater preference for healthier choices than boys, and although the response scores of both genders improved during the Grab 5! Project, girls tended to

achieve higher scores overall. Between 2001 and 2002, boys improved to the level initially reported by girls in 2001.

All sections of the Having Fun with Food Questionnaire (HFFQ) were included in the following analysis, exploring snack selection patterns of girls and boys to find out if the patterns observed in the Day in the Life Questionnaire (DILQ) were repeated in responses to the HFFQ. Table 15 shows the results of the responses analysed by gender.

In 2001, boys were less aware than girls that they should be eating five portions of fruit and vegetables per day, and overall boys showed the most significant improvements in knowledge-based questions.

By 2002 the girls were reporting healthier choices compared with boys. In the HFFQ, girls had higher scores for healthier food preferences,

choosing more fruit in Section 1, more fruit and healthy snacks in Section 2, and showing increased awareness of fruit and vegetables as a source of fibre in Section 3 (this last result is less statistically meaningful, as most children were already aware of the high fibre content of fruit and vegetables). However, girls' preference for less healthy snacks also increased between 2001 and 2002.

There were consistent patterns in these data. Responses to questions about vegetables were relatively unchanged, as were boys responses to items other than knowledge-based questions, and there was a low average score for knowing that frozen produce is as healthy as fresh.

Table 15: Responses for the Having Fun with Food Questionnaire, by gender, showing average scores for making healthier choices / answering knowledge questions

Having Fun with Food Questionnaire (summed variables)	Girls 2001 to 2002 (mean scores)	Boys 2001 to 2002 (mean scores)	Girls vs Boys Comment on significance of differences between genders
SECTION 1 PREFERENCE FOR HEALTHIER FOODS			
Preference for healthier foods (max score = 8)	3.21 to 3.54*	3.02 to 3.22	2001: no difference between girls and boys 2002: girls chose more healthier foods than boys
Preference for more fruit (max scores = 1)	0.72 to 0.74	0.63 to 0.64	2001: no difference between girls and boys 2002: girls chose more fruit than boys
Preference for more vegetables (max scores = 1)	0.51 to 0.61	0.52 to 0.54	2001: no difference between girls and boys 2002: no difference between girls and boys
Preference for more salad (max scores = 1)	0.52 to 0.60	0.52 to 0.53	2001: no difference between girls and boys 2002: no difference between girls and boys
SECTION 2 SELECTION OF SNACKS, FRUIT AND VEGETABLES			
Healthy snacks (banana; apple; other fruit; yoghurt; max score = 4)	2.81 to 3.14**	2.73 to 2.80	2001: no difference between girls and boys 2002: girls chose more healthy snacks than boys
Less healthy snacks (chocolate; crisps; sweets; biscuits; max score = 4)	2.81 to 3.14*	2.94 to 3.02	2001: no difference between girls and boys 2002: no difference between girls and boys
Fruit (max score = 11)	7.72 to 8.44**	7.63 to 8.00	2001: no difference between girls and boys 2002: girls chose more fruit than boys
Vegetables (potatoes excluded, max score = 12)	5.53 to 5.81	5.42 to 5.54	2001: no difference between girls and boys 2002: no difference between girls and boys
SECTION 3 KNOWLEDGE QUESTIONS			
1. How many pieces of fruit and vegetables should you have per day? (Answer = 5)	4.93 to 5.00	4.62 to 4.84*	2001: boys got a lower correct score than girls 2002: no difference between girls and boys
2. Are frozen fruit and vegetables as healthy as fresh? ("yes" scores 1)	0.24 to 0.33*	0.21 to 0.34*	2001: no difference between girls and boys 2002: no difference between girls and boys
3. Do fruit and vegetables have lots of fibre? (“yes” scores 1)	0.91 to 0.92	0.90 to 0.91	2001: no difference between girls and boys 2002: girls got a higher correct score than boys

* and ** both indicate a statistically significant change between 2001 and 2002, with * indicating that $P < 0.05$ and ** indicating that $P < 0.005$

Discussion of changes in knowledge, attitudes and beliefs

Many of the results from the HFFQ illustrate the difficulties in changing responses that are associated with lifestyle behaviours over a relatively short period of time. The general findings from the HFFQs were consistent with those from the DILQs, such as more positive reactions to fruit rather than vegetables, and a slightly improved preference for healthier foods. However, the only significant change in specific healthy food choices in the HFFQ was an increased preference for sandwiches over crisps.

Differences between the genders may reflect broader cultural issues. For example, girls respond more positively to primary school

teaching approaches and to school based interventions, which may explain some of the differences between genders seen in the HFFQ. Fruit and vegetable consumption is socially desirable, which can give rise to children giving answers designed to please adults, or through a wish to conform.

Girls may also wish to give the impression that they eat foods that do not encourage weight gain, influenced by cultural 'thin is good' messages. However, although girls reported more healthy eating patterns, they also reported a preference for unhealthy snacks (e.g. chocolate and crisps).

3.4 Activities stimulated by the Grab 5! Project

Key points

Schools returning School Profile and Activities Questionnaire reported dramatic increases in the number and variety of school activities and involvement of staff, parents and governors. They also reported that the Grab 5! Project had contributed to the National Curriculum.

Activities were characterised as creative and holistic, and rose from an average of 1.3 per school to 6.3 per school.

The range of activities (e.g. cooking classes for parents, a Tastathon, guest speakers in assembly, Apple Day, an Indian café and a healthy banquet) increased from 2 to 26.

Twenty-four School Profile and Activities Questionnaires (SPAQs) were completed by schools in 2001 (an overall return rate of 92%: 80% in Lambeth; 92% in Leeds; 100% in Plymouth), and 19 in 2002 (an overall return rate of 73%: 80% in Lambeth; 67% in Leeds; 78% in Plymouth). Data was collected in June, July & September 2001, and June & July 2002.

Healthy break policy

Table 16 shows an overview of school policies for food served at break times. In 2001, half of the 24 schools returning their SPAQ mentioned a break-time policy and of these, four allowed children to eat less healthy foods.

By 2002, all 19 schools returning their SPAQ (73% of all schools participating in the Grab 5! Project) gave details of policies for food at break times. All reported that children were allowed to eat only healthy foods at break time, whether those foods were brought in from home or served from a school tuck shop. In the majority of cases this was fruit and in some cases it was fruit and other healthy snacks such as bread.

Strategies employed by the schools

Tables 17 and 18 show the strategies reported in each school to increase fruit and vegetable consumption, for 2001 and 2002 respectively. In 2001, respondents were requested to tick various activities (indicated with + for positive responses), whereas in 2002 respondents were asked about the frequency of use of each activity, and to give ticks for additional activities (e.g. growing projects, healthier packed lunches, and health focus weeks). Respondents had opportunities in both years to list any other additional activities taking place in their school.

Comparing 2001 to 2002

Considerably more activity was reported in the

2002 SPAQs compared with 2001. Differences in activities in all schools during the Grab 5! Project are summarised in Table 19. In addition to the activities listed in the SPAQ, the number of 'other' activities rose from 2 in 2001 to 26 in 2002. These included guest speakers in assembly, an Indian café, parent cooking classes, special occasions such as Apple Day, a Tastathon and a banquet, as well as curriculum-based activities such as drama, food diaries, a survey and a reward scheme.

By 2002, 14 schools had linked the Grab 5! Project into the National Curriculum (in PHSE and science, with a food and farming project and many healthy eating topics).

Fourteen schools reported other adults who had become involved in fruit and vegetable promotion activities, including parents, governors and catering staff.

Tables summarising answers given by schools do not necessarily include all activities that occurred in schools as a result of the Grab 5! Project. Answers given by the schools depend on how the person completing the questionnaire interpreted the question and what they remembered at the time of completion. In some instances, for example, the Grab 5! project officers and/or the process evaluation of the nine schools chosen for in-depth evaluation revealed additional information. Also, more descriptive information given in the SPAQs by some respondents has not been recorded in the tables.

Size of sample

Numbers of children enrolled in the schools fluctuated slightly from 2001 to 2002, but most other characteristics remained constant. Numbers remained similar for the type of lunch taken by children, i.e. paid school meal, free school meal or packed lunch. For more information about what different activities entailed, see Section 4.

Table 16: Summary of information from the School Profile and Activities Questionnaire, including details of schools with break-time food policies (comparing responses from 2001 and 2002)

Location	School	No. of children on roll	Age range	No. of children paying for school meals	No. of children receiving free school meals	No. of children bringing packed lunches	Food prepared on site?	Break-time food policies 2001	Break-time food policies 2002
Lambeth									
	1	326	3-11	106	161	59	+	-	Water only
	B								
	2	385	3-11	147	176	62	+	-	Fruit only
	3	357	3-11	89	157	111	-	-	Water only
Leeds	C	270	3-11	189	54	27	-	Fruit, biscuits	Milk and fruit
	D	140	5-11	28	40	72	+	Fruit	Fruit & healthy snacks
	E	203	4-11	59	-	43	-	Healthy tuck shop	SPAQ not returned
	4	405	4-11	85	-	126	+	-	Fruit only
	F	289	3-11	92	43	143	-	Fruit, crisps	Fruit & healthy snacks
	G	174	4-11	39	36	99	+	Fruit only	Fruit only
	5	205	3-11	105	-	54	+	-	Fruit only
	H	262	3-11	94	-	139	+	Cereal & fruit	SPAQ not returned
	I	248	3-11	60	38	102	+	-	Fruit only
	J	497	3-11	79	107	233	+	Fruit	Healthy snacks
	6	190	5-11	87	-	68	-	-	Fruit and vegetables
	K								
	L	244	4-11	105	-	117	-	-	SPAQ not returned
Plymouth	M	340	5 - 11	126	-	-	-	Fruit, crisps, biscuits	SPAQ not returned
	7	350	4 - 11	48	125	177	+	-	No sweets or fizzy drinks
	8	180	4 - 11	56	-	-	-	-	Fruit only
	9	226	4 - 11	40	45	133	-	-	Fruit only (4 days)
	N	204	4 - 11	75	11	115	+	Fruit	Fruit only
	O	295	7 - 11	85	52	158	+	Fruit, crisps and non-fizzy drinks	Fruit and cheese
	P	92	4 - 11	10	30	52	-	Fruit	Fruit & water
	R	196	4 - 11	-	-	-	+	-	SPAQ not returned
	S	170	4 - 11	41	27	102	+	Fruit	Fruit only

Note: Schools are referred to by a number or a letter. The schools indicated by numbers took part in Grab 5! and the evaluation. The schools indicated by a letter took part in the Grab 5! Project.

+ Indicates a positive response to the question.

- Indicates that the school did not respond to the question

Note: Schools B and K did not return the SPAQ in 2001 or 2002 so data for these schools was not included in this analysis. Schools A and Q dropped out of the Grab 5! Project, so were not sent

SPAQs in 2002 and are therefore not included in the table.

Note: The schools did not indicate if they had included information about their nurseries. Therefore numbers rather than percentages are included to give details of each school's catering situation, as percentages may not be comparable.

Parallel fruit and vegetable promotions

Some schools reported that, parallel to the Grab 5! Project, they were participating in other activities promoting fruit and vegetables to the children, as follows:

- Evaluated schools: school 1 (Grounds for Growing); school 2 (retailers providing fruit for schools once a month); school 3 (National School Fruit Scheme).
- Other schools: school J (hospital-led scheme); schools N, P and S (National School Fruit Scheme); school O (Health Action Zone activities).

Table 17: Summary of information from the School Profile and Activities Questionnaire, showing school-based activities to increase fruit and vegetable consumption (2001)

Location	School	Fruit tuck shop	Increased fruit and vegetables in school meals	Cookery demonstration	Breakfast club	Fruit and vegetable tasting	Market	Visit to farm or grower	Other
Lambeth	1	-	-	-	-	+	-	-	-
	B								
	2	-	+	-	-	+	-	-	-
	3	-	-	-	-	+	-	-	-
Leeds	C	-	-	-	-	-	-	-	-
	D	-	-	-	-	-	-	-	-
	E	+	-	-	+	+	-	-	-
	4	-	-	-	-	+	-	-	-
	F	-	-	-	-	+	-	+	-
	G	+	-	-	+	-	-	-	-
	5	-	-	-	-	+	-	-	-
	H	+	-	-	-	-	-	-	-
	I	+	-	-	-	+	-	-	Fruit shop
	J	-	+	-	-	+	+	-	-
Plymouth	6	-	-	-	+	+	-	+	-
	K								
	L	+	-	-	+	-	-	-	-
	M	-	-	-	-	-	-	-	-
	7	+	+	+	+	-	-	-	-
	8	-	-	-	-	+	-	-	-
	9	-	-	-	-	-	-	-	-
	N	-	-	-	-	-	-	-	-
	O	-	-	-	-	-	-	-	-
	P	-	+	+	-	+	-	-	Free fruit
	R	-	-	-	-	-	-	-	-
	S	-	-	-	-	-	-	-	-

Note: Schools B and K did not return their SPAQs in 2001

+ Indicates use of the named strategy

- Indicates that the school did not respond to the question

Data was collected in June, July and September 2001

Table 18: Summary of information from the School Profile and Activities Questionnaire, showing school-based activities to increase fruit and vegetable consumption (2002)

Location	School	Fruit tuck shop	Increased fruit and vegetables in school meals	Cookery demonstration	Cookery club	Breakfast club	Fruit and vegetable tasting	Visit to farm or grower	Play-ground market	Growing	Healthier packed lunches	Health focus week	Other
Lambeth	1	S	D	-	-	D	S	S	S	+	-	-	Free fruit, assembly, drama
	B												
	2	-	D	S	-	D	S	S	-	+	-	+	Free fruit, drama
	3	W	-	S	S	S	S	S	-	-	-	+	Fruit in after-school club
	C	D	D	-	-	D	W	W	-	-	-	-	Increased awareness
	D	D	-	-	-	-	-	S	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-	-
	4	M	D	S	S	-	S	S	S	-	-	+	Assembly, survey
	F	D	S	S	-	-	S	S	-	+	-	+	-
	G	D	D	S	S	W	D	S	S	+	+	+	Tastathon
5	D	D	W	W	W	D	W	S	-	+	+	Free fruit, food diary	
H	-	-	-	-	-	-	-	-	-	-	-	-	
I	D	W	W	S	W	D	S	S	-	+	-	Nursery herb garden	
J	D	D	W	W	W	S	S	S	-	+	+	Cooking classes for parents	
6	-	D	S	S	W	S	W	S	-	+	+	Guest speakers in assembly.	
K													
L	-	-	-	-	-	-	-	-	-	-	-	-	-
Plymouth	M	-	-	-	-	-	-	-	-	-	-	-	Menu design.
7	-	S	S	S	D	S	S	-	-	-	-	-	National School Fruit Scheme
8	-	-	-	S	S	D	S	S	-	-	-	+	PSHE development.
9	W	D	S	S	-	-	S	S	-	-	-	+	National School Fruit Scheme
N	-	-	S	S	-	-	S	S	-	-	-	+	Healthy Heart Week planned
O	W	-	-	-	S	-	S	-	-	-	-	+	-
P	-	D	S	S	S	D	S	S	-	-	-	+	Apple Day, Indian café, healthy banquet
R	-	-	-	-	-	-	-	-	-	-	-	-	-
S	-	D	S	S	-	-	-	-	-	+	-	+	Incentive scheme, punch cards, chef

+ Indicates use of the named strategy (N.B. Schools B, E, H, K, L, M, and R did not return their SPAQ in 2002)

Key: D = daily; W = weekly; M = monthly; S = special occasions

Data collected in June and July, 2002

Table 19: Differences in school-based activities to increase fruit and vegetable consumption in schools, comparing 2001 and 2002

	2001 (24 schools)	2002 (19 schools)	
	Total	Total	Details
Fruit tuck shop	6	11	7 D; 2 W; 1 M; 1 S
Increased fruit and vegetable content of school meals	3	13	10 D; 1 W; 2 S
Cookery demonstration	3	15	2 W; 13 S
Cooking club	0	11	1 D; 5 W; 5 S
Breakfast club	8	12	8 D; 4 S
Fruit and vegetable tasting	10	17	3 W; 14 S
Visits to farm or grower	2	16	1 W; 15 S
Playground market	0	7	3 S
Growing project	0	9	
Healthier packed lunches	0	3	
Health focus week	0	14	
Other	2 strategies listed (see Table 17)	26 strategies listed (see Table 18)	
Total (not including 'other')	32 (mean: 1.3 per school)	128 (mean: 6.3 per school)	

Key: D = daily; W = weekly; M = monthly; S = special occasions

Data from 24 questionnaire responses in 2001 and 19 questionnaire responses in 2002

Discussion of school activities

The aim of the School Profile and Activities Questionnaire was to identify major changes in activities in all of the schools participating in the Grab 5! Project. Responses from the nine schools chosen for in-depth evaluation were verified through the formal process evaluation and from discussions with the Sustain Grab 5! project officers, who also identified increased levels of activity in other schools.

The Grab 5! Project stimulated a variety of activities in schools, shown in the 2002 SPAQ responses (returned by 19 of the 26 participating schools). It is not possible to comment on the six schools that did not reply, but even without these results the changes in school-based fruit and vegetable projects are impressive. Schools showed holistic and creative approaches to increasing fruit and vegetable consumption in primary school children.

Health Action Zones

An additional influence may have been the Health Action Zones (HAZs) in which these schools were located. There may have been a general impetus towards implementing healthy eating initiatives and the Grab5! Project may have been introduced in the right place at the right time. Although this does not diminish the

impact of the Grab 5! Project identified in the evaluation, without evaluating Grab 5! in primary schools not set in HAZs, it is difficult to assess how much influence HAZ status had (if any) on the efficacy of the Grab 5! Project.

Despite dramatic increases in the number and variety of promotional activities, the increase in fruit and vegetable consumption was modest. It could be argued that the effort involved in implementing these activities was not worth it. The process evaluation, however, suggested that the activities themselves bring about many far-reaching benefits to the schools beyond simply increasing fruit and vegetable consumption, for example there may be:

- Valuable learning opportunities and links to the curriculum.
- Improved school environment and ethos.
- Increased motivation and participation from both parents and pupils.

These benefits may affect children's (and teachers') eating habits in the longer term, bringing about positive change that may not be realised until several months or even years after the implementation of the Grab 5! Project. Finally, without this level of activity, increases in consumption of fruit and vegetables may have been lower.

3.5 Summary of outcome evaluation

THE DAY IN THE LIFE QUESTIONNAIRE (DILQ)

- The consumption of fruit and vegetables increased significantly from 1.7 to 2.2 pieces. There was a notable shift in distribution, and the percentage of children reporting having eaten no fruit or vegetables dropped from 23% to 15%.
- Overall, there was a greater increase in fruit consumption compared with vegetable consumption.
- There was a modest reduction in consumption of high-fat snacks, with a significant decrease in consumption of high-fat snacks (crisps) in Plymouth.
- In the three geographical areas (Lambeth, Leeds and Plymouth) children's total consumption of fruit and vegetables increased (particularly for fruit), but children's consumption in Plymouth did not increase to the same degree.
- Individual schools showed a range of results from no significant increase in total consumption, to the highest increases in beacon schools.
- The range of fruit and vegetables consumed was similar before and after the Grab 5! Project.
- Children consumed more baked beans than any other vegetable, but fewer children ate only baked beans as their only vegetable intake after the Grab 5! Project.
- There was a large increase in fruit juice consumption.
- Girls reported eating significantly more fruit and vegetables than boys, but both genders increased their fruit and vegetable consumption during the year.
- Results for a matched sub-sample were equivalent to the main sample.

THE HAVING FUN WITH FOOD QUESTIONNAIRE

- HFFQ responses were consistent with DILQ responses.
- There were significant increases in children selecting healthier snacks and fruit. However, there was also an increased preference for less healthy snacks, and no change in preference for vegetables.
- There was a small but significant change to preferring healthier foods, with a significant change in preference for sandwiches instead of crisps.
- Before the project started, most children already knew that they should eat five pieces of fruit and vegetables per day, and that fruit and vegetables contain lots of fibre. But after the project, significantly more children knew that frozen produce is as healthy as fresh.
- Girls tended to prefer for healthier choices, and although both genders improved their healthy preferences, girls tended to achieve higher scores. Boys also showed improvements, to the level initially reported by girls.

THE SCHOOL PROFILE & ACTIVITIES QUESTIONNAIRE

- Schools returning their SPAQs reported dramatic increases in the number and variety of school activities and involvement of staff, parents and governors. They also reported that the Grab 5! Project had contributed to the National Curriculum.
- Activities were characterised as creative and holistic, and rose from an average of 1.3 per school to 6.3 per school.
- The range of activities (e.g. cooking classes for parents, a Tastathon, guest speakers in assembly, Apple Day, an Indian café and a healthy banquet) increased from 2 to 26.

Section 4

Process evaluation results

It is important to remember that the nine schools in the Grab 5! Project evaluation made a commitment to both the Grab 5! Project and to its evaluation.

The process of evaluation was not inconsequential and, for some schools, required a greater level of commitment than for the Grab 5! Project itself.

In fact, one of the nine schools reported that the evaluation had been too onerous, with the head teacher saying that they were:

“...really surprised by the level and depth of the monitoring of our involvement with the scheme” (school 7)

and questioning whether he would take part to this degree in future initiatives.

This clear statement of the burden felt by the head teacher as a consequence of the evaluation may have been experienced in part, although not voiced, by other schools.

Despite this, school 7 co-operated with the researchers and, of all nine schools, provided the highest level of access to teaching staff. The other eight schools restricted formal access to teaching staff either deliberately to protect the teachers' time or through simple omission. However, researchers were made welcome in the staff rooms of all schools, in many instances gaining informal access to all teaching staff.

4.1 Adoption of the Grab 5! Project

Key points

Steering group members heard about the Grab 5! Project in a variety of ways.

The workshops and support strategies employed by Grab 5! project officers were vital to the project's adoption.

The first phase of adoption of the Grab 5! Project took place at the local steering group level. Before the project had started in schools, Sustain made contact with the Health Action Zones in each area.

Once a commitment to the project had been given at this level, a key contact was identified. In two areas this was a representative from the Health Action Zone and in the third area someone was identified who was already running a local fruit scheme.

Other members of the steering groups joined later as invited members of the groups. All were working with or in schools in some capacity and so the inclusive, broad approach that Sustain took to informing likely parties was an effective way of reaching the appropriate people and attracting enthusiastic individuals.

Schools were informed of the project by a leaflet that was mailed to them, and at meetings of primary school headteachers. All schools that took part in the in-depth evaluation had adopted the Grab 5! approach to varying extents.

Once schools had expressed an interest in Grab 5!, the Grab 5! project officer then visited the school. The process of adoption generally followed a similar pattern:

- Introduction to the Grab 5! Project.
- Consideration of its value.
- Making a commitment to the process.
- Implementation.

Pace of adoption

The pace of adoption varied. Some schools made a commitment and had started work by the end of the summer term 2001, and others were not acting on their commitment until the spring term 2002. Schools reported that they frequently reject proposed projects, as many do not fit with their priorities or their programme of work. Interestingly, another fruit and veget-

able promotion scheme, the Food Dudes, had been rejected by school 7 as it coincided with the *"most valuable term for getting work done"*.

National Healthy School Standard

There was a tendency for the schools working towards achieving recognition under the National Healthy School Standard to respond faster to the Grab 5! Project, as it could be used towards the healthy eating element of the award. Five of the nine schools were participating in the National Healthy Schools Standard and all of these had achieved accreditation by summer 2002.

Training

The workshops and approaches adopted by Grab 5! project officers were vital to the adoption of the Grab 5! Project. All nine schools evaluated were invited to send representatives to an introductory workshop organised by Sustain in summer term 2001. The workshops gave momentum and status to the Grab 5! Project. They also gave status to the attendees. The inviting nature of the workshops encouraged attendees to *"relax and share ideas"* (school 5). They also provided Grab 5! school coordinators with the ideas for activities.

"I picked up[the idea] from there. It stuck in my head and I tried it out here [in school]. And basically it's gone really well here, really, really well" (school 3)

After the workshop, continuing support from the Grab 5! project officers also played a vital part in encouraging the schools' activities.

"[The Grab 5! project officer] kindly bought fruit for us from the day we started. He brought the fruit in every week, roughly about 140 pieces or something like that - a mixture of apples, bananas, satsumas, mandarins" (school 3)

In school 9, the member of staff originally given the task of coordinating Grab 5!, and who attended the workshop in July 2001, subsequently took compassionate leave for three school terms, and the new deputy head took over the role of Grab 5! school coordinator.

This deputy head planned and implemented Grab 5! activities with the Grab 5! project officer's advice, information and encouragement, even though she had not attended the workshop. She reported that she frequently referred to the Grab 5! project officer for help, advice and to find out what others were doing. She said that she welcomed this active support.

"I think it keeps you going. I'd probably forget an awful lot if I didn't suddenly get a friendly email through, and you'll think, 'I haven't done that. Right, I must do.' It prompts you to do it - it's not a pain, it just prompts you to do it" (school 9)

Praise for the supporting and encouraging role of the Grab 5! project officer was a common theme in all schools. Schools knew the Grab 5! project officers by their first name and described a relaxed, informal relationship with them.

Supporting materials

Schools were provided with a Grab 5! pack and reward items (see pages 3 and 11 for details),

in support of their implementation of the Grab 5! Project. The evaluation team did not measure how these materials had affected the success of the project, but several Grab 5! school coordinators did mention that they had been useful.

"both teaching and support staff liked the worksheets and felt they supported the work we already do. I myself would recommend the Grab 5! sheets to everyone, I did not at anytime feel that I couldn't follow the sheets" (school 5)

"We have found our file very useful and will continue to use some of the ideas. The Grab 5! stickers given out with each healthy snack are much sought after" (school 6)

Commitment to the project

Before the end of the summer term 2001, the Grab 5! project officers requested a commitment to the Grab 5! Project.

In most cases this was in the form of an action plan. Schools 3 and 4 incorporated the Grab 5! action plan into the formal monitoring and assessment documents of the school, such as the subject action plans and school improvement plan.

4.2 How did schools address obstacles to increased fruit and vegetable consumption?

Key points

Acceptability was improved by activities such as Tastathons, Cook au Van visits and many other creative activities that increased children's enjoyment of fruit and vegetables.

Accessibility was improved by schools setting up fruit tuck shops, increasing fruit and vegetables in school meals and many other strategies that increased availability of fruit and vegetables in school, with valuable support from the Grab 5! project officers.

Affordability was addressed in different ways by schools, for example by charging 10-15p for a piece of fruit in the fruit tuck shops. In the main, both school staff and children thought this level was appropriate.

Awareness of healthy eating had increased in schools, with school coordinators unanimously reporting that Grab 5! had contributed to this raised awareness.

Obstacles to children eating more fruit and vegetables were initially identified by Sustain as being likely to be related to accessibility, acceptability and affordability and, to a lesser extent, awareness. Schools addressed these barriers by going through the Grab 5! process and implementing a variety of activities, such as fruit tuck shops, tasting sessions, playground markets, and growing and cooking classes. The range of activities carried out by the schools is summarised in Tables 17 and 18.

Awareness

Grab 5! school coordinators were unanimous in their view that the Grab 5! Project had increased awareness of healthy eating within the school, and had increased the children's awareness of fruit and vegetables.

Acceptability

Together with this awareness came acceptability and interviewees often spoke of awareness while implying or discussing increased acceptability.

An important aspect of the Grab 5! Project was increasing children's exposure to fruit and vegetables. This meant not just increasing access, but enhancing the acceptability of fruit and vegetables. Novel methods included:

- Tastathons – children were encouraged to taste fruit and veg they had not tried before.
- Visits from the Cook au van - a team of chefs/artists that ran day-long events for Grab 5! in Leeds schools. Days started with a whole school assembly followed by cooking and art classes, and ended with sharing food with parents at the end of the school day.

Children in several focus groups gave many examples of how they had enjoyed the experience of eating fruit and vegetables during Tastathons. Whilst saying that they had not always immediately liked the flavour or sensation of the new food, they described how it had given them confidence to re-try it and develop a liking.

"I was scared in case I didn't like it. But now I like fruit because I tried it" (Year 6 child, school 9)

Some children said that they liked trying new foods at school, whilst others were more cautious, preferring to try new foods at home.

Improving confidence to try new fruits and vegetables was achieved by visits from the Cook au Van team:

"When that Cook au Van came we had this humus - it was a dip, then we all had to taste cauliflower that people had to dip. I thought, 'ugh!' and I have to taste it and I liked it. So regularly I've been having cauliflower cheese" (Year 6 child, school 4)

Acceptability of fruit and vegetables not only increased among the children but also among the staff. In some schools, such as school 8, staff-room biscuits had been replaced with fruit.

Some children in the focus groups gave particular examples of ways in which they were eating more of particular fruits or vegetables.

"I never used to like broccoli, but now I do." (Year 6 child, school 1)

Other children said that their eating preferences had not changed, or expressed a preference for sweets, crisps and other fatty or sugary foods. These children appeared to have accepted the message that eating fruit and vegetables was good, but had remained loyal to existing food preferences. Some of the children reporting no change expressed the belief that they already ate a healthy diet.

"Sometimes it's hard for you to adapt to healthy eating because you're not used to it, because you're always eating things like chips and all those kind of things. You come to school and they start telling you, you should eat those healthy things 'cos they'll be good for your body, but I already do that" (Year 6 child, school 1)

Building acceptability

A member of staff (learning mentor) in school 3 made the link between an increased awareness of the contribution of fruit and vegetables to a healthy diet and the acceptability to children of fruit and vegetables. He commented that they were *"talked about openly"* and that it is *"more accepted that you should eat a portion of vegetables"*. This hints at the reinforcing components of the Grab 5! process:

- Establishing the concept that fruit and vegetables are important to healthy living.
- Creating an ethos where fruit and vegetables are valued.

- Providing opportunities for the children to eat fruit and vegetables.

Accessibility

In many schools, children were introduced to a variety of fruit and vegetables in a variety of ways, such as in weekly fruit tuck shop, and in school lunches. With increasing acceptability of fruit and vegetables, children seemed to take advantage of these increased opportunities, including opportunities at home.

"My kids came straight home and sat next to the fruit bowl and ate five oranges" (parent, school 3)

Teachers also noted that, with the start of Grab 5! activities, the children brought more fruit and vegetables from home to eat in school. In school 6, for instance, *"more children are bringing fruit, which is encouraging"* both at playtime and lunchtime. Other schools had observed other effects of increased fruit and vegetable consumption at break-times. One playtime assistant remarked:

"There are fewer crisp packets flying around the playground" (school 6)

Encounters with fruit

Children in the focus groups reported encountering more fruit in school (school lunches, fruit tuck shops, packed lunches), and seeing more fruit in the shops and more at home. This might be a consequence of there being more fruit available, but it might also indicate children's increased awareness of fruit. Some children showed greater awareness of fruit in local shops and commented on the unequal displays of confectionery and fruit.

"There's a big variety of chocolate and on the other side there's like two varieties of fruit and veg" (Year 6 child, school 6)

Some children reported changes at home.

"My mum's getting recipes from books and making us healthy dinners with fish, salad and loads of different veggies. She even managed to make chocolate pudding without any sugar" (Year 6 child, School 6)

Obtaining fruit

Some Grab 5! school coordinators reported problems obtaining fruit and vegetables for Grab 5! activities. Here the Sustain Grab 5! project officers played a vital role in providing fruit and vegetables to the schools. Even schools with regular fruit tuck shops were not entirely happy with their source of fruit and vegetables and had recurring problems with suppliers, particularly with the quality, price and suitability of the produce.

Other schools (for example school 5) were fortunate since they were able to make use of people associated with the school who were in the fruit and vegetable trade.

"Our chair of governors works at Leeds market and he gets the fruit and veg wholesale, quite cheap. Generally speaking he will bring a box of apples or oranges - or whatever he can get within a certain price limit - because we're funding this from school funds" (school 5)

Locating and purchasing food was a new skill for many of the schools and had proved time consuming, involving a lot of trial and error. The task had been an interesting challenge for those with time and enthusiasm, but an inconvenient and frustrating chore for those with less time and other priorities.

One head teacher, whose whole family was keen on healthy eating and whose wife organised the catering for a Year 5 and 6 residential week, found the task relatively simple. A local supermarket had been supportive and the children were eating *"lots of organic food and fresh fruit"* (school 8). Others, however, such as a busy Year 6 teacher who was also PSHE coordinator, found it more difficult.

"I had to keep going shopping, I spent about £130, I think, on fruit - and I made about £20 profit. But I didn't do it to make a profit. M, who works in here, she knows somebody who's a fruit wholesaler so she's got in touch with him to ask him whether he could actually deliver some fruit, which would make it a lot easier than having to go shopping. Because I don't normally have a car, I had to - it was quite a big effort" (school 6)

This highlights the extra time and effort that can be required of school staff when engaging in activities such as the Grab 5! Project in addition to their normal workload.

Affordability

The obstacle of affordability was well recognised by the schools. Staff, on the whole, had some understanding of the financial circumstances of the children's families, to which they were sensitive. The price of 10p to 15p for fruit sold by the school was judged to be affordable by senior school staff and most parents.

"I don't think 10p is too much to be asking for them to be able to have [fruit] because it's not bad little portions for them, it's just enough" (school 6)

In other schools it was recognised by learning support assistants, lunchtime supervisors and learning mentors, who came from the communities served by the schools, that some children's parents could not or would not afford even this.

"They enjoy it, but you do feel sorry, because you know their parents will never give them any money and stuff. But they're always hovering around the area so if no one is looking I can slip them a bit of apple or something" (school 3)

In general, children's discussions in the focus groups gave little sense of fruit and vegetables being out of reach because of their cost. The children described spending money on sweets and ice cream and how this same money could be used to buy fruit, often in the same shop. They reported the price of fruit (and vegetables) sold by schools having fruit tuck shops as ranging from 10p to 15p. No comment on the affordability of this was made directly by the children although they made the point that this was about half the price of a Mars Bar.

Despite fruit and vegetables being affordable for most, it was clear that lack of money was a problem for a few children and their families.

"I don't have the money but I don't usually buy fruit, hardly" (Year 6 child, school 8)

Another child thought the tuck shops were a good idea.

"[The tuck shops] help. Their parents don't buy fruit sometimes so they can have the chance of eating fruit in school" (Year 6 child, school 8)

Free fruit in schools

There were plenty of examples of fruit (and some vegetables) being given away for free in the schools. Fruit from the National School Fruit Scheme appeared at unexpected sites around the schools and researchers enjoyed many an apple, pear and tangerine courtesy of the Department

of Health during the course of the evaluation.

The researchers also observed parents giving away food whilst assisting at an after-school fruit and vegetable stall. In school 6, children who had brought in packed lunches were offered "left over apples or salads" to supplement their meals. In cases where free fruit was distributed to a select group, the children often thought that this was unfair. In school 1, the junior children were aware that the infants were part of the National School Fruit Scheme, even though they were not.

"They get fruits every day and that's not fair" (Year 6 child, school 1)

4.3 What successful activities did schools implement?

Key points

Schools adopted a variety of activities, tailored to what they thought would be successful in their schools and in ways that would engage their children.

Key features of success appeared to be choosing activities that were:

- Appropriate for the school;
- Not over ambitious;
- Sensitive to the workloads of teachers.
- Providing fun, novel and exciting experiences for the teachers and children associated with fruit and vegetables.

Activities that provided opportunities to taste

fruit and vegetables were particularly popular amongst children

The Grab 5! Project was one of several initiatives currently running in primary schools and so there was likely to be a synergistic effect, with Grab 5! making a major contribution because of support from Grab 5! project officers.

Grab 5! school coordinators were unanimous in declaring that activities initiated under Grab 5! would continue in school, particularly eating activities such as fruit tuck shops and breakfast clubs.

When children were asked to reflect on possible reasons for any changes in their eating habits, they tended to comment on family or friends creating opportunities to experience different foods, which they had become more aware of over the school year. School activities such as the Grab 5! Project, and other healthy eating activities, were frequently mentioned. Children were aware that changes could also be a consequence of getting older.

"It's how you grow - your body starts to like different things" (Year 6 child, school 2)

The activities listed in Table 20 (Children's recall of activities related to the Grab 5! Project and healthy eating) reflect the complex combination of school activities, their impact, the awareness of the children of their own school, the children's ability to recall and describe events, the interest of the children in the focus group discussion and the children's skill in recognising the relevance of activities to the group discussion.

The list does indicate that the children were aware of having been exposed to a high level of activity in all schools on the topic of healthy eating, encouraged by the schools taking part in the Grab 5! Project.

Table 20: Children's recall of activities related to the Grab 5! Project and healthy eating

<p>School 1 – Sainsbury's Free Fruit, monthly or per term – Class teacher gave out fruits to take home – Fruit stall before and after school – Fruit tasting with Grab 5! project officer – Smoothie drinks – Breakfast club provides fruit – Dinner lady encouragement – 'Chain Reaction' theatre group</p>	<p>School 6 – Chefs came in – Healthy snacks every Tuesday – Juice on Thursdays – Toast club Fridays – Salads in school dinners – Design a sticker competition – Grab 5! thank you cards – Women in to talk about healthy food – Bun club on Fridays – Assembly</p>
<p>School 2 – Poster on healthy eating in Science – Smoothie drinks with Grab 5! project officer – Science books – Fruits in assembly once a year</p>	<p>School 7 – Grab 5! day in hall – No crisps, no tuck shop – Fitness club on Monday – Free fruit to infants - juniors get left-overs – School meals changed – Assembly – Packed lunches leaflet – Breakfast club – Posters – National School Fruit Scheme</p>
<p>School 3 – Fruit and vegetable day – Theatre group – Fruit tuck shop on Thursdays – Healthy lifestyle lessons in PSHE – Foods in science – Made smoothies with someone who came in</p>	<p>School 8 – Fun day (fruit tasting) – Grab 5! drink bottles – Fruit tuck shop (no crisps) – Breakfast club – Fruit at lunch – Free fruit – Menus for dinners</p>
<p>School 4 – Grab 5! day after school – Cook au Van visit – Poster – Healthy week – Fruit tuck shop – Healthier food in school dinners – Parents cooking course – Fruit yoghurts (Year 4) – Banana bread (Year 3) – Pancake day - fruit pancakes (Year 2) – Baking vegetables (Reception) – Assembly</p>	<p>School 9 – Safeway fruit tasting – David Beckham pizza – Fruit only day on Wednesday – National School Fruit Scheme</p>
<p>School 5 – Only fruit at tuck time – Changed colour of plates in school lunches – Chefs came in – Made smoothie drinks – Menu for school lunches – Free fruit at lunch time (Year 4)</p>	

Table 21: Healthy eating activities recalled by Grab 5! school coordinators

Type	Activity	Who?	Frequency	School
EATING	Food and/or fruit & vegetable tasting event	Whole school	one-off	1, 2, 4, 6, 7, 8, 9
	Breakfast club	Restricted roll	daily	1, 2, 8
	Breakfast club	Year 6 SATs group	annual	5
	Breakfast club	OK club, Key Stage 1	daily	5
	Free fruit	Whole school	monthly	1, 2
	Free fruit	Whole school	daily	5
	National School Fruit Scheme	Key Stage 1	daily	7, 8
	Paid-for classroom fruit	Nursery & reception	daily	1
	Fruit tuck shop	Whole school	weekly	3, 6, 9
	Fruit tuck shop	Whole school	monthly	4
	Fruit tuck shop	Whole school	daily	8
	Staff-room fruit bowl	Teaching support staff	for year	3, 5
	Soup/fruit/food stall at school event	Whole school	varied	3
	More fruit & vegetables in school lunches	All those eating school dinners	daily	5
	Healthier options in tuck shop	Whole school	daily	5
	Advice on healthier lunch boxes	Whole school	continuous	6, 7, 8, 9
	Healthy eating focus in residential week	Years 5 and 6	annual	8
	Healthy policy for snacks in school	Whole school	continuous	8, 9
	Grab 5! water bottles in classrooms	Whole school	daily	5, 8
	MEETING	Topic for assembly	Whole school	varied
Wildlife/growing/gardening club		Restricted roll	week/daily	1, 2, 5, 6
Cooking demonstration or chef's visit		Whole school	one-off	2, 3, 4, 5, 6
Drama production		Whole school	one-off	1, 2, 3
Harvest Festival celebration		Whole school	annual	3, 8
Healthy week		Whole school	one-off	4, 5
Health morning		Whole school	one-off	6
INSTRUCTING	Invited lesson on fruit & vegetables	Years 5 & 6	one-off	1, 2
	Lesson by teacher as part of curriculum	Years 2 & 5	termly	2, 4, 5, 7, 8
	Lesson by teacher as part of curriculum	Years 4 & 6	termly	2
	Posters/displays in classroom & corridors	Whole school	for year	1, 2, 3, 7
	Display on school website	Whole school	for year	3
CREATING	Christmas card competition	Whole school	one-off	2
	Activity morning & presentations	Whole school	one-off	3
	Logo competition	Whole school	one-off	6
	Designing a menu	Year 2	one-off	7
	Healthy meal competition	Key Stage 2	one-off	9
RESEARCHING	Survey of children's fruit likes & dislikes	Whole school	one-off	4, 6
	Questionnaire on establishing a fruit day	Parents and staff	one-off	9
	Food diary	Year 2	annual	4, 5

Table 21 (above) illustrates activities carried out by schools involved in Grab 5! between summer 2001 and summer 2002, as recalled by the Grab 5! school coordinator. The level and intensity of the activities varied between schools. Not all activities were promoted either wholly or in part under the Grab 5! banner.

Some schools routinely had lessons on fruit

and vegetables programmed within their curriculum and had existing clubs dealing with an aspect of healthy living, wildlife or growing food. Some schools were also participating in other fruit and vegetable promotions or other health initiatives, such as the Department of Health National School Fruit Scheme, Food Dudes, Sure Start, or a local Healthy Schools Programme.

Some of the activities listed in Table 21 were instigated, solely as a result of the Grab 5! Project, some pre-dated Grab 5!, and some may have come about parallel to the Grab 5! Project, but independently of it. The table represents only the activities reported to researchers by Grab 5! school coordinators, even though the researchers may have known of other relevant activities taking place in the school. It is difficult to determine the independent influence of the Grab 5! Project, and even the schools themselves sometimes got the initiatives confused.

"[The Grab 5! project officer] has been very supportive. When she's come in she's brought us pictures and posters and Frisbees and pencils: all the things to keep the children going. We're going to have the new logo and we're going to start a competition here next week for the Frisbees. And all these things are a help. But it is hard to know which things come from Sustain and which things come from the Healthy Schools" (School 6)

Grab 5! school coordinators were unanimous in declaring that activities initiated under Grab 5! would continue in school, particularly eating activities such as fruit tuck shops and breakfast clubs.

Source of ideas

As described in section 4.1, the initial Grab 5! workshops proved to be influential in the success of activities as a source of ideas. Supporting literature produced and/or collated by Sustain also proved useful. The workshops were held in the summer term 2001, in time to influence planning of the schools' Grab 5! activities in the autumn term. Activities tended to be selected on the criteria that they fitted in with existing plans and were easy to implement. In school 3, for instance, this included linking the launch of Grab 5! with the Harvest Festival.

"We tend to go for ease of organisation and [the Grab 5! project officer] is prepared to work with the Tastathon and provide the fruit and vegetables" (school 3)

Types of activities

Activities in Table 21 are ordered under the headings of eating, meeting, instructing, creating and researching. Eating and meeting

strategies were favoured by eight of the nine schools for giving the children opportunities to eat more fruit and vegetables. The type of activity varied both in frequency and content. The Grab 5! message was interpreted literally by school 6, and delivered to the children as a selection of five fruit and vegetables in a cup each Tuesday. Also in school 5:

"The kids rarely see apples, so we looked at how we could provide as many grabs a day as we could" (school 5)

Five of the schools (2, 3, 6, 7 and 9) augmented the 'eating' and 'meeting' activities with 'creating' activities such as a Christmas card competition.

The role of teaching

In most schools, teaching about the value of fruit and vegetables took place as part of the programmed curriculum and planned lessons.

Opinion on where fruit and vegetables could be emphasised within the curriculum varied between schools. Some schools used Grab 5! within the PSHE curriculum, some included it within the science curriculum and others used fruit and vegetables and healthy eating in both the science and design technology curricula.

All three schools in Plymouth focused on the PSHE curriculum and those in Lambeth and Leeds on the science and design and technology curricula. School 7 planned six class-based activities around fruit and vegetables (of which only one was completed within the four terms studied). The science coordinator in school 4 identified when healthy eating came up in the curriculum for all years. At the appropriate time she put a "note in the pigeon hole" of the class teacher reminding them of the Grab 5! materials available to support them teaching this topic.

Protecting teachers from extra work

Classroom-based activities (such as fruit and vegetable surveys) were chosen less frequently by schools as a strategy for the Grab 5! Project. Several schools deliberately avoided placing extra demands on class teacher time to avoid:

"...a kind of in built kneejerk sort of reaction against it [outside suggestion to change the delivery of the curriculum]" (school 8)

Indeed, eight of the nine schools evaluated protected their class teachers' time by focusing Grab 5! activities on events outside the classroom.

The pressure felt by class teachers could not be underestimated and the Grab 5! school coordinators tried to implement Grab 5! activities with the maximum of enjoyment for the staff and children, with the minimum of stress for the staff. This approach of:

"...easing the load while promoting Grab 5!" (school 3)

was a contributory factor in the choice and success of the activities. Grab 5! school coordinators were well aware of what was possible within their own schools and stayed within boundaries of acceptability for their demands and activities, negotiating and retreating where necessary. This may, in part explain the popularity of 'eating', 'meeting' and 'creating' activities.

Having fun

Special events, such as an activity day, outing, cooking demonstration, drama production or food tasting, were activities enjoyed in a relaxed manner by class teachers and children alike and, in some schools, parents as well. Teachers, especially, enjoyed these times off-curriculum and the events generally left schools with a feeling of elevation and excitement.

"It was really exciting. ... the balloons with the helium were just such a success. I mean the kids just loved them" (school 3)

"I think the staff get a lot out of it - they get a buzz from the children. I think that's half of the battle. And things that they've said, like the Cook au Van day we had on Friday, that was absolutely fantastic" (school 6)

Having fun with the Grab 5! Project was important for all participants: Grab 5! school coordinators, class teachers, children and parents. There were comments about "really enjoying it" (school 8), "love it" (school 6) and awareness of keeping the activities manageable "I had to be very methodical and not over-ambitious" (school 3) to maintain the fun

element. Work within schools in areas of deprivation can be demoralizing, so finding ways to have fun teaching in these challenging areas can revitalise staff. The Grab 5! Project was seen as a vehicle for getting everybody:

"Working towards a common goal"
(school 5)

Popular activities

Fruit tasting in particular was enjoyed by children. In six out of nine schools evaluated it was the first activity to be recalled in focus group discussions with Year 6 children. They also recounted favourably other times when fruit and vegetables or food were eaten or prepared at special events in school.

These events usually included a visit to the school from an outsider. All Lambeth schools mentioned the Grab 5! project officer's visits, and specifically by name in two of the three schools. Fruit smoothie drinks made with the children by the Grab 5! project officers were particularly memorable. Similarly, the Cook au Van was recounted in all schools in Leeds (referred to as *"the chefs"*), and fruit brought in by the supermarkets for tastings was recalled by children in all three Plymouth schools.

Children recalled these events with much enthusiasm and gave the impression that they had enjoyed the experiences. In school 5, the Grab 5! school coordinator read a letter she had received from a child:

"Dear Mrs N, I am writing this letter to thank you for all your efforts in school. Today was my best day ever working with the chefs making vegetable soup. I really enjoyed myself and I loved it. Thank you very much. I mean, if you get that - what else do you want really?" (school 5)

Providing children with positive fruit and vegetable experiences is likely to increase their consumption in the future, both in the short term, as indicated by some of the respondents, but also in the long term when they have more control over their food intake.

Noticing change

One child in school 4 thought his new liking for fruit was a result of the Grab 5! Project. Some

children observed that change was short lived and concentrated around the time after healthy eating activities, with little sustained change. Other groups could pinpoint changes in children's eating habits to specific school initiatives, such as Roary (the lion) in the Plymouth schools. Roary was a dinner mascot who would walk around during the school meal.

"A lot changed. Since Roary came in it's been more healthy" (Year 6 child)

The initiative had started two years before, with the school using Roary to encourage children to have school meals. At the same time, the quality of the school food was improved.

Food provision at break and lunch times

Eight of the nine schools evaluated had made some adjustment to food available at break time during the Grab 5! Project. Moves included:

- Establishing fruit tuck shops.
- Stopping selling crisps or cakes.
- Allowing the children to bring in fruit to eat at break time.

Only two schools (5 and 6) had made a significant attempt during the Grab 5! Project to improve the quality of their school lunches. One

of these schools had achieved a Four Star award from the British Meat for School Meals Catering Excellence Award, 2001. Parents also appreciated improvements in school lunches. One parent in school 6 recalled how much more her son was eating and enjoying vegetables and that he was not so hungry when he came home.

Although only two schools had made significant attempts to change school lunches, two other schools (3 and 7) had become aware during the project of the need to improve their lunches, and had started to address the issue with the school meal providers, reporting that the quality had *"slipped"* and there was a *"lack of variety"* (school 3).

In school 4, the children reported that the quality of the meals had improved since the healthy week, although the Grab 5! school coordinator had not made a direct attempt to improve the lunches. In the remaining four schools, school lunches were not included in Grab 5! activities. Thus it appears that schools were confident to tackle tuck and snacks at break time, but more reluctant to take on changes to the school lunches, although during the course of the Grab 5! year the limitations of the lunches became apparent in some schools.

4.4 Which activities did schools find to be unsuccessful?

Key points

Grab 5! school coordinators did not report any unsuccessful activities.

Children may experience 'fatigue' from hearing the message too often.

Grab 5! school coordinators did not report unsuccessful activities to any extent. This may be due to their not wanting to recall failures, or simply forgetting them. However, there was evidence (see section 4.3) that Grab 5! school coordinators had carefully chosen activities that were likely to be successful in their school.

The headteacher of school 1 wished only that the support from the Sustain Grab 5! team could be extended to two years.

Some children in the focus groups aired the topic of excesses; overdoing it with fruit and vegetables. Children in all groups gave, unprompted, examples of what they viewed as unusual food preferences shown by classmates, such as: *"One boy eats 15 fruits a day"* (school 3)

A few described eating excessive amount of fruit and vegetables after a healthy eating activity in school. One girl (school 4) and her sister had a competition to see who could eat the most fruit in a day and although the

interviewee won, she had made herself feel sick. Another child (school 3) commented that:

"My mum told me I was eating too much fruit and told me to cut back" (school 3)

The child did not know why his mum has said this, and could have been for a number of reasons, but the child was left with the message from home that too much fruit was not acceptable.

One of the purposes of conducting focus groups is to capture a variety of responses. For one focus group with children, this included expressing frustration at repeated messages of healthy eating during assembly. Their perception was that at *"almost every assembly"* children were being reminded to eat more fruit, eat fewer sweets and do more exercise. The danger of repeating messages is that the children's response could be:

"We just ignore it after a while" (school 7)

4.5 What principles of project adoption, management and implementation could underpin a nationwide project?

The change in the children's reporting of fruit and vegetable consumption in the nine evaluated schools between summer 2001 and 2002 is summarised in Table 22.

Using these measures from the Day in the Life Questionnaire (DILQ) schools are ranked and then grouped into categories of 'no change', 'change' and 'significant change'. We can then identify differences and similarities between the three groups in terms of how the schools adopted, managed and implemented the project.

This section also looks at how the local steering groups may have contributed to the success of the project.

Table 22: Schools ranked according to changes in reported total fruit and vegetable consumption (2002 minus 2001)

School	Change in fruit and vegetable intake	Rank	Change from DILQ
5	-0.22	9	No change
1	-0.15	8	No change
7	0.08	7	Change
6	0.21	6	Change
8	0.31	5	Change
2	0.68	4	Significant change
9	0.70	3	Significant change
4	0.71	2	Significant change
3	0.90	1	Significant change

Key features of project adoption, management and implementation that contribute to success

Aspects associated with success in schools, and reported by interviewees have been collated and discussed below under four separate

headings: 'motivation to take part', 'belief in the project's message', 'management of the project', and 'getting local support'.

Motivation to take part

Key points

Beacon schools are expected to be models of excellence and hence seek out and engage with valuable initiatives.

Schools involved in the Healthy Schools programme saw the Grab 5! Project as supporting their commitment to achieving the standard.

The motivation to take part in the Grab 5! Project was not the same for all nine schools. Four main motivators were identified, with each school having one or more. These were:

- Affirming identity;
- Supporting existing objectives;
- Personal mission;
- Material gain.

9) were working towards achieving the National Healthy School Standard, and all achieved recognition by summer 2002. Many of these saw the Grab 5! Project as a way to support their commitment to achieving the National Healthy School Standard. These schools used Grab 5! activities as evidence to:

"..demonstrate that we are a healthy school" (school 8)

Affirming identity

There are expectations of schools from many groups - not least the local community and the educational establishment. Beacon schools are expected to be models of excellence and hence seek out and engage with valuable initiatives, having first verified that the quality and purpose of each initiative match those of the school. Being associated with worthwhile, new, good quality projects affirms their identity as a beacon school. In the case of schools 3 and 4 (both 'significant change' schools), beacon status may have been the prime motivator for their interest in a high-profile initiative such as the Grab 5! Project.

"I think [the head's] philosophy with anything like Grab 5! is – she loves us to be involved in anything. If it's a pilot project, get in there, at the front – doing it" (school 4)

These schools were either 'significant change' or 'change' schools.

Personal mission

Three head teachers (at schools 1, 6 and 8) described a long-term mission to improve the children's ability to learn and included healthy eating as an aspect of this mission. This goal was personal and may be considered vocational.

"Issues about diet are important issues which can make a real difference to children" (school 1)

School 5 saw the Grab 5! Project as one means of supporting their strategy to reduce absenteeism, as:

"A lot of our issues are to do with health – attendance is appalling" (school 5)

Supporting existing objectives

Six schools in the evaluation (3, 4, 6, 7, 8 and

Head teachers also felt the school had an important role to play within their community

to improve conditions for the children and their families. In school 8 the head teacher talked about being “proactive” and “refocusing” their efforts towards the community as “an agent of change”, with the acknowledgement that more support was needed in this respect.

Motivation to take part in the Grab 5! Project based on these personal missions did not appear to be a feature particularly associated with the success of the project.

Material gain

A number of schools had been attracted to the Grab 5! Project by the possibility of gaining more funding and support. Receiving additional funding made the Grab 5! Project attractive to schools, and the “goodies” (badges, balloons etc.) were seen as an added bonus. School 7 was the only school that expressed some disappointment in these resources.

Schools 2 and 7 acquiesced to the momentum generated by the Grab 5! Project. They responded to contact with the Grab 5! project officers and the researchers carrying out the evaluation, but had no structured agenda for the Grab 5! Project – they were passive recipients. The Grab 5! Project may have been seen as a discrete project with potential to achieve visible results quickly.

Progression of motivation

A progression in motivating factors had taken place in some of the schools. Often, initial motivation was provided by staff with a personal mission to support the Grab 5! Project. Once activities were established in the school, it then became a school objective, and ultimately an affirmation of the school’s identity. Once established in a school, activities can become a tradition, which is a powerful motivator.

Belief in the project’s message

Key points

Schools need to be secure in their belief that fruit and vegetables are good for you.

Some schools became uncertain of the benefits of eating more fruit and vegetables following a media controversy that received widespread newspaper coverage in Spring 2001, between the British Dental Association and the Department of Health about whether eating apples causes tooth decay.

“The modern apple is not good for you because it contains too much sugar and therefore it's much better to have a packet of crisps” (school 8)

The school needs to be secure in its belief that

fruit and vegetables are good for you to withstand being buffeted off course by such media stories. For schools without such belief, or with a resistance to health promotion in general, these media controversies reinforce their stance.

A belief in the Grab 5! message was demonstrated by many of the staff at the schools showing a significant change in fruit and vegetable consumption during the Grab 5! Project. Belief is not necessarily new to an individual and may have been held for some years, or even a lifetime. The Grab 5! Project reaffirms the belief, which was commented on by coordinators in schools 2, 3, 6 and 8.

Management of the project

Key points

Good management of the adoption and implementation process is a key element of success.

Having decided to join the Grab 5! Project, a school prepares an action plan and then moves on to implementing activities. At this stage of transition the project is vulnerable to slippage and to losing status or priority. Good management of the adoption and implementation process is important. Interviews with Grab 5!

school coordinators helped researchers identify seven key components of good management: 'senior management support', 'an effective project management team', 'involving other staff and children', 'consultation with parents and children', 'planning and pacing of project', 'seizing opportunities' and 'getting local support'.

Senior management support

Key points

For successful adoption of the Grab 5! Project, the message must be supported by senior management

For successful adoption of the Grab 5! Project, the message needs to be supported by senior management in the school, the Grab 5! school coordinators, and a good proportion of the class teachers and support staff.

In schools where 'significant change' in fruit and vegetable consumption was noted, senior management was not only highly supportive but could also be quite directive.

In school 7 (a 'change' school) this appeared

to be less in evidence than in other schools. The head teacher demonstrated a mixture of resistance and ambivalence to healthy eating and voiced a skepticism towards health promotion in general. Staff reported that they sensed his lack of conviction towards the Grab 5! Project. The new PSHE coordinator had been given the role of Grab 5! school coordinator but gave priority to his other roles within the school, which the head teacher supported.

An effective project management team

Key points

'Significant change' schools were characterised by the deputy head or assistant head taking responsibility for the Grab 5! Project or the deputy head / head taking responsibility alongside a subject coordinator.

Grab 5! school coordinators in 'significant change' schools had all received a recent promotion, likely to be accompanied by an expectation or obligation, to achieve. They were highly motivated individuals who took ownership of the project.

Table 23 lists the people cited by the Grab 5! school coordinators as being involved in each of the schools at the beginning and end of the Grab 5! Project (summer 2001 and summer 2002). There are noticeable differences in the

numbers and range of people involved. In some ways, the number reflects the cohesiveness of the school and in others it gives an indication of the level to which the Grab 5! approach engaged the school.

Table 23: Coordination of the Grab 5! Project within schools, described in 2001 & 2002

School	Staff responsible 2001	Other people active 2001	Staff responsible 2002	Other people active 2002
'NO CHANGE' SCHOOLS				
5	head, deputy head, 1 learning mentor	LEA appointed governor	head, deputy head, 1 learning mentor	school cook
1	head, science coordinator, PSHE coordinator	2 governors, 3 parents	head alone	parents, learning mentor, Health Action Zone employee
'CHANGE' SCHOOLS				
8	head, Key Stage 1 coordinator		head, Key Stage 1 coordinator	
7	head, deputy head, PHSE coordinator	chair of governors	head alone	
6	head, PSHE coordinator	Health Forum (school nurse, community dietician, and governor), all staff	head, Leeds Healthy Schools Scheme coordinator	Health Forum (school nurse, community dietician, parents and governor), all staff
'SIGNIFICANT CHANGE' SCHOOLS				
2	assistant head, nursery teacher		assistant head alone	
9	deputy head	teaching staff	deputy head alone	1 Year 6 child (tuck shop coordinator)
4	head, PSHE coordinator		PSHE coordinator	Year 6 children
3	deputy head, PSHE-coordinator, 2 learning mentors	all teaching staff	deputy head, PSHE coordinator	all teaching staff, 2 learning mentors

Each school identified one, two or three people as being responsible for the Grab 5! Project. The make-up of this Grab 5! team differed from school to school and team size varied between schools. 'Significant change' schools were characterised by the deputy head, assistant head or a subject coordinator (all of which were women) taking a prominent role in the Grab 5! Project, rather than the head teacher (usually a man).

Good management of individual school projects meant well-defined roles for the team members. School 3 had a team of four staff comprising the deputy head, PSHE coordinator, and two learning mentors while in other schools only one person took on the leadership role. It is interesting to observe that one thing held in common by 'significant change' schools (2, 3, 4 and 9) was the recent promotion of the Grab 5!

school coordinator. A promotion is likely to be accompanied by an expectation, even obligation, to achieve. The school coordinators in these schools tended to show characteristics that have been identified as distinctive of 'the key person in an intervention' – highly motivated individuals who take ownership of the project (Fox et al, 1997).

In school 2 the Grab 5! project officer was seen as very much part of the team. As the Grab 5! school coordinator said:

"Grab 5! is mainly [the Grab 5! project officer] and me" (school 2)

Some schools got more help from Grab 5! project officers than others, according to how much they needed / asked for, which may have affected the outcome. However, the evaluation team did not measure how much support each project officer gave to the schools.

Involving other staff and children

Key points

The more successful schools were more likely to involve children and all teaching staff in the Grab 5! Project than other schools.

The more successful schools (3, 4, 6 and 9) were more likely to involve children and all teaching staff in the Grab 5! Project than other schools. Schools involved other staff and children in the project in different ways.

School 6 used an existing team, the 'health forum', established to implement the Healthy Schools initiative, to help manage the Grab 5! Project. It included the head, the school nurse, other school staff and children. This group had "informal discussions" about the Grab 5! Project. School 1 also set up such a group but faced some problems:

"Well, we had a committee initially which consists of myself [Grab 5! school coordinator], two governors (but they don't always attend), and a couple of parents. We advertised it through the school newsletter and I reported what we were doing to the governing body, [who are] interested in being involved. And Grab 5! encouraged us to have a community-wide

approach. It's a very middle class (in my view) response to organising things, and it's hard because one of the hard things of working in an inner-city, multi-cultural community is that people don't want to come and sit on committees or don't feel confident about it" (school 1)

In other schools no such group was set up but the coordinator may have engaged other staff and children in particular Grab 5! related activities. In school 4 (a 'significant change' school), for example, the Grab 5! school coordinator generally worked alone but when the school had a healthy week she brought in the help of outside organisations, other school staff and the Grab 5! project officer.

"[The Grab 5! project officer] came up to meet me and we talked about what we were trying to do and what would go well. And she brought up all the stuff, like this blender" (school 4)

Consultation with parents and children

Key points

Consultation was identified as a key factor of success, involving all those with an influence on children's food choices, including parents.

One difference between 'significant change' schools and other schools was the degree of consultation undertaken by the school, with children and parents, before implementing more challenging Grab 5! activities such as fruit-only tuck shops, and shifts towards healthier foods at breakfast clubs. The head teacher at school 7 (a 'change' school) explained how his school had tackled the school tuck shop, run by the school caretaker, which sold crisps, sweets and biscuits.

"We announced it in a newsletter and said that's the end of it and so it was" (school 7)

On first arriving at the school a few years previously, the head teacher at school 1 had taken the same approach to the school tuck shop. Year 6 children interviewed in focus groups in summer 2002 still expressed resentment at the closure of the tuck shop that had provided them with "10p mix-ups".

In contrast, school 9 (a 'significant change' school) had tackled more diplomatically the same issue of a traditional tuck shop which sold a similar mix of sweets and crisps every day. School 9 gathered opinions from children and

parents about the fruit-only days, when no crisps or sweets were available. They were amazed by the support of parents for the introduction of healthy snacks.

In this way, the management team got the backing of the parents. A similar consultation process had taken place with children in school 2, another 'significant change' school, in introducing healthier foods into the breakfast menu. Grab 5! school coordinators at schools 3 and 4 (also 'significant' change schools) had been surprised by the enthusiasm of the children for the Grab 5! Project.

Involving parents or carers may be a key part of encouraging children to eat more fruit and vegetables. Without positive views on fruit and vegetables being reinforced at home, work within the schools is unlikely to increase fruit and vegetable consumption by the children. Lack of parent involvement was a feature of schools 1, 5, 6 and 8 (all 'no change' or 'change' schools). This was commented on by the Grab 5! school coordinator in school 5, who noted:

"In the past, we've had actually two or three parents to meetings and you know you just get so deflated" (school 5)

Planning and pacing of the project

Key points

Schools selected activities appropriate to their setting and then implemented them through established practices at a pace that they felt suitable.

Schools that had been highly selective in their choice of activities and set tasks, which were well within reach of the school, could not identify any aspects of the Grab 5! Project that, in their opinion, had not worked well.

Pacing a new project was of concern to many school coordinators and head teachers. The head teacher in school 8 described this as:

“Not rocking the boat too much. I think that unsettles people” (school 8)

The Grab 5! school coordinator in school 3 said:

“It taught me a lot about planning that if you keep things very simple and very tight,

that's the way to go really” (school 3)

‘Change’ schools may have seen less change over the year than ‘significant change’ schools because of a deliberate pacing of the initiative by heads who took a longer term view of school developments than other members of the staff.

School 8 was a ‘change’ school, and this type of school was characterised by a middle-aged male head teacher with considerable experience and patience. It may be that in these schools the change observed over the four terms will become more significant over two or three years, and the difference between ‘change’ and ‘significant change’ schools was simply pace.

Seizing opportunities

Key points

Seizing creative opportunities added enjoyment to the presentation of fruits and vegetables.

Some teachers and schools used the Grab 5! Project as an opportunity to achieve related goals.

Seizing creative opportunities to implement the Grab 5! Project was also seen as important.

In school 7, a Year 5 teacher used left-over fruit from the infant school to make fruit milk shakes. School 3 took the opportunity of Harvest Festival, a school tradition that just happened to coincide with the start of the Grab 5! Project, to launch their Grab 5! day. School 2 embraced every opportunity provided by the Grab 5! project officer to have a Grab 5! launch event including class lessons on fruits and vegetables, theatre and a cooking demonstration by a chef.

The Grab 5! Project was seen by some schools as an opportunity in itself for them to achieve

other ambitions, in particular for five of the schools with the National Healthy Schools Standard.

The Grab 5! Project also provided an opportunity for the Grab 5! school coordinators to raise their own profile within their school and to be associated with a successful and popular project. In school 4, the head teacher received many favourable reports of the Healthy Week from different sources. The success of Healthy Week led to recognition of the Grab 5! school coordinator by the Head and her subsequent involvement in a new Business Link initiative.

Getting local support

Key points

Most schools encouraged partnerships, and reported positive experiences.

Where partnerships with local individuals and organisations worked well, schools benefited from the unique talents and skills of professionals such as social workers, chefs, actors, firemen, nurses and many others. Some partnerships also provided much valued help, including provision of fruit and vegetables.

Partnerships were generally seen by Grab 5! school coordinators as a way of delivering the Grab 5! Project, whilst reducing some of the extra workload for teachers. Valued resources

included finance and staff support, in areas where *“teachers haven't got the residual energy or time”* to do the extra work necessary (school 8).

Where partnerships had encountered problems, participants sometimes expressed a sense of frustration and disappointment.

On the whole schools, particularly beacon schools (schools 3 and 4), encouraged partnerships and most reported positive experiences for all parties.

The role of the steering group

In each of the pilot project areas, a Grab 5! steering group was set up. The process evaluation of the steering groups was conducted separately from that based in schools, to try to capture views about the sustainability of the Grab 5! Project as a whole.

It seemed likely that interviews with Grab 5! steering group members might provide valuable information about the Grab 5! Project beyond the involvement of school staff. To capture data, steering groups members were interviewed

towards the end of the academic year 2001-2002. Interviewees were identified with help from the Sustain team, and semi-structured interviews were arranged and taped (details of the questions can be found in Appendix I). Face-to-face interviews were conducted with the key personnel from the Health Action Zones (one from each area), two catering managers (Leeds and Plymouth) and a telephone interview with a Local Education Authority advisor (Lambeth).

Steering group membership

Key points

Typical Grab 5! steering group membership included representatives from Sustain, the local authority (in particular the Health Action Zone), the school meal service and from schools.

Grab 5! steering group membership was inclusive, having a core of regular attendees and some transitory ones who attended to provide specific expertise.

All members interviewed thought that the make-up of their group was appropriate and could not suggest other types of people who should have been invited to be involved.

The typical group included representatives from Sustain, the local authority (in particular the Health Action Zone), the school meals service, and from the schools.

The groups also included people with specialist skills (e.g. environmentalists, people organising composting schemes, youth workers) where their experience and skills made a useful contribution.

All three steering groups had a consistent core of people or core positions (e.g. the current catering manager in Plymouth had taken over from the previous catering manager). The three

key Health Action Zone personnel saw the composition of their steering groups as necessarily dynamic, i.e. that some people should join the group and then leave, and described this as *“appropriate”*, as different members had contributions to make at different times. It was also noted that changes in *“minor”* personnel were possible without having an adverse impact on the steering groups because the *“core people were there”* (Lambeth).

Health Action Zone personnel tended to recruit people into the group with the help of the Grab 5! project officer. Other members of the steering group typically included those who had direct access to schools and representatives from business, for example from local food suppliers and food wholesalers.

How the steering groups worked

Key points

Grab 5! steering group meetings were democratic, welcoming, enjoyable as well as very purposeful, and more than just a vehicle for exchanging information.

Steering group meetings were thought helpful because:

"People spark off each other" (Plymouth)

They were also seen as a way of developing networks and links.

"That's how you get the other people on board" (Plymouth)

"We were immediately engaged with the school meal service, which has been an enormous boon as they've been so helpful. ... They've been really crucial in helping us get into schools and then see the right people" (Plymouth)

Steering groups were seen as a lot more than a forum for feeding back information, as this could be accomplished by email.

"The meetings have been judged about right, not too many and then we've had a lot to discuss. It would have been too much for just an e-mail. ... If I miss a meeting and I get the minutes, I realize how much stuff they've got through" (Lambeth)

The Health Action Zone personnel who had been part of their respective steering groups from the beginning noticed a natural evolution in each group's functions as the Grab 5! Project progressed. This was attributed to including the appropriate "key people" and keeping the groups inclusive, as well as reinforcing the important aspects of their role in the Grab 5! Project.

For two of the groups (Leeds and Plymouth), this view was arrived at through a process of reflection during the course of their interviews. The interviewee from Leeds thought that the Grab 5! steering group was likely to have been "frustrating" for the Grab 5! project officer, and questioned if the group had been supportive

enough, but added:

"I'm not sure that there is much more we could have done" (Leeds)

A brief description of the process was proffered by the Plymouth interviewee, who reported that the steering group meetings had become a reporting back forum:

"[The Grab 5! project officer] and myself, we don't think that it's worked completely satisfactorily. And even though it didn't work in the way we hoped it would, it got us off to a good start. ... Once work had started it just needed keeping on track and updating. ... But when I reflect, perhaps that was the way it needed to be. The shaping was progressive, it was evolutionary, and it fulfilled its task and then it's gone on to be something else" (Plymouth)

As indicated above, the meetings were seen very positively and their 'dynamic' and purposeful nature was apparent from the interviews. They were often described in positive terms, such as "action oriented" (Lambeth). The Grab 5! project officers were also praised, for focusing on the "interests of those present" (Leeds), and for keeping meetings "business-like and tight" (Plymouth). At the same time, Grab 5! project officers were also perceived as "democratic" (Leeds), "welcoming and friendly" (Plymouth), and they were praised for taking the time to explain the Grab 5! Project and its progress to newcomers.

This inclusivity of steering groups was remarked on by the catering manager from Leeds:

"It's the first [steering group] I've been on. They're informal and I thought it might feel intimidating ... We always get updates and copies of everything and information resources. They are enjoyable and that's important" (Leeds)

How steering group members viewed the Grab 5! Project

Key points

The planning phase was considered very important, allowing time for networks to be established.

Interviews with Grab 5! steering group members also included questions about the planning phase of Grab 5! (summer 2000 – 2001), and the Grab 5! Project's impact on other fruit and vegetable promotion initiatives. The planning phase was valued by everyone and was seen as a very important component of the success of the Grab 5! Project. Interviewees were "impressed" (Lambeth) that the first year was devoted to planning the process.

"These people recognise it takes time to get these networks and the right people in place, to make the relationships" (Plymouth)

There was also an appreciation of the length of the whole project.

"I think it's the time that these projects take. I think it's very positive the fact that it's three years" (Leeds)

Other initiatives running at the same time in some schools and some areas included the National School Fruit Scheme (NSFS), the National Healthy Schools Standard, Food Dudes, a drinking water scheme, and a local fruit scheme in Lambeth, in addition to at least another three unspecified projects. As one steering group reported:

"Sustain paved the way for the [National] School Fruit Scheme" (Plymouth)

These other initiatives running simultaneously had advantages and disadvantages.

In Plymouth, the NSFS was introduced with

relative "ease", as the Grab 5! project officer "already had the school network and was in touch with the school meal service." However, Plymouth was also running the National Healthy Schools Standard so there was potential for confusion.

"Colleagues do get muddled up with the three schemes" (Plymouth)

"But it does give us a second opportunity to discuss Grab 5!, and Grab 5! has a slot at the Healthy Schools meetings" (Plymouth)

The potential for confusion and overload was an issue in Leeds. Although disappointed that they were not part of the NSFS, the Health Action Zone representative recognised:

"It was probably a good thing because there would have been too much going on - you can have one project too many" (Leeds)

Inevitably, comparisons were made between the two schemes. The following comment sums up the feelings of all interviewees:

"The NSFS is a good idea, but Grab 5! is very good - so much more. It's not just giving them a piece of fruit, it's educational as well. It gets to the heart of it, as opposed to just eating an apple every day" (Lambeth)

The role of Grab 5! project officers

Key points

Sustain's Grab 5! project officers helped maintain the enthusiasm and momentum of Grab 5! activities and local steering groups. Steering group members identified

important characteristics of a project officer as being good at communicating and facilitating, enthusiastic, committed, and having appropriate skills to engage schools in a positive way.

In all of the schools taking part in the Grab 5! Project, children were exposed to many memorable, positive experiences relating to fruit and vegetables. The strategies employed by the Grab 5! project officers contributed to the success of Grab 5! in this respect.

The Grab 5! project officers approached schools in an appropriate manner and supported Grab 5! school coordinators in a variety of ways (from bringing in fruit and vegetables to finding drama companies and the Cook au Van).

Teachers acting as Grab 5! school coordinators tended to be very overworked. Support from the project officer helped them to engage with the Grab 5! Project at a level which suited them and their school. Some schools got more help from Grab 5! project officers than others, according to how much they needed / asked for, which may have affected the outcome. However, the evaluation team did not measure how much support each project officer gave to the schools.

The Grab 5! project officers had a similar facilitation role within the local steering groups, shouldering many of the tasks to be undertaken. Grab 5! project officers helped to make the steering groups accessible to all members, regardless of individual expertise or previous experience of working in this way. The meetings were purposeful and yet enjoyable and were not too onerous for members.

Grab 5! steering group members considered that many factors were important regarding the quality of their contact with the Grab 5! project officer. Valued factors included regularity, ease and speed of response. The Grab 5! project officers had fulfilled all of these criteria. They were praised for communicating well, and for:

"..enthusiasm and commitment" (Lambeth)

They were also praised for having the appropriate interpersonal skills to engage the schools in a positive way.

Grab 5! project officers were described as:

"A good facilitator" (Leeds)

"Brill" (Lambeth)

"Genuinely interested and enthusiastic" (Plymouth)

The manner in which Grab 5! project officers helped the project develop was also appreciated:

"You need to fit in with the school and have to be assertive, but in a proper way to get it to work" (Plymouth)

Project officers' drive and motivation *"pushed it on"* (Plymouth) and were:

"..important for keeping the momentum for schools and the meal service going" (Leeds)

The Grab 5! project officers were also perceived as having a positive influence in *"bringing it together"* (Lambeth). As steering groups explained:

"You need someone like that to encourage, to keep with it" (Plymouth)

"Without [the Grab 5! project officer] it would have been harder" (Lambeth)

In addition to their personal enthusiasm and commitment, project officers were also seen as having a practical contribution. They were resourceful and knowledgeable.

"[The Grab 5! project officer] knows what they are talking about..." "Ideas – he had loads" (Lambeth)

Grab 5! steering group members were impressed by the way their groups had been organised and managed. The level and timing of information was considered about right. The Sustain Grab 5! project officers were seen as taking the lead, and kept the impetus going in a very friendly but purposeful way. They also shouldered most of the work generated by the steering groups.

Maintaining the Grab 5! Project at a local level

Key points

Local input and local personnel involvement in the management of the Grab 5! Project was seen as "crucial".

Maintaining the Grab 5! Project had been built into the project at local steering group

level which appeared to be working.

Identifying someone with a designated role to lead the project in each area was seen as essential for maintaining it.

Health Action Zone (HAZ) personnel all agreed that having local input and local personnel involved in the management of the Grab 5! Project was "crucial". This was seen as vital in the setting up phase, and desirable to maintain the project.

"It was good for schools to see there was somebody from Leeds involved" (Leeds)

Non-HAZ personnel thought that it was important at the local level to involve "the right people at the right level" (Plymouth) "who are interested in schools" (Leeds), and to get "someone in authority involved to make things happen and make contacts" (Lambeth).

They also commented that it was useful to know up-front what was expected of them:

"You need a clear idea of what your commitment is" (Leeds)

Steering group members were aware that, having set up their group and the networks, they could "share practice when the Grab 5! project officer has gone" (Leeds), but with the acknowledgement of needing:

"Someone as a driver to keep it going, to work with the schools" (Plymouth)

This 'someone' could already be an employee, and could take on this function as part of their job (e.g. a part-time person could become a full-time person).

Steering group contingency plans for the Grab 5! Project included having a dietetics coordinator (Lambeth and Leeds):

"We've got the 5-a-day money which could be channelled into Grab 5!" (Leeds)

In Plymouth, funding was being sought to employ a coordinator who could "sit in a number of places, the PCT, or lifelong learning". Maintaining the momentum was seen as very important, and the view of each HAZ person was typified by one comment:

"I'm sure between us we can make it sustainable. I would pull it together myself because I think it's so good" (Lambeth)

Discussion of principles underpinning success

Environmental influence

The influence of the surrounding environment on the outcomes of the Grab 5! Project cannot be underestimated. The three locations were chosen for the pilot phase of the Grab 5! Project as they were notable areas of deprivation.

Setting interventions in these locations was likely to have been a more challenging test of the Grab 5! approach than conducting the project in more affluent areas. In general, children from low-income families do not eat much fruit and vegetables at home, and the role of home has an influence on projects such as Grab 5!.

A previous study (*Kratt et al.*, 2000) has studied the availability of fruit and vegetables in the home (which is suggested but not confirmed as an environmental influence), as a mediating variable. This study found that homes with more fruit and vegetables also had a stronger set of motivating factors for both parents and 9-10 year old children. This research vindicates the Grab 5! approach of including parents as much as possible in the project activities, in order to achieve sustained increase in consumption.

Another study (*Cullen et al.*, 2000) has considered social and environmental influences on fruit and vegetable consumption amongst primary-school-age children, through focus group discussions with children and parents. Possible influences that are relevant here include:

Positive influence

- Friends eating fruit in school.

Negative influences

- Lack of parental role-modelling (why should children eat fruit and vegetables if parents are not seen to eat them?).
- Negative comments about vegetables, which children said would stop them from eating vegetables in school.
- Peer pressure and television advertising promoting less healthy food options.

Negative attitudes to vegetables changed little, as shown in the Grab 5! Project by the preference question in the Having Fun with Food Questionnaire. This may be due to subtle peer influences that are difficult to address.

There may be an issue around fruit and vegetables having a low status for children, compared with other processed and heavily advertised foods, particularly if fruit and vegetables are not readily available at home and the other foods are. One Year 6 focus group in the Grab 5! Project commented on the lack of advertising for fruit and vegetables, and suggested advertising would improve their acceptability.

4.6 Summary of the process

Adoption of the Grab 5! Project

Key points

Steering group members heard about the Grab 5! Project in a variety of ways.

The workshops and support strategies employed by Grab 5! project officers were vital to the project's adoption.

How did schools address obstacles to increased fruit and vegetable consumption?

Key points

Acceptability was improved by activities such as Tastathons, Cook au Van visits and many other creative activities that increased children's enjoyment of fruit and vegetables.

Accessibility was improved by schools setting up fruit tuck shops, increasing fruit and vegetables in school meals and many other strategies that increased availability of fruit and vegetables in school, with valuable support from the Grab 5! project officers.

Affordability was addressed in different ways by schools, for example by charging 10-15p for a piece of fruit in the fruit tuck shops. In the main, both school staff and children thought this level was appropriate.

Awareness of healthy eating had increased in schools, with school coordinators unanimously reporting that Grab 5! had contributed to this raised awareness.

What successful activities did schools implement?

Key points

Schools adopted a variety of activities, tailored to what they thought would be successful in their schools and in ways that would engage their children.

Key features of success appeared to be choosing activities that were:

- Appropriate for the school;
- Not over ambitious;
- Sensitive to the workloads of teachers.
- Providing fun, novel and exciting experiences for the teachers and children associated with fruit and vegetables.

Activities that provided opportunities to taste

fruit and vegetables were particularly popular amongst children

The Grab 5! Project was one of several initiatives currently running in primary schools and so there was likely to be a synergistic effect, with Grab 5! making a major contribution because of support from Grab 5! project officers.

Grab 5! school coordinators were unanimous in declaring that activities initiated under Grab 5! would continue in school, particularly eating activities such as fruit tuck shops and breakfast clubs.

Which activities did schools find to be unsuccessful?

Key points

Grab 5! school coordinators did not report any unsuccessful activities.

Children may become 'fatigued' from hearing the message too often.

What principles of project adoption, management and implementation could underpin a nationwide project?

- Beacon schools are expected to be models of excellence and hence seek out and engage with valuable initiatives.
- Schools involved in the Healthy Schools programme saw the Grab 5! Project as a way to support their commitment to achieving the standard.
- Schools need to be secure in their belief that fruit and vegetables are good for you.
- For successful adoption of the Grab 5! Project, the message needs to be supported by senior management.
- 'Significant change' schools were characterised by the deputy head or assistant head taking responsibility for the Grab 5! Project or the deputy head / head taking responsibility along side a subject coordinator.
- School coordinators in 'significant change' schools had all received a recent promotion, likely to be accompanied by an expectation, even obligation, to achieve. They showed characteristics that have been identified as distinctive of 'the key person in an intervention' – highly motivated individuals who take ownership of the project (Fox et al, 1997).
- More successful schools were more likely to involve children and all teaching staff in the Grab 5! Project than other schools.
- Consultation was identified as a key factor of success, involving all those with an influence on children's food choices, including parents.
- Schools selected activities appropriate to their setting and then implemented them through established practices at a pace that they felt suitable.
- Most schools encouraged partnerships and reported positive experiences.
- Typical Grab 5! steering group membership included representatives from Sustain, the local authority (in particular the Health Action Zone), the school meals service and from schools.
- Grab 5! steering group membership was inclusive, having a core of regular attendees and some transitory ones who attended to provide specific expertise.
- Grab 5! steering group meetings were democratic, welcoming, enjoyable as well as very purposeful, and more than just a vehicle for exchanging information.
- The planning phase was considered very important and allowed time for networks to be established.
- Sustain's Grab 5! project officers played a key role in maintaining the enthusiasm and momentum of Grab 5! activities and local steering groups.
- Steering group members identified important characteristics of a project officer as being: good at communicating and facilitating, enthusiastic, committed, and having appropriate skills to engage schools in a positive way.
- Local input and local personnel involvement in the management of the Grab 5! Project was seen as "crucial".
- Maintaining the Grab 5! Project had been built into the project at local steering group level which appeared to be working.
- Identifying someone with a designated role to lead the project in each area was seen as essential for maintaining it.

Section 5: Discussion

This section summarises the main findings from the outcome evaluation and the process evaluation. Readily identifiable factors from both parts of the evaluation have been selected so that patterns of influence can be seen in individual schools (see Table 24).

Factors such as change in fruit and vegetable consumption have been listed next to other factors, such as which staff were involved; changes in knowledge, attitudes and beliefs; number of activities undertaken; and school performance in Standard Attainment Tests (SATs).

In making the comparisons shown in Table 24, a general pattern emerged identifying key aspects of success. The more successful schools tended to have a Grab 5! school coordinator who had been newly promoted and was highly motivated. In addition, successful schools had involved parents in the Grab 5! process.

Increases in fruit and vegetable consumption were more often accompanied by changes in attitudes knowledge and beliefs, possibly indicating an holistic approach within those schools. Schools with higher SATs scores also tended to fare better with the Grab 5! Project.

Other factors to be considered

Differences between schools with low SATs scores and schools with middle-range SATs scores are likely to be subtle and not necessarily identifiable within this present evaluation. However this does not mean that the success of the Grab 5! Project was simply correlated with a school's academic performance, nor that it was worthless undertaking the project in low scoring schools. It could be argued that children in the low scoring schools are in greatest need of interventions such as the Grab 5! Project, and benefits gained may become apparent at a later date (rather than in the one-year timescale of the evaluation). Schools with low attainment records have to work far harder than schools with higher attainment levels, with staff time dedicated to helping children achieve academically.

Children at 'no change' schools (1 and 5) also made negative comments about school meals and reported that menu changes had not been easy, for many reasons. Other confounding factors may have affected the outcomes for individual schools. School 1, for instance, had achieved

a higher academic standard in the year preceding the Grab 5! Project (SATs score 173, compared to 100 in the following year). The Grab 5! indicators may have been sensitive to this change.

These factors indicate a need for judgement about what is possible within any one school, the pace at which things can happen, and how children in that school will respond. As Figure 11 illustrates, attempting to change lifestyle and behaviour among children from deprived areas is complex, especially over a short period of time.

No single aspect of an intervention will, in itself, result in sustained increase in fruit and vegetable consumption. However, when asked to identify key elements of success of the Grab 5! Project, school and steering group personnel responded as follows:

From the steering groups

- Continued support from a local co-ordinator.
- The establishment of a local steering group, ensuring a wide range of representatives - including schools, health professionals and the catering services.

From the schools

- An appropriate method of approaching the schools to ensure the support of the senior management, such as gaining the support of the head teacher first.
- The ability of the project to complement existing school teaching plans and the National Curriculum.
- The flexibility of the project components – teachers can decide what will work in their particular school given the workload of teachers and the social circumstances of children and parents.

The holistic approach of the Grab 5! Project also demonstrated far-reaching potential, with benefits for both children and adults (staff, parents, and others), which may well continue into the future. Apart from increasing many children's fruit and vegetable consumption, the

Grab 5! Project has also encouraged camaraderie in schools operating in challenging areas. It gave a reason for improving links within and outside the schools, and engaged some parents positively. Grab 5! was well received by the vast majority of people who were involved with it. The process, its sustainability and implementation was summed up by a member of a steering group:

"The process of Grab 5! shouldn't allow it to disappear. It has been phenomenally popular and it's gaining momentum as the year is drawing to a close. We know schools change staff and we hope that the principles have been built into the schools and not the individuals, but you always need the driver in the school" (Leeds)

Making correlations

The two following graphs show one aspect of the complexity of evaluating interventions such as the Grab 5! Project. These analyses show the relationship between two factors using correlations. Correlations assess the significance of a relationship; scores range from 1.0 to -1.0. When $r = 0.0$ there is no relationship (horizontal line on graph) and when $r = 1.0$ there is a maximum positive relationship (steep

incline on graph). A minus sign indicates a negative relationship (decline on graph).

Figure 10 shows the correlative relationship between change in consumption and SATs score for each school (highly significant $r = 0.9$; $P = 0.002$).

Figure 11 shows the relationship between change in consumption and the number of activities undertaken per school (not significant $r = -0.3$; $P = 0.40$).

Figure 10: The relationship between increase in consumption and school SATs score

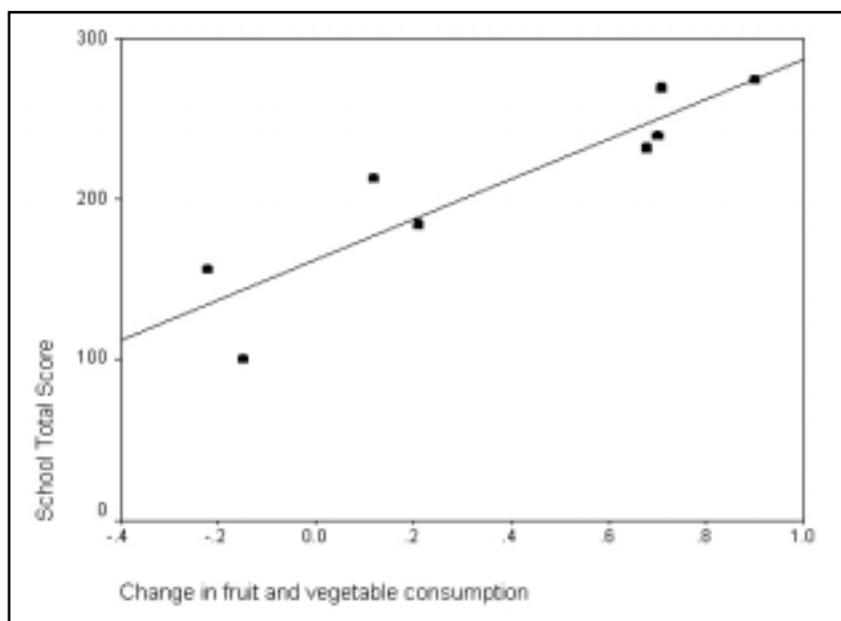


Figure 11: The relationship between increase in consumption and number of activities

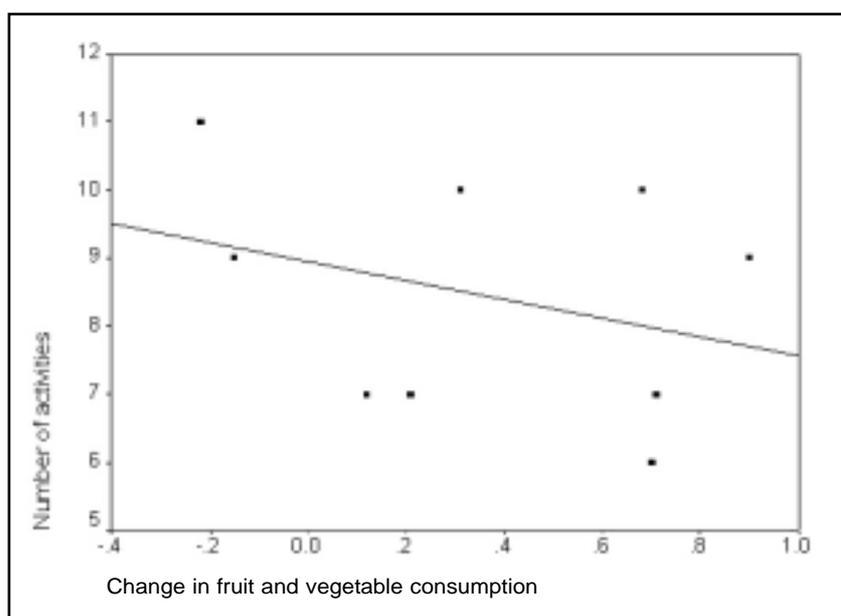


Table 24: Summary of outcomes and process

School	Fruit & vegetable consumption 2001 (pieces)	Fruit & vegetable consumption 2002 (pieces)	Change in total intake (pieces)	Changes in knowledge, attitudes and beliefs	Staff responsible, 2002	Had the school coordinator been newly promoted?	Was there parental involvement?	Number of activities undertaken	Total school score (SATs+)
5	1.90	1.68	-0.22	Knowledge, attitudes and beliefs improved (not significantly)	head teacher, deputy head, learning mentor			11	156
1	1.71	1.56	-0.15	Knowledge, attitudes and beliefs improved (not significantly)	head teacher			9	100
7	1.72	1.84	0.12	Preference for healthier foods improved (other changes not significant)	head teacher, Key Stage 1 coordinator		Yes	7	213
6	1.58	1.79	0.21	Knowledge about healthiness of fresh/frozen produce improved (other changes not significant)	head teacher			7	184
8	1.40	1.71	0.31	Knowledge, attitudes and beliefs improved (not significantly)	head teacher, Leeds Healthy Schools Standard coordinator			10	School too small
2	1.20	1.88	0.68*	Preference for healthier foods improved (other changes not significant)	assistant head	Yes	Yes	10	231
9	1.41	2.10	0.70*	Children more aware of five-a-day message (other changes not significant)	deputy head	Yes	Yes	6	239
4	2.03	2.73	0.71*	Knowledge, attitudes and beliefs improved (not significantly)	PSHE coordinator, head	Yes	Yes	7	269
3	2.27	3.17	0.90*	Preference for more vegetables improved, and knowledge about healthiness of fresh/frozen produce improved (other changes not significant)	deputy head, PSHE coordinator	Yes	Yes	9	274

+ Total school score is an aggregate of the percentages of children reaching Level 4 (the expected standard for an 11-year-old) in English, maths and science. The SATs scores were taken from the Schools Report (5th December, 2002), published in The Times. These are calculated for the whole school and represent an aggregate of the percentage of children reaching Level 4 (the expected standard for an 11-year-old) in English, maths and science. The middle score within each area was around 225 to 250. This is not a calculated average, but an indicator of where the eight schools stood in relation to other schools in their Local Education Authority. Such scores are used as an indicator of a school's performance across the board. For further information, see: <http://www.dfes.gov.uk/performance/tables>.

* Indicates statistical significance

APPENDIX I

Questionnaires

The Day in the Life Questionnaire (DILQ)

Having Fun with Food Questionnaire (HFFQ)

The School Profile and Activities
Questionnaire (SPAQ)

The Day in the Life Questionnaire (DILQ)

Questions were asked in text, with graphical prompts in order to make the questionnaire engaging and as easy to answer as possible. The child was asked to give their name, age and gender, and to answer the following questions:

What did you do yesterday morning?

1. Did you have something to eat and drink for breakfast? (What did you have?)
2. Did you watch television yesterday morning? Yes / No
3. Did you eat or drink anything on the way to school? (What did you have?)
4. How did you travel to school yesterday morning? Walk / Cycle / By bus / By car

What did you do yesterday at school?

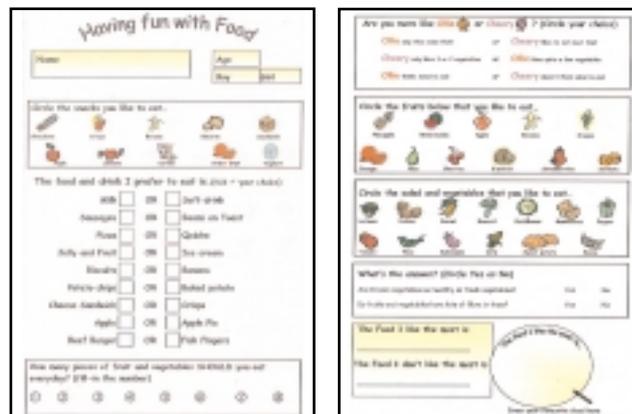
5. Did you have anything to eat or drink at morning break? (What did you have?)
6. What did you do at morning break (interval) yesterday? Sit around / Stand around / Walk around / Run around
7. Did you eat and drink anything for lunch yesterday? (What did you have?) School dinner / Packed lunch / Drink
8. What did you do at lunchtime yesterday? Sit around / Stand around / Walk around / Run around

What did you do after school?

9. How did you travel home after school care yesterday? Walk / Cycle / By bus / By car
10. Did you eat or drink anything when you were travelling home? (What did you have?)
11. After school yesterday, did you: Go home / Go to a club (e.g. Brownies, Cubs, swimming, football?) / Go to an after-school club?
12. Did you have anything to eat, or something to drink between the end of school (apart from the journey) and your evening meal? (What did you have?)
13. Did you play outside yesterday after school? Yes / No
14. Did you have an evening meal yesterday? (What did you have?)
15. Did you watch television yesterday evening? Yes / No
16. Did you do anything else after your evening meal yesterday? What did you do?
17. Did you have anything else to eat or drink between your evening meal and before you went to bed? (What did you have?)

Thank you very much.

Having Fun with Food Questionnaire (HFFQ)



Questions were asked in text, with graphical prompts in order to make the questionnaire engaging and as easy to answer as possible. The child was asked to give their name, age and gender, and to answer the following questions:

Circle the snacks you like to eat...

[Graphics, with text description of: Chocolate; Crisps; Banana; Biscuits; Sandwich; Apple; Sweets; Cereal; Other fruit; Yoghurt.]

The food and drink I prefer to eat is...

(tick your choice)

- Milk OR Soft drink
- Sausages OR Beans on toast
- Pizza OR Quiche
- Jelly and Fruit OR Ice cream
- Biscuits OR Banana
- Potato Chips OR Baked potato
- Cheese sandwich OR Crisps
- Apple OR Apple pie
- Beef burger OR Fish fingers

How many pieces of fruit and vegetables SHOULD you eat every day?

(fill in the number)

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8

Are you more like Ollie [Cartoon orange character] **or Cheery** [Cartoon plum character]? (circle your choice)

- Ollie only likes some fruit OR Cheery likes to eat most fruit.

- Cheery only likes 1 or 2 vegetables OR Ollie likes quite a few vegetables.
- Ollie thinks salad is cool OR Cheery doesn't think salad is cool.

Circle the fruits you like to eat...

[Graphics, with text description of: Pineapple; Watermelon; Apple; Banana; Grapes; Orange; Pear; Cherries; Kiwifruit; Strawberries; Satsuma.]

Circle the salad and vegetables you like to eat...

[Graphics, with text description of: Lettuce; Potato; Carrot; Broccoli; Cauliflower; Mushrooms; Pepper; Tomato; Peas; Aubergine; Corn; Sweet potato; Beans.]

[N.B. See note on page 88 relating to potatoes.]

What's the answer?

(Circle Yes or No)

Are frozen vegetables as healthy as fresh vegetables? Yes / No

Do fruits and vegetables have lots of fibre in them? Yes / No

The food I like most is:

The food I don't like most is:

* In practice, the answers to these two final questions were difficult to analyse, since they were misunderstood and answered in an inconsistent manner. Therefore, answers to these questions were not analysed for the purposes of this evaluation.

The School Profile and Activities Questionnaire (SPAQ)

The school was asked to respond to give the following information:

- Number of children on roll
- Age range of children
- Ethnic mix
- Number eating school meals, paying
- Number eating school meals, free
- Number eating packed lunches

School day

Start _____am; Finish _____pm

Breaks

AM, from _____ to _____; Lunch, from _____ to _____; PM, from _____ to _____

Food preparation facilities

(any descriptions would be helpful)

- Food prepared on site Yes / No
- Food preparation area if food brought in Yes / No
- Source of food brought in (if relevant)

Eating areas

- Bespoke dining hall [Tick box]
- Shared use [Tick box]

Current situation

- Break time food policies (e.g. fruit only, no food) Yes / No – If yes, what?
- Food/diet initiatives linked to the National Curriculum Yes / No – If yes, what?

- Do you have any other fruit and vegetable interventions in your area? Yes / No – If yes, what?
- Are there any other initiatives related to fruit and vegetables in your school?

Which members of school staff have responsibility for the Sustain 'Grab 5!' initiatives?

Are there any other people associated with the school (other staff, parents, governors) with an interest in fruit and vegetables?

Yes / No – If yes, who?

Are any of the following currently present at your school?

- Fruit tuck shop
- Fruit and vegetable tastings
- Increased fruit and vegetables via school meals / food provision
- Cooking demonstrations
- Breakfast clubs
- Playground markets
- Fruit and vegetable visits
- Other

Note: The SPAQ was filled in by schools twice. The second time, a question about frequency of activities was added, and options were included covering: growing activities, packed lunches, and health focus weeks.

APPENDIX II

Methods

Development of the
Having Fun with Food Questionnaire (HFFQ)

Statistical analyses

Development of the Having Fun with Food Questionnaire (HFFQ)

1. Development of the Having Fun with Food Questionnaire

The HFFQ was specially developed for this evaluation in order to explore changes in attitudes, knowledge and beliefs, as no validated instrument was available.

The approach was to adapt instruments used by Professor Annie Anderson (The Centre for Public Health Nutrition Research, Questionnaires for Primary 2 (P2) and Primary 7 (P7)) to measure knowledge, attitudes and beliefs, and to integrate the approach used by Kelder *et al.* (1995). Both of these questionnaires ask children to choose between a healthy and a less healthy food option.

The Professor Anderson schedule is interview based and the Kelder *et al* 1995 is written.

The sections from P2 and P7 on identification of healthy foods and food-related diseases were not included as these were not directly relevant and it was considered that these would make the questionnaire less manageable as a classroom exercise (P2 and P7 were designed as a one-to-one interview).

Researchers included the knowledge-based questions and adapted others as pictorial

questions as opposed to lists that the interviewer ticks.

Lists of snacks, fruits and vegetables were based on a content analysis of completed DILQs from the validation study and from the first round of the evaluation study (n = 1,256). The decision was made to include potatoes in the 'vegetables' category, and early in the order, to encourage children to engage with answering this question. Potatoes are a source of carbohydrates and do not usually count towards the recommended '5 a day', but their inclusion would allow children who do not like other vegetables to feel they could circle at least one item that they recognised.

The resultant questionnaire, Having Fun with Food (HFFQ, see Appendix I), integrates the elements above into a questionnaire format and was written by a dietician under the direction of the research team. It requested information about preferred foods in a manner suitable for UK children aged 7-9 years.

This was tested with Year 4 children in a school with a similar profile to schools taking part in the Grab 5! Project, and changes to language and food lists were made to make the instrument more relevant.

Statistical analysis

2. Statistical Analyses

Where questionnaire answers had a normal distribution (a bell-shaped spread of responses; typically the HFFQ; e.g. How many pieces of fruit and vegetables should you eat everyday?) parametric tests such as the t-Test were used to compare means at the beginning and the end of the project.

This test compares means between two groups. Parametric tests were also used to test differences between schools and genders using

analysis of variance (ANOVA) when the data were distributed normally. ANOVAs compare means of more than two groups. Where answers had a skewed distribution (responses are located at one end of the distribution; typically the DILQ; e.g. the number of instances of self reported fruit or vegetable eating) tests were chosen for discrete numerical data that may be skewed. These included the *Wilcoxon-Mann-Whitney* tests (non-parametric equivalent of the t-test) and the *Kruskal-Wallis* test (non-parametric equivalent of the ANOVA).

APPENDIX III

Interview schedules

Semi-structured interviews with Grab 5!
school coordinators

Focus groups with children

Interviews with other key personnel

Interviews with steering group members

Semi-structured interviews with Grab 5! school coordinators

Initial contact with each school was in the summer term 2001 for the purposes of baseline data collection using the Day in the Life Questionnaire (DILQ).

The researchers were provided with the name, address, telephone, fax and email of the nine schools selected for the evaluation from Sustain, together with the name of the head teacher and made initial contact using this information. Contact information was current and accurate for all but one of the schools, where the telephone number had changed.

The researchers took the opportunity while in the nine schools collecting the baseline data in July 2001 to get to know the key contact (Grab 5! school coordinator) within each school, to assess the level to which the school had adopted the Grab 5! Project and how far advanced they were with their planning.

This initial interview had the main function of introducing researchers to the schools, putting the schools at ease with the evaluation, identifying the personalities and issues within the schools and preparing the ground for later interviews and data collection.

The same evidence was collected in the nine schools for the purposes of the evaluation and the same methods employed for evidence collection. However the application of methods was sensitive to the unique management and ethos of the individual schools.

Discussion topics

The interviewee determined the topics discussed during all interviews of co-ordinators. That is, the researcher prompted with a general question such as '*How is it going?*' and interviewee was left to tell the researcher what they wanted about their role in the school and the Grab 5! Project.

In this way schools who felt they were not advanced in their planning and implementation of the Grab 5! Project were not intimidated at the first interview by having to respond negatively to a series of probing questions. Thus the co-ordinator and not the researcher, set the agenda within the framework of the interview schedule.

Often this meant that the first interview covered topics of the coordinators' role and the school in general, enabling the researcher to gain implicit understanding of priorities for the school and for the Grab 5! school coordinator.

By the time of the second interview in the spring term schools and Grab 5! school coordinators were more comfortable with the Grab 5! Project and the contacts and visits of the researchers had become more routine.

These second interviews often took place in a less formal setting than the first and were more relaxed. Allowing the interviewee to set the agenda at each interview meant that not all topics listed on the interview schedule were covered.

Recording

The first and second interviews with the Grab 5! school coordinators were tape-recorded with the permission of the interviewees. The tapes were transcribed and analysed with the assistance of NUD*IST 4 software.

Reflective questioning

Interviews in the summer term (2002) were a collection of brief, summative views carried out during the visit to the schools for administration of the DILQ and the HFFQ. The timing of the evaluation was such that these more reflective questions were programmed for the busiest period in the school calendar, when teachers were exhausted. The researchers found that Grab 5! school coordinators had too many tasks to be completed before the end of term to apply themselves fully to consideration of the Grab 5! Project.

Being sensitive to this, the researchers made use of informal, *ad hoc* situations with Grab 5! school coordinators during break times in the staff room, over lunch or while being escorted to classrooms to prompt discussion on the Grab 5! Projects.

Collecting Grab 5! school coordinators' views on the achievements and expectations of Grab 5! might have been better left to a quieter period, such as the autumn term when school coordinators would have the space and time to fully reflect on the project.

Level of involvement

Researchers developed the relationship with the schools through the autumn, spring and summer terms. It is worth noting that the level of involvement of the school with researchers varied between schools.

All schools expressed willingness to cooperate with the evaluation, although some schools were more welcoming of the researchers and others more cautious.

The more cautious schools initially needed

confirmation of the good intentions of the researchers, an explanation of the boundaries and demands of the evaluation, and reassurance that the Grab 5! Project (and not the school) was the focus of the evaluation.

The need for this information and reassurance was covertly rather than overtly expressed. Although all schools provided access and dialogue, inevitably there were differences between the nine schools in the level of access and the extent of dialogue.

Focus groups with children

The schools were asked in autumn 2001 if a focus group with six to nine Year 6 children would be possible and all schools agreed.

Schools were reminded of the focus group and provided with an outline protocol in spring 2002. These dates were confirmed with the schools in May 2002 and the focus groups were carried out in the second half of the summer term. The relationship nurtured by researchers with the schools was crucial to gaining trust for the organisation of the focus groups.

Selection of the children for the focus group discussion was left to the class teacher with guidance from researchers that a range of children should be represented in the group.

Two researchers facilitated the discussion in six of the nine groups and one researcher in the remaining three groups. The discussion ranged around healthy eating and changes in eating habits, addressing the questions listed below:

1. What do you know about healthy eating?
2. Can you remember things you've done about healthy eating this year, since you've been in Year 6? Can you tell me about them?
3. Has what you've done in school made a difference to what you eat?
4. Has it made a difference to what your friends and other children in school eat?
5. Has it made a difference to what you eat at home?
6. Is there anything else you'd like to tell me about food in school?

Topics were allowed to progress to natural exhaustion before bringing the discussion back to the specific questions. Discussions ranged from 20 to 50 minutes as one group had little to say and other groups would not stop talking.

The schools arranged a venue for the focus group away from the class in a room familiar to the children such as a library, SENCO (Special Education Needs Coordinator) facility or corridor space. All focus group discussions were tape recorded with the children's permission and tapes were transcribed for analysis.

Focus questions, prompts, probes and statements were tested in May 2002 at one of the schools in the evaluation, using Year 5 children. Pacing of prompts was modified, slowing and allowing the children more time for response. A Grab 5! bag, which was used to hold the tape recorder, was replaced with an unlabelled bag to avoid children making the link with Grab 5!.

In the analysis of the focus groups individual opinions expressed by each of the children have been considered, rather than attempting to reach a consensus. Conflicting opinions often arose within the groups, as children would attempt to correct each other's recall of an event, question their understanding of an issue, challenge the truth of a statement or simply express a contrary attitude. All members of the groups were encouraged to participate if one or two group members started to dominate the discussion.

Discussion within groups was in general spontaneous and unrehearsed. There may have been some preparation with the teachers in one or two of the schools but this would have amounted to no more than two or three minutes of explanation and prompting immediately prior to the focus groups.

Focus groups were held between two and six weeks after the Year 6 children had undergone standard assessment tasks (SATs) during the week May 13th to 17th 2002.

Interviews with other key personnel

Personnel considered by the schools to be key to the Grab 5! Project were identified during the first semi-structured interview with the Grab 5! school coordinators.

Thus a select group comprising parents, other teachers, subject coordinators, school governors, learning mentors, classroom assistants and canteen staff was interviewed using methods appropriate to the school and circumstance (taped semi-structured interview, informal conversation during an event, workplace

discussion, written questionnaire, email or telephone call).

In this respect the evaluation adopted an emergent design where sampling of key personnel (other than the designated Grab 5! school coordinators within each school) developed during the course of the evaluation.

Personnel interviewed therefore varied in number and role between schools. Other key personnel interviewed are summarised by school in Table 2.

Interviews with steering group members

During May and June of 2002, members of the steering groups in each of the three locations were contacted so that interviews could be conducted to capture their views of the Grab 5! Project. This was to provide another perspective beyond that of the school as part of the process evaluation. The others were members who were also very active in their location, and were involved with the meal service or were school advisers. The interviews were arranged at a time and in a location to suit the interviewees and followed the schedule below. Interviews were taped and analysed, integrating comments from interviewees under the topics in the schedule.

Steering group members interview schedule

The first series of questions were about the engagement with the group. They were introductory questions that were straight forward as a warming up exercise.

When did you get involved? When were you invited to join? How did you get involved? (i.e. the avenues through which the person became aware or was contacted). When and how did you become aware of the Grab 5! Project?

The next set covered the workings of the group itself.

How often does the steering group meet? Can you describe patterns of attendance? What are your feelings on how well it has functioned as a group? Was the membership appropriate? How

purposeful were the meetings? What works particularly well in the group? What, if anything, creates barriers and how have they been overcome? Did your steering group set out with aims and objectives and stick to them, or change direction as the project evolved? What were the outcomes of the meetings? Can you give details of what, if anything, you have got involved in?

The next set covered the interaction between Sustain staff and the steering group.

How often do you have contact with the steering group? How has the Grab 5! project officer facilitated the group and subsequent actions? What was the most helpful aspect of facilitation? How well has the group interacted with schools? How do the interactions work between the group/Grab 5! Project/school staff?

The last set covered lessons learnt.

Taking your membership of the steering group as a whole, how do you feel about the following: Highlights - why were they good? Lowlights - why they were low? How would you do it differently having been through the learning curve? What 'short cuts' would you pass on to others setting up a similar steering group? What were the pitfalls? What influence do you think the group and Sustain Grab 5! project officer has had on children's fruit and vegetable consumption at the school level? What has made it or will make it sustainable?

APPENDIX IV

Additional information

Membership of the Sustain Grab 5!
national working party

Grab 5! timetable

Grab 5! National Working Party membership, March 2003

Academy of Culinary Arts	Sarah Jayne Stanes
Association of Teachers and Lecturers	Liz Gilchrist
Brake Brothers	Eileen Steinbock
British Dietetic Association	
Community Nutrition Group	Kathy Cowbrough
British Frozen Food Federation	Alf Carr
British Fruit & Vegetable Canners Association	Charlotte Patrick
British Heart Foundation	Deborah Allen
British Heart Foundation	
Health Promotion Research Group	Laurel Edmunds
British Nutrition Foundation	Roy Ballam
Business in the Community (Plymouth)	Margaret Griffiths
Cancer Research UK	Jean King
Canned Food UK	Rachel Roberts
Common Ground	Kate O'Farrell
Cooking for Kids	Anne Waldon
Department for Education & Skills	Caroline MacMillan, Susan Hadfield
Department for Environment	
Food and Rural Affairs	Steve Gilson
Department of Health	Bob Collins, Joe Monks, Danila Armstrong
Design and Technology Association	Jenny Jupe
Education Extra	Tony Apicella
Focus on Food - Royal Society of Arts	Roger Standen, Anita Cormac
Food in Schools Programme	Errol Lawrence, Rachel Thom
Food Standards Agency	Jillian Pitt
Fresh Produce Consortium	Doug Henderson, Douglas Pattie
Growers' Association, (BIGA Ltd.)	Jayne Dyas
Guild of Food Writers	Anne Dolamore
Health Development Agency	Karen Peplow, Caroline Mulvihill
Health Education Trust	Joe Harvey (Chair)
Health First	
(Lambeth, Southwark and Lewisham)	Sandhya Dass

Horticultural Development Council	Colin Harvey
Lambeth Education Contracts Unit	Edwina Hinnigan
Lambeth, Southwark and Lewisham Health Authority	Vivien Cleary
Leeds City Council, Social Service Dept	Mike Simpkin
Leeds Health Action Zone	Mary Cooper
Local Authorities Catering Association	Alison Jones
National Farmers' Union	David Brown, Michael Holmes
National Healthy Schools Standard	Colin Noble
National Heart Forum	Jane Landon
National Network for the Arts in Health	Lara Dose
Nexus Choat	Jonathan Choat
Plymouth Health Action Zone	Sarah Walker-Smith
Processed Vegetable Growers' Association (PVGA)	Martin Riggall
PVGA PR consultant	Chris Bingham
Qualifications and Curriculum Authority	Louise Davies
Safeway Stores plc	Rebecca Chandler
Sainsbury's Supermarkets Ltd	Kate Arthur
Scolarest	Gina Birkett
Tesco Stores Ltd	Karen Sims
University of Cardiff, Dept. of Social Science	Laurence Moore
University of Dundee Centre for Applied Nutrition Research	Annie Anderson
University of Sheffield Centre for Human Nutrition	Margo Barker
University of Wales, Dept. of Psychology	Fergus Lowe
Westminster City Council	Caroline Duarte
Women's Food and Farming Union	Celia Hyland
World Cancer Research Fund	Sue Wilkinson, Jane de Burgh

Grab 5! timetable

	Activity...			
	..by Sustain	..by Schools	..by the evaluation team	
Date	2000 to 2001			
July	Project development (devising Grab 5! approach and developing Grab 5! logo)	\	\	
August				
September				
October				
November				
December				
January	Production of the Action Pack		Apply for tender	
	Creation of the local steering groups in Leeds, Lambeth and Plymouth)			
	Identification of evaluation team			
February to April	Recruitment of schools	Expressed an interest in joining the project	\	
May		Commitment made to the project		
June	Training days	Attendance of training day	DILQ and HFFQ base line data collected	
	Supporting the schools with their action planning	Development of action plan	1st interviews with Grab 5! school coordinators	
July/August	Production of Curriculum Pack			
Date	2001 to 2002			
September	Supporting schools with the implementation of action plans (until the end of the project)	Implementation of action plan and project development	HFFQ Baseline data collected	
October				1st interviews with Grab 5! school coordinators
November				Interviews with cooks
December	Production of the <i>Model Food Policy</i>		\	
January	\	\	\	
February				
March				
April	2nd training day (in Leeds only)		\	
May	\	\	\	
June				
July/August	Collection of school Grab 5! reports		Final data collection (DILQ, HFFQ, SPAQ)	
			3rd interview with Grab 5! coordinators and interviews with teachers/cooks/parents	
			Focus groups with year 6 children	
			Interviews with local steering group members	
September onwards	Collation of information Revision of Action Pack	\	\	

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