

Food for Life Partnership Evaluation

Full Report

Food for Life Partnership Evaluation

Full Report

November 2010

Evaluation research team

Judy Orme, Mat Jones, Richard Kimberlee, Debra Salmon, Emma Weitkamp, Narges Dailami
Institute for Sustainability Health and the Environment
University of the West of England, Bristol

Kevin Morgan, Adrian Morley, Alastair Smith
Centre for Business Relationships, Accountability, Sustainability and Society (BRASS)
University of Cardiff

Acknowledgements

We would like to thank all the FFLP staff, flagship school and catering staff, parents, carers, children and young people who assisted us in this evaluation. We are very appreciative for the administrative support provided by Chris Rawles, Matt Dunn, Eleri Heathcote and Barbara Caddick. Paul White has also offered important statistical advice over the course of the project. Christina Maddox (UWE) and Angela Towers (UCLAN) have assisted us in evaluation fieldwork.

Contact for details

Judy Orme
Judy.orme@uwe.ac.uk
01173288836

Contents

	Page	
1	Introduction	6
1.1	Overview	
1.2	The organisation of this report	
2	Context	3
2.1	Introduction	
2.2	The whole school approach	
2.3	School meal take up & the role of stakeholder involvement in school food policy	
2.4	Catering and food procurement	
2.5	The role of food education for health promotion & sustainability issues	
2.6	Home influences and the role of parental / wider community involvement	
2.7	Wider programme impacts: school performance & student behaviour	
2.8	Conclusion	
3	The Food for Life Partnership Programme	22
3.1	Introduction	
3.2	FFLP programme - rationale	
3.3	FFLP Flagship, Mark and Partnership scheme	
3.4	School food policy development	
3.5	School food sourcing	
3.6	School meals and catering programme	
3.7	Growing skills programme	
3.8	Cooking skills programme	
3.9	Farm links programme	
3.10	Parental and community engagement	
3.11	Wider strategic development: school and catering development clusters	
3.12	BIG Lottery Well-being programme	
3.13	Conclusion: the whole school approach	
4	Research questions	34
5	Evaluation framework and methodology	34
5.1	Rationale	
5.2	Research design	
5.3	Sampling and data sources	
5.4	Data analysis methods and strategy	
5.5	Ethical issues	
	Findings and Analysis	
6	Characteristics of FFLP Flagship Schools in the Evaluation	39
6.1	Introduction	
6.2	Organisational and demographic characteristics	
6.3	Characteristics related to FFLP activities	
6.4	Conclusion	

7	Sourcing Sustainable Food	44
7.1	Introduction	
7.2	Methods	
7.3	Profile of the sample	
7.4	Ingredient spend	
7.5	Sustainable food sourcing	
7.6	Food miles and delivery	
7.7	Discussion and conclusions	
8	School Cooks & the Kitchen Environment	55
8.1	Introduction	
8.2	Methods	
8.3	Profile of the sample	
8.5	Kitchen environment and equipment	
8.6	Labour	
8.7	Professional skills	
8.8	Food waste	
8.9	Job satisfaction	
8.10	Catering integration	
8.11	Challenges for the future	
8.12	Conclusions	
9	Developing Sustainable Food Education	72
9.1	Introduction	
9.2	Methods	
9.3	Food action planning and the pupil voice	
9.4	Cooking skills programme	
9.4	Garden-based education in schools	
9.6	Farm links and sustainable education programme	
9.7	Conclusion	
10	School Meal Take Up	92
10.1	Introduction	
10.2	Calculating school meal take up	
10.3	School profile and responses	
10.4	School meal take up	
10.5	Free school meal take up	
10.6	School meal take and FFLP Mark status	
10.7	Lead staff perceptions on positive factors that promote school meal take up	
10.8	Lead staff perceptions of barriers to increasing school meal take up	
10.9	Discussion and conclusions	
11	Students and Food Related Behaviour: questionnaire results	105
11.1	Introduction	
11.2	Methods	
11.3	Primary schools: testing the theorised links between FFLP activities	
11.4	Ordinal regression analysis	
11.5	Primary schools: matched baseline and follow up findings	
11.6	Student self reported fruit and vegetable consumption	
11.7	Perceptions of school meals and the dining hall	

11.8	Cooking and food preparation at school and home	
11.9	Growing fruit and vegetables at school and home	
11.10	Participation in farm-based activities	
11.11	FFLP educational activities and student attitudes towards sustainable foods	
11.12	Secondary schools: testing the theorised links between FFLP activities	
11.13	Profile of school and student responses	
11.14	Perceptions of school meals and the dining hall	
11.15	Cooking, food preparation and eating at home	
11.16	Participation in growing fruit and vegetables at home and school	
11.17	Attitudes towards eating healthy and sustainable foods	
11.18	Gold and Silver Mark schools	
11.19	Conclusions	
12	Programme Influences on the Home Environment	134
12.1	Introduction	
12.2	Methods	
12.3	School engagement with parents	
12.4	Perceptions of school meals	
12.5	Children’s involvement in school based food related activity	
12.6	The content and perceived impact of parent-child discussions	
12.7	Discussion and conclusions	
13	Wider influences: school performance, student behaviour & attainment	147
13.1	Introduction	
13.2	Methods	
13.3	School census data on attainment	
13.4	Ofsted inspection reports: data collection and analysis	
13.5	Ofsted report in inspection judgements	
13.6	Content analysis of Ofsted inspection commentary	
13.7	School lead reports on FFLP and school performance	
13.8	Qualitative analysis of responses from school leads	
13.9	Discussion and conclusions	
14	FFLP and the Whole School Approach	164
14.1	Introduction	
14.2	Food sourcing	
14.3	Healthier eating and food sustainability awareness	
14.4	School meal take up	
14.5	Home influences and parental engagement in school life	
14.6	Wider school influences of the programme	
14.7	Strengths and limitations of the study	
1.48	FFLP and the whole school approach	
15.	References	171
16.	Appendices	

1. Introduction

1.1 Overview

The Food for Life Partnership is led by the Soil Association together with the Focus on Food Campaign, Garden Organic and the Health Education Trust. Initiated in 2007, it received initial funding for over five years from the BIG Lottery Wellbeing Fund to deliver a programme of whole school food reform to schools across England. Alongside a focus on the promotion of healthy eating, the programme emphasises the value of sustainable food consumption for school communities.

In July 2007 the Soil Association commissioned the University of the West of England, Bristol and Cardiff University to provide an evaluation of the Food for Life Partnership programme. The evaluation focused on the following key programme goals:

- increasing school meal take-up,
- promoting healthier eating habits amongst pupils,
- improving pupil awareness of food sustainability issues,
- influencing food habits at home and parental engagement in school life,
- improving school performance, pupil attainment and behaviour,
- developing sustainable food sourcing and school meal provision.

1.2 Organisation of this report

The report starts with an account of research and policy context to whole school food programmes. It includes background on the central drivers to improve the health of children and young people and evidence of what works in school settings. It also draws upon an emerging field of research and policy that has sought to bring together issues of environmental sustainability and health. The function of this section of the report is to provide a back drop to the FFLP programme and to give a platform to the evaluation research questions in Section 4.

Section 3 provides an account of the FFLP programme in terms of its underlying rationale, development and implementation to date. Section 5 introduces the framework to the evaluation and sets out to show how the study has sought to reflect the programme model in the adoption of a theory of change methodology.

Sections 6 to 13 present the findings and analysis for the areas of evaluation enquiry. Each section starts with an overview of the framework for analysis and the key findings. The final section of the report draws upon a range of data sources to revisit the central evaluation questions. It also seeks to give a synthesis of the study with respect to the FFLP's whole school food reform model.

2. Context

Key Points

Over the last ten years, there has been increasing concern over the health of English children particularly in relation to rising obesity rates. This is largely explained in relation to poor diets and lack of physical exercise. With most English children attending school daily, schools are in a unique position to influence and promote healthy eating amongst this age group.

Research drawing upon focused interventions in school settings indicates that practical food education, garden enhanced education and programmes that establish farm links are all promising strategies for promoting children's interest in healthier eating. Development of practical cooking skills has been shown to promote positive attitudes and to encourage children to try new foods; studies report that children involved in growing food for consumption are more positive about eating fruits and vegetables and tend to have higher fruit and vegetable consumption. Similarly, studies suggest that children in schools with strong farm links eat more fruit and vegetables.

There is a growing body of evidence on the benefits of promoting school meals. School meals have been found to have higher food and nutritional values in comparison to packed lunch alternatives. More generally, sensible eating habits formed at school are considered to have lasting significance into later life.

Research suggests that school health promotion initiatives can have a positive impact on children's health and behaviour but do not do so consistently. It would appear that most interventions are able to increase children's knowledge and attitudes but changing other factors which influence health, such as attitudes and behaviour, is much harder to achieve. Overall, a multifaceted approach is likely to be most effective, combining a classroom programme with changes to the school ethos and/or the environment and/ wider school community. This is consistent with the health promoting schools approach. Reviews have highlighted the importance of a shared vision at senior levels from the school, caterers, local government and health authorities.

The perspectives of children clearly have a central role in the reform of food in school. Yet, until recently, the voices of children have been marginalized in school meals reform even though, paradoxically, they are the central subjects. Children have had little involvement in the design and conduct of initiatives and their role as active agents has been confined to the "serving spoon end" of the decisions. Research reviews have therefore highlighted the need for programmes to create situations for children to have ownership over their food choices.

2.1 Introduction

Over the last ten years, there has been increasing concern over the health of English school children particularly in relation to rising obesity rates. This is largely explained in relation to poor diets and lack of physical exercise (National Statistics, 2009; Government Office for Science, 2007; Crowther et al., 2001). Research suggests that significant numbers of children consume sugar, salt and saturated fat that are far in excess of recommended amounts, while at the same time failing to consume the recommended five a day of fresh fruit and vegetables (DH & FSA, 2009). Children from lower socio-economic groups or disadvantaged communities are particularly vulnerable to obesity and more likely to experience poor diets (National Statistics, 2009; Currie et al., 2008). This focus on inequalities is central to the recent Department of Health White Paper '*Healthy Lives, Healthy people: Our strategy for public health in England*' (Department of Health 2010). Clearly the Government's commitment to building people's self-esteem, confidence and resilience through the life course is supported through the educational process. In addition, local government and local communities are considered to be at the heart of improving health and wellbeing.

Whilst policy reports over the last decade have emphasized the importance of healthy lifestyles, in January 2008 the previous Government published *Healthy Weight, Healthy Lives: A Cross-Government Strategy for England*, which focused on strategies for reversing levels of obesity within the population. Its priority was to tackle childhood obesity through a number of strategies including promoting healthier food choices. The Department of Health commissioned research by a number of organisations into families' attitudes and behaviours relating to diet and activity. In the final summary report (DH, 2008a) cooking is highlighted as playing a significant role in terms of family decision making. The report highlights a number of significant findings: a dramatic reduction in the amount of time families spend preparing food over recent years and parents' lack of knowledge, skills and confidence in the kitchen. Work undertaken by the Medical Research Council (2007) suggested that nearly half of all families believe food issues are a considerable source of family stress. These concerns were re-emphasized in Darzi's NHS Review, *High Quality Care For All* (DH, 2008b), where he argued for a NHS with a stronger focus on preventative healthcare and the commissioning of services on an 'industrial scale', on key public health challenges including obesity.

A diet high in fruit and vegetables is associated with a decreased risk of many chronic diseases including some cancers, heart disease, stroke, high blood pressure and diabetes (World Cancer Research Fund, 2007; Hu, 2003; He, Nowson & MacGregor, 2006; Fung et al., 2008; Montonen, 2004). Research also indicates that increased fruit and vegetable consumption can be one part of a weight management strategy (Rolls et al., 2004). However surveys show that only one in five boys and girls consume the recommended daily intake of five servings of fruit and vegetables (Health Survey for England 2009). This reflects wider concerns about the health of children and the steady increase in childhood obesity. Almost a third (30%) of children aged 2-15 years are overweight or obese and of these, nearly one in five is obese (ibid.). By 2020 the British Medical Association predicts that over one quarter of children will be obese and they will have a shorter life expectancy than their parents.

With most English children attending school daily, schools are in a unique position to influence and promote fruit and vegetable intake among students. Research drawing upon focused interventions in school settings indicates that practical food education, garden enhanced education and

programmes that establish farm links are all promising strategies for promoting children's interest in healthier eating. Garden enhanced education and farm links can contribute to environmental awareness and can form part of a school's approach to education for sustainability (Lautenschlager and Smith, 2007; Blair, 2009 and Sterling, 2005).

Furthermore, a growing body of evidence has emerged on the benefits of school meals. School meals have been found to have higher food and nutritional values in comparison to packed lunch alternatives (SFT, 2008, Evans *et al.*, 2010; Rees *et al.*, 2008). More generally, sensible eating habits formed at school are considered to have lasting significance into later life. School meals can be seen to have a wider role also when understood as an additional lesson in the day. The lunchtime can reinforce messages on the importance of a varied diet and willingness to try to new foods; green issues and food sustainability; cultural diversity, mutual respect and good conduct.

2.2 The whole school approach

The whole-school approach is central to the Food for Life Partnership initiative and aims to develop an ethos and environment in a school that supports learning and promotes the health and well-being of all. The whole school approach has been championed and developed over time within the National Healthy Schools Programme (NHSP) which is a scheme based on health and education partnerships across the country. The purpose of the NHSP is to ensure that health education becomes an integrated part of the school curriculum and that the wider community is involved in its planning, implementation, evaluation and celebration. The intended outcomes are that there will be measurable improvements in both health and education in the school and wider community. This can be achieved through a whole-school approach to ten over-arching areas of school improvement:

- leadership, management and managing change
- policy development, relevant to areas of focus
- curriculum planning and resourcing, including working with external agencies
- teaching and learning
- school culture and environment
- giving pupils a voice
- provision of pupils' support services
- staff professional development needs, health and welfare
- partnerships with parents/carers and local communities
- assessing, recording and reporting pupils' achievement

Social programmes are widely held to be more effective when the subjects of them are engaged as active participants in the process of change. Since the 1970s, health promotion programmes frequently refer back to the World Health Organization Ottawa convention on the importance of promoting community engagement. Similarly within the educational system, the voice of pupils, parents and wider stakeholders has been given considerable emphasis in measures to improve schools. This has been formalised for pupils through the requirement for schools to engage pupils through a school council. Parents are represented on the school governing body and since 2008 schools have had a duty to promote wider aspects of community cohesion.

Whilst it is widely held to be a good thing, the practice of involving participants in social programmes is nuanced and often complex. For example involvement can refer to everything from simple accession or contact, to consultation and feedback, to a role in decisions and the setting of agendas. The means and ends of involvement are intrinsically coloured by the ideological underpinnings of the intervention. In this context, it is helpful to distinguish between ‘thin’ and ‘thick’ forms of involvement (Dean, 2010). ‘Thin’ forms of involvement are primarily directed at ensuring the compliance of participants to pre-defined programme aims. Here the emphasis is upon obtaining consumer feedback on the acceptability of the initiative and on the importance of tailoring actions to expressed needs. Participants are involved insofar that they express their preferences and, in some circumstances, can buy-in or opt-out of the programme.

By contrast a ‘thick involvement’ agenda aspires to actively working with participants in the design and implementation of the programme. Here the focus is on enabling people to develop their perspectives on the issue at hand and to work with the solutions that they identify. ‘Thick involvement’ is therefore process-driven and places emphasis on debate, negotiation and collective decision making. Here then, this form of involvement can be characterised as a democratic model in contrast to the consumerist model exemplified in ‘thin involvement’. Yet, whilst this distinction helps us pick apart conflation in the language of involvement, in practice many policy initiatives combine these elements over time.

Whilst the value of participant involvement is complex to assess, it is widely accepted as an important element of successful school based health promotion programmes. Reviews of school-based intervention to promote healthy nutrition (de Sa & Lock, 2008; van Cauwenberghe et al 2010) have found evidence for the effectiveness of multicomponent programmes for self-reported dietary behaviour. De Sa and Lock’s review of 30 studies found that 22 reported a significant positive intervention effect on fruit and vegetable intake at follow up. Differences in intervention effect ranged from +0.14 servings to +0.99 servings per day. However comparisons of effect size or meta-analysis were difficult because studies do not report changes in similar ways. Van Cauwenberghe et al’s review found stronger evidence of the positive impact of multicomponent programmes with children aged 6-12 years old compared to adolescents (13-18 years old). This suggests that initiatives in secondary school settings are more challenging to implement compared to those in primary settings. More widely, van Cauwenberghe et al’s review questions the evidence of the longer term outcomes of school-based dietary interventions: “Whether fruit or vegetable promotion will meaningfully contribute to obesity prevention is rather doubtful, and more studies are needed that target a range of nutrition behaviours that contribute importantly to energy balance” (p.792)

2.3 School meal take up and the role of stakeholder involvement in school food policy

School food can play an important part in promoting the health and development of children. In the UK, all grant maintained schools offer school meals, they are taken up by of over one third of children and, as such, they form a clear route for promoting a healthier diet for children. This is particularly the case for children from lower income backgrounds who are eligible for free school meals. The relevance of policy interventions to reform food in school settings is all the more pertinent given that children do not have the same social and economic freedoms as adults to make decisions on the food they eat.

In 2005, in response to evidence of a growing range of health and nutritional problems among children and young people, the Government appointed the School Meals Review Panel (SMRP) to recommend new standards for food in schools (DCSF, 2005; SMRP 2005). The panel proposed changes that were intended to help children enjoy balanced meals; reduce the consumption of less healthy food choices that are high in fat, salt and sugar; and increase the consumption of fruit and vegetables and food containing other essential nutrients.

The first stage of the reforms focused on identifying interim food-based standards for school lunches. These were introduced in September 2006 and were later extended to cover all other food provided to pupils. Since then, the interim standards have been replaced by the food-based and nutrient-based standards for school lunches (SFT, 2007). Primary schools were required to meet these standards by September 2008 and secondary, special schools and pupil referral units by September 2009.

In this context, there has been considerable attention paid to increasing the take up of school meals. Despite recent rises in take up, only a minority of children eat school foods. The take up of school meals for the 2009-10 financial year was 41.4% for English primary schools and 35.8% for secondary schools (SFT, 2010). There has been a small rise nationally on the previous year after a period of decline in recent years. Some of this increase is thought to be the result of recent policy attention and government investment (Statutory Instruments, 2000; 2006; 2007). However, there is considerable disquiet about the fragility of these short term increases given the marginalised position of the school meal service within the English educational system.

Strategies to improve the take up of school meals

There are a range of strategies available to improve the take up of school meals. Pricing is a clear influence on parents' and students' decisions to opt for either school meals or packed lunches (London Economics, 2009). State funding to subsidise the infrastructure and ingredient costs keep meal prices relatively low in comparison to market alternatives. However, school food campaigners have argued that in England the price of an average school lunch is excessive to parents.

Increased take up of school meals is most evident in cases where entitlement to free school meals has been extended. Led first in Scotland and then piloted in some English local authorities, the provision of universal free school meals has seen take-up increase dramatically. However, in England this approach is unlikely to be applied more widely given that the planned free school meal pilots are currently being withdrawn.

Nationally, the proportions of primary and secondary pupils known to be eligible for free school meals are 17.3% and 14.2%, respectively^{1,2}. However, the proportions who take up

¹ Data from DfE: *Schools, pupils and their characteristics: January 2010 (provisional)*; www.dcsf.gov.uk/rsgateway/DB/SFR/s000925/index.shtml.

² Parents do not have to pay for school lunches if they receive any of the following: Income Support; Income-based Jobseeker's Allowance; Income-related Employment and Support Allowance; Support under Part VI of the Immigration and Asylum Act 1999; The Guarantee element of State Pension Credit; Child Tax Credit, provided they are not entitled to Working Tax Credit and have an annual income (as assessed by HM Revenue & Customs) that does not exceed £16,040; Working Tax Credit during the four-week period immediately after their employment finishes or after they start to work fewer than 16 hours each week. Children who receive Income Support or Income-based Jobseeker's Allowance in their own right qualify as well. All pupils who do not qualify for free school lunches must be charged the same amount for the same quantity of the same item.

their entitlement are lower: 15.0% in primary schools (86.6% of those known to be eligible) and 11.1% at secondary level (78.3% of those known to be eligible). Some of the barriers that prevent families from taking up free school meals include: uncertainty about eligibility; a reluctance to be identified as needing support; fluctuations in family status which make it difficult for families to re-apply for support when necessary; and the complexity of the application process which some families find daunting.

Other measures to improve take up of free school meals include improved school and local authority publicity to all parents and targeted information, for example, for families living in social housing. In cases where supplementary funding has been available, direct advice through parent liaison officers based in schools and assistance to complete forms has been offered. Schools and caterers have also introduced strategies to reduce any stigma for children entitled to free school meals by, for example, introducing anonymous payments (smartcards/ fingerprint IDs) in secondary schools for all pupils, regardless of status. Schools and local authorities also improve their free school meal take up by setting targets to improve take-up and drawing up plans to meet them (Ofsted, 2010).

One challenging area for schools and authorities to tackle is the take up of school meals by families whose income is low but who are above the threshold for being entitled to free school meals. This is a particular issue for families with multiple children in school. Ofsted's inspection on food in schools (Ofsted, 2010) identified this as an area where strategies remain limited under current circumstances.

Investment, meal quality, choice, service and dining room ambience

The quality of school meals is an important influence on take up. Long term under investment in the school meals service and the culture of competitive tendering has had a harmful impact on the quality of school meals (Nicholas *et al.*, 2006). The school meal catering sector has been characterised by low pay, short hours and minimal staff development. Given that the provision of more meals means a higher workload, kitchen staff have not been incentivised to promote take up in this context. The drive to keep costs down has also led to under-investment in facilities, the use of low cost, highly processed ingredients and the introduction of bulk catering systems. Improvements to the quality of school meals have therefore sought to reverse these trends through renewed investment in the sector and revised contracts (POST, 2009; Statutory Instruments, 2000; 2006; 2007).

The contractual obligation of the school meals service to meet food and nutrient standards has been reported as a constraint to innovation or a restriction on offering popular and often unhealthy foods (Nicholas *et al.*, 2006). Nevertheless, schools have been supported to meet the meal standards and to improve the quality of preparation by a range of publications from the School Food Trust. They have also had access to resources such as the Real Meals cook book and the Licence to Cook programme.

From the perspective of students, a further set of issues include school meal choice, the quality of the meal service and wider aspects of the dining room ambience. Systems that help children select

and guarantee their preferred meal options have proved popular. These include the setting of advance menus and meal choice booking at registration. Queuing and slow service is known to be unpopular amongst students (Food Standards Agency, 2003). Some solutions include improvements to the dining hall layout, the use of more service points, a 'grab and go' style service, quick payment methods and staggered lunch breaks to increase eating time. The availability of food through a breakfast club and mid-morning service or tuck shop can also encourage students to take up healthier alternatives to high fat or sugary snacks.

Students also report that the ambience of the dining room makes a difference to their enjoyment of school lunches (Nicholas *et al.*, 2006). Changes to seating, tables, plates, cutlery and other aspects such as the use of music and displays are appreciated. In addition students value a dining environment that is well maintained, cleaned and supervised (Scottish Executive, 2003; HMIE, 2005).

Coordination and stakeholder involvement

Engaging stakeholders on the promotion of healthier foods in school can be considered not only as an ethical imperative but also critical in developing effective and acceptable interventions.

Reforms are felt to be more effective when implemented strategically across the whole school and at wider authority level rather than as stand alone, isolated measures. Reviews have highlighted the importance of a whole school approach (Scottish Government Executive, 2003; SMRP, 2005; Nicholas *et al.*, 2006; Ofsted, 2010) in which there is a shared vision at senior levels from the school, caterers, the local authority and primary care trust. The skills of kitchen and supervisory staff need to be valued, recognised and developed. Caterers need to be given license to be more entrepreneurial in their procurement. Where possible, work should also extend outside the school to include local food outlets retailing to children outside school hours or, to older children, at lunch break.

The perspectives of children clearly have a central role in the reform of school meals. Yet, until recently, Gustaffson (2003) argues, the voices of children have been marginalized in school meals reform even though, paradoxically, they are the central subjects. Children have had little involvement in the design and conduct of initiatives. Children's role as active agents has been confined to the "serving spoon end" of the decisions. The relationship between children and food at school has been limited to accepting or rejecting whatever is served up. A systematic review of eight evaluations of interventions promoting fruit and vegetables to children concluded that programmes should 'create situations for children to have ownership over their food choices' (Thomas *et al.*, 2003).

Feedback from caterers indicates that engagement with parents has been largely limited to marketing and periodic consultations (e.g. SFT, 2010). Parents are encouraged to opt for school meals through publicity, tasting events and occasionally, introductory offers to parents of children starting school. Parents are less likely to be engaged at more developmental or strategic levels, for example parent governors are rarely involved in monitoring standards or the effectiveness of strategies to reform food in schools (Ofsted, 2010).

Although many of the claims about the effectiveness of strategies appear plausible, they have not necessarily been subject to evaluation. It is notable that the role of stakeholders has, to date, been largely based on case study and anecdotal evidence.

2.4 Catering and school food procurement

The plight of school meal provision in the UK over recent decades can be reflected in the degradation of skills, status and work conditions for kitchen staff. The introduction of Compulsive Competitive Tendering in the 1980s is generally regarded as the key point when the value imperative started to dominate the broader social purpose of providing meals in schools. The increased primacy of the cost saving ethic in the service led, not only to less money being spent on food ingredients, but also a greater use of pre-prepared and processed food products. As well as impacting on the quality and health attributes of school meals, these developments also led to a reduced need for skilled kitchen staff and numbers of staff in general. By the start of the last decade, the role of kitchen staff had become largely about pack opening, re-heating and regenerating processed ingredients.

Over recent years, organisations including the Soil Association and School Food Trust have fought to raise the profile and working conditions of kitchen staff alongside Unions and Trade Bodies, such as LACA and Unison, as well as campaigning individuals such as Jeanette Orrey and Jamie Oliver.

Kitchen staff and the kitchen 'environment' in general, are regarded as vital by school food reform advocates as they are in many ways the central point of the school meal system. FFLP type approaches that centre on healthy and appealing school food require the skills and capacity to produce these meals and convey their qualities at point of consumption. Kitchen staff tend to directly come into contact with suppliers as well as deliver food direct to the pupil. In these respects they are also key in monitoring both consumer desires and habits and the quality of food that is used.

The difficulty of attracting skilled labour into the school kitchen is compounded by low pay and low working hours. Most school kitchen staff work less than full time, although unpaid overtime is common.

Academic enquiry into the status, role and function of institutional kitchens in general, is currently underdeveloped. The issue is often integrated into broader studies on sustainable food procurement and public service provision. Morgan and Sonnino (2008) for example, draw upon Joan Tronto's '*Ethics of Care*' concept to suggest that the low status of catering staff is a systemic effect within the school meals service resulting from a broader de-valuing of care roles in modern society.

Public Procurement has become one of the main battlefields for proponents of sustainable food as our understanding of the impact and potential benefits of purchasing policies has grown over recent years. In England alone, the public sector spends over £2 billion per annum on food and catering services, of which school meals form the majority. Advocates of sustainable food procurement argue that this money should be better used to encourage social, environmental and economic goals through the purchasing of appropriate food. It is increasingly being recognised that buying food from sustainable sources such as local or organic producers can directly help to shape markets both from the economic impact of buying the food and from facilitating its consumption by the general public.

In addition, providing healthy food can impact directly on public health, which is a social aspect of sustainability, by improving dietary intake, particularly amongst vulnerable parts of society such as the young, old and infirm.

A renaissance of interest in school meal provision has evolved in the midst of, and largely as a result of, decades of increasing cost primacy in the sector. Compulsory Competitive Tendering and its replacement Best Value promoted an ethos of permanent cost reduction that has had a steady and profound impact on the quality of food sourced and the standards of meals produced in schools. This trend has lessened somewhat in recent years although there are still considerable cost pressures in the sector.

The key challenges for proponents of sustainable food have become to develop ways to understand and communicate the impacts of sustainable food procurement and find approaches that are fiscally acceptable to a broad range of stakeholders as well as sustainable in the long term.

FFLP is in many ways at the vanguard of the battle between these cost and sustainability pressures. Sustainable food sourcing is rightly placed at the heart of the whole school approach to food promoted by the programme.

2.5 The role of food education for health promotion and awareness of sustainability issues

Recent evidence indicates health and wider social benefits associated with practical food education programmes that encompass cooking skills, growing skills and farm visits. Development of practical cooking skills has been shown to promote healthier eating and encourage children to try new foods; studies report that children involved in growing food for consumption are more positive about eating fruits and vegetables and tend to have higher fruit and vegetable consumption (Libman, 2007; McAleese & Rankin, 2007; Morris & Zidenberg-Cherr, 2002; Birch, 1999). Similarly, studies suggest that children in schools with strong farm links eat more fruit and vegetables (Joshi, Azuma & Feenstra 2008; Joshi & Azuma, 2009).

Practical education in food preparation

The cross governmental nature of the obesity problem and wider issue of poor diets has been consistently highlighted. Since September 2000 it has been a statutory requirement that primary school children in England experience the opportunity to prepare and make food at school. The British Nutrition Foundation, the Design and Technology Association and Focus on Food had previously produced comprehensive support materials and argued it was pertinent to bring these together with the National Curriculum schemes of work, into a coherent whole school approach support programme under a single (formerly) DfES scheme. Subsequently, the Government invited the three organizations to develop a partnership, to provide training for groups of primary teachers, working with expert secondary food technology teachers. Schools were encouraged to do more food education, particularly cooking, and were given support to work towards the National Healthy Schools Standard. This initiative was announced in April 2001 as part of a joint departmental Food in Schools Programme costing £2.2 million.

The aim of this programme was to provide consistent messages about healthy eating and provide education about food hygiene and food preparation (DfES 2003). A plethora of documentation from

a wide range of third sector, private sector and national bodies including Sainsburys, The Dairy Council, The Vegetarian Society, Food Standards Agency (FSA), DH, OFSTED, Health Education Trust was available to support the development of food culture within schools. Much of the material was aimed at teachers to support the delivery of cooking and development of pupils' competencies in food and nutrition. Additional schemes have developed to enhance cooking in schools and their local communities, not least "Let's Get Cooking" an initiative led by the School Food Trust, which was funded by a £20 million grant from the BIG Lottery. This aims to set up an initial network of 5,000 out-of-school cookery clubs by 2012, which will enable over one million children and family members to learn new cooking skills. It is anticipated that these clubs would be run by volunteers and have support to buy relevant equipment.

In addition, by 2008 the Government was suggesting that cookery lessons should to be compulsory in England's secondary schools for children aged 11 to 14 years. Again this was part of a broader strategy to tackle obesity. It was described as a ministerial expectation that pupils would learn to cook for an hour a week for one term and that for those children from poorer families, ingredients would be subsidised with the Minister for Education, Ed Balls, promising to give schools £2.5 million to support the initiative.

The Focus on Food Campaign is involved in delivering programmes commissioned by a number of organisations: the Food Standards Agency (England); the Welsh Assembly Government; Yorkshire Forward; The BIG Lottery and Healthier Scotland. This includes the Cooking Bus which as a result has been subject to two previous evaluations.

The FSA examined the effectiveness of their sponsorship of the bus by undertaking field work in four schools across England. The bus was positively evaluated, with findings suggesting that the bus visit had improved pupils knowledge around food, cooking and diet. Staff input was generally evaluated as high quality, and that the key messages covered in the sessions were cascaded to other members of the school and community through school assemblies and sharing with family members. In terms of teachers and staff development, the Cooking Bus was perceived to be effective, even amongst teachers who were resistant. Recommendations for improvement identified by the evaluation focused on practical arrangements such as changing the pace of sessions for younger children or those with additional needs and developing sessions for parents (COI Communications on behalf of FSA, 2004).

A more comprehensive evaluation was funded by the Welsh Assembly Government in 2009. Researchers at Cardiff University undertook an evaluation which aimed to establish the degree to which the Cooking Bus met its own aims and those set out in a range of policy initiatives (Welsh Assembly Government 2006a; 2006b). The evaluation also explored whether any change had occurred in schools after the Cooking Bus visit and provided guidance for future policy. Data collection was multi-method and included a documentary analysis; interviews with key stakeholders and policy makers, staff teaching on the bus and a commissioner; five detailed case studies and a postal survey to all participating schools. Recommendations from the findings suggested that while programme delivery was of a high quality both to pupils and in terms of staff development, there were areas for improvement; not least that delivery should extend to all the children within a school setting. Some recommendations are specifically focused on linking the aims of the Cooking Bus to the distinct aims of Welsh policy, however, the authors also suggest, from their economic analysis,

that given current public sector conditions schools should be targeted in areas of high deprivation, where the risks of poor diet are higher. The cost per visit was estimated to be £12,828. In terms of value for money thresholds set by NICE, the authors suggest that in a year a bus would have to prevent 26 children from becoming obese across their lifetime to be considered cost effective. In addition, it was suggested that work should be undertaken to encourage more active community and parental participation and the development of a more robust follow up programme to make sure that schools sustain what had been learnt (Sergrott, *et al.* 2009).

Making use of school gardens

Whilst schools develop garden related activities for a wide range of reasons, in recent years a major driver has been increased interest in their perceived value in the promotion of healthier eating, in particular fruit and vegetables. Children's consumption behaviours are directly related to their opportunities for experiences of different foods (Blanchette and Brug, 2005) and gardens in school settings offer the chance for children to develop a personal connection with their food. Research suggests that education with primary-school aged children about diet and nutrition should focus on concrete experiences with food (Contento, 1981). Such participation is associated with: an increased ability to identify fruits and vegetables (Somerset and Markwell, 2009); a willingness to taste vegetables grown in the garden (Morris *et al.*, 2001); and a willingness to try vegetables in school meals (Morris and Zidenburg-Cherr, 2002).

Food preferences and peer influences have also been associated with fruit and vegetable consumption. Children participating in structured educational courses on growing express more positive preferences for fruit and vegetables (Libman, 2007; McAleese and Rankin, 2007; Morris and Zidenburg-Cherr, 2002; Birch, 1999). The school setting may also be important because it offers opportunities for positive peer influence and social support (Brug *et al.*, 2008). Through practical work, teachers can model healthy behaviours to reinforce nutrition and health messages. There is also the prospect of a positive take home influence. School-based hands-on experiences with fruits and vegetables can enable children to prepare these foods at home with their families and influence the quality of the food their families buy and prepare (Heim *et al.*, 2009; Demas, 1998).

Clearly school gardens can provide a wide range of benefits in addition to the promotion of healthier eating. Through creative outdoor learning, children have the opportunity to develop a wider range of practical life skills in addition to more generic social skills, such as teamwork. These broad opportunities for children's development have helped advocates align school gardens to the *Every Child Matters* agenda. Whilst proponents feel that outdoor learning has been marginalised within mainstream education, school gardens clearly have a wide range of applications to the curriculum. Gardening activities provide hands-on study of nutrition and science concepts as well as a range of other subjects such as literacy, mathematics, history and the arts. Hands-on experience of local food production can help build a mandate amongst both pupils and staff for local ecological improvements; thus contributing a wider agenda on well-being and sustainability in the school setting.

Finally, school gardens may contribute towards an agenda on community cohesion by offering opportunities for parent and the wider community involvement and the celebration of school life (Blair, 2009; Ozer, 2007). These effects can be longer term. Other studies have found an association

between gardening and fruit and vegetable consumption, even when the gardening activity occurred in the past (Alaimo *et al.*, 2008; Devine *et al.*, 1999).

Whilst this research has considerable bearing on the role of garden enhanced education for public health and education for sustainability, it is not without limitations. Research conducted on school gardening programmes has focused on primary schools whereas secondary school settings remain under researched. The research is largely North American and may not be transferable to the UK setting. Studies also tend to focus on heavily structured, specialised and externally delivered interventions (CDC, 2010). Reports based upon these initiatives may not necessarily reflect their performance under 'ordinary' conditions (Nutbeam, 1998). Finally, other less research-based reports suffer from a surfeit of assertion over empirical evidence (See Scott *et al.*, 2003 for commentary).

Nevertheless, some research has started to examine the conditions under which garden enhanced education can become integrated into mainstream school practice. Some of the pre-requisites clearly include adequate space, facilities, equipment and partnerships to enable experiential lessons on fruit and vegetable production, preparation and storage. Other issues such as the threat of vandalism can be important considerations.

Others factors may be more critical for success. Whilst gardening remains a popular hobby, the effective management of growing projects over the course of a school year requires horticultural skill, enthusiasm and commitment. Previous research indicates that staff need professional development in this area, especially given that there is little place for this in contemporary teacher training. Whilst professionals from outside the school may play a part, in the longer term, schools need to develop in-house skills (Scott *et al.*, 2003) drawing upon either staff or adult volunteers. This in turn requires buy in from the school leadership team, administrators and others such as grounds maintenance staff.

School gardens are also likely to have greater impact as part of a combined effort across a number of dimensions of school life. Thus their links to school food policy, educational cooking, food preparation and tasting activities, lunchtime food provision, and reinforcement through visits to farms or allotments can all contribute to the synergy and integration of an initiative.

Other potential issues remain under explored when understanding how schools implement and embed garden enhanced education. Our earlier primary schools case study research (Jones *et al.*, 2010) suggests that children's regular and structured participation can be difficult to achieve particularly where there are practical obstacles to running group based outdoor learning and integration into schemes of work. Whilst there remain many attractions to school gardens, some of these obstacles may account for their patchy and uneven adoption in English schools.

Farm visits as contributors to healthy eating and education for sustainability

Programmes encouraging links between farms and schools have been studied less comprehensively than programmes focusing on practical food education and the use of school gardens as educational resources. Nevertheless, there is a small and growing body of literature that suggests that building links between schools and farms encourages healthy eating and facilitates education around food production and sourcing, including consideration of sustainable food production.

Research on the national Farm to School Program in the USA has found that students in schools with farm to school programmes eat more fruits and vegetables per day in the cafeteria, classroom and home; make positive lifestyle changes and improve knowledge and attitudes about healthy eating and sustainable agriculture. Student participation in meal programmes in the USA increases in schools with farm to school programs (for reviews see: Joshi, Azuma & Feenstra 2008; Joshi & Azuma, 2009). In the context of a highly industrialised and market driven food economy, these experiential opportunities may not be otherwise available to children: particularly for those living in lower income families and in urban settings.

Other US studies have also reported positive impacts for school staff. Teachers from schools participating in farm to school programmes find it 'easy' or 'very easy' to integrate nutrition education concepts into their regular curriculum (Joshi, Kalb & Beery, 2006). Farm visits associated with high quality support materials are reported to help teachers deliver health nutrition messages (Haase *et al.*, 2004). Qualitative research indicates that staff themselves feel that farm visits help improve their own awareness about farm and nutrition issues (Schmidt & Kolodinsky, 2006). This may in turn inform the quality of their teaching delivery and preparedness to incorporate food sustainability education into mainstream practice.

However, this research also indicates that farm link education is by no means integrated into primary or secondary education. Barriers and factors critical for the successful development of farm link education remain largely anecdotal knowledge within the educational community. Moreover, the research evidence is overwhelmingly based in the US educational and agricultural context.

2.6 Home influences and the role of parental/wider community involvement

Children can and do play an active role in influencing and facilitating relationships between schools and their parents (Byron *et al.*, 2009; Crozier *et al.*, 2007). Research suggests that school health promotion initiatives can have a positive impact on children's health and behaviour but do not do so consistently. It would appear that most interventions are able to increase children's knowledge but changing other factors which influence health, such as attitudes and behaviour, is much harder to achieve, even in the short-term. Overall, a multifaceted approach is likely to be most effective, combining a classroom programme with changes to the school ethos and/or environment and/or with family/community involvement. This is consistent with the health promoting schools approach (Stewart-Brown 2006).

In the case of take home messages around food culture it is important to recognise the complexity of the communication process involved in transferring information from one setting to another. Home is not only a physical construct but a social construct which encompasses family routines and structures. So communication between home and school is not just about transfer of information between one geographical setting and another but about negotiating the different social constructs of home and school.

The most frequent way for children to play a role in home-school relationships is as 'messengers' between school and home, often by delivering letters from the school to parents, and in telling parents about their experiences at school. However, letters are often not passed on and most

parents report that they would like to know more about their children's school experiences than they hear from children themselves (Crozier *et al.*, 2007). Practical food experience in school has already been noted as a mechanism to enable children to transfer this behavior to the home environment and influence family eating patterns (Heim *et al.*, 2009). It is seen as important however for children to talk about their school experiences for their own learning, as well as brokering the relationship between their parents and school. Guidance on overcoming this "crisis in communication" between children and parents, highlights that it is important to acknowledge the agency of children, emphasising that parents should try to find out what children are enthusiastic about, ask open questions and wait to be 'invited in' by children rather than demanding information in an interrogatory fashion (Byron, 2009).

Van Cauwenburghe *et al.*'s (2010) systematic review of school-based interventions addressing diet found widespread claims that parents play a direct role in children and young people's eating patterns. In the programmes reviewed, parental involvement tended to be limited to newsletters, homework assignments or at best family nights at school. In about half of these cases there was evidence of successful improvements to dietary behavior. The reviewers felt that the current evidence did not offer a strong conclusion on the role of parental involvement- and that there was an area for further research.

2.7 Wider programme impacts: school performance, student behaviour and attainment

Children's diets are attracting considerable attention from the public health and education communities. What children eat in schools can have a profound effect on their health, but crucially recent research also suggests that diet can also play a role in school behaviour and educational attainment.

This outlook has been strongly reflected in English policy where, for example the *Every Child Matters* (DCFS, 2007) took the five objectives for young people: *to be healthy; stay safe; enjoy and achieve; make a positive contribution; and achieve economic wellbeing*. In addition young people are encouraged to be interdependent and supportive of one another (Brooks & Trough, 2006). Leading initiatives such as the National Healthy Schools Programme in England and similar programmes in other countries have emphasised the need to bring together the often disjointed, policy domains of improving health and raising educational attainment in school settings. In England, the Government highlight the link between 'taking care of our children's health and development could improve educational attainment and reduce the risks of mental illness, unhealthy lifestyles, road deaths and hospital admissions due to tooth decay'(Department of Health, 2010: 5).

In this context, interest is growing in the educational benefits of school food, in terms of pupil' readiness to learn, their mood and behaviour and ultimately their attainment. This interest reflects anecdotal reports from the school environment. Teachers and parents often report that improvements in breakfast and lunch time diets are associated with positive effects on concentration, conduct and learning in the classroom. Similarly educational case studies suggest that improvements to the school dining environment support children's behaviour, well being and learning (e.g. N.Yorks BEP, 2004, cit. SFT 2009).

Sorhaindo and Feinstein (2006) and Belot and James (2009) suggest that it is possible to identify distinct processes or causal chains that may lead to improved behavioural and educational outcomes. Firstly, from a nutritional perspective, health outcomes that manifest as a result of nutrition may have an impact upon school life experiences and outcomes. A good diet provides the nutrients that play an important role in cognitive development, short term behavioural effects and longer terms behavioural problems.

Secondly there are health education perspectives. Here learning about food, whether formally in the classroom or informally during lunch and break times, is seen as a process through which children acquire wider learning outcomes. The case for practical food education (taken in the widest sense) is that it is exemplary as an experiential, creative and applied approach to learning. More generally the process of whole school food policy development and the enfranchisement of learners may set in train a broad set of benefits where, for example, children feel enabled to take a more active role in their learning. The pedagogical attraction is clearly reflected in recent recommendations for more cross curricular, thematic and integrated programmes of education in primary schools (Cambridge Primary Review, 2009; Rose Review, 2009).

However, whilst the associations between healthy eating, behaviour and attainment have been theorised, much research evidence in school settings gives a more opaque and nuanced picture. The systematic review undertaken by Ellis *et al.*, (2006) examined the effect of good nutrition on the behaviour, learning and performance of school-aged children (4-18 years). The study concluded that “there is insufficient evidence to identify any effect of nutrition, diet and dietary change on learning, education or performance of school aged children from the developed world” (2006:4). This was partly because they had difficulty interpreting results of studies in the context of many confounding factors, such as family and community context, wider socio-economic environment and rate of individual maturation. Notably, Ellis *et al.* found few studies undertaken with secondary school children and in special needs educational settings.

As Behrman (1996) puts it: “[these] associations do not necessarily indicate causality; estimates generally are likely to be biased in one direction or the other”. As a result analysts and policymakers should have much less confidence in findings about the effect of health on schooling success than has been claimed”. There is room for much caution when appraising wide-ranging claims that are sometimes made for educational initiatives given the wide array of factors that have an impact on learning, education and performance of children.

The research evidence, then, indicates that the links between school food programmes and educational outcomes are likely to be both complex and longer term in nature. Many studies, to date, have been conducted within a short report time (five days to six months) which does not measure long-term behavioural change. Longer term research is best undertaken with highly structured interventions or larger scale programmes that are of sufficient scale to allow experimental research designs. These are resource intensive, and their costs need to be warranted by the maturity and consolidation of the programme.

Expert perspectives on school performance

In the context of limited research evidence, professional views and informed opinion form an important resource for decision makers. Indeed the rigorous analysis of the experts in the field is widely taken to hold considerable value in the evaluation of complex social programmes (Oliver, 2001; Oliver et al., 2001; Springett 2001, Nutbeam, 1998).

Houlihan and Waring's (2008:14) study is a case in point. They examined how educationalists interpreted the links between a sports partnership programme and educational outcomes. These experts considered that attainment "could not simply be measured by increased test scores or improved exam results as it was felt that in addition to tangible measures of academic success, attainment was also about improving the ability to learn." Their research highlighted how educationalists employ a layered nature of the concept of attainment. The first layer involves the development of pupils' confidence and communication skills; the second relates to an impact on generic skills including the ability to 'plan' projects; and the third layer concerns raising attainment in subject specific areas, but also across the curriculum.

2.8 Conclusion

From the literature it is clear that practical food education can have benefits in terms of enhancing knowledge and potentially increasing fruit and vegetable consumption. The majority of studies have focused on individual components of food in school health promotion: meal reform, practical cooking skills, gardening or developing links with farms. Few studies have explored the potential impact of combining these areas to help young people develop knowledge and skills related to food production and healthy eating.

Many questions remain regarding the impact of practical food education in schools on pupils, staff and parents. Furthermore, questions remain about how such a programme should and could be supported and which factors, both intrinsic to the programme and intrinsic to the schools participating, facilitate embedding the programme within the school and ensuring sustainability after the initial start up phases.

3. The Food for Life Partnership Programme

Key Points

The Food for Life Partnership (FFLP), led by the Soil Association together with the Focus on Food Campaign, Garden Organic and the Health Education Trust, is funded over five years from the BIG Lottery Wellbeing Fund. In addition to the promotion of healthy eating, the programme has an emphasis on outcomes related to sustainable food consumption (defined as seasonal, unprocessed, local and organic) in school settings.

FFLP is a multiple level initiative that sets out to promote change for pupils and parents, school staff, school communities and local food networks utilising a whole school approach. Its aim is to support schools and caterers to provide healthier, tastier and more sustainable school food. Pupils are also taught about where their food comes from, how to grow their own food and essential cooking skills.

The Partnership has recruited and worked closely with 180 diverse 'Flagship' schools and communities, 20 in each region in England, based on their commitment and enthusiasm to transform food culture in the school and wider community and act as best practice exemplars to inspire other schools and communities.

Key programme goals for FFLP are to:

- promote healthier eating habits amongst pupils
- improve pupil awareness of food sustainability issues
- influence food habits at home & in the wider community
- improve pupil attainment and behaviour
- increase school meal take-up
- build the market for local & organic food producers

These areas form the focus for the evaluation.

3.1 Introduction

The Food for Life Partnership, led by the Soil Association together with the Focus on Food Campaign, Garden Organic and the Health Education Trust, is funded over five years from the BIG Lottery Wellbeing Fund ('healthy eating' strand). The emphasis is on outcomes related to sustainable food consumption (defined as seasonal, unprocessed, local and organic) throughout, *alongside* healthy eating.

The mission of Food for Life Partnership is:

“to reach out through schools to give communities access to quality local and organic food, and to the skills they need to cook and grow fresh food for themselves. We want all young people and their families to rediscover the pleasure of taking time out to enjoy good food that makes them feel healthy and connected to the changing seasons.”³

Food for Life Partnership (FFLP) is an ambitious and multiple level initiative that sets out to promote change for pupils and parents, school staff, school communities and local food networks. Its aim is to support schools and caterers to provide healthier, tastier and more sustainable school food. Pupils are also taught about where their food comes from, how to grow their own food and essential cooking skills.

The Partnership has recruited and worked closely with 180 diverse ‘Flagship’ schools and communities, 20 in each region in England, based on their commitment and enthusiasm to transform food culture in the school and wider community and act as best practice exemplars to inspire other schools and communities.

Evaluation of this complex community initiative aims to understand how and to what extent the FFLP is achieving a transformation of food culture in whole school communities. In addition to the mission statement, FFLP have set out delivery outcome commitments, wider programme aims⁴ and has developed logic models to articulate the processes by which programme outcomes are sought. Figure 3.1 summarises key elements of the programme model. A more in depth version of this model can be found in the Appendix. The UWE/Cardiff evaluation has drawn upon this model in order to create a framework for the evaluation. In order to provide further focus for key processes of change, the UWE/Cardiff evaluation examines a specific set of propositions for the programme. To summarise, these are that the FFLP approach:

- promotes healthier eating habits amongst pupils,
- improves pupil awareness of food sustainability issues,
- influences food habits at home & in the wider community,
- pupil attainment and behaviour,
- increases school meal take-up,
- builds the market for local & organic food producers.

Delivery outcome commitments

FFLP has a set of central delivery outcomes associated with the BIG Lottery funding. These are:

1. Within the life-span of the project (5 years) 180 schools and their communities with **increased knowledge of healthy and sustainable food and its origins** and a further 3,600 schools and their communities given access to sourcing and developing this knowledge;
2. Within the life-span of the project (5 years) 180 schools and their communities with **increased skills relating to the growing, buying and cooking of healthy and sustainable food** and a further 3,600 schools and their communities given access to sourcing and developing these skills;

³ FFLP Evaluation Specification 22nd May 2007

⁴ Ibid

3. Within the life-span of the project (5 years) 180 schools and their communities with **increased access to and consumption of healthy and sustainable food** and a further 3,600 schools and their communities provided with examples of how to do this for themselves.

The wider programme aims are to:

1. **To inspire and educate young people and their families and communities to cook with fresh, seasonal, local and organic ingredients, and to grow food and visit farms** in order to understand and experience how their food choices can impact on their health, society, the environment and animal welfare.
2. **To encourage communities to build vibrant food cultures** where the pleasure and importance of good food is truly valued.
3. **To build demand for fresh, seasonal, local and organic food** in schools and communities by promoting closer connections with small local and organic farms and support the development of sustainable local food systems.
4. **To encourage a new emphasis in education policy on the value of practical cooking skills and food literacy in schools**, so that young people and their families are better able to eat intelligently and well.
5. **To demonstrate the benefits of sustained investment in improving school food service and delivering a whole school approach to food** in terms of improved take-up of schools meals and better educational attainment and behaviour in schools.

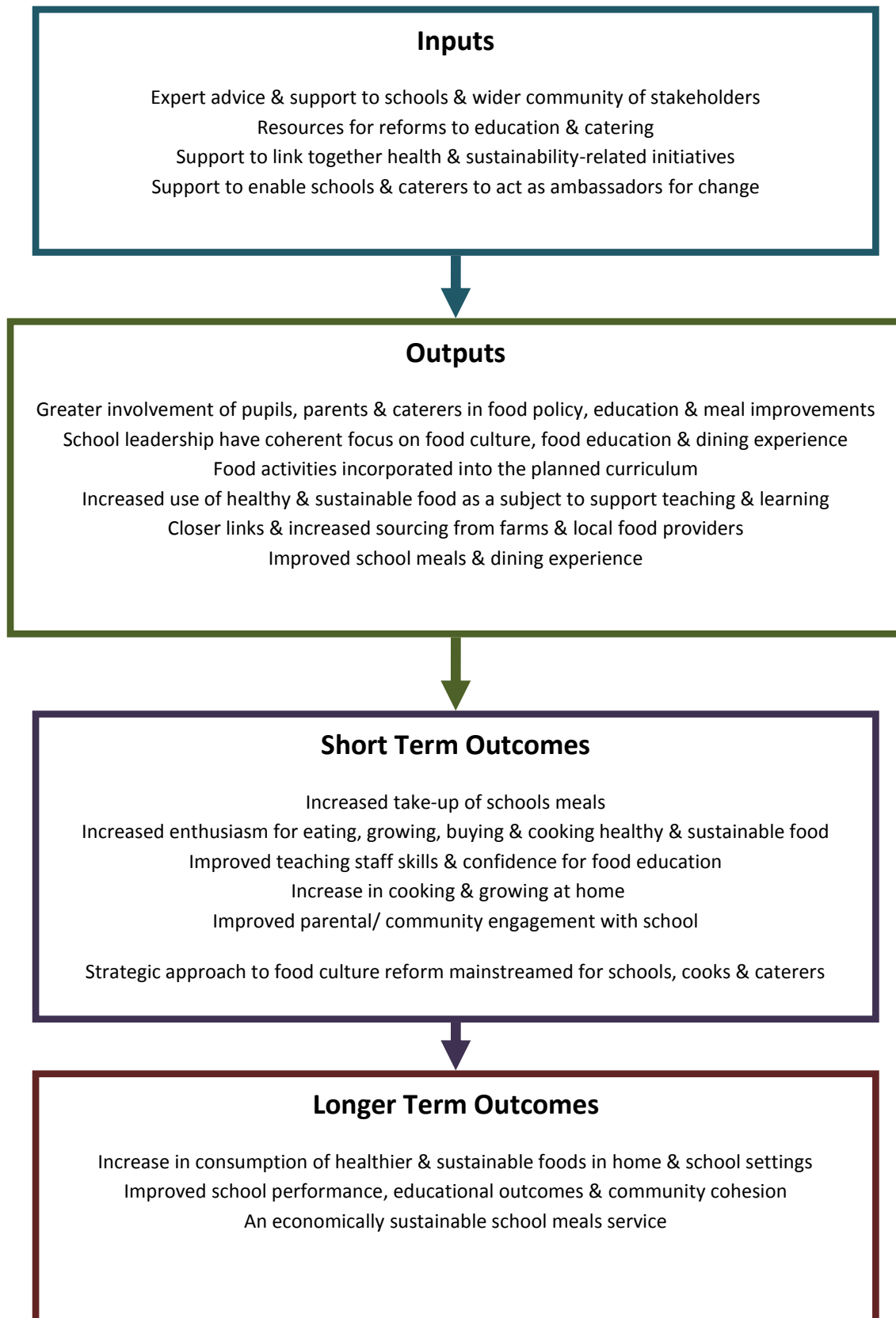
3.2 FFLP programme – rationale

Food for Life Partnership evolved out of a growing concern that individuals and communities are getting more and more detached from how food is produced, and losing the skills and knowledge needed to take active control over what we eat. The Food for Life Partnership has a vision of healthy and climate-friendly school meals for all, using seasonal, fresh, local and organic ingredients. It aims to inspire young people and their families to make food a priority by giving them the chance to visit farms and to cook and grow their own food.

The Food for Life Partnership has developed into a network of schools and communities across England committed to transforming food culture. But more importantly, it seeks to empower innovative schools, teachers, caterers, food producers, pupils and health professionals to work together to create a better food culture for young people and to involve their local communities all across England. This means a school meal service serving healthy and sustainable food, practical food education and engaged pupils. Schools joining the FFLP programme commit to transform food culture by:

- Revolutionising school meals to be fresh, seasonal, local and organic
- Reconnecting young people with where their food comes from
- Inspiring families and communities to grow and cook food

Food for Life Partnership Whole School Food Reform: key elements of the programme model



3.3 FFLP Flagship, Mark and Partnership scheme

Any school in England can join the Food for Life Partnership which offers an action framework and award scheme to support the transition to healthier food culture and recognise schools for their achievements.

Through the Food for Life Partnership Award Scheme, schools and their communities can turn their existing food culture into one that focuses on health, sustainability and enjoyment. All schools (and their communities) are encouraged to work towards Bronze, Silver and Gold of the Food for Life Mark Scheme launched in September 2007. Enrolled schools record their progress online against criteria in 4 strands: 1) food leadership, 2) food quality & provenance, 3) food education and 4) food culture & community involvement. In addition the Soil Association has developed a Catering Mark scheme available for school caterers seeking to make greater use increase use of fresh, seasonal, local and organic ingredients, high welfare meat and sustainable fish.

By 2012, the programme aims to recruit 3600 *Partnership* schools. Central to the programme, FFLP have selected 180 *Flagship* Schools based on their commitment and enthusiasm to improve food culture in the school and in the wider community. This selection was completed in 2010. Flagship Schools should be willing to take the fast track towards the FFLP Gold Mark award and ideally achieve the Bronze Mark award within two years. FFLP select a wide range of schools for the Flagship scheme including those with little previous track record in practical food education.

The partnership initiative consists of a number of integrated elements each delivered by specialist teams. These are outlined below.

3.4 School food policy development

The Health Education Trust (HET) is a UK registered charity, dedicated to initiating and supporting work with children and young adults to encourage the growth of healthy lifestyles. Operated by independent professionals with expertise in health education, education, public health nutrition and dietetics, the HET aims to deliver practical, accurate and realistic advice and solutions on topical food, health and education issues. HET pioneered the whole school approach and has lead the way on healthier approaches to school vending over the last 5 years and have become the lead experts in the fast evolving field of 'healthy school vending'.

As an integral part of the FFLP initiative, the Food Policy and Nutrition programme, led by HET, aims to ensure that all aspects of food in school promote the health and wellbeing of pupils, staff and the wider Flagship community. This approach seeks to engage with and act upon the perspectives of the whole school community to encourage the growth of healthy and sustainable lifestyles.

The role of the FFLP HET staff has been to:

- 1) Establish or develop a School Nutrition Action Group consisting of range of stakeholders.
- 2) Enable a process of consultation with pupils, parents/guardians, staff and the wider community.
- 3) Support the active participation of pupils and other stakeholders in identifying improvements in all aspects of food in school.

- 4) Support a whole school review of Flagship school and community's current level of relevant activities and potential for change.
- 5) Complement and build upon National Healthy School Food Policy approach to include an emphasis on sustainable foods and wider engagement with producers and the local community.
- 6) Establish a whole school food policy that enables schools to develop and maintain a shared philosophy on all aspects of food and drink.
- 7) Support the delivery activities and information needs of all FFLP agencies working with Flagship schools and communities
- 8) Act as an information and advice resource for Flagship schools and communities.
- 9) Support Flagship schools and communities to achieve the FFLP delivery outcomes and the FFLP outreach role.
- 10) Support a review of the progress and achievements of Flagship schools.

The Flagship School Nutrition Action Programme has been designed to support schools through an action planning process involving consultation and the development of a School food Policy. The Health Education Trust School Food Policy Officer will work intensively with the Flagship School over the first term.

The first step is for the School Food Policy Officer and FFLP lead person in school to look at what the school is already doing around food in school. This will be in the form of fact finders and consultation with pupils, parents, teaching, and catering and support staff, to collect information about your school and community's present food culture. This helps to ensure a healthy and more positive food culture in the flagship school and the local community becomes embedded and part of the school ethos.

The School Food Policy Officer will attend a planning meeting and run four School Nutrition Action Group (SNAG) meetings in a flagship school. A SNAG is a school based alliance, in which teaching staff, pupils and caterers, supported, where appropriate by health and education professionals, and the local community, work together to review and improve the school meals service, and adopt a truly whole school approach to food education and culture. Contents of SNAGs are flexible and tailored to the needs of the school. Food for Life Partnership Staff (Farm Links Officer, Garden Education Officer, Food sourcing Co-ordinator and Regional Co-ordinator) will be asked to join the SNAG Process at certain points.

The consultation and action planning process involves the whole school community so that they are empowered to make their own decisions around transforming food culture.

3.5 School food sourcing

The potential benefits of sustainable food procurement by public institutions in general has become increasingly of interest in recent years. There is a growing recognition of the impact food purchasing policies can have on local and sustainable food production, public health, social justice and the environment. In a school context, how and what food is purchased and consumed can be used as a way of teaching pupils about the positive aspects of food as well as having a direct impact on dietary intake. As such, food sourcing is a key aspect of the FFLP approach.

In many ways, the FFLP programme was designed with sourcing issues at its core. Schools, and their caterers, have to meet increasingly challenging food sourcing related criteria at each award level. The overarching priority is to promote the sourcing of fresh, seasonal, local, organic and Marine Stewardship Council (MSC) certified food. The specific goals of the programme relate to the attainment of the relevant award criteria at each level. These are summarised as follows:

At Bronze level, schools must:

- Ensure that at least 75% of dishes they serve are freshly prepared.
- Use seasonal menus and highlight in-season produce.
- Use farm assured meat and eggs from cage-free hens.

To progress to Silver level, the following have to be met:

- The provision of a range of both locally sourced and organic (or MSC) items.
- Either the use of only RSPCA Freedom Food (or equivalent) poultry, eggs and pork or a minimum 10% level of organic food across the menus.
- The absence of fish from the Marine Conservation Society 'Fish to Avoid' list.
- The display of information about the origins of all fresh produce used.

A Gold level standard for schools (and caterers) includes the following sourcing requirements:

- At least 30% of ingredients from organic (or MSC) sources.
- At least 50% of ingredients from local suppliers.

The Soil Association leads this element of the programme. Schools, caterers and suppliers are supported by a team of regional Food Sourcing Coordinators who provide advice, encouragement and assistance to help schools progress. Their programme has included regional seminars as well as fact finding visits and individual meetings with caterers and suppliers.

3.6 School meals and catering programme

Since the launch of the Food for Life report in 2003, there has been a huge rise in awareness and interest in school meals. The progress of Food for Life was hugely amplified by Jamie Oliver's Feed Me Better campaign. The combination of both programmes has resulted in dramatic changes in Government policy, including the formation of the School Food Trust and the food based and nutritional standards for school meals.

Following from this work and to ensure that the Food for Life Partnership programme was successful and had outcomes that left a legacy for future generations, engagement of the school catering teams was considered to be key to a successful outcome for all concerned. Two clear simple and interconnected approaches were adopted. The first was training, making sure they received maximum benefit and developed the confidence to deliver improvements effectively when they returned home to their schools; the second was inclusion of the school catering teams within the school. The Food for Life Partnership Catering training aimed to

- Create an understanding of food and nutrition
- Create an understanding of local/organic food.
- Support catering staff to feel part of the school.
- Engage catering staff in the programme.
- Help spread the work of the partnership.
- Begin developing a network amongst cooks, for mutual support, exchange of ideas, information and advice.

Overall objectives of the school meals and catering programme have been to:

1. Support catering staff in flagship schools to engage with the whole school (and with the community when appropriate)
2. Equip catering staff with the skills and knowledge that they need to achieve the Food for Life Partnership mark (e.g. cooking with fresh, seasonal food)
3. Support the catering staff raise the take up of school meals.
4. Develop school catering staff networks locally and regionally and develop this network to support catering staff beyond flagship schools.
5. Ensure all flagship schools operate with menus that meet or exceed the Government School Food Standards.

3.7 Growing skills programme

FFLP's growing skills programme is led by the Garden Organic's team of Garden Education Officers (GEOs) with the active support from partner staff in the Health Education Trust, the Soil Association's Regional team and the Focus on Food Campaign. Whilst FFLP staff offered a menu of support that can be tailored to individual schools, all flagship schools were likely to participate in a process with common elements for the growing skills programme:

1. *Building a shared vision with the school.* FFLP officers learn about the school's priorities, interests and capacity for change.
2. *Developing clarity and realism of purpose.* GEOs help make an assessment of needs, consult with stakeholders and develop a garden plan as part of the wider whole school policy.
3. *Developing clear & robust working arrangements.* Working with an action group (pupil representatives, staff, parents, community volunteers), FFLP officers help to embed planned changes within the whole school.
4. *Training and development to inspire and build confidence.* GEOs provide training to staff and volunteers in areas such as organic horticultural skills, project development, curriculum links, safety and risk management.
5. *Assistance to achieve agreed inputs.* GEOs help deliver specific projects. GEOs largely offer specialist support time and dedicated educational resources. Some grant funding is available to improve growing facilities.

6. *Making links.* GEOs help connect garden activities with experiential learning from farms, use of produce in food in classroom activities, school meals, and wider -for example - environmental- learning.
7. *Celebrating achievements.* GEOs encourage schools to value their achievements through celebrations – and also to monitor progress and link changes to the FFLP Award framework.
8. *Sustaining and consolidating work.* GEOs help plan for the future through networking with like minded schools, advice on further funding opportunities, community engagement, voluntary support and the active participation of students.

Typically the HET policy officers worked with a new flagship school over the course of the first term to develop a whole school food policy and an action plan. Meanwhile, with a focus on school gardening, GEOs work with their lead contacts to link in with the action planning. GEOs may have up to ten planned visits with each school over the period of eighteen months. At the end of this period GEOs draw up a hand over plan with the school and the FFLP Regional Coordinator. This marks the close of the main support period, although GEOs will continue to advise individual schools on an ad hoc basis. In this process GEOs do work directly with children, but largely in the role of modelling best practice with school staff – or as part of a consultation and celebration event.

3.8 Cooking skills programme

Established in 1998, the Focus on Food Campaign is the leading practical food education and outreach programme in the UK. It was set up against a background of a national decline in cooking ability and teaching coupled with rising health problems caused by poor diet and lack of food knowledge and skills. The Campaign inspires and enables young people and the wider community to cook and trains teachers, youth and community group leaders and health professionals to teach young people and adults how to select, prepare and cook healthy food.

With increasing obesity among young people and the emphasis on healthy eating and whole-school approaches to food in schools, Focus on Food maintains that the diet and health of the nation will not change significantly unless people are taught the basic skills to cook tasty meals from fresh ingredients and can make a connection between health messages, where food comes from and what they are eating.

The Focus on Food Campaign aims to raise the profile and importance of food education and to help secure, sustain and strengthen the status of food in primary and secondary schools nationally. The Campaign focuses on the making and cooking of food as the key experience in learning about the social importance of food.

At the core of the Campaign is the drive to:

- Ensure cooking is at the core of food education
- Improve food teacher recruitment and training
- Improve food teaching facilities in schools
- Implement a whole-school approach to food in all school
- Make food education compulsory in all primary and secondary schools

The Focus on Food Campaign (FOFC)'s Cooking Bus is one element of the FFLP's work to reform school food culture in participating flagship schools. Cooking buses are large articulated lorries that contain a purpose built kitchen, in which cooking classes can be delivered for up to 16 people. They are mobile classrooms, staffed by qualified food teachers who deliver practical lessons to school pupils, teachers, members of the community and a range of professionals who work directly with children and young people.

In the lead up to a Cooking Bus visit, FFLP staff, notably the Health Education Trust policy officers, work with school action groups to understand the needs and aspirations of the school with regard to educational cooking. The Cooking Bus visit builds upon this action planning. Its focus on food preparation and cooking from scratch intends to promote cookery skills and also to model the importance of food as a social activity.

The Cooking Bus visit usually takes place over the course of four days at a school. This includes three days of teaching sessions for pupils and staff. The Cooking Bus aims to extend teachers work through the use of resources and teaching materials. Sessions are also run with teachers to improve their skills and to enhance the sustainability of cooking in the curriculum after the Cooking Bus has completed its visit. Ethical and sustainable foods are included as part of the training sessions.

Following the visit, schools are issued a COOKIT. This is a kit of essential cooking equipment and utensils suitable for teaching cooking to children in primary schools. Subsequently, FOFC staff and the FFLP Regional Coordinator maintain contact with the school to support staff to further integrate their learning into both classroom and extra-curricular education.

3.9 Farm links and sustainable food education programme

Inspired by famous dinner lady Jeanette Orrey, the Soil Association founded Food for Life in 2003 to help schools source fresh, local and organic produce and give pupils the chance to visit farms to see how their food is produced.

The FFLP farm links programme has been developed for all schools participating in the Flagship scheme. On enrolment, Health Education Trust policy officers work with a school food action group to review the school's previous work with farms and food producers. The group develop a plan to extend the school's educational contacts with farms and to make connections with wider aspects of school food culture.

Schools are supported by specialist farm link staff from the Soil Association to identify appropriate local farms to visit. Much of this has involved developmental work to encourage new farms to become actively involved in education. The programme provides pupils with an opportunity to visit working farms and to learn about sustainable food production first hand. Pupils are encouraged to take their learning back their school environment, through gardening activities, recycling, composting and wider work to procure sustainable school food.

The farm links programme connects to other aspects of FFLP. For example, some schools are encouraged to consolidate their learning on farm visits by practising organic horticultural techniques

in their school garden. Schools may also procure food directly from the farms that they have links with for use as school meal ingredients or food for celebrations. This synergy of different programme components is an essential feature of the overall FFLP approach.

3.10 Parental and community engagement

The importance of the engaging parents and wider communities in building vibrant food cultures is central to the aims of the FFLP programme. This involved encouraging a wide range of people to participate in school based activities; delivering practical food education which travels home with pupils to influence parents' food knowledge and food habits; promoting closer connections between schools and communities and their local farms; and supporting the development of sustainable local food systems.

One of the targets of FFLP was to demonstrate to the BIG Lottery Fund that a minimum of 150,000 people have benefitted from the programme. A beneficiary is someone who has attended an activity, event or meeting which increases their knowledge of or access to healthy and sustainable food and/or develops their skills in one or more of the following areas: growing, buying and/or cooking healthy and sustainable food. The involvement of parents, community group members, allotment societies, local producers amongst others are all important in terms of the beneficiaries of the programme.

3.11 Regional strategic development: school and catering development clusters

For all of the elements outlined above, FFLP's Regional Coordinators play a central role in developing the programme in each of the nine England regions. Regional Coordinators form the main link with all Flagship schools and play a mentoring and supportive role to those schools. Part of this process consists of actively developing clusters of schools and clusters of caterers to work together to support each other developing and sharing good practice.

3.12 BIG Lottery Well-being programme

FFLP sits within the BIG Lottery Well-being programme. The BIG Lottery Fund launched its £160 million Well-being programme in April 2006. The Well-being programme has three outcomes:

- People and communities having improved mental well-being
- People being more physically active
- Children, parents and the wider community eating more healthily

Funding was awarded to 17 lead organisations, all of whom co-ordinate and manage a portfolio of projects, that operate on both a national and regional level. Two awards from the Changing Spaces programme are also included in the evaluation as they are working towards the Well-being outcomes.

The national evaluation is designed to capture behaviour change for those who engage with services funded by the Well-being programme, and other funded activities that will contribute to the Well-being programme outcomes. The New Economics Foundation (NEF) were commissioned by the Big Lottery Fund (BIG) to develop a bespoke set of questionnaires or tools designed to measure change

over time in terms of well-being. Some portfolio level evaluators have adapted these questionnaires for their own use across Well-being funded portfolios and Changing Spaces Award Partners. UWE and Cardiff Universities have conducted a portfolio level evaluation of the FFLP programme, using their amended version of the national evaluation tools.

3.13 Conclusion: the whole school approach

A Whole School Approach is a process which identifies needs, develops actions and implements changes, ensuring they are relevant and grounded in the ethos of the school and the needs of the local community (DH and DCSF, 2007). It is a holistic approach which involves children and young people, together with their parents and carers in the planning and delivery of health promoting policy and activity.

Figure 3.2 FFLP's Whole School Approach



By developing a whole school food policy and action plan for each school, the FFLP programme aims to influence and improve the health of students and the whole school community. It is envisaged that schools can play a key role in equipping young people and their families with the skills and knowledge they need to maintain lifelong healthy and climate-friendly eating habits. The school environment provides an excellent opportunity to help establish these good habits from a young age. In order to develop an effective school food policy, each school is encouraged to involve representatives of the whole school community in a food action group - or School Nutrition Action Group (SNAG).

4. Research Questions

With regard to schools selected for FFLP flagship status, the evaluation addresses the following research questions:

1. Are schools adopting the FFLP approach associated with increases school meal take up?
2. Are schools adopting the FFLP approach associated with increases in the healthier eating amongst pupils?
3. Are schools adopting the FFLP approach associated with increases in pupil awareness of food sustainability issues?
4. Do schools adopting the FFLP approach influence parental behaviours towards healthier & sustainable foods⁵?
5. Are schools adopting the FFLP approach associated with improvements in pupil behaviour & attainment?
6. Do FFLP-led school meal improvements provide new markets for local, organic and MSC producers?

There are clear connections between these questions. For example, the issues of increased school meal take up and influences on parents can be understood as an interim step towards promoting healthier eating amongst pupils. Some of the main links are brought together in the final section of the report where FFLP's role in whole school food reform is used to integrate the research questions raised for the evaluation.

5. Evaluation Framework & Methodology

5.1 Rationale

Complex community based initiatives such as FFLP present some widely reported challenges for evaluation (Connell & Kubisch 1998; Meyrick & Sinkler 1998; Connell & Kubisch, 1998; Mackenzie & Blamey, 2005; Nutbeam, 1998; Tones and Green, 2004; Weiss, 1995). Some of these challenges include:

Multiple levels of change - at individual, group, organisational and policy levels,
Longer term outcomes that may be achieved at a point beyond the lifetime of the programme,
Emergent programmes of delivery and goals that develop in response to changing circumstances,
Multiple and diverse goals that reflect the range of stakeholders involved in the programme,
'Open systems' that promote active partnership and engagement with other initiatives in related fields of activity.

In recent years 'theory of change' (Connell & Kubisch, 1998) and related approaches such as 'realistic evaluation' (Pawson & Tilley, 1997) have been widely adopted by evaluation researchers seeking to work with these challenges. The theory of change approach can address the need to estimate a

⁵ Sustainable food is used to refer to sustainable and ethical foods

programme's effects on interim and longer-term outcomes. In addition it can provide audiences with information on how and why a programme produces outcomes.

Connell & Kubisch (1998; ix) define a theory of change approach as "systematic and cumulative study of the links between activities, outcomes and the contexts of the initiative". It proposes that a central task of an evaluation is to test theoretical linkages between programme inputs, interim outcomes, context and longer term outcomes. For the FFLP evaluation this approach has translated into a strategy to surface 'theories of change'. Put more straightforwardly, this means building the evaluation plan around how the programme is thought to work. Arriving at an outline on these key change mechanisms for change involves an analysis of programme documentation and delivery processes. Section 3 of this report outlined the central elements of the programme model. This model is used in the study to inform the data collection and the pathways for analysis. Drawing upon this programme model the evaluation identified the theoretical links between short term inputs, outcomes and contextual conditions.

This strategy reflects two central measurement issues in theory of change evaluation. Firstly, the measurement of FFLP's activities is an important as measurement of its outcomes. This enables a clear account of the relationships between the programme and the changes sought. Secondly, the measurements in place are intended to test the plausibility of the changes theorised. Where it may not be feasible to demonstrate causal attribution, this approach can yield 'good enough' evidence to meet the needs of a wider audience.

The framework set out below illustrates how each area of the evaluation research is structured in relation a number of key elements for a theory of change. This framework is used to inform the analysis for each section of the evaluation findings.

5.2 Research design

The theory of change is a methodological 'approach' but does not specify research methods as such. For the FFLP evaluation, central elements of the research design consist of:

Pre and post cross sectional study of flagship schools,
Process evaluation studies.

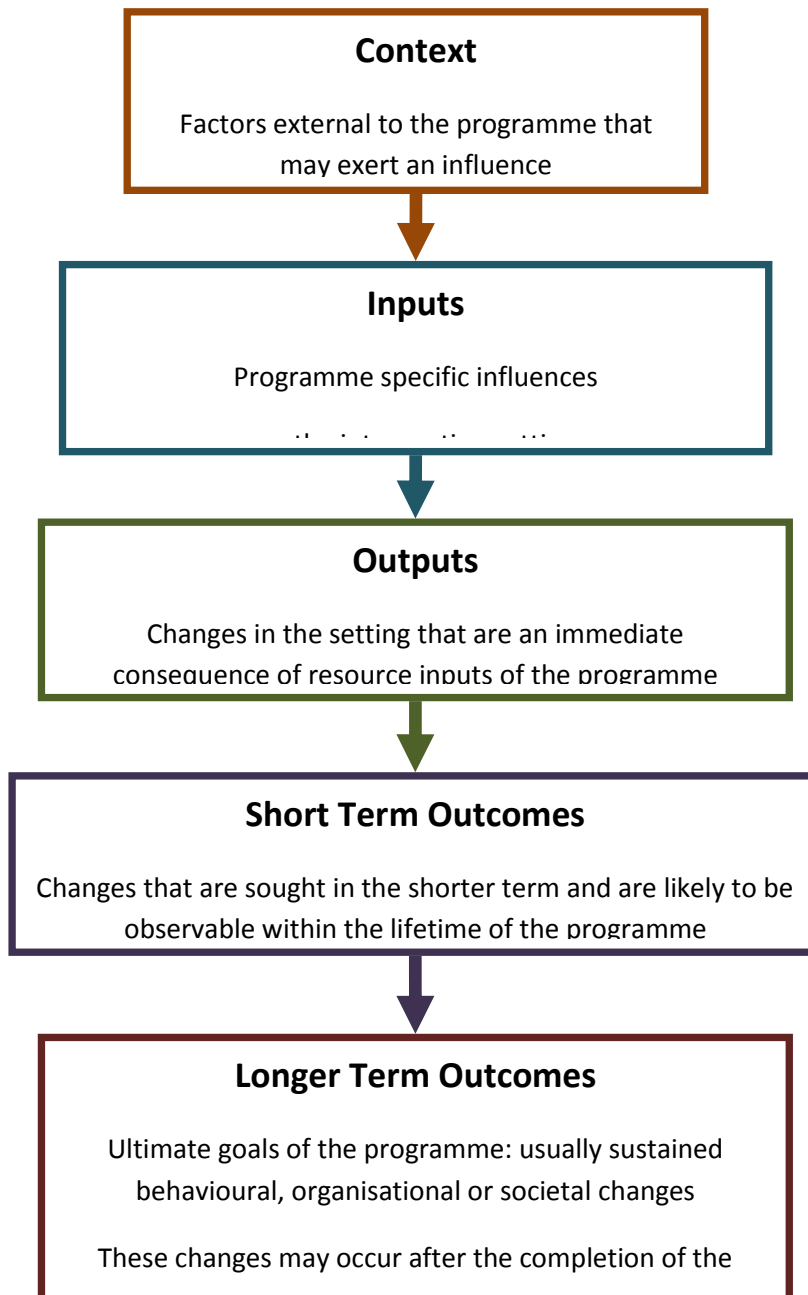
Pre and post cross sectional study of flagship schools

The study has focused on the progress of the first 111 schools enrolled with the FFLP Flagship programme. The position of all of these schools was assessed at the point of enrolment ('baseline') and again after approximately 18-24 months ('follow up'). The perspectives of sub-samples of pupils and other participants were used to provide direct evidence of outcomes for beneficiaries.

Process evaluation studies

The process evaluation consisted of programme delivery analysis and case study work. The case studies took place with selected schools, caterers and their associated communities.

Figure 5.1: Evaluation Framework for Data Collection and Analysis



5.3 Sampling and data sources

In all 111 schools, the lead teacher contact, usually a member of the senior management team was asked to complete a comprehensive questionnaire on FFLP-related activities at baseline and follow up. Other lead staff were also asked to complete questionnaires at baseline, follow up and, with respect to some elements during the course of the programme. These staff included: cooks; caterers; and lead teachers for garden, farm link and cooking activities. The evaluation team were engaged with numerous site visits and communications with schools over the course of the research. Through these contacts school leads were asked to supplement their written responses through semi-structured interviews.

For the 111 schools, programme documentation and official data sources were also analysed. These data sources included the FFLP website activity log, FFLP Mark applications, DFE School Census, and Ofsted reports.

A subsample of the 111 schools was asked to participate in pupil and parent questionnaire surveys. These schools were selected randomly from the FFLP recruitment list as the schools enrolled with the programme. These schools consisted of:

- 33 out of the 75 flagship primary schools
- 22 out of the 31 flagship secondary schools
- 0 out of the 5 special schools

In these schools over 4600 pupils in randomly selected mixed ability classes completed questionnaires. At follow up, approximately 4700 pupils from the same schools in matched Year groups completed questionnaires. Also at follow up, 1080 parents with children in Years 1-6, 7-10 were surveyed from the same sub-sample of flagship schools.

Further details on sampling and measures are set out in the sections on each area of data collection.

5.4 Data analysis methods and strategy

Text and transcribed qualitative data were either analysed thematically (see for example, Mason, 1996) or through the application of content analysis methods (see, for example, Krippendorff, 2004). Quantitative data was entered into SPSS – a statistical software package. Whilst descriptive statistics were used to analyse most data, statistical tests were used to examine strengths of association between key variables. Regression analysis was also employed to assess the relationship between outcome and predictive variables with the pupil questionnaire data.

This combined application qualitative and quantitative data sources reflects an established strategy within the field of theory of change analysis (MacKenzie & Blamey, 2005; Stame, 2004; Tilley, 2004). The data analysis pursues theory driven lines of enquiry informed by a theory of change for each evaluation question. This helps assess, for example, whether a higher level of stakeholder involvement in FFLP related activities is associated with increased take up food served in schools. These associations are examined quantitatively where it has been possible to obtain measurable indicators. This is not the case for many of the more complex processes of change. Here qualitative data and process records are employed to explore the theorised links with outcomes.

5.5 Ethical issues

All empirical aspects of the UWE, Bristol and Cardiff University evaluation have been approved by the UWE Research Ethics Committee. Advice and guidance has been provided by the evaluation team to FFLP throughout the evaluation with regard to data collection with schools and caterers. The evaluation ensured that the data collection and management procedures were in accordance with the Data Protection Act 1998.

School Heads were asked for written agreement for their school to take part in the study. This consent was based upon written and verbal information provided by the researchers. Schools provided parents with written information produced by the researchers on the study, data protection protocols and the procedure for requesting withdrawal of personal information. Pupils were informed of the purpose of the study. The evaluators adhered to each school's policy on the right of pupils to opt out of participation in research.

Questionnaires to parents were accompanied with written information about the study and they posted their responses directly to the University rather than via schools. Respondents were offered the opportunity to enter a prize draw for a gift voucher. Parents attending interviews were advised verbally and in writing about the purpose of the study and right of withdrawal of data. Parents making special arrangements to attend the interview at school were given a gift voucher as a token of appreciation. All participants were informed of anonymity, confidentiality and the child protection conditions. Overall the evaluation adhered to key codes of conduct such as the British Sociological Association's Code of Professional Conduct and Statement of Ethical Practice.

6. Characteristics of FFLP Flagship Schools

Phases 1-6

Key Points

The demographic and organisational characteristics of the 111 FFLP flagship schools participating in the evaluation show considerable diversity.

These schools reflect a spread of school types (primary, secondary and special), regional location, catering sector, pupil roll, urban and rural catchment areas and school performance indicators.

Indicators of social deprivation suggest that the sample have an above average national representation of schools in catchment areas with high child poverty. 19% (n=14) of the primary schools and 12% (n=4) of the secondary schools are in the top quintile for free school meal entitlement. Whilst there are gaps in reporting, the data suggest that the schools have a similar proportion of pupils from Black or Minority Ethnic backgrounds as the national picture for England schools.

6.1 Introduction

This section of the report provides a profile of the schools participating in the evaluation in terms of their organisational and demographic characteristics. It also outlines the progress the schools have made in relation to the FFLP Mark Award. It is intended to provide context information on the types of schools participating in the programme.

6.2 Organisational and demographic characteristics

There were 111 FFLP flagship schools inducted on to the programme during phases 1 to 6. There are between 11 and 13 schools from each of the nine regions. 75 of the schools are primary, 31 are secondary and there were 5 special schools. They were drawn from 62 of the 150 LEAs in England. Table 6.1 shows that the schools were of varying types

Table 6.1: FFLP programme Phase 1-6 flagship school types (DFE “Form 7 Type” Description) Source: School Census January 2009

Type	Number of Schools
Community Special	3
Comprehensive 2 tier Junior 11-14	1
Comprehensive all through 11-16	15
Comprehensive all through 11-18	13
Comprehensive all through 13-18	1
First School 5-10	1
First School 5-8	1
First School 5-9	4
Grammar	2

Infant and Junior 5-11	55
Infant and Junior 5-7 or 5-8	1
Infant 5-7 or 5-8	3
Junior 7-11 or 8-11	10
Maintained School	1
Total	111

The pupil size of FFLP schools vary from English averages with FFLP primary schools being bigger than the English average and the secondary schools slightly smaller. There is considerable variation in size with primary schools ranging from 48 to 671 pupils (sd=136.21) and in secondary schools from 201 to 1809 pupils (sd=322.94).

Table 6.2 Pupil size of FFLP Flagship schools *figures calculated from School census January 2009

	Average pupil size in FFLP schools	Average pupil size (England)*	Smallest pupil size school	Smallest pupil size school (England)*	Largest pupil size school	Largest pupil size school (England)*
FFLP Secondary	978	1016	201	69	1809	2573
FFLP Primary	285	238	48	8	671	972

On the whole gender splits were fairly similar in primary schools however the involvement of two all girl secondary schools meant more females in this group of schools (54.1%).

FSM eligibility is one measure of deprivation. It is clear from the data below that FFLP flagship schools have a slightly different range of schools to the national spread. In both primary and secondary schools there is a slight over representation of schools with average FSM eligibility and fewer schools with low and high rates of eligibility. Highest FSM eligibility for a primary school was 52% and the lowest was 2% for secondary schools it was 55% and 2%.

Table 6.4 Free school meal entitlement quintiles of participating FFLP Flagship schools Source: School Census January 2009

	Percentage of schools in highest quintile rank for FSM	Percentage of schools in the 2nd quintile rank for FSM	Percentage of schools 3 rd quintile rank for FSM	Percentage of schools in the 4 th quintile rank for FSM	Percentage of schools in 5 th quintile rank for FSM
FFLP Secondary	12%	20%	24%	24%	12%
FFLP Primary	19%	12%	24%	23%	16%

FSM eligibility is not the only measure of deprivation. Using school postcodes we explored child poverty levels. Using these data a different pattern emerges suggesting that FFLP schools tended to be situated in areas with high levels of deprivation. In particular almost half the FFLP Flagship primary schools were in wards in the top two quintiles for deprivation. All the primary schools in the North East and Yorkshire and Humberside are in the top two quintiles. Primary schools are likely to attract local neighbourhood children. Secondary schools are likely to draw on a larger catchment area so care is needed in assuming that secondary schools attract greater numbers of children in deprivation.

Getting accurate information of the racial or ethnic background of pupils in schools is difficult using national data sources. During the FFLP programme we have analysed three School Census data sets

for: January 2007, 2008 and 2009. In all of the data sets there are considerable gaps in information particularly in the recording of Black Minority Ethnic Group (BMEG) categories. Therefore care has to be taken in interpreting these data. The table below compares school census data on the number of pupils who are recorded as White British ethnic origin in FFLP Flagship schools to the rest of the school population as a whole. However, schools are not always efficient at collecting data on BMEG data.

Table 6.5 Child Poverty Quintiles for participating FFLP Flagship schools Source: IDACI (Income Deprivation Affecting Children Index) part of the Index of Multiple Deprivation 2001

	Percentage of schools in highest quintile rank for child poverty	Percentage of schools in the 2nd quintile rank for child poverty	Percentage of schools 3 rd quintile rank for child poverty	Percentage of schools in the 4 th quintile rank for child poverty	Percentage of schools in 5 th quintile rank for child poverty M
FFLP Secondary	46%	19%	27%	4%	4%
FFLP Primary	21%	26%	17%	23%	13%

Table 6.6 Pupil Ethnic background for participating FFLP Flagship schools Source: School Census January 2009

	FFLP schools "White British" origin Census category	England School Census "White British" origin Census category
Secondary schools	88%	86%
Primary schools	64%	59%

Drawing upon the Census data it appears that overall the FFLPP schools had more children recorded as White British origin. However gaps in the data mean that the safest estimate is that the FFLP study schools are approaching England averages for children of BMEG origin.

Table 6.7 set out the ward morphology data for school catchments. This shows the extent to which FFLP flagship schools were located in urban and rural locations.

Table 6.7 Ward morphology of participating FFLP Flagship schools Source: DEFRA (2007)

Region	Urban <10k	Town and fringe	Village and isolated hamlet
East of England	62%	23%	15%
East Midlands	83%	8%	8%
London	100%	0%	0%
North East	92%	8%	0%
North West	82%	9%	9%
South East	50%	17%	33%
South West	58%	25%	17%
West Midlands	67%	25%	8%
Yorks' & Humberside	67%	33%	0%
All FFLP Ph1-6 Schools	72%	17%	11%

Table 6.8 Average overall absence in FFLP Flagship primary schools Source: D of E Attainment and Achievement tables

	2007	2008	2009
FFLP Primary	5.1% (sd 1.23)	5.1% (sd 1.17)	5.2% (sd 1.19)
England Primary	5.3% (sd 2.25)	5.3% (sd 1.56)	5.5% (sd 1.47)

The table above suggests that the majority of schools were in an urban area. Schools in the South East and East of England regions were the least urban based and those London and the North East regions were in the most urban areas.

Overall absence rates in FFLP primary flagship schools remained slightly below the English average and the slight increase in 2009 is slightly less than the increase in England. In FFLP secondary flagship schools the overall absence in secondary flagship schools matches the decline in English school. Over the last three years it has been within 0.1% of the English average.

Table 6.9 Average overall absence in FFLP Flagship secondary schools Source: D of E Attainment and Achievement tables

	2007	2008	2009
FFLP Secondary	7.9%	7.5%	7.2%
England Secondary	7.8%	7.4%	7.3%

6.3 Characteristics related to FFLP activities

The base line Catering Factfinders completed by catering leads reveal that 45% of the flagship school meal provision came from the local authority, 37% was in-house, 17% was private contractor and 1% were from another source. 91% of school food was cooked on-site, 5% were transported and 4% used a combination of both.

Some of the schools were participating in health and/or environmental school initiatives at the time of their enrolment onto the programme. The table below shows the extent of their involvement in parallel initiatives.

Table 6.10 Participation of FFLPP Flagship schools in parallel initiatives on enrolment Source: Baseline lead Factfinder

	National Healthy School status	Eco School Flag status
Primary School	82%	53%
Secondary School	76%	48%

At the start of school's induction onto the FFLP programme the extent to which they matched mark criteria was assessed. The following tables indicate that most schools were engaged in at least some FFLP-related activities before they enrolled with the FFLP programme. There were 55 mark criteria to achieve (22 bronze, 22 silver and 15 gold). The minimum achieved was 3 marks and the maximum was 20 illustrating that some schools came from a very low starting point; while others were quite advanced. At the beginning of the programme, participating schools tended to be less advanced in their food sourcing and catering related work compared to food policy and food education related activities.

Table 6.11 Mark criteria achieved at enrolment with FFLPP¹Multiple modes exist Source: FFLPP Fact Finder

	Modal average of mark criteria achieved	Average of mark criteria achieved

FFLPP Secondary	14 ¹	21.76
FFLPP Primary	11	15.39

Table 6.12 Progress against the mark¹As of 12th November 2010 ² Multi modal. Source: FFLP website

	Baseline modal average of mark criteria achieved	Baseline average of mark criteria achieved	Modal average of mark criteria achieved¹	Baseline average of mark criteria achieved¹
FFLP Secondary	14 ²	21.76	53	40.77
FFLP Primary	11	15.39	48	46.11

In the context of the wider FFLP programme, the schools participating in the evaluation represent a significant proportion of those that have achieved Award status. For the whole programme, as of October 2010, 7 schools had achieved the Gold FFLP Mark award, 53 the Silver Mark and 132 the Bronze Mark. A further 2797 schools were registered with FFLP but had no current Award. On average primary schools have travelled further against the mark criteria than secondary schools. This means they are also more likely to have achieved Gold and Silver awards.

Table 6.13 Award status of FFLP Phase 1-6 flagship schools. N=111. Source: FFLP Activity Log 18/9/ 2010. Percentage figures rounded.

	Gold School (%)	Silver School (%)	Bronze School (%)	No current Award School (%)
Flagship Primary	4 (5%)	25 (33%)	35 (46%)	11 (15%)
Flagship Secondary	1 (3%)	4 (13%)	11 (35%)	15 (48%)
Flagship Special	2	0	3	0
All	7(6%)	29(26%)	49(44%)	26(23%)

During the data collection period, the Mark status of schools was changing, such that by October 2010 several schools had been awarded a higher Mark than is reflected in the table. Performance against these criteria varies across regions with Yorkshire and Humberside, South West, South East, North West and London having more schools with awards. Not surprisingly schools enrolled in earlier phases of the programme are more likely to have achieved higher awards than later phase schools.

6.4 Conclusions

As part of the programme business plan and BIG Lottery grant conditions, FFLP sought to work with a wide range of schools as part of the Flagship programme. The schools outlined in this section represent 111 (up to phases 1-6) of the total 180 recruited for the programme. The data suggest that the 111 flagship programme schools represent a diverse selection in terms of region, sector of education, catering sector of provision, pupil roll, overall absence rates, deprivation indicators, urban-rural catchment, and pupil racial/ethnic backgrounds. Indicators of FFLP-related activities similarly suggest that schools started their engagement with the programme from a diverse array of starting points. This data is revisited in subsequent sections of the report to inform an analysis of the factors that are associated with programme impact.

7. Sourcing Sustainable Food

Key Points

In a sample of 38 flagship schools, the number of local suppliers involved in school procurement rose by 73% during the evaluation period while organic suppliers increased by over 50%.

The average ingredient spend per meal reported by primary schools in the sample rose from 70.1p to 78.8p during FFLP, representing an increase of 12.4%. This can be contrasted with the latest national average of school meal ingredient costs at primary level of 68p.

A key barrier to this part of the evaluation has been the lack of availability of quantitative food sourcing data through the programme. This has implications for the ability of programmes such as FFLP and caterers themselves to demonstrate the benefits of sustainable sourcing.

The data was not robust enough, in terms of numbers of adequate responses, to provide reliable figures concerning values / volumes of additional local, organic and MSC food sourced during the evaluation period.

7.1 Introduction

This section of the report addresses the food sourcing component of the Food for Life Partnership programme. It is a summary and analysis of data collected by FFLP and the Evaluators using questionnaires conducted at the beginning of flagship school enrolment and then repeated after at least 18 months of programme involvement. The analysis and findings will be further developed in conjunction with the forthcoming food sourcing case study in a later report.

[See Section 2.4
for research & policy context](#)

7.2 Methods

Drawing upon programme documentation, delivery staff feedback and external research we plotted out a framework for interpreting the links between programme context, inputs, outputs, short term and longer term outcomes. The FFLP Mark food sourcing criteria were used to structure the evaluation. Details of these criteria are set out in Table 1. A simplified representation is set out in Figure 7.1.

Table 7.1 Food Sourcing Related FFLP Award Criteria and Guidance

FFLP Award Level	Published Guidance for Meeting Criteria
Bronze	
We make sure that at least 75% of dishes on our menu are freshly prepared.	At least 75% of the dishes on your menu should be freshly prepared from unprocessed ingredients in your school kitchen ⁶ .
Our menus are seasonal and we highlight in-season produce.	Use and highlight a number of in season fruit and vegetables in your menus. Alternatively, your menus can feature a generic specification such as 'seasonal vegetables' or state clearly that fruit and vegetables are subject to seasonal variation.
We use meat that is farm assured as a welfare minimum. We use eggs from cage-free hens.	If food is 'farm assured' it means it was produced on farms that are inspected to ensure that they meet the assurance scheme standards. These standards cover issues such as food safety, traceability, production methods, environmental protection and animal welfare. Farm assurance is not a guarantee that eggs are from cage free hens. Your caterer must therefore specify cage-free eggs in addition to farm assurance.
Silver	
We include a range of locally sourced items on our menu.	Your caterer should serve items produced (or made with ingredients produced) in the region or adjacent county from at least two of the following categories each week at any one time: Fruit; Vegetables; Dairy and eggs; Meat (sausages and burgers can be counted if the meat comes from named farms in the region or adjacent county); Fish (fish can be counted if it comes from day boats based in the region or adjacent county); Bread (bread can be counted if it is baked in the region or adjacent county).
We include a range of certified organic or MSC-certified items on our menu.	Your caterer should serve certified organic (or Marine Stewardship Council certified in the case of fish) items from at least two of the following categories on the menu each week at any one time: Fruit; Vegetables; Dairy and eggs; Meat; Fish (fish can be counted if it is organically farmed or MSC-certified wild fish); Bread; Dry goods
We use poultry, eggs and pork that are produced in line with standards set for the Freedom Food scheme as a welfare minimum or we make sure that at least 10% of our ingredients are from a certified organic source, including organic animal products, and we will	Your caterer may source chicken or eggs from free range producers without Freedom Food certification and still comply with this requirement. They may also source pork, bacon, ham and sausages from outdoor-reared or outdoor-bred pigs without Freedom Food certification. Alternatively you may opt to spend 10% of your ingredient spend over a menu rotation on certified organic ingredients. To comply, you will need to be serving certified organic meat, eggs or dairy products and an item from another of the following

⁶ "The Food for Life Partnership uses a common sense definition of 'unprocessed ingredients' to include raw basic ingredients such as fresh/frozen fruit and vegetables, fresh/frozen meat or fish, pasta, rice, flours, pulses and beans. Unprocessed foods are fresh, homemade and natural, as defined by the Food Standards Agency. Some other foods that have been subject to primary processing are included in our definition of unprocessed, such as pasta, milk, good quality cheese and sausages and wholegrain bread."

reduce the amount of poultry and pork we serve.	categories on the menu each week: fruit, vegetables, fish, bread or dry goods. If you select this alternative option then you must also produce and implement an action plan to reduce the amount of poultry and pork you serve.
We don't serve fish that is on the Marine Conservation Society 'Fish to Avoid' list.	
Gold	
We make sure at least 30% of the ingredients we use are from a certified organic or MSC-certified source.	Aim to spend at least 30% of your ingredient spend over a menu rotation on certified organic or MSC-certified ingredients. Fish can be counted towards the 30% target if it is organically farmed or MSC-certified wild fish.
We source at least 50% of our ingredients locally.	Aim to spend at least 50% of your total ingredient budget over a menu rotation on locally sourced ingredients. To count as locally sourced, ingredients should be bought and produced within your region or any adjacent county/ local authority that falls outside your region.

Procedure, sample, tools and data analysis

In common with other elements of the programme, all flagship schools undertook a 'baseline' fact finder for this area. The fact finder was designed both to gain sourcing and supply chain information for this study and to inform FFLP personnel to assist with identifying support needs. The form of the baseline fact finder evolved a number of times both to try to overcome completion issues and to adapt to changing needs and priorities among the FFLP support team. A follow up 'review' fact finder was developed to capture change among schools and caterers after an 18 month minimum period. It also aimed to collect data missing from the original baseline fact finder process.

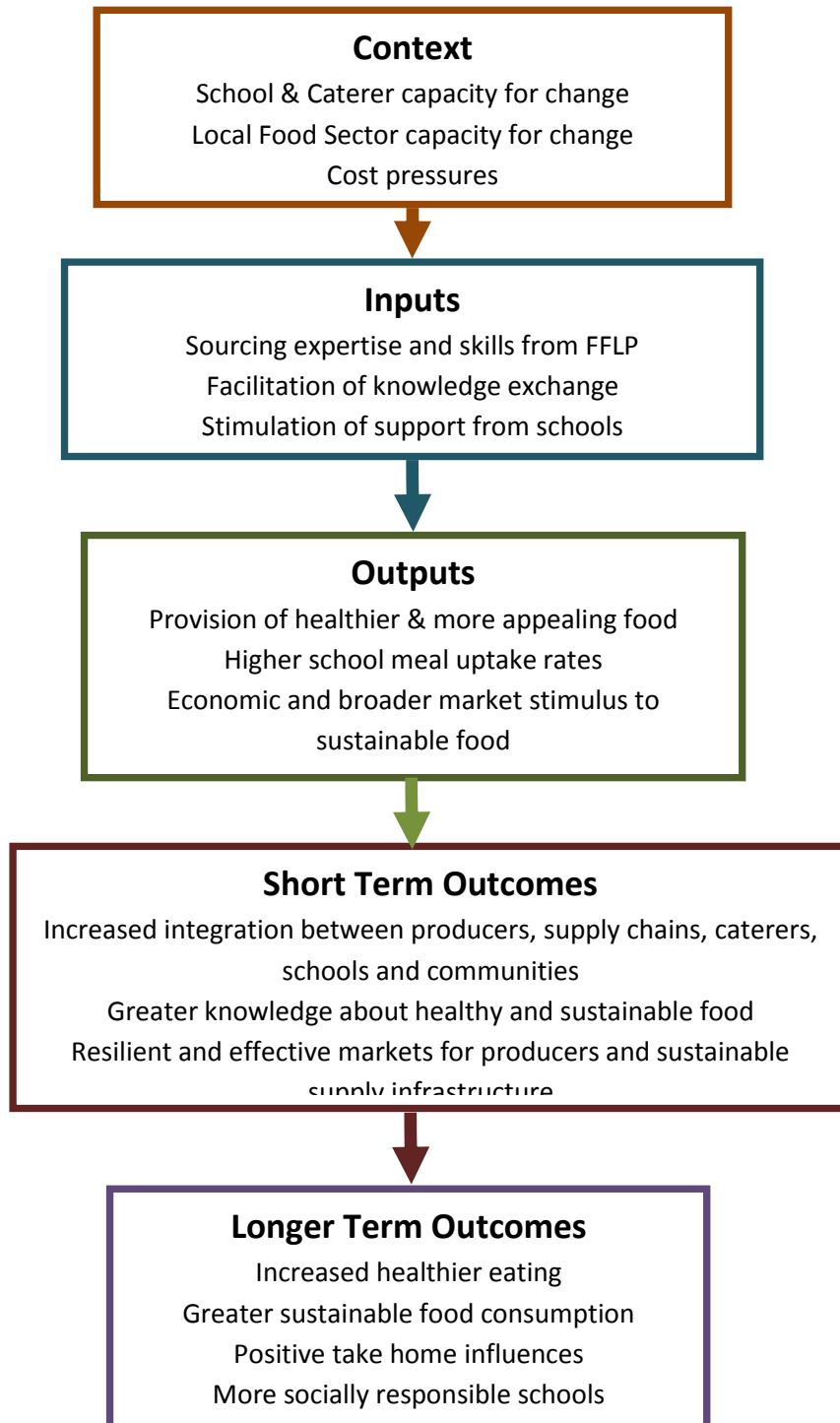
Fact finders were administered by FFLP personnel (both Regional Coordinators & members of the Food Sourcing Team), Evaluators and, in the case of the review process, electronically by schools and caterers themselves.

A copy of both the baseline and follow up food sourcing fact finders can be found in the appendices to the full report. They are designed to elicit largely objective data from respondents, predominantly concerning supplier details, ingredient provenance and sourcing values.

The usable returns were entered and analysed in both Microsoft Excel and SPSS software packages.

These findings were complemented by preliminary findings from the in depth case study element of the evaluation along with insights gained from general programme interaction and secondary programme data analysis.

Figure 7. 1 The Food Sourcing Component of FFLP: key elements in the theory of change



Findings & Analysis

7.3 Profile of the sample

Food sourcing data was received for 38 schools from a total sample of 107. This included data from 8 FFLP Gold schools whose award submission data was transposed to the appropriate form by evaluation researchers. In total, this represents a response rate of 35.4%. Of the 38 schools, 6 were unable to provide any financial information. All of these schools were at FFLP Bronze level.

A comparison of the level of FFLP attainment amongst the sample compared with the total population of FFLP schools shows a decreasing percentage of representativeness with attainment level (see figure 2).

Table 7.2 A Comparison of Sample and Population in terms of FFLP Level Attainment

FFLP Level	Total FFLP School Population	Food Sourcing Sample	Percentage
Bronze	132	12	9%
Silver	44	13	30%
Gold	8	8	100%

NB: Total FFLP School Population data from FFLP Activity Log, last accessed 10/11/2010

This figure illustrates that the sample is heavily weighted towards schools who have achieved greater levels of FFLP sourcing. Figure 3 illustrates that the sample is dominated by primary level schools.

Table 7.3 A Summary of School Level among the Food Sourcing Sample

School Level	Number
Primary	26
Secondary	11
Special	1
Total	38

Chart 7.1 A Breakdown of Phase Membership among the Food Sourcing Sample

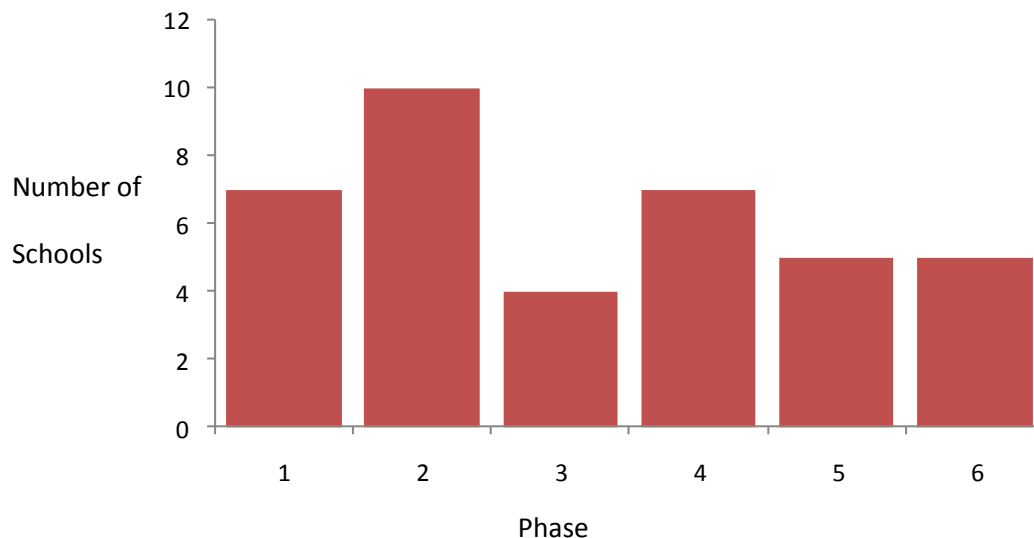


Figure 4 above shows that respondent sample is spread fairly evenly across phases 1 – 6. It follows that schools from the earlier phases will have been involved in FFLP longer. All schools included in the study have been enrolled in FFLP for at least 18 months. For the purposes of this analysis, therefore, we are making the assumption that all significant progress regarding food sourcing takes place during the first 18 months of FFLP involvement and that no significant regression occurs subsequently.

Figure 5 shows an even spread of respondent schools across the FFLP regions except for London and the North West.

Table 7.4 Geographical Spread of Food Sourcing Sample

Region	Number
South West	5
South East	4
London	0
West Midlands	6
East Midlands	6
East England	5
Yorkshire and Humber	4
North West	2
North East	7

Unfortunately, however, the low number of food sourcing returns make it impossible to assume any degree of representativeness for the data used in this study. The factors behind the low response rate are outlined in the concluding section. The proceeding analysis should therefore be interpreted with caution and not be viewed as anything other than potentially indicative of the situation across the programme.

7.4 Ingredient Spend

Total Ingredient Spend

24 schools gave robust enough data to calculate their total ingredient spend. Between them, they spent just over £880,000 per annum, averaging out at £36,700 per school.

Submitted Ingredient Spend per Meal

Respondents were asked to give figures for average per meal spend both pre-FFLP and at review stage. 22 schools provided figures pre-FFLP and 23 at review stage. 16 schools provided robust data for both stages. Using this sub-sample, we calculate that the average meal spend rose from 70.1p to 78.8p. Of this group, only 2 schools reported ingredient spend decreasing.

Calculated Ingredient Spend per Meal

In order to calculate per meal ingredient spend using the sourcing data submitted, it is necessary to remove the 6 secondary schools from this sample plus a further 3 who didn't submit average daily meal numbers. The remaining 15 schools give an average ingredient spend per meal of £1.22. This is significantly higher than the submitted per meal ingredient spends for primaries in this survey which average at £0.77 (N=18). This may indicate one or more of the following:

- Systematic over estimation of contract values
- Systematic under estimation of daily school meal numbers
- The existence of significant additional ingredient use, for example, staff meals, parent meals and breakfast clubs.

7.5 Sustainable Food Sourcing

Local Food Sourcing

31 schools provided details of 78 individual local suppliers. 23 schools provided financial data for their local suppliers showing total procurement spends of £223,400 on local suppliers.

33 of the local suppliers in the sample were introduced during the FFLP period, representing an increase in over 73% in local suppliers between pre-fflp and review stages.

Organic Food Sourcing

Of the 31 schools who provided full and robust supplier details, only 12 purchased from organic suppliers. Between them, they used 20 suppliers. 10 of these schools provided adequate financial data showing total procurement spends of 37,100 on organic suppliers.

11 of the organic suppliers in the sample were introduced during the FFLP period, representing an increase in over 50% in organic suppliers between pre-fflp and review stage.

MSC Food Sourcing

13 schools submitted details of Marine Stewardship Council certified fish suppliers. Each school used only 1 supplier. 10 of these schools provided adequate financial data showing total procurement spends of £26,200 on MSC certified fish products.

Only 2 of the respondent schools stated that these MSC suppliers were introduced as a result of FFLP participation. It is believed that most MSC sourcing was enabled through existing suppliers (eg Brake Bros) rather than having to introduce new suppliers.

7.6 Food Miles and Delivery

The data submitted for this study was not of sufficient quality to be able to used for robust analysis of food miles or delivery frequencies. In particular, an insufficient number of respondents gave baseline information on the number of deliveries. A superficial look at the figures collected indicates that although the numbers of individual suppliers generally increased, they were more likely to be FFLP defined local. The overall impact in terms of food miles is likely to have been a reasonable reduction although we would suggest that number of deliveries would actually rise due to the greater number of suppliers. Methodologically, it is difficult to measure food miles in systems that include multiple delivery sites such as schools.

7.7 Discussion and Conclusions

This report represents a best attempt at using the data returned by the programme using the food sourcing fact finder process. As mentioned above, the data should be used with extreme caution, both due to the low number of adequate responses and the lack of representativeness of the sample compared to the overall population. In fact, the reasons why we had such a poor response to this data collection exercise can probably tell us more about school food sourcing than the data itself.

Both the evaluation team and the various FFLP personnel who administered the fact finder questionnaires had consistent difficulty gaining supply chain data from caterers, particularly in terms of financial information. Although various techniques were attempted, most caterers were either unwilling or unable to provide this information. This appears to be partially a reflection of the data retainment systems typically used by caterers. It is also partially an indication of a lack of importance given to gathering evidence of impact by both caterers and FFLP as a whole.

In-house and private single site caterers can be characterised as being too small to need systemised sourcing data collection systems while large Local Authority or National Contract Caterers are so big that they agglomerate their sourcing data. In both cases, it is difficult for caterers to provide this information unless they are given the impetus to do so. Broadly speaking, this situation also reflects attitudes both to provenance among large parts of the UK food system and to the the needs to provide hard evidence among sustainable food advocates.

Perhaps the only meaningful headline figures that can be drawn from the analysis above are as follows:

Average Ingredient Spend:

The reported average ingredient spend indicates that Flagship schools are spending significantly more on food ingredients as a result of FFLP involvement. The rise from 70.1p to 78.8p represents a 12.4% increase in food spend. Moreover, the consistency of the rise across the sample suggests a degree of robustness in this figure. This change can be contrasted with the latest national average of school meal ingredient costs at primary level of 68p as reported by the School Food Trust⁷.

A higher level of food spend can, of course, be interpreted both as a positive impact of FFLP in terms of greater investment in quality and support for sustainable food producers, but also as a threat to the overall affordability of FFLP participation for schools. The issue of cost, both for ingredients and more generally, had become even more central to many caterers by the follow up stage. This was due to both the greater demands of FFLP participation and wider funding threats.

The sample is not strong enough to provide meaningful analysis of any subgroups who appeared able to progress through FFLP without increasing food costs. Some caterers were clearly able to achieve this through diligence. Organic products in particular tended to be significantly more expensive for all but a few ingredient types. It should be born in mind, however, that 'significantly more expensive' in the school meals context is often a matter of a few pence. The negotiation of priorities between cost, the use of FFLP sustainable ingredients and menu development will be analysed in the forthcoming food sourcing case study report.

Number of Sustainable Suppliers:

Although absolute figures for increases in value for sustainable food purchasing can not be generated from the data, we can see clearly that there is a significant rise in the number of sustainable producers who supply FFLP flagship schools. The number of local food suppliers increased by 73% and organic suppliers by over 50% as a result of the school's 18 month involvement in FFLP.

Unfortunately we are unable to draw any clearer conclusions from this data due to the reasons outlined above. A much greater depth of analysis will be provided by the forthcoming food sourcing case study report which will look at a small number of individual examples within FFLP and attempt to draw broader conclusions about the FFLP food sourcing model in general.

An analysis of the attainability of food sourcing related criteria based on programme interaction through the fact finder process and preliminary case study work is presented in figure 5 below. The table lists the FFLP Award Criteria directly related to food sourcing, in terms of having a conceivable influence on the provenance and quantities of food procured, along with comments on the typical implications of meeting each criterion in existing supply chain structures.

⁷ SFT / LACA 5th Annual Survey of take up of school lunches in England. July 2010. Page 38. (using figures based on sample of 65 primary schools).

Table 7.5 FFLP Food Sourcing Award Criteria

FFLP Award Level	Implications for Food Sourcing
Bronze	
We make sure that at least 75% of dishes on our menu are freshly prepared.	Unlikely to lead to much change as common supplier types are able to source FFLP 'unprocessed'. Significant cost implications are occasionally experienced although on the whole were surmountable
Our menus are seasonal and we highlight in-season produce.	Unlikely to impact on cost or structure as seasonality is UK in scale, therefore within most typical sourcing arrangements.
We use meat that is farm assured as a welfare minimum. We use eggs from cage-free hens.	As been a common issue that often requires a change in suppliers, particularly for eggs. Traceability problems of meat supplies has been a problem for some caterers.
Silver	
We include a range of locally sourced items on our menu.	Typically a change in suppliers is needed. In terms of cost, the volumes required are not necessarily significant compared with overall budget.
We include a range of certified organic or MSC-certified items on our menu.	Change in suppliers usually needed. Again, in cost terms, the volumes required not necessarily significant compared with overall budget.
We use poultry, eggs and pork that are produced in line with standards set for the Freedom Food scheme as a welfare minimum or we make sure that at least 10% of our ingredients are from a certified organic source, including organic animal products, and we will reduce the amount of poultry and pork we serve.	Normally a change in suppliers is needed. Volumes required can impact on overall budget and availability can be an issue.
We don't serve fish that is on the Marine Conservation Society 'Fish to Avoid' list.	Existing conventional suppliers can typically adapt to this requirement.
Gold	
We make sure at least 30% of the ingredients we use are from a certified organic or MSC-certified source.	This criteria almost certainly requires changing suppliers and has a significant impact on overall food costs.
We source at least 50% of our ingredients	This criteria almost certainly requires changing suppliers and typically has a significant impact on

locally.	overall food costs, although usually less than the organic requirement above.
----------	---

As this section indicates, the food sourcing element has been a key challenge for the programme as a whole and one that impinges on its overall success, both in terms of Mark attainment and stakeholder acceptance. Sustainable food sourcing within a relatively 'low cost' sector such as school meal provision has a high degree of complexity encompassing the issues of cost, food availability, expertise and culture. Moreover, these factors are strongly interrelated and predominantly problematic. In spite of this we can clearly identify positive progress in terms of sustainability, as a result of FFLP which will be explored in greater depth in the food sourcing case study element of the evaluation.

8. School Cooks & the Kitchen Environment

Key Points

Significant investment was made in the kitchen environment by FFLP schools during the evaluation period in terms of introducing new equipment and improving facilities in general. Mean satisfaction ratings, out of 10, grew from 6.6 to 6.84 (N=62).

Numbers of kitchen staff grew slightly during the evaluation period, as did total numbers of hours worked. The sample, however, showed strong variance within these figures.

Professional development opportunities were stimulated by FFLP, with the proportion of kitchens with CPD programmes rising from 60% to 65%. Satisfaction ratings for available training opportunities grew from 6.24 to 6.47 out of 10. The number of formal qualifications among staff also increased.

Overall job satisfaction, remained similar (from 7.45 to 7.25, scored out of 10) among respondents.. We would suggest, however, that the broader economic conditions effecting the service at the time of the follow up study has probably effected this figure.

Kitchen staff consistently report that they have a greater degree of involvement and broader integration with the rest of the school as a result of FFLP involvement.

8.1 Introduction

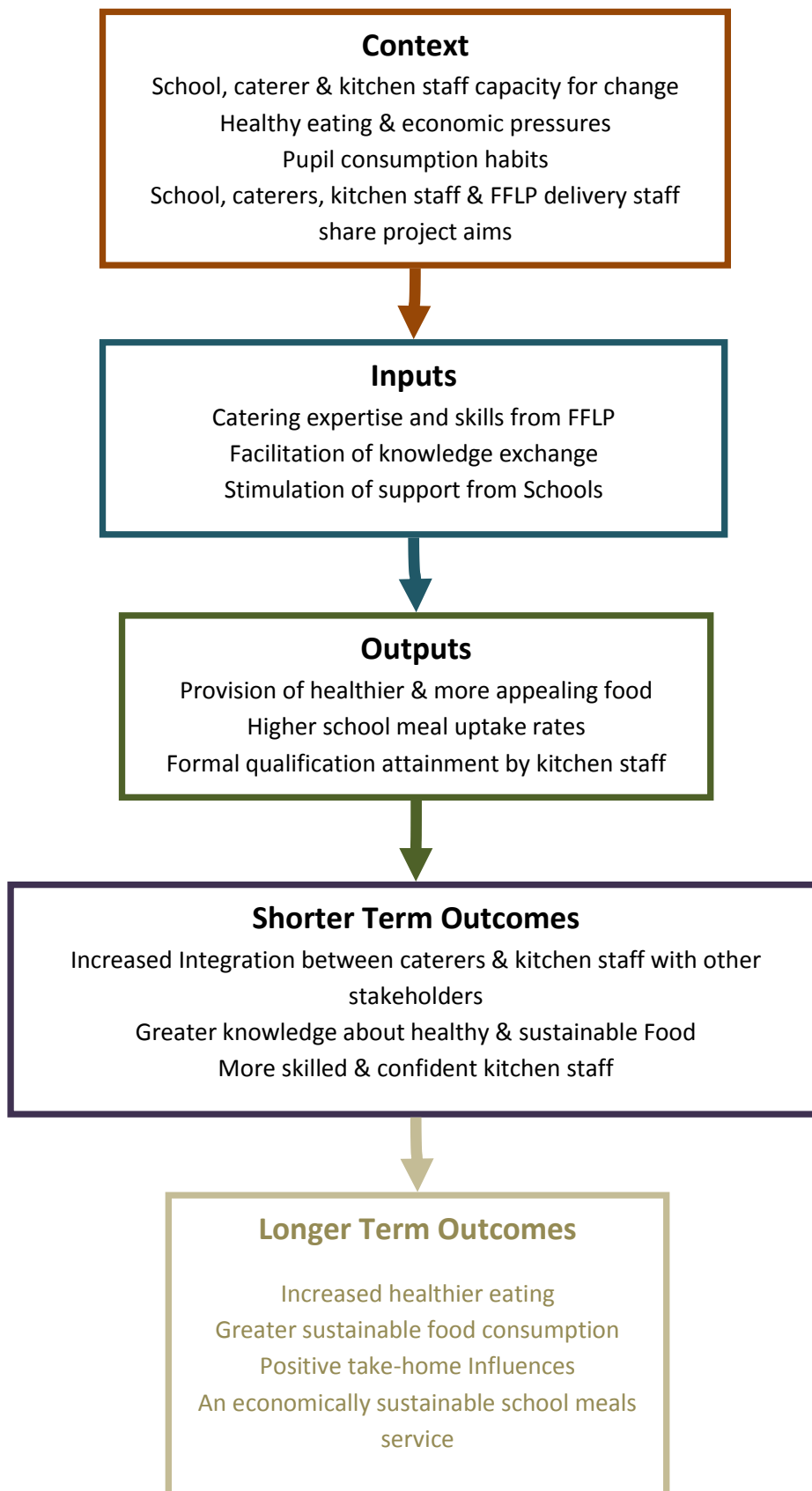
This section of the reports examines the impact of the Food for Life Partnership programme on school cooks and the kitchen environment. It is an analysis of data collected by FFLP and the evaluators using 'factfinder' questionnaires conducted at the beginning of flagship school enrolment and then repeated after at least 15 months of programme involvement.

[See Section 2.3 & 2.4
for research & policy context](#)

8.2 Methods

Drawing upon programme documentation, delivery staff feedback and external research we plotted out a framework for interpreting the links between programme context, inputs, outputs, short term and longer term outcomes. A simplified representation is set out in Figure 1.

Figure 8.1 The School Catering Component of FFLP: key elements in the theory of change



Procedure, sample, tools and data analysis

As part of the broader programme, all schools who have Flagship status received an initial catering fact finding visit from Jeanette Orrey, the School Meals Policy Advisor to the Soil Association. As well as providing targeted advice and support to catering teams early in the FFLP process, the visits were also used to complete an initial ‘fact finding’ questionnaire process (referred to as the ‘baseline’ fact finder). A similar ‘fact finding’ process was carried out after an approximate period of 18 months involvement by schools in FFLP (referred to as the ‘review’ or ‘follow up’ fact finder). This was typically carried out by other members of the FFLP team or Evaluation staff. The same school-based respondents were sought where ever possible, however. These two data collection exercises form the analytical basis of this section.

In common with the other programme evaluations, only flagship schools from Phases 1 – 6 were sampled and used in analysis. This ensured that all schools included had been part of the programme for a minimum of 18 months, which has been deemed long enough for the programme to generate perceivable impacts.

A copy of both the baseline and review catering fact finders can be found in the Appendices. They were designed to elicit a mixture of quantitative and qualitative data from respondents, some of which were based on opinion and perception.

All the data was entered and analysed using SPSS Version 17, a statistical software package adept at handling both qualitative and quantitative data.

Findings & Analysis

8.3 Profile of the sample

Only schools that adequately completed both fact finder processes have been included in the analysis. 107 schools completed the baseline fact finder, of which 77 also completed the follow up review fact finder. A further 3 schools were excluded from analysis because the time between baseline and review fact finders was deemed too short. The total number of schools analysed in this sample, unless otherwise stated, is therefore 74.

As Table 1 illustrates, the schools were evenly distributed across the 9 FFLP regions, with only the South West and East Midlands showing a slight over representation. Table 2 sets out school inclusion according to phase. It indicates a significant under representation from phase 6 schools. It would appear that this maybe due to the short time between baseline and review fact finder administration for these schools, leading to a lack of enthusiasm for repeating the process.

Table 8.1 Regional distribution of schools included in the analysis.

FFLP Region	Number
West Midlands	8
South West	12
North East	7
East England	8
East Midlands	10

South East	7
London	6
Yorkshire & Humber	8
North West	8
Total	74

Table 8.2 Phase distribution of schools included in the analysis

Phase	Number
1	13
2	14
3	15
4	13
5	13
6	6

The sample contained 51 primary schools, 23 secondary schools and 1 special school. In terms of catering models, the split was: 35 LEA, 33 In-house and 6 Private Contractors.

The average length between baseline and review fact finder completion was 20 months, with a standard deviation of 4.18, a maximum of 29 months and minimum of 13 months. For the purposes of this analysis it is assumed that these periods are long enough for the research subjects to have experienced the full impact of FFLP participation.

The average number of children attending school dinners was 236 for the total sample (SD = 238). This can be broken down to 144 among primary schools (SD = 95) and 443 for secondary schools (SD = 319). As the standard deviations indicate however, there is considerable variation in numbers of children attending school dinners and therefore catering capacity among the sample. The lowest number of children was 25 whilst the highest was 1100.

Of the 57 kitchens that provided the respondent names for both stages, 72% indicated that the same person completed both forms. This figure is significant due to the subjective nature of a small number of questions. Allowances have been made during analysis to account for these other cases.

8.4 School meal take up

Only 29 Review respondents gave an opinion about whether meal uptake has changed since being involved in FFLP. Of these 13 stated that uptake had increase (45%), 4 observed a decrease (14%) with the remainder feeling levels were more or less the same.

Steps taken to increase uptake

Respondents were asked to qualitatively describe the key steps the catering team initiated in order to increase take up of their meals. The responses varied considerably among the returns, however a number of key types of initiatives dominated:

- Improving the dinning environment
- Changing the menus
- Increasing marketing and promotion of catering services
- Organising tasting sessions for parents and / or pupils

- Other types of direct consultation with parents and / or pupils

A second tier of stated initiatives in terms of frequency of reference included promoting free school meal uptake, introducing cashless / band ordering systems and organising cooking lessons. Interestingly, increasing the quality of the food was only explicitly mentioned by 4 respondents, although the notion was probably also within general statements about changing the menus. Similarly, there were 5 records that included increasing the use of fresh food, which again could be deemed synonymous with quality food.

It should be remembered that these examples given were the initiatives most frequently noted and on the whole do not provide an indication of their success. Nevertheless, in terms of meal numbers the perception of the caterers is that the number of meals they serve on average has increased from 204 meals per sitting to 245 meals per sitting an increase of 22%. The increases were bigger amongst schools in phases 1, 4, 5 and 6. Also the caterers reported quite a high level of interaction between their staff and the pupils (84%, n=61) which continued to increase at follow up (95%, n=69).

8.5 Kitchen Environment & Equipment

When asked to rate the standard of kitchen equipment and facilities on a scale from 0 – 10 (where 0 = very poor, 5 = average, 10 = exceptional), the mean rating increased from 6.6 to 6.84 during FFLP participation (N=62). Both figures represent an above average perception of the standard of kitchen equipment and facilities, with a perceivable increase in perceived standards being recorded.

Improvements Needed at Baseline Stage

Respondents were asked during the baseline fact finder what improvements do they think are needed with regard to their kitchen environment and available equipment. 93 of the 107 sampled kitchens responded to this question. Of these 68 (73%) identified improvements needed whilst the remaining 25 (27%) stated were happy with current provision.

Among the kitchens needing improvement, space related issues were the most frequent identifiable category with 22 kitchens stating a need (32%). New flooring and ventilation featured also featured (16% and 13% respectively).

When asked specifically about pieces of equipment that need to be purchased or upgraded, 29 schools (31%) stated that they had no need for anything else. The kitchens that did state a need for new equipment gave a wide range of items from which no discernable trends can be identified.

Improvements Made During FFLP

The follow up fact finder asked respondents to detail improvements made during FFLP. Of the 74 kitchen respondents that completed both baseline and review stages, 77% gave details of improvements to the kitchen environment / equipment since they enrolled in FFLP (N=57). The improvements made ranged from the purchase of small pieces of equipment to new work surfaces and complete refurbishments. No trends in terms of specific types of equipment purchased can be conclusively identified in the data.

Improvements Still Needed

47 review stage respondents gave details of future improvements to either the kitchen environment or equipment that they would like to see. Of these 47 kitchens, 12 (26%) had not experienced any perceived improvements during their FFLP involvement.

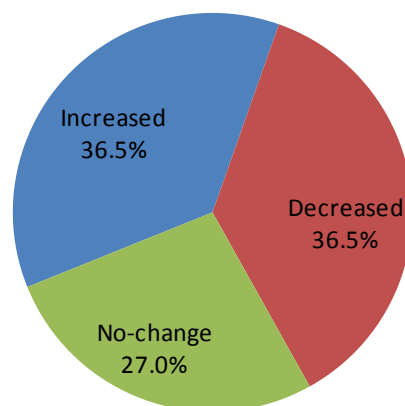
The clearest theme among those still in need of improvement specifically regarding kitchen environment was the desire for more space. 19 of the 47 respondents in this category mentioned space issues (40%). Absolute kitchen space was most common among these, followed by the need for more storage space and lastly more dining space. It is apparent that space issues are largely school infrastructure related and therefore typically outside the realistic influence of FFLP.

8.6 Labour

Number of Employees

The total number of kitchen employees across the sample (N=63) rose from 356 to 377 during the evaluation study period. This equates to 21 new employees in total, an average increase of 0.34 employees per school, with a standard deviation of 3.64. As figure 2 (below) illustrates, as many caterers experienced decreases in kitchen staff numbers as experienced increases.

Figure 8.2 Change in number of kitchen employees per school.



Number of Hours Worked

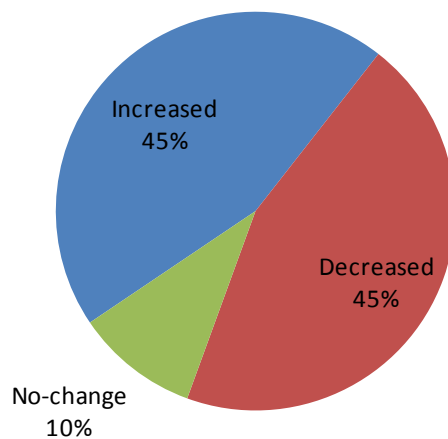
The total number of hours worked per week by catering staff (N=59) rose from 6631 to 7032 during the study period. This equates to 401 extra hours, an average increase of 6.8 hours per school, with a large standard deviation of 63.12.

It should be noted that the data submitted for this question corresponds to official paid hours per week rather than actual hours. A number of fact finders recorded that kitchen staff frequently work longer than their paid hours.

The average number of paid hours per employee changed only slightly from 18.63 to 18.65 hours per week.

In common with data for number of kitchen employees in individual schools, the total number of hours worked actually decreased in as many schools as it increased. This is highlighted in figure 3 below.

Figure 8.3 Change in total number of hours worked by catering staff per school.



8.7 Professional skills

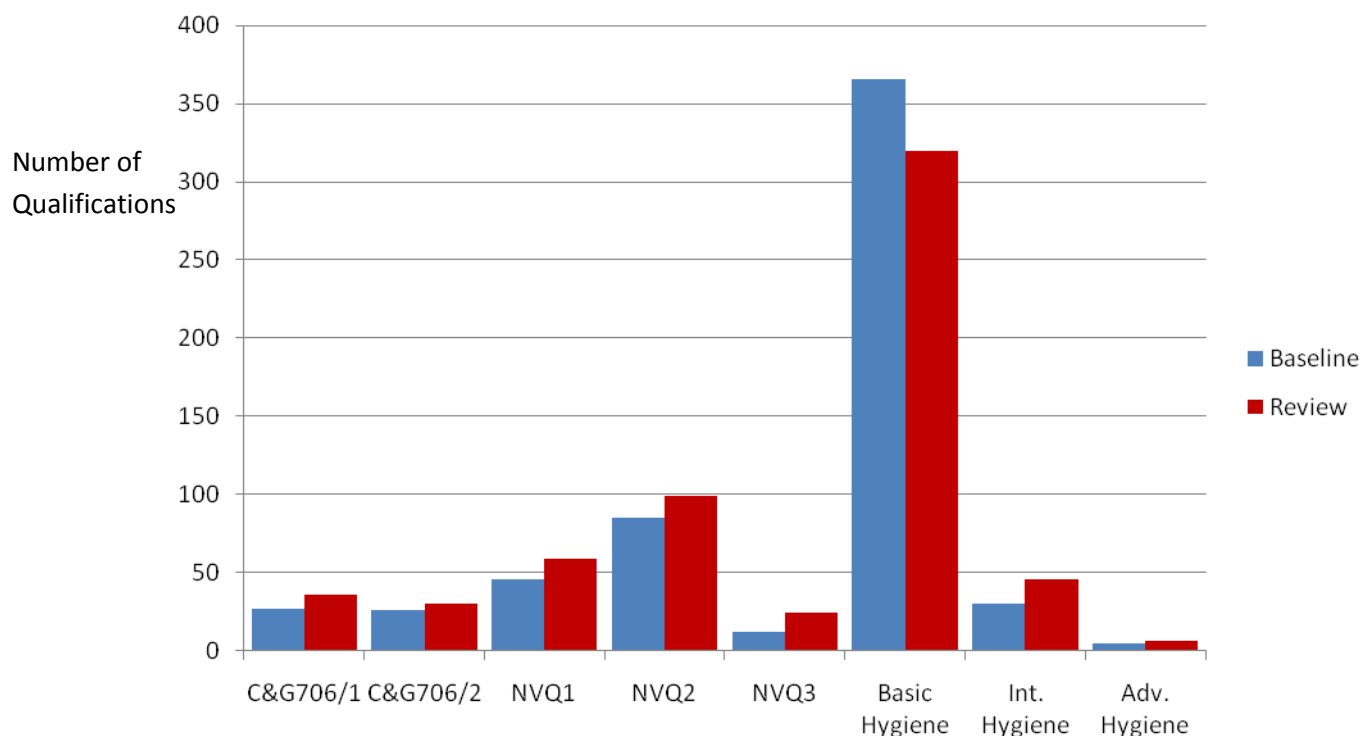
Continuous Professional Development

The percentage of kitchens whose staff have access to a formal programme of continuous professional development rose from 60% at baseline to 65% at review stage. During the same period, respondents rating of uptake of training opportunities among staff increased from 6.24 to 6.47 out of 10. Of the respondents who completed both fact finder stages, 46.2% recorded an increase in perceived take-up rates while 40.4% showed a decrease. The remaining 13.5% recorded no change.

Formal Qualifications

The number of formal qualifications among staff in the sample grew from 597 to 620 from baseline to review. Figure 4 below breaks this down by qualification type. All qualification types increased except for Basic Food Hygiene which decreased in number by 46 (12.5%) and Advanced Food Hygiene, which as only one less.

Figure 8.4 Number of Formal Qualifications among Kitchen Staff



The reason for this fall in numbers of employees with basic hygiene qualifications is unclear.

8.8 Food Waste

Of the 62 kitchens that completed this question for both baseline and follow up stages, 30 had food waste targets at baseline, whilst an additional 2 kitchens introduced targets during FFLP. Table 4 summarises the main food waste themes from comments given at review stage (N=53).

Table 8.4 Summary of Comments and Measures Regarding Food Waste Activities

Not Much Waste Observed	25%
Compost / Animal Feed	21%
Use Band system (or equivalent)	9%
Altered Portion Sizes	8%
Encourage Pupils to Finish	6%

As this table illustrates, the most common food waste measure reported on was the use of composting or using waste as feed for school based animals. In addition to the comments above, a further two respondents stated that they regularly weigh food waste to monitor progress.

8.9 Job Satisfaction

Overall rating on job satisfaction remained high and largely unaffected over the duration of the programme. Catering leads were asked to rate their staff's job satisfaction where 0 = *very poor*, 5 = *average* and 10 = *exceptional*. At baseline the mean satisfaction score was 7.45 (SD=1.93) and at follow up it slightly lower at 7.25 (SD =2.03). Generally most staff who were positive about their

staff's satisfaction at the start of the programme remained positive at the end and those who rated it negatively at the start remained negative at the end of the programme ($r=1.86$, $n=60$).

Caterers were asked to recall what they did to enhance job satisfaction. 67% ($n=49$) could identify a reason for improved staff satisfaction. Two schools specifically cited the FFLP programme.

Doing Food For Life has my made job more interesting. (School 18)

Food for life recognition has made us feel very successful (School 82)

However, it is individual aspects of FFLP that were more frequently identified as being important for enhancing staff satisfaction. Most importantly 1 in 5 schools cited involving staff in decision making or giving staff more control as the main change introduced to enhance satisfaction.

Table 8.5 Aspects of FFLP that Contributed towards Catering Staff Satisfaction

	Percentage of schools	Number of schools
Greater Control/Decision making involvement	20%	11
Promoting/encouraging team spirit/work	17%	9
Increased or new training	15%	8
Working with fresh Ingredients	13%	7
Working with new Menus	7%	4
New kitchen/ Equipment	7%	4
The FFLP Experience	4%	2
More/new staff	4%	2
Increased Pay	2%	1
Seeing happier Children	2%	1

Using better ingredients and improved menus clearly has made an important contribution to staff satisfaction in some schools:

Happy to be serving better ingredients and better quality food. Glad not to be using frozen food. Nice to use fresh food. Nice to see enthusiasm from children when bringing veg in from the garden (School 49)

Very few schools cited negative changes as contributing to deteriorating staff satisfaction, however 8.2% ($n=6$) cited different reasons including: difficulties in recruiting, increased workload, redundancy, reluctance to train and an increase in time.

School tries hard to integrate the dinner ladies but it doesn't seem to make any difference and the dinner ladies don't seem very committed to the role (School 40)

Workload has increased due to extra time for preparation. (School 18)

8.10 Catering Integration

Table 8.6 Frequency of Formal Discussions between Kitchen Staff and Other Stakeholders about School Related Food or Catering Issues

Discussed with	Baseline		Follow up		Difference
	Often	Regular	Often	Regular	
Senior Management	13%	30%	32%	45%	19%/15%
Teachers	3%	18%	21%	46%	18%/28%
Mid-day supervisor	7%	13%	32%	15%	25%/2%
Pupils	2%	60%	58%	18%	56%/-42%
Parents	2%	13%	10%	22%	8%/9%
LA Contact	43%	14%	25%	32%	-18%/18%
Suppliers	4%	23%	19%	24%	15%/1%
Other schools	11%	56%	11%	35%	0/-21%

The above data suggests there have been some significant changes in the formal contacts kitchen staff have with other people on catering issues. Overall the catering lead reports that they are talking more to senior managers, teachers, parents. However with the LA there was a small decline in contact and also in conversations with other schools. They also report speaking to their suppliers more often. There were no significant differences between types of school however at baseline caterer leads in secondary schools are more likely to talk to mid-day supervisors than primary schools $\chi^2(3, n=68) = 7.63, p=0.05$.

The growth in contact with pupils has also increased on an informal basis, as the following figure shows.

Table 8.7 Are kitchen staff encouraged to informally interact with pupils during meal times?

	Baseline	Follow up
Yes	84%	95%
No	16%	5%

It is also clear that the form of interaction can take many forms.

The school encourages a friendly atmosphere in the dining hall and the pupils know that the kitchen staff are approachable. (School 3)

We don't stop! Talking about what is for dinner, encouraging them to try new things, offering seconds, helping the lunch buddies carry out their duties. (School 27)

We tell them to sell, smile and welcome. (School 28)

We talk about combinations of food on their plate. (School 71)

Catering staff have also been able to discuss with pupils the values that are at the heart of FFLP, with the proportion of kitchens with staff who feel able to talk to pupils about what food is seasonal, local or organic rising from 77% to 93%.

These positive attitudes are reinforced by catering leads understanding of the importance of staff involvement in active discussion around food and catering policy discussions. Catering leads were asked to rate their feelings on two questions giving a 0 if they strongly disagree, 5= neither agree nor disagree, 10= strongly agree with the statements.

Table 8.8 Catering staff involvement in school discussions about catering and school food policy

	<i>Catering staff are fully involved in school discussions about catering and school food policy</i>	<i>Catering staff feel confident about expressing their views about catering issues and school food policy</i>
Baseline	5.41 (n=69, SD=3.7)	8.30 (n=66, SD=2.19)
Follow up	7.53 (n=59, SD=2.5)	8.10 (n=63, SD=2.13)
Difference	+2.12	-0.2

This data suggests that levels of staff confidence to be able to express their views about catering issues and school food policy remains about the same, however catering staff now feel significantly more involved in school discussions ($p=0.002$, $t=3.43$, $df=53$). Several leads report that there were none or very little discussion prior to FFLP but now there is more discussion not just within the SNAG but also with other members of staff. It is also clear that as the programme has gone on more Heads have been supportive of the catering staff or lead getting involved with the delivery of food education beyond the dining hall.

Perceived support levels from head teachers and catering management (if applicable) for staff to get involved in food education activities beyond the dining hall rose significantly from 51% at baseline to 77% at follow up.

Catering staff have been involved in delivering assemblies, helping out with cooking clubs, delivering cookery within the classroom, helping in the community garden, developing matched menus for themed days and various catering activities around out of school clubs and events. They have also been present at premier external events like the Ludlow Food Festival the best-known annual food festival of its kind in Britain (<http://www.foodfestival.co.uk/>, accessed 2010).

8.11 Challenges for the future

Catering leads were asked whether they anticipated any problems that might affect the success of any changes introduced by FFLP within their school. 44% of respondents identified issues at baseline while 57% articulated problems at follow up. It is clear that despite the genuine broad consensus on the enjoyment of the programme and the extent to which FFLP has enhanced job satisfaction and contributed to job enlargement the challenges faced in the future are still considerable and some are different to the challenges faced at the start of the programme.

Table 8.8 Summary of perceived future challenges for kitchen staff respondents

	Baseline (n=33)	Follow-up (n=35)
Costs	42%	51%
Cuts, Redundancies and Local Authority policies	0%	17%
Attitudes, Education and Training issues	21%	14%
Sourcing	12%	6%
Equipment or building issues	9%	6%
Non-economic Sustainability issues	3%	3%
Non- cost Staffing issues	9%	3%
Time involved in Delivery or Training	3%	0%

At the start of the programme those people who had concerns were mainly concerned with the costs involved in pursuing the programme.

Finance because of the cost of organic, and they question if there is any benefit to organic food. (School 36)

The financial cost could be a problem as we are only a small school. (School 78)

I think parents need educating. (School 40)

Parents would be the major obstacle as they would be very hard to convince and would tell the children to go to the chip shop. (School 51)

There were some concerns about food sourcing and in particular finding organic vegetables and meat and some anxiety about the equipment and perhaps their kitchen e.g. appropriate plates or the size of the kitchen to deliver. And almost 1 in 10 catering leads had a concern around their staff cited issues around keeping them involved:

Keeping the momentum for both kitchen and teaching staff. (School 1)

However as the programme has gone on these fears appear to have got less. Reported anxieties about food sourcing, equipment and buildings, attitudes and training have reduced. However they have been superseded by fears concerning costs, the threat of cuts, redundancies and local authority policy.

Financial constraints and lack of support from LA catering team. (School 87)

Budget cuts (School 88)

Cuts to budget could see quality drop (School 85)

These concerns were outside the continued anxieties around the costs of organic food and staffing costs to deliver freshly cooked products. These existed at the start of the programme and continued to exist at follow up.

More paid hours need to be allocated to kitchen staff (School 2)

Cost - many parents are not well off and can't afford to pay for a hot lunch (School 3)

Costs of food sourcing. The catering providers need to keep an eye on the costs of organic food (School 52)

Despite the concerns about costs and cuts catering leads were able to report that they had got a lot of things out of their experience with FFLP.

Table 8.10 Personal benefits from involvement in the FFLP for respondents

	Baseline (n=66)	Follow-up (n=43)
Training/Education or New knowledge	18%	30%
Job and/or individual Satisfaction.	9%	26%
Partnership working, networking, linking into SMT	0%	14%
Individual or personal benefits and or achievement	9%	9%
Improved quality of food including Health	14%	6%
Increased take-up of school meals	11%	5%
Don't know or Other	12%	5%
Benefits specifically for children	26%	2%
Being part of the FFLP	8%	2%
Using local and/ or Garden sourced food	3%	0%
New equipment or Buildings	2%	0%

At the start of the programme catering leads reported that the top three things they would personally like to get out of their involvement in the FFLP were: specific benefits for the children, some new training, education or increased knowledge and an improvement in the quality of food; primarily that it was more healthy or enjoyable. At follow up, although new training, education or increased knowledge was one of the top three things they said they had personally got out of their involvement on the programme the other two were absent. Instead catering leads reported that they got improved job and/or individual satisfaction and an opportunity for increased partnership working, networking and/or linking into the senior management team (SMT). The latter wasn't anticipated at the start of the programme and the personal benefits for children like the quotes below were virtually absent at follow up.

See the benefits to the children and the impact it will make on their lives. (School 3)
To see the children happy with what they are getting on their plate. (School 15)

To improve the nutrition and health of children at our schools and develop the staff cooking skills and catering. (School 36)

Clearly job and or individual satisfaction was important at the start of the programme:

She would get satisfaction from cooking good food from the children and to break the circle for the next generation. (School 24)

Satisfaction that I helped achieve the award and that we are appreciated. (School 103)

These sentiments appear to have increased over the course of FFLP involvement, with over twice as many catering leads reporting this theme. In addition, closer cooperation with other school stakeholders was also reported. Many feel that this in particular has raised their profile.

Helped to motivate the management team to the agenda (School 6)

Being more involved in the school. More job satisfaction (School 30)

Networking (School 20).

Clearly training, education and the gaining of new knowledge was seen as being a potential benefit at the start of the project and also an acknowledged benefit at the end. There were several citations of new skills learnt and specific benefits gained from things like the Cooking Bus visit, *Ashlyn's* training and Jeanette Orrey's recipes. A lot of the things learnt are now embedded in caterer delivery in the kitchen and clearly acknowledged as bringing added value to their work.

A lot of enjoyment and a good learning curve with food sourcing and visits to producers....very interesting. Now do talks and presentations. (School 12)

Become a lot more confident in what I do, I understand it more, it taught me a lot more about food. (School 26)

I enjoyed cooking things from scratch introducing new foods to children (School 90)

The issue of increased take up of meals became less important personally to the catering leads as the programme progressed.

Table 8.11 below summarises the key themes around perceived personal benefit from FFLP at baseline and follow up for catering staff respondents.

Table 8.11 Common themes for personal benefit from involvement in FFLP Catering Programme

	Baseline (n=66)	Follow-up (n=43)
Training/Education or New knowledge	18%	30%
Job and/or individual Satisfaction.	9%	26%
Partnership working, networking, linking into SMT	0%	14%
Individual or personal benefits and or achievement	9%	9%
Improved quality of food inc healthy	14%	6%
Increased take-up of school meals	11%	5%
Don't know or other	12%	5%
Benefits specifically for children	26%	2%
Being part of FFLP	8%	2%
Using local and/ or Garden sourced food	3%	0%
New equipment or buildings	2%	0%

8.12 Conclusions

This report provides a snapshot of the challenges faced by kitchen staff in FFLP flagship schools and the impact of programme participation on them. There are, however, some weaknesses to the data and its analysis that should be raised before considering the wider conclusions. These include:

- The inherent subjectiveness of respondents, particularly with regard to opinion based questions.
- The possibility that respondent answers may be influenced by perceived pressures from other stakeholders (including FFLP) to attribute positive impacts to the programme.
- The minority of cases where the respondent completing the fact finders changed from baseline to review stage.
- The influence of external factors outside the influence of FFLP on school meal provision and the catering environment.

Overall however, this analysis highlights a number of perceivable improvements to the school catering function in flagship schools with respect to the FFLP approach. The headline impacts from this study may be summarised as follows:

Meal Uptake

Schools consistently worked with their catering teams to develop measures to increase school meal uptake rates. Together these measures were concerned with developing a more attractive food offer and marketing it more effectively to their customers. This 'market reorientation' within the catering and kitchen environment was tied to measures that promote the integration of kitchen staff and the catering function in general to the wide school and its stakeholders (for example parents sampling meals).

The low level of reporting about actual change in meal uptake along with only 45% of these actually observing an increase could indicate either a knowledge deficit among respondents or the influence of broader factors outside of FFLP influence on school meal uptake. These issues are explored further in the next section of the report.

Kitchen Environment & Equipment

On the whole this study reports both a general satisfaction among respondents regarding the standard of their kitchen environment & equipment and progress during the involvement of FFLP in making improvements in this regard.

It appears that the schools and caterers among the respondent sample did invest in improving the kitchens as part of FFLP. Physical space and other costly improvements such as new floors and ventilation systems remain commonly desired by kitchen staff. On the whole, however, whilst not unanimous, we can report improvements on the whole to kitchen environments as a result of FFLP participation.

Labour

The impact of FFLP in issues concerning numbers of staff and hours worked, however, appear mixed. Both numbers of employees and hours worked showed relatively modest increases. Within these figures, however, there were as many kitchens whose staff numbers and hours worked decreased as increased during the study period. Again, it could be hypothesised that this was due to broader issues outside of FFLP such as core funding factors or increasing costs associated with employment. There is also the possibility, however, that funds diverted towards other aspects such as ingredient costs may have had a negative influence on labour levels. We stress, however, that there is no hard evidence in this particular study to back this up.

Professional Skills

Both provision of Continuous Professional Development schemes and uptake of formal training opportunities for kitchen staff rose during the study period. Again, however, a significant proportion of respondents reported decreases in training uptake.

Similarly, the number of staff with formal qualifications rose during this study. A clear concern, however, is the reported decrease in numbers with basic hygiene qualifications. The reason for this is unclear, though it could be due to high staff turnover coupled with delays in providing training due to the other developments regarding the kitchen environment reported in this study.

Food Waste

Only 30 kitchens reported formal food waste targets although a significant number stated that perceived wastage was low or insignificant. Composting related activities connected with other elements of the FFLP approach appear to be a significant and effective way of reducing waste levels.

Job Satisfaction

Overall job satisfaction was high at the start of the programme and remained high at follow up. Most importantly 1 in 5 schools catering staff cited getting involved in decision making or giving staff more control as the main change introduced that has enhanced their satisfaction. Most catering staff report getting involved a broader range of activities both in and outside of the school since their profile has been raised in the school.

Catering Integration

Catering staff confidence in being able to express their views remains high. However what they do report is that they now feel significantly more involved in school discussions than before. Several

leads report that there were none or very little discussion before the FFLP but now there is more discussion not just within the SNAG but also with other members of staff and the SMT.

Challenges for the future

The last part of both fact finders reported on anticipated problems regarding the success and long term sustainability of FFLP related kitchen improvements. Unsurprisingly cost issues dominated concerns. This reflects both the long term cost pressures on the service reported in the context section of this report along with current issues around cuts in public service budgets and wider economic issues. These responses should serve to remind us of the importance of sufficient funding both to maintain an effective and efficient, both in their broadest sense, school meal service.

9. Developing Sustainable Food Education

Key Findings

This section of the report examines the school programme 'outputs' with regard to the development of sustainable food education and food policy. It draws largely on teacher reports at enrolment, review and during the course of the programme.

Overall the results show that FFLP led a rapid, intensive programme of school reform. For some primary schools, in particular, these developments transformed the scale and nature of activities.

While many schools (73%) had a school food policy prior to enrolment, pupils had been involved in the development of less than half of them. SNAGs were established from the outset in all schools and at the point of review these continued to act as a sustained forum for pupil involvement: 83% of primary schools continued to hold regular meetings.

Before enrolment schools reported few staff with specific training in applied food education. At review, in over three quarters of schools, staff reported new training in horticultural and cooking education. Most participating staff rated the training very positively.

Prior to enrolment, the majority of schools lacked facilities needed to deliver an effective course of garden or cookery enhanced education. For example, only one in five primary schools reported that they had sufficient facilities to deliver cooking classes to larger groups. Fewer than half the schools had conducted a farm visit in the last year.

Facilities and links to resources improved considerably in most cases over the course of the programme. For example, schools developed new areas for growing, on average, equivalent to the size of one third of a full size allotment plot. There was a considerable rise in the diversity of fruit and vegetable crops grown in schools.

Pupil's exposure to experiential food education has increased. In primary schools, reported participation in growing activities rose 45%, from 29% to 74% of pupils. Cookery and food preparation is already part of the curriculum. Schools extended this work within and outside school hours, such that nearly all were running a skills based cookery club that, for half of primary schools, were available to all students. 24% of schools reported using sustainably sourced ingredients on a regular basis.

Visits to farms and food production related businesses increased over the course of the programme. For 31 secondary schools, the overall percentage of pupils making visits rose from 8.2% in the year prior to enrolment to 15.8% in the year prior to review. For 72 primary schools, the overall percentage of pupils making visits rose from 18.2% to 26.7%.

In secondary schools, student exposure to programme related activities developed from a very low baseline for growing activities. For example, students involved in growing activities rose from an average of 1% to 12.3% in the schools sampled.

After 18-24 months, teachers reported that farm link and growing activities helped them communicate complex, age appropriate issues on food production and sustainability. Staff reported that the Cooking Bus visit, in particular had acted as a catalyst for change within schools.

At an organisational level FFLP-led work helped legitimate skills based food education as an

integrated element of the school development plan.

9.1 Introduction

This section focuses on the ways that the FFLP has supported schools to develop their cooking, gardening and farm links programmes. It also considers the central role of SNAGs in this process. The evaluation has focused on how these aspects of the FFLP programme have supported schools to develop learning around sustainable food production and healthy eating, and specifically explored aspects of the programme which have contributed to learning about organic and sustainable food systems and the development of cooking skills and education. Using Figure 10.1 as a point of reference, this section is primarily concerned with the links between programme inputs and outputs. It provides a basis for the analysis of outcomes in subsequent sections.

Further details for the evaluation of sustainable food education impacts of the programme are available in the interim evaluation reports on growing skills, cooking skills and farm links elements of the programme (July, 2010) and the Primary Schools Case Study Report (January, 2010).

[See Section 2.5
for research & policy context](#)

9.2 Methods

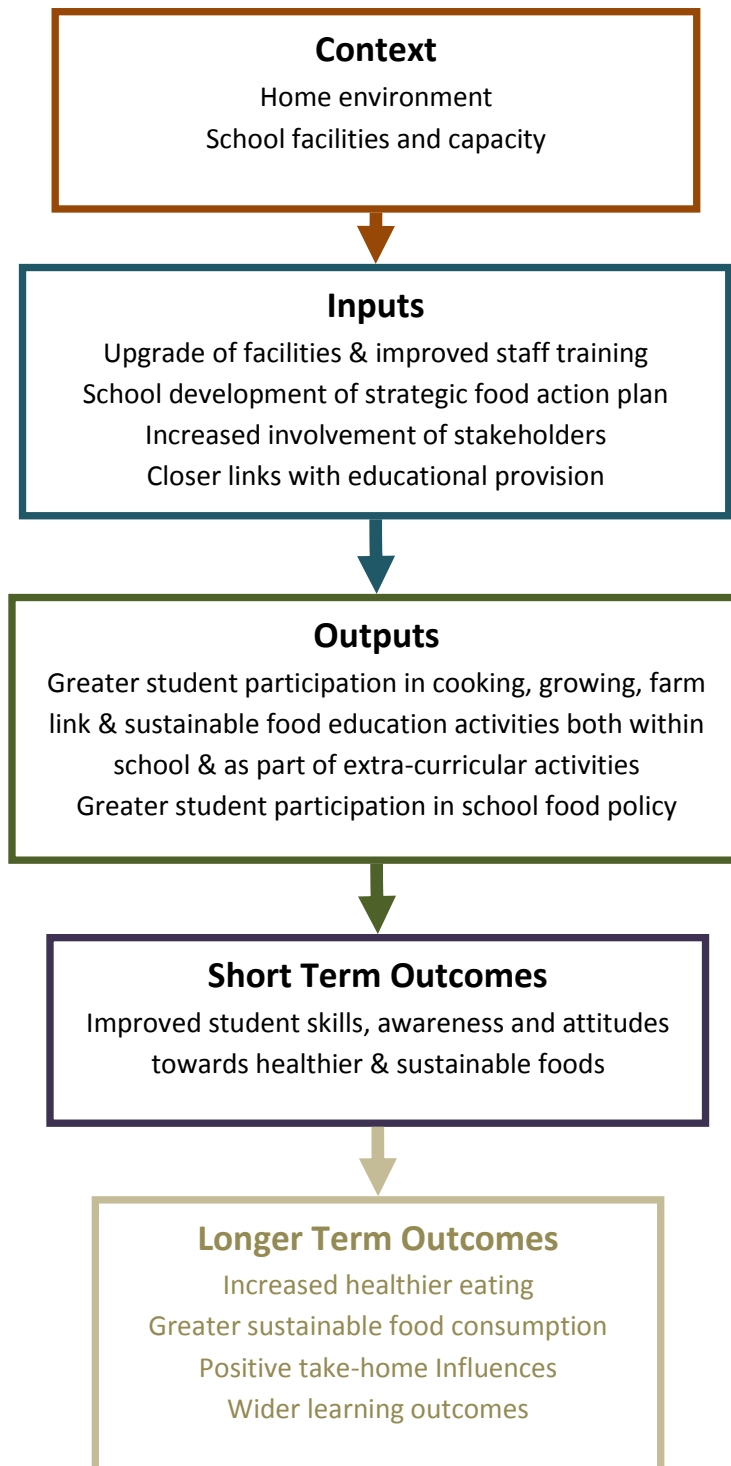
Data for this section are drawn from structured questionnaires given to lead staff in each school on enrolment with the programme and after 18-24 months of participation. Staff also completed evaluation questionnaires during the course of the programme with respect to specific elements of the programme. The questionnaire measures covered programme related activities, patterns of student – and other stakeholder - engagement, and respondent ratings of the programme inputs. Where possible these were referenced to FFLP Mark criteria.

Out of the 111 schools studied:

- 95 completed both baseline and follow up questionnaires on a range of programme elements
- 32 completed questionnaires on specific aspects of the cooking skills programme
- 76 completed questionnaires on specific aspects of the growing skills programme
- 48 completed questionnaires on specific aspects of the farm visits and sustainable food education programme

Student participation in food policy was covered in all of the above data sources. The model below outlines how the FFLP programme could engage students in sustainable food education.

Figure 9.1 Student engagement in sustainable food education & school food reform: key elements in the theory of change



9.3 Food action planning and the pupil voice

School goals and aspirations

At the outset of the programme, school leads were asked to set out their vision for their school food policy development and educational activities. This was part of a structured process lead by HET and supported in specific areas, for example, by Garden Education Officers. It was notable that many schools set high ambitions for this area of work. For example with regard to staff leads engaged in developing growing activities, 85% (n=65/76) included reference to the following in their vision statements:

- Making the link between growing and healthier eating
- Promoting learning about food and environmental sustainability
- Promoting active child learning and high levels of engagement and fun
- Promoting greater community engagement and parental interest in the school

These ideals were, on the whole, clearly congruent with the overall mission statement of the FFLP. This is not surprising since schools had to demonstrate a commitment to the programme goals as part of the selection and enrolment process. Nevertheless, the interest and motivation of staff and the wider school community is a strong prerequisite for successful project delivery. For example, one primary school had almost no track record in garden education before enrolment. Their initial vision was certainly ambitious:

We'd like to see a growing area that is run by children and supported by parents. We'd like a school where the produce is being used in the kitchen. Growing-related events would be planned and run by the children – and parents are working with the children to produce the food. [#7]

This type of vision can produce sound results. Over the course of eighteen months, this school transformed the garden area, established a volunteer led garden group and increased tenfold the involvement of pupils in this area of school life. The school also made connections between the garden and cookery in the classroom.

Promoting Student Voice

Engagement with pupils has been a central element to the FFLP approach. This area is not fully examined here but is raised across a range of specific contexts in this report. The qualitative perspectives of students themselves are also reported in the UWE-led Primary Schools Case Study. The results presented in this part summarise some central aspects of pupil engagement with food action planning.

Out of 111 schools, 108 provided data on the character and extent of their involvement of pupils in school food decision making in the year before programme enrolment. Overall the picture was one of quite limited involvement, although there were notable exceptions with individual schools.

Whilst 73% had a school food policy, pupils had been involved in its development in less than half of the cases. 22% already had a SNAG or equivalent group, although 80% reported that they had

consulted students on food improvements via consultation boxes, group exercises or similar processes.

At the point of review, the majority (83%, 62/75) of primary schools were continuing to maintain regular SNAG meetings. These meetings included pupils and would normally include a caterer or cook along with the school staff lead. Parents (72%, 54/75) were somewhat less likely to attend regularly. 69% (52/75) were continuing to maintain a food action plan. One school lead explained the ongoing role of the group:

The SNAG group continues to be instrumental in making decisions and planning action, for example working with the Eco-Council, tasting our new hot dinners to give the chef feedback, visiting local farmers' markets to buy and prepare food to share with the rest of the school. The children are involved in encouraging others to have or new hot meals next half term. The SNAG group will need to continue meeting to monitor the new meals, the dining hall environment and to continue taking suggestions and views from the rest of the children so that we can constantly improve. The action plan that we developed early on in our first year with FFLP has been a useful working document that we have referred to and used in all of our SNAG meetings. It has helped us to prioritise actions and to make changes in school. School lead #100

Of those schools that had did not hold SNAGs or maintain an action plan, those that provided further information tended to report that the format had either been indefinitely suspended or subsumed under a wider group such as the student council, healthy schools group or eco-schools group. These schools often adapted the format over time:

SNAG meetings have helped to involve children and parents in thinking about our food culture. They have been very successful in this. However, we have found that it is best to see SNAG meetings as exploratory (e.g. collecting ideas, comparing organic and non-organic produce etc) rather than focusing on strategic planning or policy development directly. School lead #92

Data on SNAGs were available for 27 of the 31 secondary schools at review. This showed that the majority (20/27) of the schools were continuing to maintain regular meetings in which pupils and caterers participated. Parents were less likely to be involved (12/27) and these schools were less likely to maintain a current food action plan (14/27).

We don't particularly follow an action plan, but would aim to. SNAG could benefit from running with children in the initial part of the meeting for ideas, info & activities and then adults continue alone for 'business'. School lead #83

9.4 Cooking Skills Education

School infrastructure for educational cooking

At enrolment schools were asked to assess the extent of cookery education activities in the year prior to enrolment with the programme. 108 out 111 provided overall data. Cooking activities were available in the majority of schools: 78% reported that all pupils would have the opportunity to take part in cooking activities during their time at school. However, fewer schools (35%)

reported that these activities were regular and showed progression in learning. Extended school opportunities were also somewhat less available: 50% of schools reported that they had run an extracurricular cooking club in the last year. As the section on growing skills highlights, there were few occurrences where cookery was connected to gardening and wider sustainability issues.

Focusing on the 32 primary schools that completed questionnaires at the time of a Cooking Bus visit it is clear from the table below that less than 1 in 5 FFLP schools felt that they had sufficient facilities to deliver cooking experiences to groups of 20 or more young people. Over half of the schools had either no or inadequate hobs and ovens. So it is perhaps unsurprising to discover that 59% of schools rated their cooking facilities as either very/poor or fair; with only 16% rating them as excellent.

Table 9.1: Cooking facilities at a sample of 32 primary schools visited by the Cooking Bus

	Well resourced for groups of 20+	Well resourced for groups of less than 20	Present but not well resourced for groups	No resource present
Hob	13%	22%	35%	16%
Oven	13%	24%	34%	16%
Fridge	16%	31%	22%	19%
Sink	19%	28%	22%	13%
Sets of cooking pans, chopping boards etc	13%	28%	31%	16%
Dedicated hand washing facilities	16%	19%	16%	32%

In terms of the extent to which schools took the opportunities to explore the links between cooking activities and the curriculum, 31% reported that they did this routinely as part of a whole school strategy. However, the majority, 63%, only occasionally explored the links between cooking activities and the curriculum and this was not undertaken as part of a whole school strategy. Only 25% reported that all of their pupils had an opportunity to take part in regular cooking activities and that show progression in learning. However almost half of the schools (47%) had run a cooking club in the last year; however, only six schools reported that their cooking clubs used seasonal, local and organic ingredients routinely. Only 9% reported that they used healthy and sustainable food as a theme for assemblies or as part of a series of assemblies.

School staff training through to the Cooking Bus visit

375 questionnaires were received from school staff. Most of the staff were teachers (54%). There were also teaching assistants (26%), school cooks (6%) and lunch time supervisors (3%). However, there were 41 (11%) other professionals who had a variety of roles. The majority (65%) of those visiting the Cooking Bus had actually ran cooking sessions in school, but a considerable number (26%) said they had never delivered a cooking sessions. Few teachers gave an explanation as to

why they did not deliver cooking lessons. However where an explanation was offered it was usually because the school lacked resources or there was insufficient space in the curriculum.

Reflecting on their experience of the Cooking Bus, 72% of participants suggested that the session had fully met their own needs and 74% reported that the session had helped improve their knowledge of how to teach cooking to children. A notable feature of the training was the inclusion of sustainable food issues, which was highlighted by 46% of respondents.

Supplementary evidence of the knowledge and skills emphasis of the initiative comes from 930 pupils who completed questionnaires on their experiences of the Cooking Bus. In response to a closed question, 90% stated they learned how to cook new foods, 87% how to use a knife safely and 80% learn about healthy eating.

Teaching staff were invited to reflect on what skills they had learned on the bus that they might use in future practice. A large majority of participants (93%) gave responses that included increasing the frequency of skills based cookery sessions and incorporating the topics of local, organic and seasonal food into their work. This reflects the specific messages on food sustainability issues within the FFLP programme.

A range of qualitative comments were received that illustrated a number of themes, many of these could be connected to the quality of the staff and the teaching experienced provided by the Cooking Bus. It was clear that the training had acted as a catalyst for change within some schools. This appears to be a consequence of a variety of factors including: high levels of pupil enthusiasm, staff team building and enthusiasm, greater parent and community interest and preparedness to support the school, and a clear mandate for the SMT to prioritise educational cooking within school planning and schemes of work. As one teacher commented:

It was thoroughly enjoyable as well as extremely valuable time for me personally. We are just beginning to raise the profile of cookery in school. There's lots of planning and organisation to do but the cook-it team have provided the motivation and enthusiasm. All I have to do is get on with it. Thank you. (PC 106)

Longer term impacts of the FFLP cooking skills programme

At review the evaluation team asked schools to report on the longer term impact of the Cooking Bus visit and the extent to which there had been lasting effects. School leads were asked what, if anything, has been the impact of the FFFC Cooking Bus on your school's educational cooking? Seventy five schools responded out of 111, these included 28 of the schools reported on in the above section. School leads identified the following key themes:

- General stimulus: created enthusiasm throughout the school community that then unlocked further action
- SLT buy in to development of the area as a school improvement priority: license for staff time and investment of resources
- Staff confidence
- Cook It resources
- Curriculum focus on skills and skills progression

- Greater use of healthier ingredients
- Post visit review to consolidate actions

One respondent explained this longer term impact:

The cooking bus visit helped us to understand more about skills progression in cooking and food preparation and has made our cooking clubs more focused on skills. We are also cooking less cakes/biscuits/pizzas and making healthier foods, including trying to use our own produce from our raised beds when possible. It encouraged the staff to add more cooking into their curriculum plans. We are now planning to change the way that we teach cooking so that each child has a unit of work dedicated to cooking, in the new kitchen. We will also be able to increase our cooking clubs and use of cooking in cross-curricular work as we will have a much bigger cooking area. Siobhan from Food for Thought has already given us some materials to help us plan this in more detail. The cook-it has obviously helped resource our kitchen and given us a better idea of equipment we need. Cooking clubs are now more organised to be more like the sessions on the bus where children work in groups. #100)

The majority (71%; 61/75) of primary schools reported that their facilities, procedures, training and support resources for delivering educational cooking had improved or greatly improved. All schools report that the lessons had become skills based and a majority were starting to use seasonal, local or organic ingredients. A small number (18/75) of schools were using seasonal, local or organic ingredients a regular basis.

Nearly all schools were running a cookery club and for half of the schools these were available to all students in the last academic year. The majority of cooking clubs were skills based and use seasonal local and organic ingredients. Three quarters of the clubs were run with the assistance of parents or other community members. Some of them involve quite a large number of parents (up to 22 individuals in the last year). The extent of the impact in secondary schools was less straightforward to estimate. It appears that the greatest effects at the school level came about through large year group and other one-off events

A significant number of schools did not respond to the evaluation questions about the longer term impact of the Cooking Bus (36/111). Nevertheless the data from those responding suggest that the visit did have a lasting impact up to approximately 14 months after the visit.

9.5 Garden-based Education in Schools

School gardening infrastructure

Of the 76 schools providing data, 76% of schools had some form of school garden before they enrolled with the programme. Secondary schools were less likely to have a garden: with only 57% having some form of garden before enrolment.

Whilst most schools appear to rely upon relatively small areas of land, the schools have considerably expanded the plot areas of their school gardens over the first eighteen months of participation in the FFLP flagship programme. For the 76 schools as a whole, we estimate that this

is the equivalent to the creation of 27 full size allotments. However, this may be a cautious figure given that orchard and supporting wildlife areas are excluded in this estimate.

Schools generally had good access to basic facilities such as changing rooms, hand washing, toilets and accessible paths. However at the point of enrolment the majority of schools lacked a full array of specific facilities to deliver a whole school programme of garden based education. On enrolment, the majority of schools had strategies for conserving or attracting wildlife. It was noteworthy that a significant fraction, almost a third, lacked green space features on site such as hedges, trees, shrubs and wild flower or rough grass areas.

At review, the majority of school leads reported improvements in their gardening facilities (at least 66% across a range of measures). Basic improvements to the growing area, new tools and equipment and composting facilities stand out as areas that have seen the greatest levels of improvement.

Staff professional development and educational delivery

At the outset, school leads were asked to rate the significance of a list of issues that might affect the sustainable delivery of the growing skills programme in their school. Areas that were rated as most problematic (a major or significant issue) were: freeing up staff time to dedicate to growing projects (60%), lack of equipment (38%), parent and community support (38%), and running costs (32%). Other issues were rated as significantly less important. These included a suitable space within the school, links to the curriculum, parental consent and support from the SMT and governing body.

At the outset the majority (57%) of school leads reported that their school staff had had no specific skills in growing or the use of produce in educational cooking. Similarly no members of staff in the majority (55%) of schools had undertaken any specific training in a formal course of horticultural education. Only 11% of schools closely followed guidelines and principles for organic gardening practice, although 32% felt that they adopted some elements of organic gardening practice. Schools were not likely (17% or lower) to have policies in place to support more growing specific aspects of work such as use of garden tools, risk assessments for use of garden produce in school meals or activities by ponds or making compost. At review this picture had changed quite significantly in terms of skills development:

- 76% of schools had arranged for staff to undertake new training in horticultural education.
- 84% of school had adopted new principles and systems for organic gardening.
- 55% of schools had adopted new policies and risk assessment procedures for working in the garden, using tools and so forth.

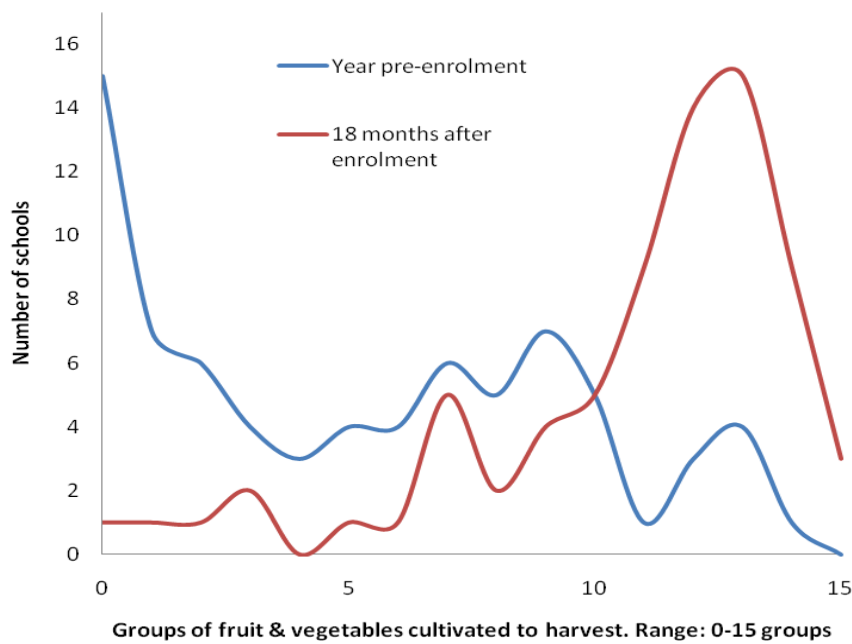
Fruit and vegetable production in schools

Leads were asked what fruit and vegetables their school had grown in the last twelve months. The questionnaire gave options organised into fifteen groups of crops. Before enrolling with the FFLP flagship programme, the majority (55%) of schools had only grown five vegetables or fruit from five groups. This very restricted range included the usual plants commonly employed in curricular study, for example, in primary schools these tended to be broad beans or cress (as part

of KS1 science). Many schools lacked evidence to show that these were actually grown to the point of harvest.

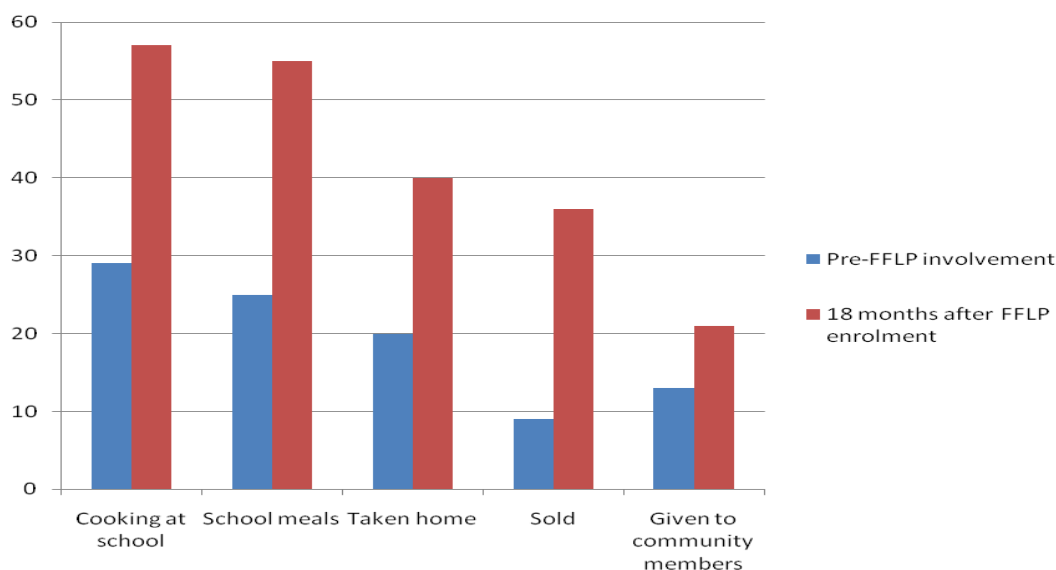
The position had changed considerably at the point of review (see Figure 4). Three quarters of schools were growing fruit and vegetables from over ten groups. This diversity included many unusual types of garden crops such as mushrooms, callaloo, chilli, squash, traditional English apple varieties, heritage plants (as part of the Garden Organic scheme for promoting older vegetable varieties).

Chart 9.1 Groups of fruit & vegetables grown by the school, from baseline to review. N=76



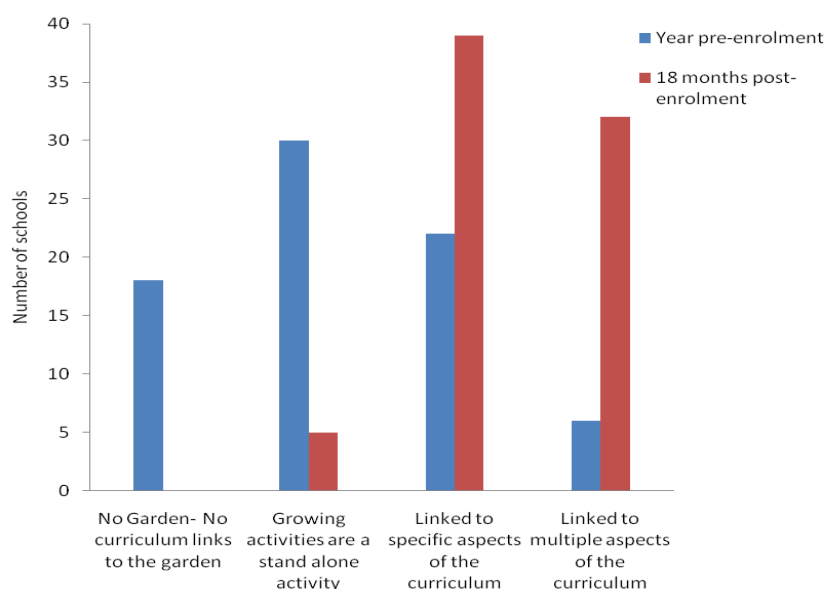
The use of garden produce is an indicator of how growing work is integrated into wider aspects of school life. Figure 5 shows a considerable shift towards actively making use of crops in school meals and classroom activities, as well as other socially useful ends in the extended school community.

Chart 9.2 How produce from the school garden area is used: from baseline to review N=76



Integration into curricular schemes of work is likely to be an important factor in the longer term sustainability of garden enhanced project work. School leads were asked to categorise the status of their curriculum links at baseline and review. They were also asked to provide supplementary evidence in terms of a summary statement, schemes of work and school improvement plans. At review a majority of schools had improved their links at either specific or multiple levels within the curriculum (Figure 6).

Chart 9.3 How growing activities are linked to the curriculum



For many schools at review the emphasis had shifted to integrated and holistic links between the garden area and many aspects of school life. Staff employed topic webs, thematic planning, focus weeks, the creative curriculum and whole school topics to realise this goal. GEOs played an important part in developing these schemes of work, working alongside the teaching staff.

Pupil engagement

At baseline and review, school leads were asked to report the number of pupils taking part in a growing activity in the past twelve months. Here growing activities were defined as the school based cultivation of fruit and/or vegetables with the aim of producing a harvestable crop. School leads were encouraged not to include science based projects that did not have this aim – although in practice a ‘fruit and vegetable growing activity’ is not necessarily simple to define. The following figures include some cases where school leads have made best estimates. These are interpreted with caution, for example, where school leads reported the involvement of all pupils, a figure of no higher than 95% was recorded to allow for absences and pupil turnover.

In the primary schools, an average of 28.6% of pupils took part in some form of growing activity in the twelve months before enrolment. In the twelve month period before the review this figure rose to 74.4%. In these schools this is the equivalent of an additional 6,701 children participating in growing activities per annum. These overall averages disguise wide variations. At baseline, pupils in smaller schools (i.e. those in the lowest national quartile for pupil roll) were significantly more likely to be involved in growing activities. Children in schools with lower quintile of FSM entitlement were also more likely to participate in growing activities at baseline.

Patterns of participation are considerably lower for secondary schools. In the year before enrolment an average of less than 1% of pupils in participating secondary schools had taken part in any form of growing activity in the last twelve months. At review this average rose to 12.3%. In these schools this equates to an additional 1,960 participating in growing activities per annum.

Overall, school size is clearly a significant factor in predicting participation in growing activities. This reflects wider research that shows that smaller school size – at least in the secondary school sector – is associated with more opportunities for flexible and personalised learning.

School leads were asked to assess the level and character of pupil involvement. At baseline only 16% of school leads reported that children were actively involved in most aspects of food growing including planning and maintenance of the garden area. At review 65% of school leads reported that pupils had taken on this more active form of engagement.

At baseline 12% of school leads reported that children in their school were able to actively make use of garden produce in school or extra-curricular activities, for example, cooking activities. At review 52% of school leads reported that children had this opportunity.

Progress and effectiveness of FFLP Flagship programme

With regard to the growing skills component of the FFLP Flagship scheme, the schools in this study were very diverse at the point of enrolment. Whilst GEOs rated over 68% to be below the FFLP Bronze Mark for their growing skills, over 30% were already achieving quite a high level of performance. The picture is very different at review. The majority (84%) of schools were scoring highly for growing skills criteria and only a minority were under the FFLP Bronze Mark. The considerable progress made by schools against the growing skills criteria reflect FFLP staff reports that growing skills were some of the more achievable criteria in the FFLP Award scheme.

As a later addition to the review questionnaire, a new set of measures asked a sub-sample of 40 school leads to rate the overall effectiveness of FFLP in addressing a number of areas for reform. Each rating was also matched against a school priority rating. Overall the effectiveness ratings are positive or very strongly positive and lend support to the empirical evidence of change set out in the earlier sections. Some ratings clarify areas that fell largely outside the remit of GEOs, for example in the assignment of school staff to project work. The ratings also highlight some areas that were clearly more challenging. These include engagement from parents, community volunteers and external organisations.

Table 9.2 With regard to the following areas (1) how effective has FFLP been in assisting your school? (2) how important has this area been as a priority for your school?

N=40. Note: percentages have been rounded to the nearest whole number, therefore percentages may not total to 100%.

	Perceived effectiveness of FFLP in assisting the school				Level of priority for the school			
	Very effective	Effective	Neutral	Ineffective	Very Important	Important	Neutral	Unimportant
Identifying or developing suitable sites for growing activities	60	20	10	10	53	25	15	7
Organic horticulture training and advice	70	28	-	2	70	20	5	5
Health, safety and practical advice on management of growing areas	38	35	20	7	37	43	10	10
Linking growing projects to the curriculum and wider educational goals	34	37	27	2	53	30	8	9
Running costs for projects and activities	73	20	7	-	63	17	13	6
Freeing up staff to dedicate to growing projects	15	13	25	45	53	22	8	17
Leadership support for growing activities from SMT, Governors & Council	40	20	28	12	55	28	5	12
Actively involving pupils in decisions	50	25	13	10	65	20	10	5
Actively involving parents of wider community	30	37	25	9	53	33	8	7
Support from other organisations and school networking	28	37	17	18	35	45	8	5

9.6 Farm links and sustainable education programme

Farm visits and sustainable food education activities

At enrolment, schools in the FFLP flagship programme did not have extensive links with farms. For the 108 schools that provided information, 49% of schools had not conducted a farm visit in the

year before enrolment, 33% of schools had taken one year group on a farm visit, whilst only 19% of schools had taken multiple year groups to a farm.

Drawing upon the data supplied by school leads and from teachers participating in student questionnaires, visits to farms and food production related businesses rose over the course of the programme, albeit from low baselines. For 31 secondary schools, we estimate that the overall percentage of pupils making visits rose from 8.2% (2452/29912) in the year prior to enrolment to 15.8% (4773/30210) in the year prior to review. For 72 primary schools, we estimate this percentage rose from 18.2% (37668/20697) to 26.7% (5598/20967).

At baseline, school leads were asked to report barriers to developing farm links using a set of options and ratings on a scale. The cost of transport and other visit costs were the main barriers (key issues for 24% of 108 schools). Safety concerns, parental consent, school management approval, availability of suitable farms and the educational value of visits were considerably less significant (major barriers for less 8% of respondents).

It is not straightforward to gauge the extent to which schools deliver education around sustainable food issues. One indicator is the extent to which schools had assemblies that covered issues such as animal welfare, food miles and so forth. Out of 108 schools, 55% of school leads judged that this had been an assembly focus in the year before enrolment. Such assemblies became more regular events in all schools over the first 18 months. FFLP offered a range of training and resources for all schools in this area. These resources have become more refined over the course of the programme to link into the curriculum. Although an evaluation data collection framework was offered to FFLP, this was not implemented and there is no comprehensive data on the reception and implementation of these resources.

Farm visit teacher evaluations

At the point of collecting data for evaluation, a total of 78 farm link questionnaires were received from 48 different schools. This comprises 39 primary schools (a total of 58 questionnaires received), seven secondary schools (13 questionnaires received) and 2 special schools (2 questionnaires received). The questionnaires reflect one period of farm visits between the winter of 2008 and the end of summer 2010. Most of the questionnaires were completed fully with few omissions. Unless otherwise stated the results are reported on the 78 questionnaires returned.

A total of 2537 children participated in farm visits subject to the questionnaires, of which 14% were from secondary schools and 86% from primaries. Of those surveyed, for 40% of pupils the visit was the first occasion on which they had visited a farm.

Overall teachers rated the experience highly and believed that the children had learned a lot, with 96% maintaining the visit was good or excellent. Encouragingly, no teachers rated the farm visit as unsatisfactory. In addition, 96% of teachers said that they would definitely recommend the visit to other teachers. Comments included:

An extremely well organised & smoothly run day for such a large group (R15Q9).

Excellent visit – children were kept busy and involved the whole time. It was all very interesting and in a wonderful setting (R24Q9).

Teachers were asked to list the main activities undertaken by pupils on the farm. These were grouped into categories that showed a spread of activities from practical farm tasks to tours and display based activities and games (see Table 11).

Table 9.3 The main activities teachers' reported on farm visits.

Q 2. Please list the main activities that the pupils did on the farm.	Occurrences	% of total
Nothing written	0	0%
Free range poultry welfare: egg collection, feeding, handling poultry and moving animals, egg hatching	13	6%
Other farm animal care/welfare [pigs, cows, goats etc] grooming, cleaning stalls, maintenance of health, feeding, identifying different breeds, care of young animals, herding animals, feeding	60	27%
Farm and natural environment. Experienced through farm and nature walks	28	12%
Farming sustainability. Introduction and tour from farm worker	40	18%
Practical arable - horticultural activities: Planting/gardening/harvesting	36	16%
Handling farm tools, riding on farm machinery	6	3%
Making things. General craft and practical activities	4	2%
Using farm produce. Cooking/eating/tasting	11	5%
Assisting in production. Making farm produce. Example: grain processing	17	7%
Games	4	2%
Assisting in farm produce retail. For example Farm shop work	5	2%
Totals	224	100%

In addition teachers were asked what learning had taken place. As demonstrated below almost all of the teachers (99%) did respond positively to this question. There were overlapping categories for example while animal welfare and farming production may have included discussion about organic food production; this was not always made explicit in the teacher responses. The most dominant areas of learning focused around 'Farming Processes' and 'Food Origins and Production':

Table 9.4 Teachers opinions of what children learned on farm visits.

Q3. Main student learning outcomes (teachers perspective)	Occurrences	% of total
Nothing written	1	1%
Animal Life Cycles	15	8%
Wildlife & human interactions	13	7%
Care of the land	11	6%
Farming Practices and Systems (general)	41	23%
Farming practices and systems (specifically organic)	32	18%
Animal welfare	15	8%
Vocabulary/terminology	4	2%
Food origins and production	34	19%
Business and diversification	7	4%
Plants / gardening	7	4%
	180	99%

Although the overall patterns of the responses were the same for primary and secondary school respondents, there were subtle differences. Secondary school respondents, for example, highlighted learning about farming practices and systems, particularly in relation to organic and sustainable food, more often than primary school respondents (27% vs 15%). Similarly, secondary school respondents were more likely to highlight learning related to food origins and production (24%) compared with primary school respondents (17%). In contrast, primary school respondents were more likely to highlight learning about farming practices and systems in general (24%) than secondary school respondents (19%). This may reflect the significantly more complex understanding of the world of secondary school pupils.

Overall feedback indicates that the visits included a significant element of educational activities with definite learning outcomes. Teachers also suggested that pupils would remember very specific aspects of the visits such as the slaughterhouse, the humane methods for slaughtering chickens and the differences between these methods and differences between free range and intensively farmed birds. Teachers suggested that pupils learned about the vegetable plots being like large allotments and the nature of successive sowing. Some learned about the longest day; that chickens were originally forest birds; the ages at which young chickens are slaughtered. Some were taught about the different pests in the countryside and methods for their management. The children fed back what they had learned and teachers suggested that there was a great range of new knowledge that had registered with them collectively and individually.

40% of responses to the question 'what in your opinion were the main things they learnt about farming and/or organic farming' referred to or mentioned organic processes or knowledge. The following quotes demonstrate some of the responses:

The children in their food lessons can describe organic farming, egg production, chicken meat production and discuss the advantages and disadvantages of various methods of production (R46).

Different animals and how they are looked after, why etc, including how this impacts on methods of farming and weather organic or not e.g Free range/ Barn/ Caged/ Battery eggs (R50).

Effective learning about food production

Teachers were asked to rank the most effective way of teaching children about food origins. 92% rated a visit to a farm as the most effective way of teaching children about where food comes from. While, 86% rated a farmer visiting to give a whole school talk as the second most effective way. 71% rated a list of websites as the least effective way to teach children where food comes from.

Teachers recognised that pupils needed to share their learning on return to school and articulated a wide range of ways this may happen. This included the use of photographs (14%), assemblies (19%), the school website (8%), recounting the visit to the class (8%), reporting the visit in the school newsletter (4%), school displays (23%), presentations (8%), creating DVDs (3%), art and creative writing (1%), formal learning (10%).

55% of teachers strongly agreed with the statement 'I can see clear links between visits to farms and aspects of the curriculum' and a further 40% agreed with the statement. Supplementary feedback explained some connections:

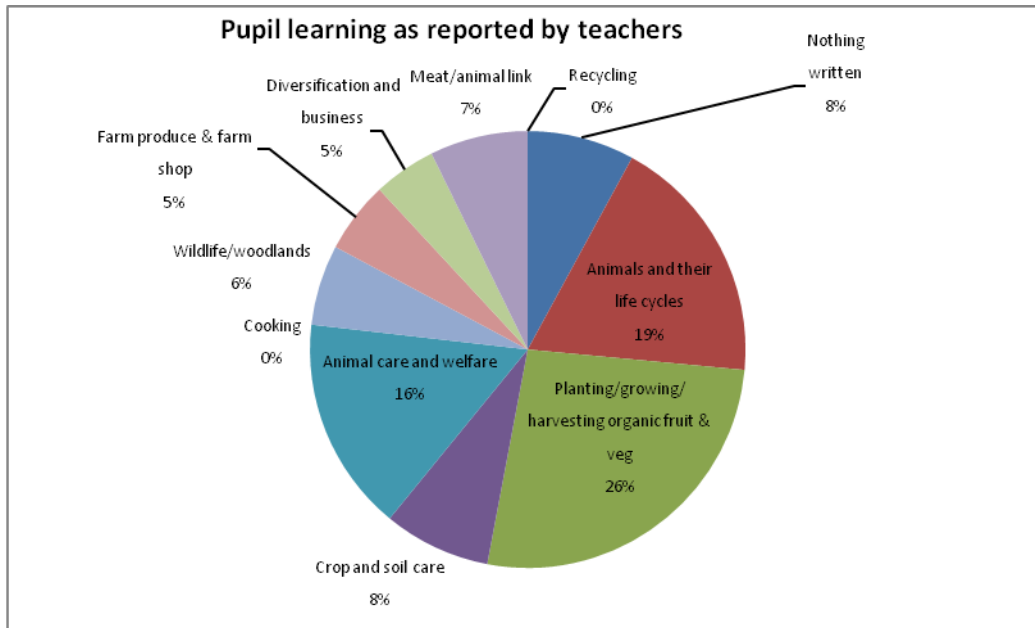
A fantastic experience that has had a brilliant knock on learning effect. The children in their food lessons can now describe organic farming, egg production, chicken meat production and discuss the advantages and disadvantages of various methods of production. This learning is invaluable as they learn from experience rather than teacher saying so. We are so grateful to the farm and for the contacts made. (R17)

A really wonderful day, the pupils have not stopped talking about it and as their Geography teacher I feel that this visit will help them remember their farming case study much more effectively than trying to teach them in a classroom. (R47)

Reported impact of farm visits on pupils

In the second section of the survey teachers were asked to gather pupil's verbal feedback. This focused on views about their learning, enjoyment and understanding of food and environmental issues. Initially pupils were asked what new things they had learnt on the visit to the farm, the most dominant answers were connected to: animals and their life cycles; planting/growing/harvesting organic fruit & vegetables and animal care and welfare (see Figure 8).

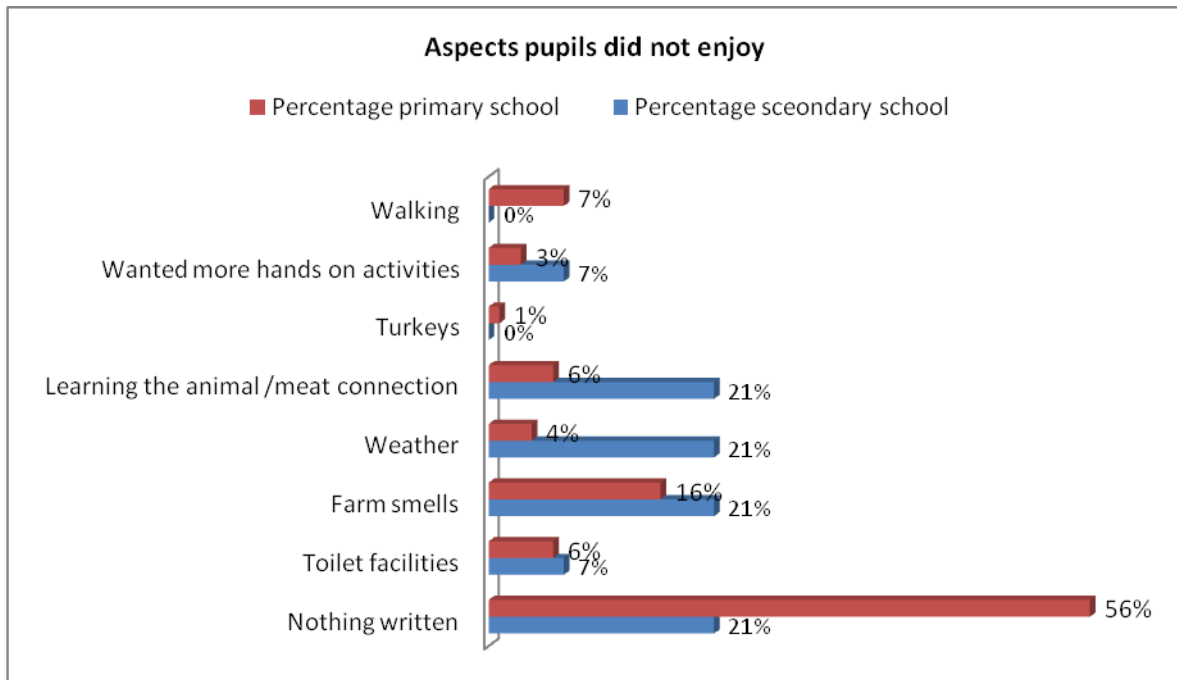
Chart 9.4 What pupils learned on the farm visit as reported by their teachers



When asked about aspects of the visit pupils enjoyed a wide range of responses was gathered. It was clear that animals and the care of animals stood out as particularly enjoyable.

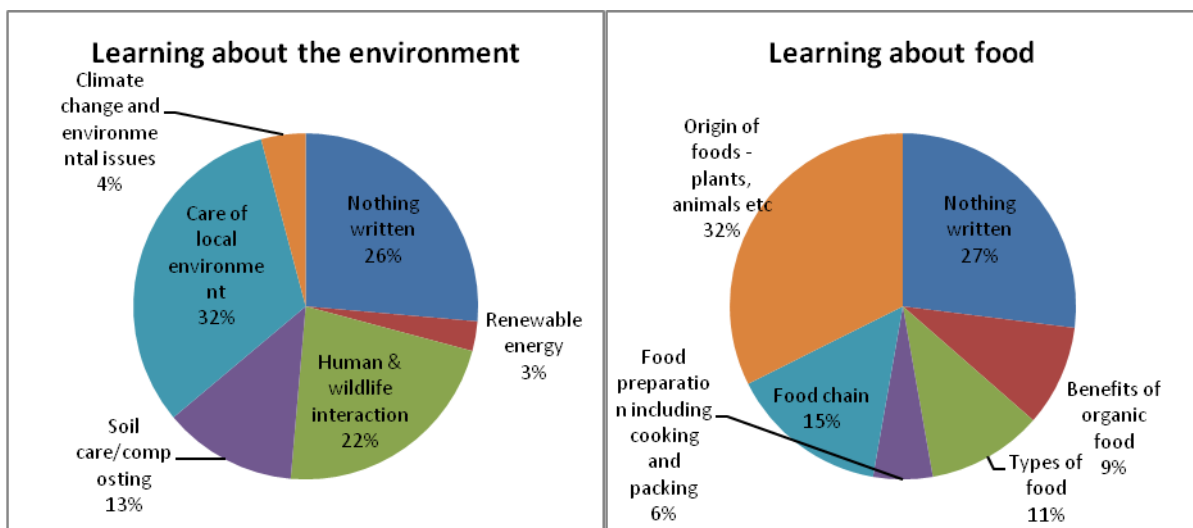
Figure 9.5 summarises themes in relation to aspects of the visit that children did not like. This confirms wider research that highlights the sensory and emotive aspects of farm visits. Negative perceptions of farm smells, for example, illustrate that the experiential aspects of farm visits are not necessarily valued by all children. The relatively high number of questionnaires returned with no answer to this question should be interpreted with care. For example, pupils may not feel enabled to criticise an activity organised in school.

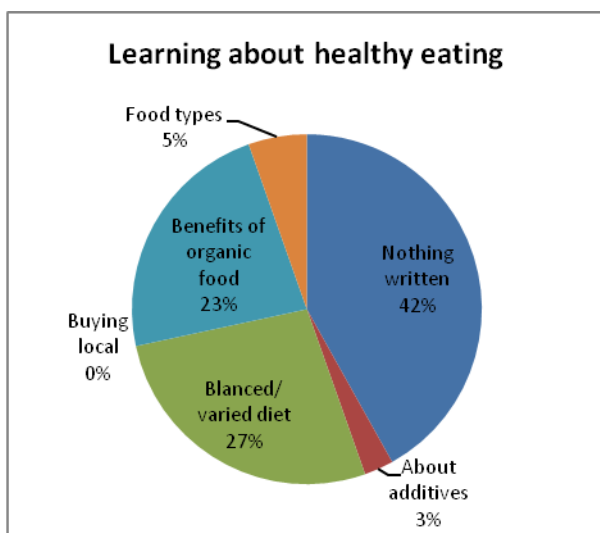
Chart 9.5 Aspects of farm visits that pupils did not enjoy, as reported by teachers



The Figure 9.6 summarises teacher perceptions about pupil learning with regard to the environment, food knowledge and healthy eating. They indicate learning in relation to a considerable range of topics. An overarching theme indicates that children took away messages in relation to the value of organic systems of food production.

Chart 9.6 Pupil learning about the environment, food and healthy eating as reported by teachers





There were some notable differences in the types of learning identified by primary and secondary teachers. In relation to the environment, all secondary teachers identified some learning as a result of the farm visit. In relation to the environment, care of the local environment (46%) and human/wildlife interactions (31%) were the most frequent learning areas identified by secondary school teachers, while primary teachers were more likely to record nothing (32%), followed by care of the local environment (29%) and human/wildlife interactions (20%). In relation to the food, learning identified by secondary school teachers focused on the food chain, benefits of organic farming (both identified by 31% of secondary respondents) and types of food (23% of secondary respondents).

In contrast, primary teachers recorded learning about the food chain (36%) or left the question blank (33%). Results were more similar for healthy eating, though secondary school teachers were more likely to record learning about the benefits of organic food (46% compared with 18% of primary school teachers). A high percentage of both groups left this question blank (31% of secondary teachers, 44% of primary teachers). The differences in reported learning are likely to reflect the difficulties of teaching about these complex subjects in primary schools and the more sophisticated understanding that can be achieved by secondary school pupils.

9.7 Conclusion

Data suggest that the FFLP programme stimulates cooking activities in the school and gives teachers greater confidence to undertake practical cooking lessons. Similarly, joining the FFLP programme was clearly a stimulus for many schools to develop more extensive gardening resources and to secure appropriate gardening and horticultural training for teachers to enable them to make effective use of the resources. Teachers are overwhelmingly positive about the farm links aspect of the programme and it clearly provides many children with a unique opportunity to learn about food production systems.

Key achievements of the FFLP programme include:

- Supporting schools to undertake more cooking activities
- Enabling teachers to develop their food education skills and confidence

- Helping schools to make links between food production and sustainability issues and the national curriculum
- Encouraging teachers to embed cooking within their teaching practice
- Helping to improve facilities in participating schools
- Stimulating schools to grow and use a wider range of fruits and vegetables
- Encouraging an integrated approach to food preparation education, garden-enhanced education and farm link activities

This section of the evaluation report therefore finds that schools clearly can play an important role in delivering activities that seek to connect children with food and food production issues, whether in terms of developing practical food production skills, gardening skills and enjoyment or learning about food production on the farm. This provides a plausible basis for tracking through the impact of programme related activities on pupil behaviours. The FFLP programme has clearly acted as a stimulus for participating schools to undertake these activities throughout the school.

10. School Meal Take Up

Key Findings

After two years of the FFLP flagship programme, take up for primary schools rose by 3.8%, from 45.4% to 49.2% (n=71). During the same period take up for secondary schools increased by 5.7%, from 50.3% to 56.0% (n=22). Some secondary schools supplied 'old' method calculations that give a raised take up figure overall.

For all schools achieving a Bronze, Silver or Gold FFLP Mark (n=80) take up increased by 5.0%, from 47.4% to 52.4%. The increase was greater for those schools achieving either the Silver or Gold Award (+6.1%, n=35). However even those flagship schools that have no current FFLP award have, on average, increased their take up above the national trend.

With an average increase of 13% after two years, free school meal take up has markedly increased for FFLP Flagship schools. This is reflected in primary schools with high free school meal eligibility (top FSM quintile, n=8) where overall take up increased by 6.6%, from 49.5% to 56.1%. These trends suggest that participation in the FFLP Flagship programme has been effective for schools with in areas of high social deprivation.

Schools adopted a number of strategies to increase take up. The participation of parents, children, cooks and other stakeholders has been a consistently central element in this process.

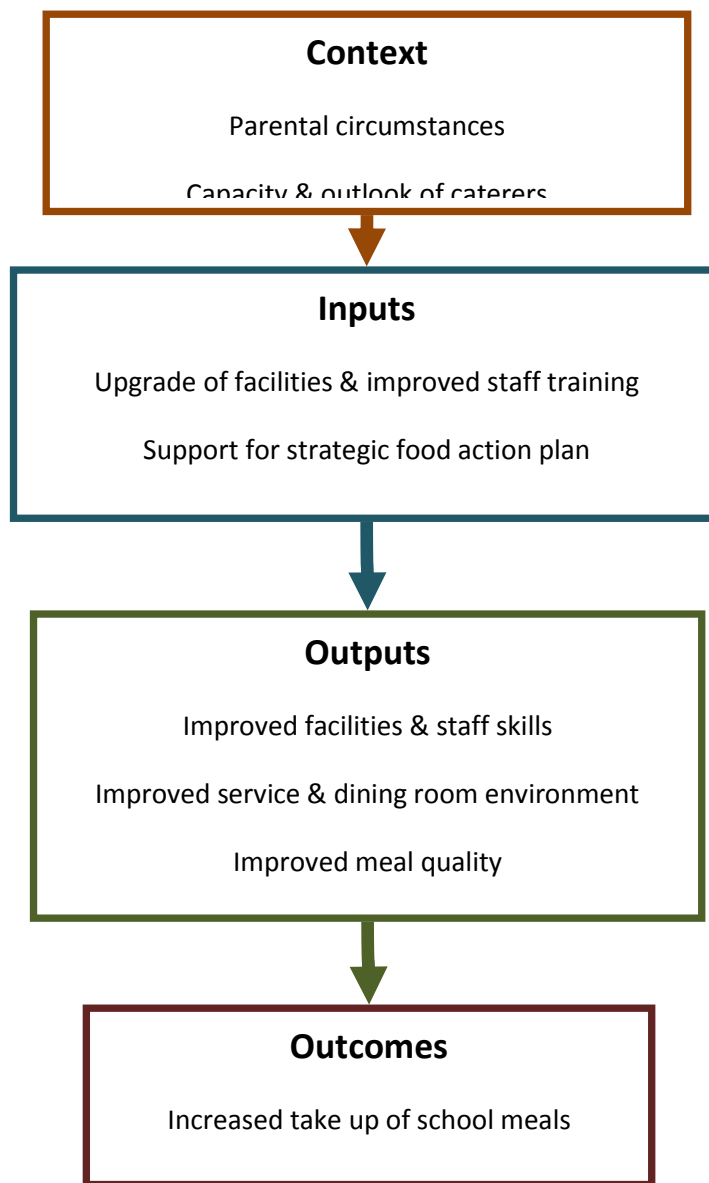
10.1 Introduction

School food can play an important part in promoting the health and development of children. In the UK, all grant maintained schools offer school meals. They are taken up by of over one third of children and, as such, they form a clear route for promoting a healthier diet for children. Increasing school meal take up has been an important objective for the FFLP programme. This section of the report examines school meal take up growth among FFLP Flagship schools and considers the factors that influence it. The framework for exploring this area is set out in Figure 9.1. After giving an account of the methods used the section goes on to:

- present the school meal take up results,
- examine the links between take up and indicators of stakeholder of involvement,
- report the perspectives of lead staff on facilitators and barriers to school meal take up and relate these back to the school cook perceptions outlined in the previous section.

[See Section 2.3
for research & policy context](#)

Figure 10.1 School Meal Take Up: key elements in the theory of change



The study sought to examine the connections between meal take up and stakeholder involvement in a sample of 111 schools participating in the FFLP Flagship programme. This involved the use of a validated approach towards measuring school meal take up, a set of measures for assessing stakeholder involvement and supplementary qualitative reports from leading stakeholders.

10.2 Calculating school meal take up

School meal data were sought for all schools enrolling in the first six phases of FFLP's flagship programme. The sample consisted of:

- 75 primary schools (including infant, junior and middle schools)
- 31 secondary schools

5 special schools

These schools are located across all nine England regions, reflect a range of types of catering provision, pupil rolls sizes, FSM take up and other variables such as student attainment.

Measures

School meal take up figures were calculated for three data periods defined as:

T₀: 12 month period prior to FFLP Flagship enrolment

T₁: 12 month period covering the first year of the programme

T₂: 12 month period covering the second year of the programme

Calculations were made using NI52 formulas for primary and secondary schools. NI52s are the nationally agreed formulas recommended by the School Food Trust and the Local Authority Caterers Association. Full details on the methods for calculation followed are available at the SFT website (www.schoolfoodtrust.org.uk).

We provided respondents with templates, short guidance and links to SFT toolkits to ensure that appropriate data was supplied. For each school the source of the data depended upon the type of catering provision, thus local authorities or caterers supplied data for schools participating in larger local authority contracts, school officers supplied the data where catering was in-house.

Data checking and triangulation

Whilst respondents supplied their school roll number, these data were also collected through the annual England school census.

To reduce the scope for error T₀ and T₁ or T₂ take up figures were also collected from the school office and the FFLP programme lead teacher in the school. Respondents were asked to report the 12 month average number of pupils taking up school meals using in-house records. In addition, school cooks were asked to approximate numbers of children attending school dinners at both T₀ and T₂. These formed a basis for checking in cases of ambiguity in the data, for example where national school pupil roll census data has not been published, or where caterers had not disaggregated nursery provision.

All schools making applications to the FFLP Mark awards are also asked to report the number of pupils eating school meals, the pupil roll, FSM entitlement and FSM take up. These data were also used for the purposes of triangulation.

Finally school offices or caterers were contacted in approximately one third of cases to check the accuracy of the take up calculations – particularly in cases where there were discrepancies between data sources.

Data handling and analysis

Whilst local authority datasets are increasingly compliant with the NI52 formula for secondary school take up calculations, at the individual school level many secondary schools and their caterers continue to employ the transaction system for calculations. This approach results in higher take up

figures, although it does not significantly affect the calculation of take up change providing the approach is consistent at data collection points.

Using a universal template for Phase 1 to 6 schools, data were entered into SPSS, a statistical software package. This also included a commentary on data analysis decisions and a classification of the take up figures for each school in terms of:

- **Higher quality:** take up tracker completed, raw data supplied, auditable data
- **Medium quality:** summary data supplied; consistent school, caterer, cook and/or Mark application reports
- **Medium-lower quality:** summary supplied, small inconsistencies across data sources
- **Ungraded:** incomplete or un-auditable summary data, major inconsistencies across data sources

Developing indicators of stakeholder involvement

At enrolment and at 18-24 month review school teacher leads and cooks were asked to supply school level data on a range of indicators concerned with stakeholder involvement. These included:

- Formal forums for pupils, cooks and other stakeholders to determine school meal policy and action plans,
- School meal consultation methods used in the last year,
- Pupil involvement in food education activities,
- Wider structures to support engagement, for example National Healthy Schools membership.

FFLP's Mark awards and criteria were also employed to examine whether these acted as reliable proxy indicators of the role of stakeholders. For example, we considered whether schools that met Gold and Silver Mark award criteria were associated with increased or high school meal take up.

Lead staff perspectives

In order to gain additional insight, school teacher leads were asked to produce written responses to open questions that covered perceptions of the role of students and others on school meal strategies and extraneous factors that influenced take up.

Pupils and parents in a subsample of schools were also asked to rate their perceptions of school meals, consultations and school meal changes at enrolment and at review. These data are examined more fully in later sections the evaluation report.

As summarised in Section 8.6, school cooks were also asked about the steps they took to try to increase meal take up and the problems they encountered. Their responses are included in the findings and analysis section below where a contrast is apparent.

Findings and Analysis

10.3 School Profile and Responses

Ninety eight of the 111 schools supplied pre and post enrolment school meal data. School meal data from the other 13 schools either had major gaps or had inconsistencies that could not be resolved. These schools were therefore excluded from the analysis.

Of the 98 schools with acceptable (higher, medium or medium-lower quality) school meal data, the responses rates by type of school were:

Primary schools	76%	n=71/ 75
Secondary schools	52%	n=22/ 31
Special schools	75%	n=4/5

Schools where the school meal data was not accepted for analysis included two schools that had formally withdrawn from the programme, two that were in the process of doing so and two that were intermitting from engagement in the school meal aspect of the programme. Reports from programme staff indicate that these schools had not increased their school meal take up.

Free school meal data were less available than overall take up data: 77 out of 111 schools (58 primaries, 14 secondaries and 5 special schools) supplied acceptable data for T₀ and T₂ periods.

Lead teaching and cooking staff for all of the 98 schools had completed questionnaires at enrolment on stakeholder involvement. At review 95 lead school teachers and 29 cooks completed questionnaires that covered these issues. FFLP Mark criteria and award status were available for all 98 schools.

10.4 School Meal Take Up

Tables 9.1 and 9.2 summarise school take up and changes in provision after one and two years of participation in the programme. In each case the results are presented for a number of categories of school. FFLP has worked with schools that had higher than national average school meal take up for the period prior to enrolment. The tables show that schools across a range of categories increased their take up in the first year of the programme and that increases have been sustained into the second programme year.

It should be noted that the secondary school calculations include schools provided data using the transaction method rather than the NI52 formula. This means method results in a higher take up figure, therefore the data cannot be directly put in the context of SFT/LACA annual take up surveys.

Differences in the pupil rolls amongst the sample also mean that that means have large standard deviations.

Table 10.1 After one year: school meal take up and changes in provision for phase 1-6 FFLP Flagship schools. Percentages rounded to one decimal place.

	Schools providing data N	T ₀ 1-12 months pre-enrolment			T ₁ 1-12 months post-enrolment			Change in provision %
		Pupil Meals N	Pupil Roll N	Take up %	Pupil Meals N	Pupil Roll N	Take up %	
All Phase 1-6 schools	52	10519	21555	48.8	11298	21898	51.6	+2.7
All Ph1-6 Mark schools (Bronze, Silver, Gold)	45	8262	17011	48.6	9111	17432	52.3	+3.7
Ph1-6 Silver & Gold Mark schools	23	3794	7394	51.3	4082	7422	55.0	+3.7
All Ph1-6 primary schools	38	5117	11285	45.3	5522	11289	48.9	+3.6
All Ph1-6 secondary schools	10	5198	9984	52.1	5571	10328	53.9	+1.8
Ph1-6 Gold Mark schools	2	347	667	52.0	369	676	54.6	+2.6
Ph1-6 Silver & Gold Mark primary schools	20	2724	5650	48.2	2910	5591	52.1	+3.9
All primary schools supplying higher quality data	27	3081	8163	46.6	4085	8080	50.5	+3.9

Table 10.2 After two years: school meal take up and changes in provision for phase 1-6 FFLP Flagship schools. Percentages rounded to one decimal place.

	Schools providing data N	T ₀ 1-12 months pre-enrolment			T ₂ 13-24 months post-enrolment			Change in provision %
		Pupil Meals N	Pupil Roll N	Take up %	Pupil Meals N	Pupil Roll N	Take up %	
All Phase 1-6 schools	98	20649	42765	48.3	22845	43048	53.1	+4.8
All Ph1-6 Mark awarded schools (Bronze, Silver, Gold)	80	14996	31650	47.4	16941	32301	52.4	+5.0
Ph1-6 Silver & Gold Mark schools	35	6738	12719	53.0	7633	12920	59.1	+6.1
All Ph1-6 primary schools	71	8981	19775	45.4	9857	20019	49.2	+3.8

All Ph1-6 secondary schools	22	11357	22557	50.3	12665	22606	56.0	+5.7
Ph1-6 Gold Mark schools	4	532	1105	48.1	599	1109	54.1	+6.0
Ph1-6 Silver and Gold Mark primary schools	29	3720	7618	48.8	4230	7823	54.1	+5.3
All Ph 1-6 special schools	5	310	433	71.6	322	423	76.1	+4.5
All top quintile FSM schools (inc special)	18	5118	9192	55.7	5661	9014	62.8	+7.1
Primary top quintile FSM schools	8	1286	2596	49.5	1447	2576	56.1	+6.6
Secondary top quintile FSM schools	7	3627	6308	57.5	3993	6158	64.8	+7.3
All primary schools supplying higher quality data	34	4628	10200	45.4	5036	10026	50.0	+4.6

Since 2008/9 national SFT/LACA figures shows that take up has increased by 2.1 % in primary schools (including special schools) and 0.8% in secondary schools. Changes to the collection and calculation of take up figures do not make direct comparisons straightforward. However, national annual surveys suggest that take up has increased in primary schools since 2007 and in secondary schools since 2008.

Comparing the FFLP trends for a range of types of schools, the data suggest that FFLP Flagship schools have increased their average take up at a rate above the national trends.

10.5 Free school meal take up

Table 10.3 shows a marked increase in take up of free school meals for all categories of school. The primary school average of 91.2% exceeds the latest national figure of 86.6%.

With an average increase of 21%, schools with Silver or Gold FFLP Mark awards achieved the highest take up for the sample. This suggests that the intensive adoption of FFLP strategies are associated with improved outcomes for free school meal take up. It also indicates that the FFLP approach can be successful in contexts of higher social deprivation.

Table 10.3 After two years: Free school Meal Take Up and Change in Provision for Phase 1-6 FFLP Flagship Schools. Percentages rounded to one decimal place

	Schools providing data N	T ₀ 1-12 months pre-enrolment			T ₂ 13-24 months post-enrolment			Change in provision
		FSM meals N	FSM registr'ns N	Take up %	FSM meals N	FSM registr'ns N	Take up %	
All Phase 1-6 schools	77	3757	5319	70.6	4667	5581	83.6	+13.0
All Ph1-6 Mark awarded schools (Bronze, Silver, Gold)	67	3203	4558	76.4	4144	4825	91.3	+14.9
Ph1-6 Silver & Gold Mark awarded schools	30	970	137	65.0	1215	1333	78.5	+13.5
All Ph1-6 primary schools	58	1927	2521	70.3	2359	2585	85.9	+15.6
All Ph1-6 secondary schools	14	1741	2676	70.4	2244	2859	91.3	+20.9
All special schools	5	89	122	73.0	125	137	91.2	+18.2

Some schools had had a notable increase in free school meal entitlements during the course of the programme. This was reported to be a consequence of economic recession and rising numbers of parents claiming unemployment benefits. In these schools, the rise in free school meal entitlements therefore accounted for some of the rise in take up.

10.6 School meal take up and FFLP Mark Status

Table 10.1 above shows that Mark award schools have greater increase in take up compared to those that have not achieved an award. If the FFLP Mark Award status is taken as a proxy measure for stakeholder involvement in school meal reform, it could be anticipated that higher award status is associated with higher increases in school meal take up. After categorising different levels of take up, the association with Mark award status was cross tabulated, overall there was no significant association between the two variables (Chi 4.383, Df4, p=0.357). Using the same cross tabulation test no clear association was found when primary and secondary schools were examined separately. This suggests that school meal take up rates are stimulated at all levels of FFLP flagship involvement. The following sections present the various factors suggested by the analysis that appear to influence school meal uptake within the FFLP model.

10.7 Lead staff perceptions on positive factors that promote school meal take up

At the point of programme review, 59 out of 95 (62%) of teaching school leads felt that participation in the FFLP programme had played an effective role in helping to increase school meal take up (See also Section 14 of this report). Twenty nine out of 95 school leads supplemented this view with written comments on a range of positive changes that had taken place in relation to school meal reforms. By contrast 15 out of 95 provided written comments on the challenges associated with school meal reforms.

In addition, as outlined in Section 8, 29 cooks gave an opinion about whether meal uptake has changed since being involved in FFLP. Of these 13 stated that uptake had increase 4 observed a decrease with the remainder feeling levels were more or less the same. As with the lead teaching staff, cooks provided a range of feedback on the reasons for trends in take up.

Not all of the comments from teachers addressed the specific issue of increasing school meal take up. Nevertheless there were a number of general themes that are summarised here. The first set of themes is concerned with successful measures to promote take up.

General programme stimulus

Evidence suggests that FFLP enrolment alone acts as a general stimulus for meal take up by raising the issue of school food across school stakeholders. As one teacher put it:

Jeanette Orrey's visit was a turning point. Her honest appraisal of our school kitchen made us realise that we could aim higher, that what we were hoping for was achievable. School lead #101

The additional support provided by FFLP has enabled our school meal provision to become really excellent. School lead #5

More specifically aspects of the FFLP programme intervention design were identified as having an effective role. Some elements included the SNAG food action planning process; the introduction of band systems, queuing systems and other arrangements; and the cooks training process.

We found that the SNAG has helped us to work more closely with caterers. School lead #108

The importance of bringing caterers and educationalists together was widely referred to by teachers. Whilst this was not necessarily straightforward, the overall message was of the value added or synergy resulting from mutual learning and combined efforts.

Service and meal quality

Improvements to school meal quality were widely put forward by school leads as a key factor in their strategy to increase school meal take up.

The food used in the school kitchen has improved so much and children have noticed this. The uptake has been very marked. School lead #1

This includes specific strategies, for example, promoting the service in the lead up to the summer period in order to avoid a seasonal drop in take up as well as general menu improvements.

Have had a huge increase in the amount of children having school dinners. Quality has improved, as well as environment. School lead #93

School cook responses were, understandably, also focused on the impact of food and service quality on the success of school meal take up.

Engaging children

Processes for formally consulting children, appointing roles to children and putting in place feedback systems were widely commented on by school leads. However it was not always clear how this engagement specifically connected to increasing take up as opposed to promoting retention and consumer satisfaction.

The school meal take up has increased again this year with a larger choice, including a range of baguettes during the spring and summer. School lead #1

This contrasts with the cook's responses which tended to focus on very specific measures based on marketing the food offer.

Engaging parents

Effective parental engagement was sometimes reported by school leads to be as much a matter of building trust and open dialogue – as of communicating menu changes or promotions. Some schools felt that measures to promote underlying awareness and confidence in provision led to longer term dividends. For example, one school [#Chestnuts] introduced promotional themed meals that led to a short term increase in take up on the specific event days. The school meal records also show that after the events some children switched to school meals on a more permanent basis.

Again, this contrasts with school cook perceptions which were clearly more oriented towards direct initiatives such as tasting sessions, which were generally deemed successful.

10.8 Lead staff perceptions of barriers to increasing school meal take up

School leads reported a wide range of circumstances that had made it difficult for schools to increase school meal take up.

Cost & Affordability

Issues around school meal cost and general affordability dominated perceptions in this area. The current economic context was reported by school leads and cooks to have either led to a drop in demand for paid school meals, or to have held back parents/carers from taking up the service. This particularly applied to schools in catchment areas with high numbers of children from lower income families and larger families- and who were not eligible for free school meals.

We have a lot of large families in our school that just can't afford the [meal] costs – but they aren't able to claim school meals. School lead #74

Additional costs associated with the programme such as additional food preparation time or sourcing sustainable food product lines also made it difficult to hold down costs for some cases.

It [sustainable food] has pushed up the price of the meal which means that poorer parents will not be able to afford it lessening our ability to inc SM. School Lead #36

The food quality and provenance changes come at a cost in practice for our caterer. In the midst of a recession, we have had no desire to incur costs that then make school meals more

costly and thus less attractive to our students. Change in this area has consequently been at a slower pace than we would like. School lead #58

There are cases where caterers and local authorities have introduced measures that make increased take up more challenging. Some of the issues here include price rises, reduced scope for local flexibility and scaling back on quality.

Sourcing food for school meals is getting worse. Current economic climate and redundancies have led to increased food costs. But we can't increase school meal costs: XX caterers need more support. School lead #64

These concerns were also reflected by the school cooks, particularly with regard to future perspectives for the school meals service.

Starting Levels

Some Flagship schools already had relatively high school meal take up before they enrolled with FFLP. In these contexts schools experienced the problem of diminishing return on the efforts expended to improve take up further. The settings in which this was reported to be a challenge were small primary schools and special schools with under 100 students on the roll. These were cases where nearly all parents who had contemplated paying for meals had already been personally approached by school staff.

Nearly every child has school meals. We're a very small school and I think that any parent who goes with packed lunches will have pretty much their mind by now! School lead #43

Increasing our school meal provision [had been a challenge]. As a small school we have to carefully balance increased provision with parents keeping the same numbers of days but spread across the week. However we are also cooking for another small school in the area (c32 children) School lead #61

Some schools reported that they had achieved a significant increase in take up prior to enrolment with the programme.

Take up for school lunches has increased to a current total of 147 pupils compared to 95 prior to working with FFLP. We have 308 pupils in school. Prior to starting the FFLP we had worked hard to increase the number of children choosing a school lunch, so these figures don't truly reflect how far we have come. School lead 52#

At a national level there have been a number of parallel initiatives to fund upgrades to kitchens, retrain kitchen staff and promote the school food cause. These initiatives are also likely to have assisted the programme.

In contrast, some schools, have relatively low take up rates that appear to have led to a negative institutional culture with regard to school meals. A variety of factors, many associated with the long term degradation of the service, appear to account for this. These schools are faced with considerable challenges in terms of both turning the service around and in promoting school meals to a school community that had grown accustomed to pack lunch provision. In these circumstances school leads could encounter considerable inertia to change. Examples where this type of issue was

reported notably included schools in local authorities in the south west, the south east and the east of England: three regions where school meal take up is under the national average.

Internal resources, priorities and competencies

FFLP is a programme that works across multiple domains of action, addresses a range of issues and involves whole-system change. Whilst all these aspects were reported to hold considerable appeal to lead staff, the complexity of the programme meant that the meal take up objective could be diluted alongside a range of other objectives. Some of objectives, for example the promotion of healthier packed lunches and cooking from scratch at home, were reported to not to align easily with the take up objective. Furthermore, the focus on processes to do with outputs and short term outcomes (for example reducing food waste) were reported to connect tangentially to take up outcomes. Many elements of the school food reform process have also been focused on improving standards of service for children who already have school meals, rather than on attracting new custom.

Some respondents felt that they had not had sufficient engagement from either the caterers or the school SLT.

We're working with XX commercial catering services - slow, not responsive. I don't think the head office are that interested. School lead #77

This led to a range of difficulties such as weak promotion to parents, lack of clear monitoring and weak commitment from other teaching or kitchen staff. One school lead reported that they had encountered considerable 'system barriers' to change:

Staff burnout [has been an issue] – the programme is very time intensive to do properly, and concerns that XX caterer cannot get Freedom Foods for the schools which would limit us moving to Silver Award. School lead #45

Extraneous factors

Finally, some schools and caterers encountered external difficulties that they felt were outside their influence. These included changes of local authority catering suppliers, kitchen staff sickness and school relocation or building work. For example, in one primary school a kitchen refurbishment project had over-run its schedule:

Uptake on school meals went up from when we started with FFLP at Easter 2009 until December 2009. But then a kitchen rebuild shut everything down except the packed lunches. It's meant that we've been halted in our tracks and I'm having to explain the delays to parents. School lead. #100

One secondary school was unable to make any changes to the dining area because, as a PFI building, they found that the owning company would only make changes at a prohibitively high cost.

10.9 Discussion & Conclusions

The school meal take up data presented in this section indicates that FFLP has been relatively successful in this element. If the data are regarded as the best available evidence for the sample of phase 1 to 6 schools to date, the findings show that school meal take up has increased ahead of national trends. These increases are on average greater for the Mark awarded schools.

There are a number of limitations that need to be recognised in this analysis, particularly regarding the data supplied for calculating school meal take up. While a range of safeguards were put in place to cross check the data, there was scope for error arising from differences in local recording systems, incomplete records and inaccurate reports. This is a feature of school meal data at a national level also (SFT, 2009) and particularly applies to the retrospective collection of data.

The size of the sample also needs to be recognised given that, in national context, these are a small group of schools. The findings show considerable heterogeneity both in terms of patterns of take up and other school characteristics. They might best be understood as types of examples – or trajectories – for primary, secondary and special schools that have sought to employ the FFLP model for increasing school meal take up.

Reports from lead staff participating in the programme illustrate a diverse array of processes that both promote and constrain take up. Many of these have been external to the programme. Others are generic to any school or catering organisation seeking to improve its school meal service and, therefore, reflect learning from other initiatives such as SFT's Million Meals campaign. Nevertheless these reports also suggest clear circumstances where the FFLP programme model has considerably facilitated positive change in uptake.

Some of these are connected to the programme focus on engaging stakeholders that have been marginal or disconnected from school meal reform in the past. Furthermore, reports from school staff also go beyond the purely instrumental role for involving and bringing together stakeholders. They also highlight the wider social value of creating opportunities for children, parents, cooks and others to have influence over the environment in which children eat their food.

On the whole, the opinions of school leads regarding uptake factors reflect those of the school cooks in the preceding section. Although there are some understandable differences in emphasis resulting from both their professional perspectives and the manner in which the issues were raised, it does appear to show minimal disconnect between the two groups of FFLP stakeholders.

11. Students & Food Related Behaviour: Questionnaire Results

Key findings

The evaluation team conducted two surveys with primary and secondary school students: at enrolment (baseline) and after 18-24 months (follow up) of the programme. For matched school and Year groups, over 2500 primary and 2000 secondary school students took part.

Analyses of student characteristics show statistically significant associations between healthy eating and FFLP related behaviours - such as participation in cooking and growing at school or at home; participation in farm and sustainable food learning; and attitudes to school food. This suggests that the FFLP model for changing behaviour has an empirical evidence base.

The primary school baseline and follow up surveys both included approximately 1500 Year 5 and 6 students matched by school. Compared to the point at which schools enrolled with FFLP:

- The number of children reporting growing fruit and vegetables at school in the last year rose by 28.1%, from 54.4% to 82.5%.
- The number of children helping to grow fruit and vegetables at home in the last year rose by 9.2%, from 26.0% to 35.2%.
- The number of children reporting that they practised food preparation skills in school in the last month rose by 20.2%, from 17.3% to 37.5%.
- Children reporting eating an average of 4 or more portions of fruit and vegetables a day increased by 11.9%, from 37% to 48.9%.
- For Year 5 children only, those reporting eating an average of 5 or more portions a day increased from by 4.6% from 16.3% to 20.9%.

The analysis for Years 5 and 6 shows that the follow up respondents reported eating an average an increase of 0.31 more portions fruit and vegetables per day compared to the baseline respondents (3.11 to 3.42; SEMs: 0.03). The self reported consumption of both fruit and vegetables were higher in the follow up survey. Vegetable consumption increased slightly more than fruit consumption, but the difference was not statistically significant.

Other measures of behaviour change showed positive trends including: confidence and enjoyment of cooking and growing, and cooking activities at home. There was no significant trend for participation in farm based activities, possibly owing to the selective aspect of this element of the programme.

Year 5 and 6 children who have taken part in FFLP-related education on sustainability were more than twice as likely to hold positive attitudes towards organic, local, free range and fair trade foods,

compared to children who had had no such education in the last year (21.8% compared to 10.7%).

Year 1 to 4 groups reflected these trends, although issues with the reliability of self reports from this younger age group need to be taken into account. At follow up for all primary school year groups over 17% more children rated school meals positively, and over 24% more children rated their dining room positively.

Over half of children thought that school meals had improved in the last year. Responding to an open question, over one third of children wrote that they thought the meals had become healthier and over 30% wrote that there had been improvement to their dining room (Years4-6, n=1998).

The secondary school surveys with Years 7 to 10 produced less conclusive results. At follow up there were positive trends for increased fruit and vegetable intake, and attitudes towards: the school meal service, cooking, growing, food sustainability and healthier eating. However none of these positive trends were statistically significant. This means that the differences between baseline and follow up groups may be linked to the size of the sample and / or external social trends. It could also mean that a longer time period is needed for observable changes to occur.

Nevertheless the secondary surveys provide valuable insight for health and sustainability programmes in schools. The findings suggest that action to promote practical food skills and interest in environmental sustainability is needed to address deficits in the learning experiences of young teenagers.

11.1 Introduction

Previous sections in the study suggest that, in comparison the period prior to FFLP enrolment, schools are more likely to engage students in sustainable food education, school food policy and meal improvements. The findings also show that more children are eating school meals – which have a greater element of sustainably sourced ingredients – compared to the period before FFLP enrolment. In this next part of the analysis, we draw upon the primary and secondary school student questionnaire surveys to conduct three types of analysis:

1. A test of the theorised links between FFLP activities and student food related behaviour. This assesses whether there are associations between healthy eating and growing, cooking, farm and sustainable food related behaviours.
2. A comparative analysis of the baseline and follow up results to assess whether there is evidence of population level changes in behaviour over time.
3. A comparative analysis of students who have, and who have not, participated in FFLP related activities – and the relationship to sustainable food attitudes.

For this section, Figure 11.1 provides an overall framework for the analysis.

[See Section 2.5
for research & policy context](#)

The section first presents results for the primary schools and then gives the results for the secondary schools surveys.

11.2 Methods

Student questionnaires were administered on two occasions: shortly after the schools enrolled onto the programme (baseline) and a second time between 18 to 24 months after enrolment (follow up). Students completing the follow up questionnaire were of a similar Year group to those undertaking the baseline questionnaire. However it should be noted that they were not the same individuals.

The questionnaires covered the following areas:

- Average fruit and vegetable portions consumed
- Favourite foods and food preferences
- Experiences of and attitudes towards cooking at home and school
- Experiences of and attitudes towards growing at home and school
- Experiences of and attitudes towards farm activities and food sustainability
- Experiences of and attitudes towards school meals

The secondary school questionnaire also included measures of involvement in school food consultations. Further details on the development and implementation of the questionnaires are provided in the appendix.

11.3 Primary school children: testing the theorised linkages between FFLP-related activities and behavioural outcomes

This section examines the associations between behavioural measures. As a basis for testing FFLP's model for change, the questionnaires used self reported fruit and vegetable consumption as an indicator of healthy eating. In addition the questionnaires recorded student's food preferences: which are themselves established predictors for healthier eating.

Drawing upon the responses of 1750 Year 4-6 students in the follow up survey, the findings show statistically significant associations between higher participation in cooking, growing, sustainable food education and farm based activities – and positive healthy eating behaviours. The test results are summarised in Table 12.4 and full data is presented in the Appendix. These test results show strength of association only and they do not show causal relationships. However the results show that the FFLP behavioural model is credible: the promotion of practical food education and take up of healthier schools meals can promote healthier eating and positive attitudes towards environmental sustainability.

Figure 11.1 Promoting Student Healthier Eating and Attitudes Towards Sustainable Food Issues: key elements in the theory of change

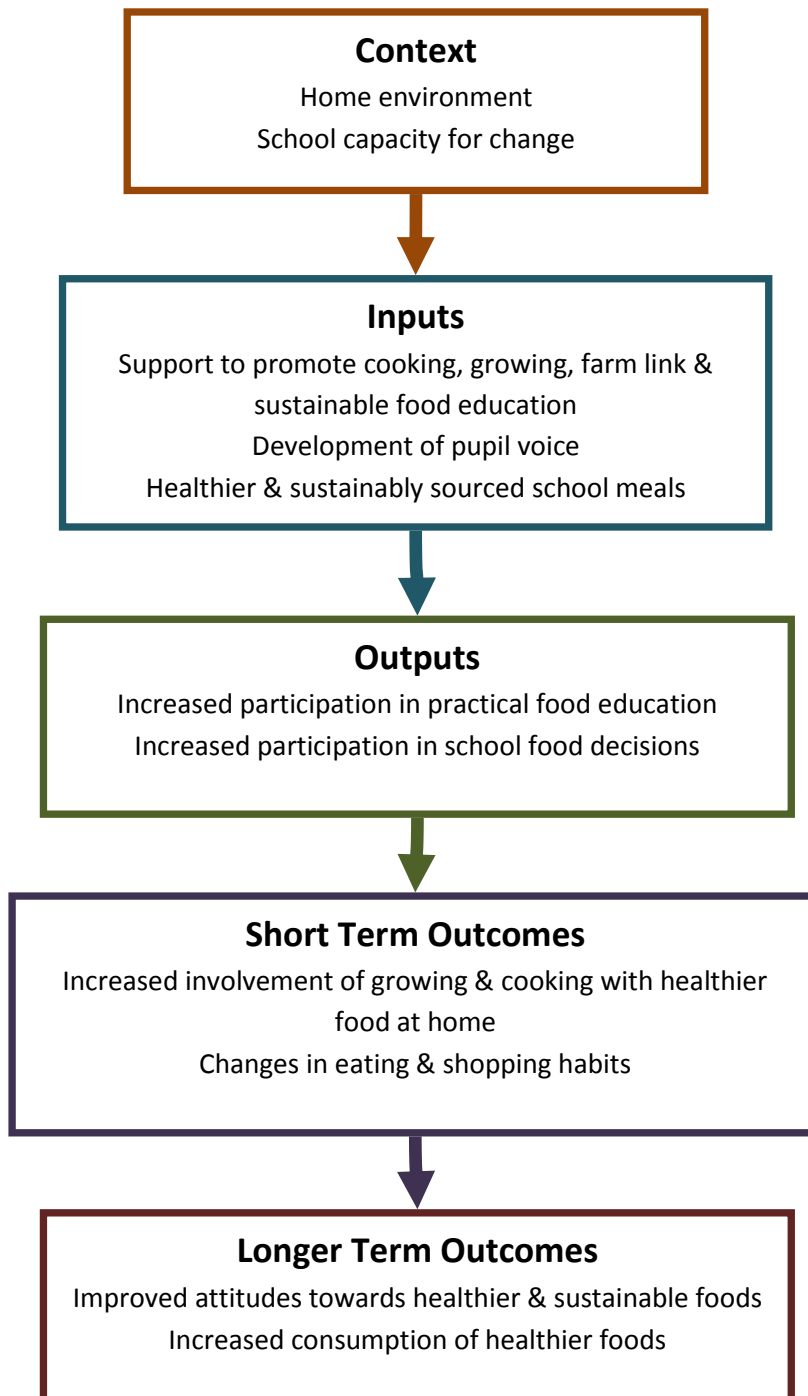


Table 11.1 Tests of association between variables. Follow up dataset. Years 4-6 N=1750

* No significant association

#	Cross tabulation		χ^2 value	P value	
1	Fruit & veg intake	X	Fruit & veg preferences	159.374	<0.001
2	Fruit & veg intake	X	Sustainable food attitudes	63.692	<0.001
3	Sustainable food attitudes	X	Fruit & veg preferences	43.886	0.002

#	Cross tabulation		χ^2 value	P value	
4	Fruit & veg intake	X	Chopping fruit & veg at home	189.614	<0.001
5		X	Participation in farm activities	90.774	<0.001
6		X	Rating of school meals	72.323	<0.001
7		X	Growing fruit & veg at home	64.456	<0.001
8		X	Chopping fruit & veg at school	63.293	<0.001
9		X	Growing fruit & veg at school	39.444	<0.001
10		X	Sustainable food ed. at school	27.914	0.032

#	Cross tabulation		χ^2 value	P value	
11	Fruit & veg preferences	X	Chopping fruit & veg at home	113.488	<0.001
12		X	Participation in farm activities	53.308	<0.001
13		X	Rating of school meals	73.828	<0.001
14		X	Growing fruit & veg at home	79.333	<0.001
15		X	Chopping fruit & veg at school	69.801	<0.001
16		X	Growing fruit & veg at school	31.981	<0.001
17		X	Sustainable food ed. at school	27.715	0.058*

#	Cross tabulation		χ^2 value	P value	
12	Sustainable food attitudes	X	Chopping fruit & veg at home	75.459	<0.001
13		X	Participation in farm activities	73.914	<0.001
14		X	Rating of school meals	51.034	0.002
15		X	Growing fruit & veg at home	49.091	<0.001
16		X	Chopping fruit & veg at school	61.001	0.001
17		X	Growing fruit & veg at school	36.361	<0.001
18		X	Sustainable food ed. at school	66.157	<0.001

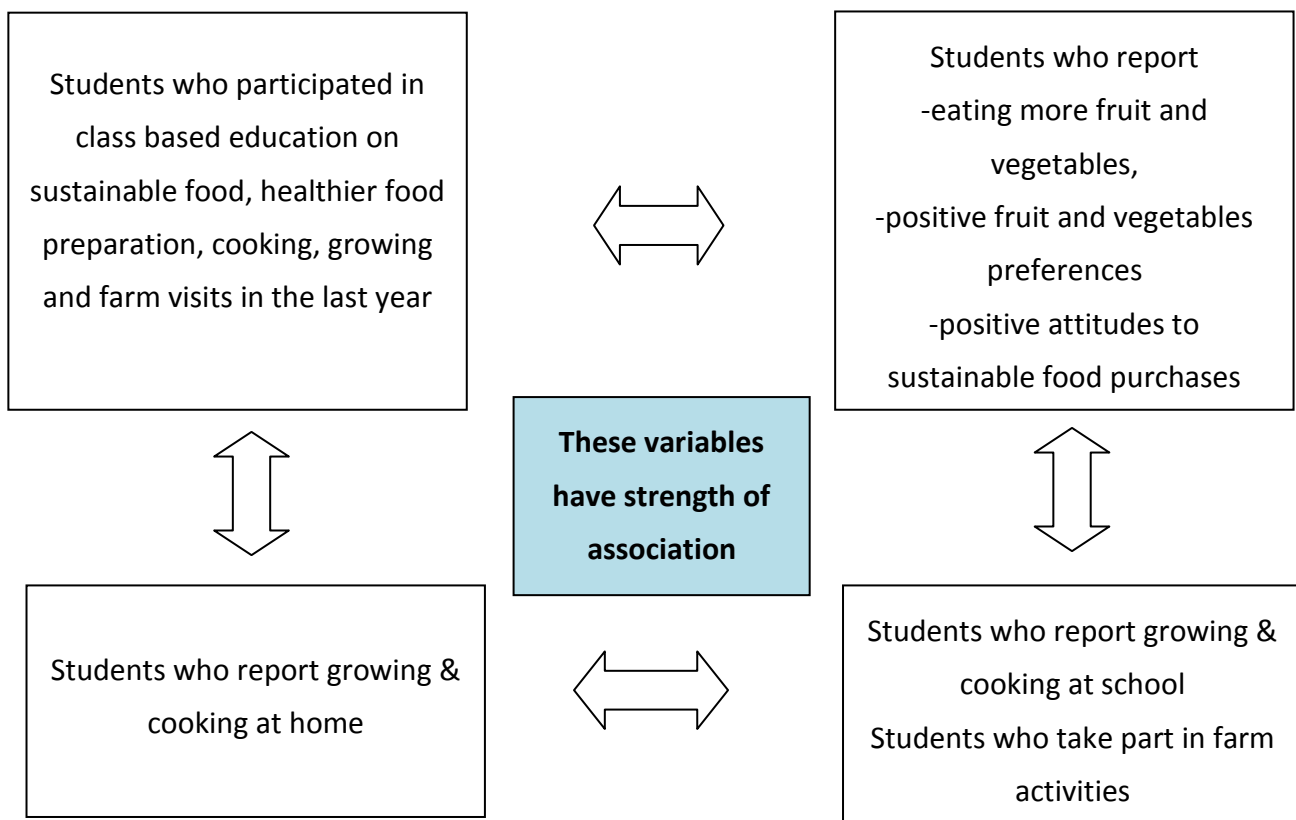
11.4 Ordinal regression analysis

In order to test these associations further, we used the ordinal regression method to model the relationship between the ordinal outcome variable - fruit and vegetable intake - and the explanatory variables relating to FFLP activities. The method was therefore adopted in order to assess the influential factors for healthy eating. The outcome variable for children's fruit and vegetable intake was measured on an ordered, categorical, and five-point Likert scale--'lowest', 'low', 'middle', 'higher', and 'highest'. Explanatory variables included questionnaire items related to the student behaviours, educational inputs and FFLP related activities in school. The major decisions involved in the model building for ordinal regression were deciding which explanatory variables should be included in the model and choosing the link function (e.g. logit link or complementary link) that demonstrated the model appropriateness. In addition, the model fitting statistics, the accuracy

of the classification results, and the validity of the model assumption were essentially assessed for selecting the best model. R-square gives the information about how much variance is explained by the independent variable. However, in ordinal regression variance is split into categories. Hence Cox and Snell's, Nagelkerke's and McFadden's pseudo-R2 statistics were used here to estimate the variance explained by the independent variable. In addition the chi-square test showed that the model is a good fit.

The analysis findings suggest that explanatory variables such as enjoyment of growing and cooking and participation in farm activities were significantly associated with the fruit and vegetable intake. These associations are illustrated in Figure 12.2

Figure 11.2 Testing the FFLP model: linkages between programme inputs and student behaviours



11.5 Primary schools: matched analysis of baseline and follow up findings

Having tested the theorised linkages the analysis moves on to examine whether there are observable changes in the responses of the two populations of students matched by age, gender and schools at baseline and follow up.

Thirty three out of 35 primary schools completed both the baseline and follow up surveys. Of the two missing schools, one completed the follow up questionnaires too late to be included in the data analysis presented here. The other school formally withdraw from the programme and did not consent in completing the follow up part of the study.

The overall number of respondents was 2534 at baseline and 2826 at follow up. Whole classes were asked to complete the questionnaires and any absences were recorded. This showed less than a 2%

absenteeism rate. Chart 11.1[Appendix] shows the breakdown of student respondents by school. Relatively high respondent numbers for some schools reflect cases where schools requested for additional classes to complete the questionnaire. Lower respondent numbers usually reflect the small size of the pupil roll and thus the number of eligible respondents. Schools #61, #100, #101 had missing classes at follow up due to school trip absences or other commitments.

Chart 11.1 shows a close similarity in the gender of respondents for the baseline and follow up surveys. Table 11.2 shows that, at both baseline and follow up, the majority of respondents were in Years 5 and 6. These respondents completed the questionnaire designed for the older primary school age group. For the following analysis the Year 5 and 6 age groups were found to have similar characteristics in terms of school, gender and number of respondents. These groups form the focus for the comparative analysis unless otherwise stated.

Chart 11.1 Percentages of respondents by Year group

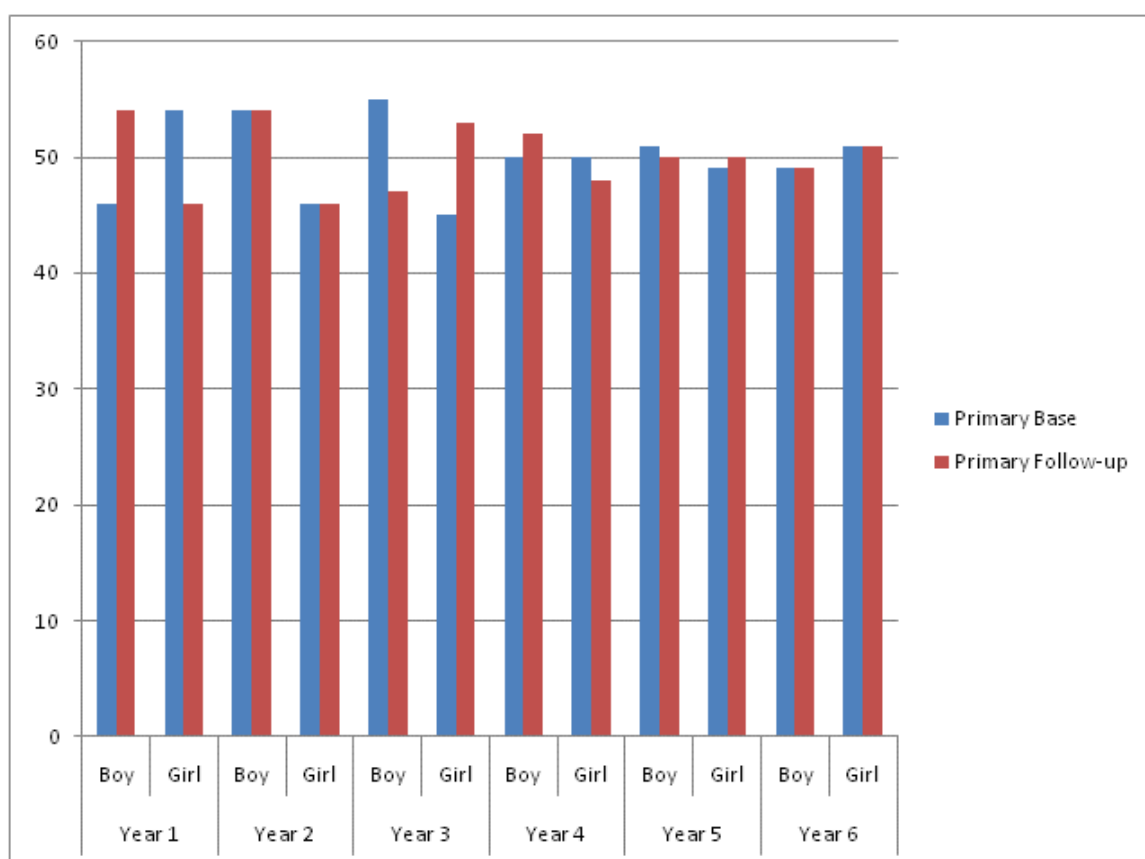


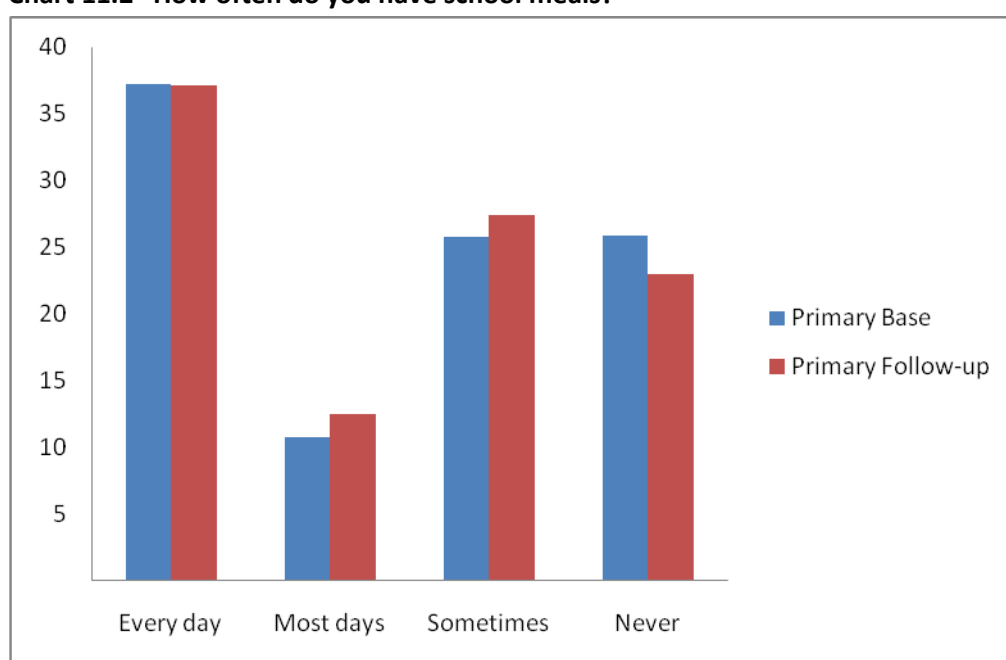
Table 11.2 Primary school respondents by Year group at baseline and follow up. No missing data

	Baseline		Follow up	
	Frequency	Percent	Frequency	Percent
Year 1	201	7.9	154	5.4
Year 2	209	8.2	361	12.8
Year 3	258	10.2	414	14.6

Year 4	364	14.4	414	14.6
Year 5	774	30.5	778	27.5
Year 6	728	28.7	698	24.7
Total	2534	100.0	2826	100.0

Chart 11.2 shows that a somewhat smaller percentage of respondents at follow up never had school meals, although the percentage for those taking school meals on a daily basis was the same for the two data collection points.

Chart 11.2 “How often do you have school meals?”



11.6 Student self reported fruit and vegetable consumption

Students self reported fruit and vegetable consumption showed a positive trend. This was the case for all primary school year groups, but is most clearly in evidence for the older children. At baseline, the percentage of Year 5 and 6 respondents who reported eating 4 or more portions a day was similar to the national picture (Health Survey for England , 2008). Chart 11.3 shows that at follow up, reported fruit and vegetable consumption had risen significantly: 30% more Year 5 and 6s reported eating more than 4 a day in the FFLP follow up survey (baseline=37%, follow up=48.9% = a difference of 11.9%). For Year 5s, 28% more children reported eating 5 or more a day in the follow up survey.

The analysis Years 5 and 6 in Table 11.4 shows that the follow up respondents reported on average an increase of 0.31 more portions fruit and vegetables per day compared to the baseline respondents (3.11 to 3.42; SEMs: 0.03). Whilst the limitations of the study design need to be taken into account, this compares favourably to other school-based healthy nutrition programmes that have shown a positive intervention effect ranging from +0.14 to +0.99 servings per day (de Sa & Lock, 2008). The self reported consumption of both fruit and vegetables were higher in the follow up

survey. Vegetable consumption increased slightly more than fruit consumption, but the difference was not statistically significant.

The validity of self report measures with this age group need to be taken into account when interpreting these findings. Further details on the analysis of this data can be found in the appendix.

Chart 11.3 Fruit and vegetable consumption: Year 5 and 6 FFLP respondents reporting eating 4 or more portions a day at baseline and follow up, in the context of Health Survey for England data (percentages). See table 12.2 for data sources.

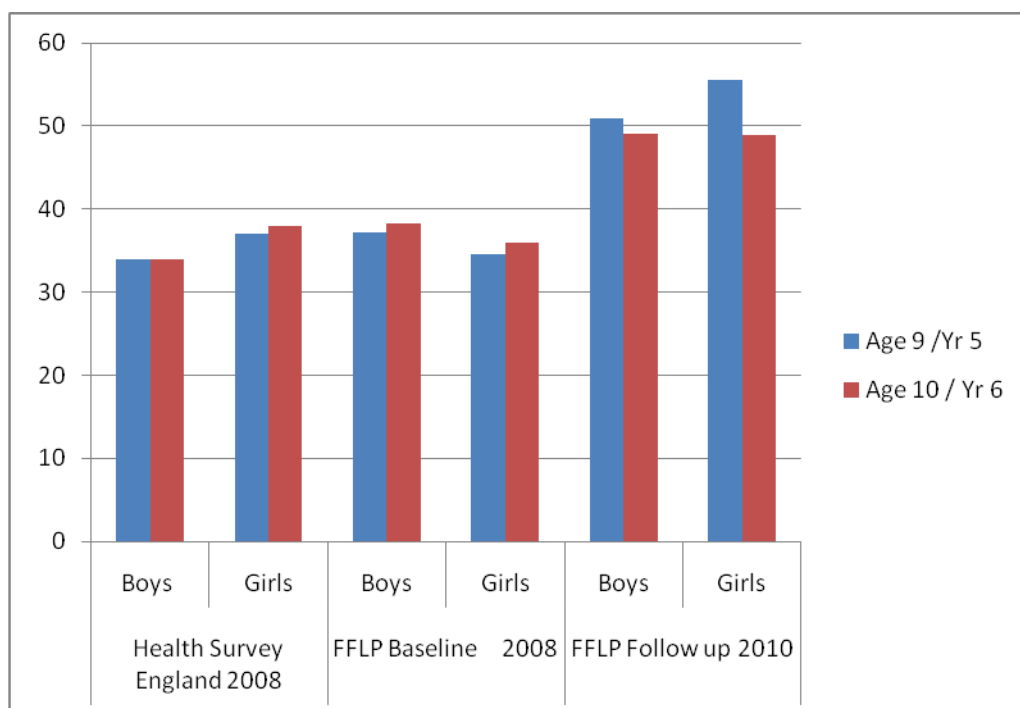


Table: 11.3 Year 5 and 6 FFLP respondent self reported average daily fruit and vegetable consumption, in the context of Health Survey for England data

	Less than 2 portions	2 portions or more but less than 3	3 portions or more but less than 4	4 portions or more but less than 5	5 portions or more	Total bases
--	----------------------	------------------------------------	------------------------------------	------------------------------------	--------------------	-------------

FFLP Baseline 2008 Year 5 (age 8-9)

Boys	10.1%	24.2%	24.5%	21.5%	15.7%	
Girls	10.6%	24.1%	25.7%	17.5%	17.0%	
All	10.3%	24.2%	25.1%	19.5%	16.3%	
Base	80	187	194	151	126	738

FFLP Follow Up 2010 Year 5 (age 8-9)

Boys	8.3%	15.1%	25.7%	29.9%	21.0%	
Girls	3.9%	16.6%	23.9%	34.8%	20.8%	
All	6.2%	15.8%	24.8%	32.3%	20.9%	
Base	48	122	191	249	161	731

FFLP Baseline 2008 Year 6 (age 10-11)

Boys	7.8%	24.0%	25.6%	22.6%	15.6%	
Girls	6.8%	28.3%	25.3%	20.1%	15.8%	
All	7.3%	26.1%	25.4%	21.3%	15.7%	
Base	53	190	185	155	114	697

FFLP Follow Up 2010 Year 6 (age 10-11)

Boys	7.4%	14.3%	28.6%	31.3%	18.5%	
Girls	5.1%	17.7%	29.2%	32.9%	15.2%	
All	6.2%	16.0%	28.9%	32.1%	16.8%	
Base	43	111	200	222	116	692

Health Survey for England 2008 Age 9

Boys	28%	19%	19%	16%	18%	
Girls	17%	24%	21%	12%	25%	
All	24%	22%	19%	16%	22%	
Base	-	-	-	-	-	463

Health Survey for England 2008 Age 10

Boys	28%	19%	19	16	18	
Girls	21%	22%	18	16	22	
All	24%	22%	18	16	20	
Base	-	-	-	-	-	487

FFLP Baseline missing data = 32. Follow up missing data=1

Table 11.4: Self reported fruit and vegetable consumption. Comparison of Year 5 and 6 respondents at baseline and follow up

	Mean <i>Baseline</i>	Mean <i>Follow up</i>	Mean <i>Change</i>	Median <i>Baseline</i>	Median <i>Follow up</i>	SE Mean <i>Baseline</i>	SE Mean <i>Follow up</i>	Count <i>Baseline</i>	Count <i>Follow up</i>
Year 5	3.1	3.46	+0.36	3.0	4.0	0.046	0.042	738	731
Year 6	3.13	3.37	+0.24	3.0	3.0	0.046	0.043	697	692
Year 5 & 6 combined	3.11	3.42	+0.31	3.0	4.0	0.032	0.030	1435	1423

11.7 Perceptions of school meals and the dining hall

This section reports on students' perceptions of school meals and the dining hall. Charts 11.4 and 11.5 show that, at follow up, a higher percentage of students rated the school meals and the dining hall positively. This reflects the trend for all Year groups, where 17.5% more students rate school

meals positively (from 45.6% to 53.7%, a rise of 8.1%) and 24.4% more students rate their school dining positively (from 40.5% to 50.4%, a rise of 9.9%).

Chart 11.4: Student responses to: “Do you think school meals are..?” Valid percent. Years 5 & 6. Baseline n=1501. Follow up 1483. Missing data baseline =29 follow up=8

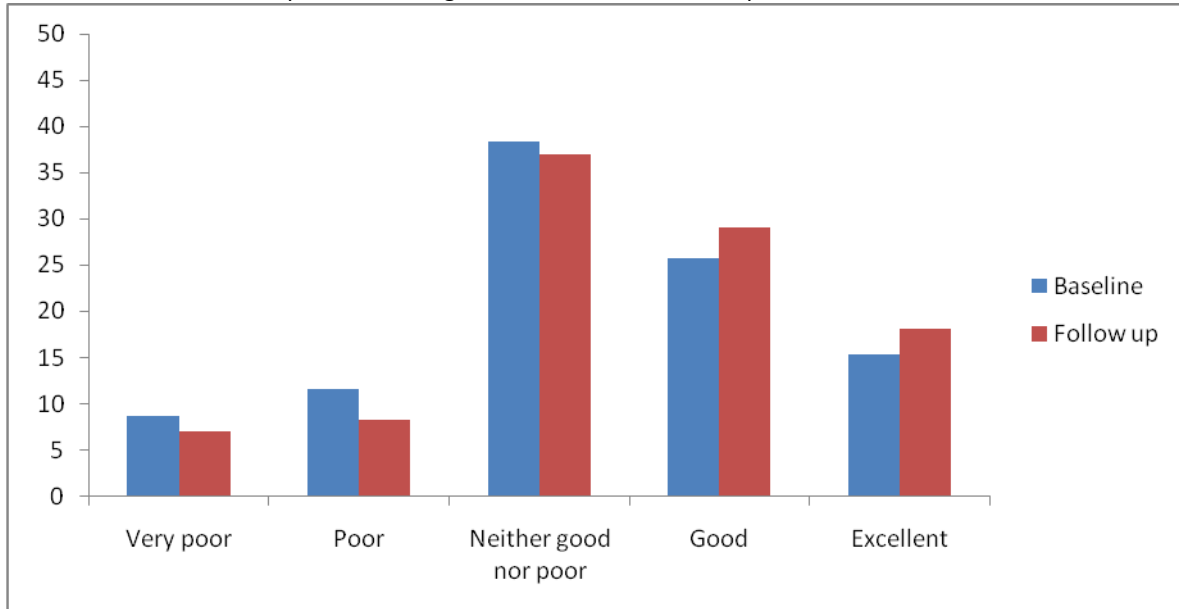


Chart 11.5 Student responses to: “What do you think about the school dining area?” Valid percent. Years 5 & 6. Baseline n=1501. Follow up 1483. Missing data baseline=7 follow up=25.

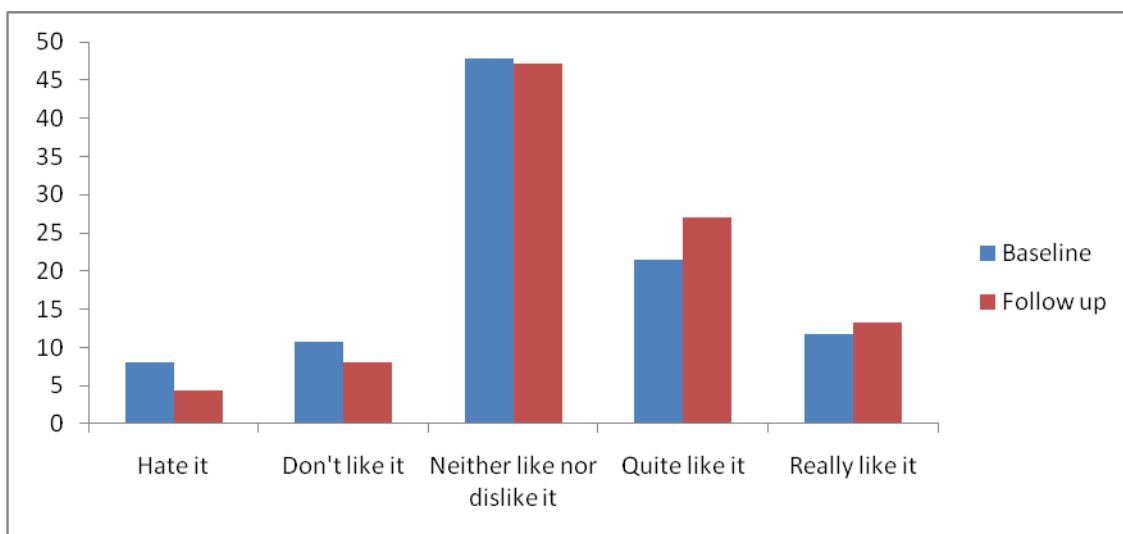
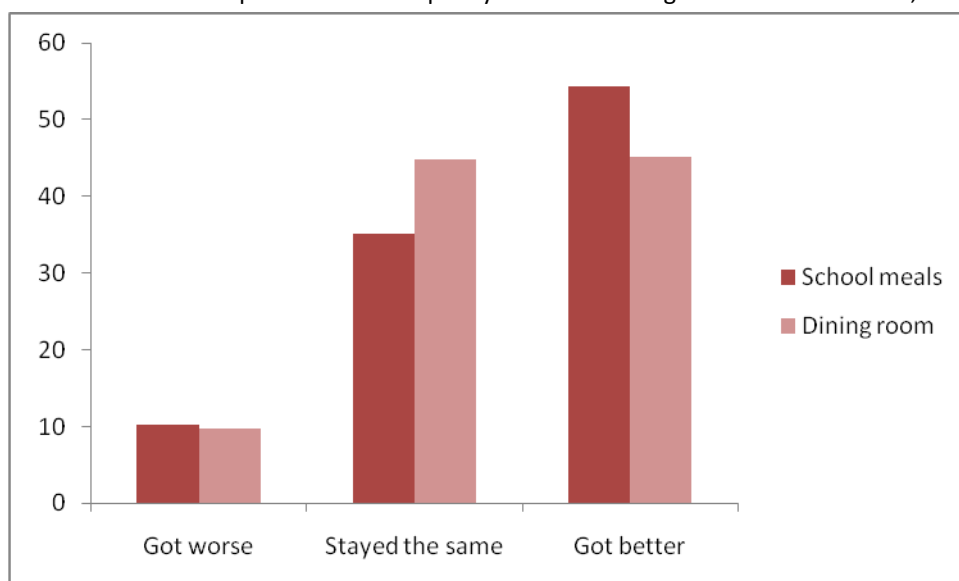


Chart 11.6 shows that, at follow up, the majority of students felt that school meals had got better. Almost half the respondents also felt that the dining room had improved in the last year.

Chart 11.6 Student responses to “In the last year, do you think that (a) school meals (b) dining room has...?” Valid percent. Follow up only n=1898. Missing data: school meals=6; dining room=7



For the follow up questionnaire only, Year 4-6 students were asked to write down any changes they had noticed in the school meals or the dining room over the last year. Table 11.5 shows that students reported a wide range of positive changes: several of which are similar to food actions advised by FFLP to SNAGs and to the Mark scheme criteria. Over a third (35.9%) wrote that they thought school meals had become healthier. Small numbers of students reported negative changes such as poorer or more expensive meals.

Table 11.5 Student responses to the open question: “In the last year, what changes have you noticed (a) in the school meals (b) in the school dining hall?” Years 4-6 Follow up only n= 1998

Code for written comment	Frequency
Healthier meals/ healthier options	713
Improved dining room facilities (e.g. room decor, tables, chairs, waste disposal facilities)	605
Tastier/better prepared meals	325
More varied meals	235
New plates/cutlery/table clothes etc	226
Improved arrangements for choosing and serving meal options/faster service	199
Improved behaviour/better table manners/more peaceful dining room	154
More displays about food & healthier eating	133
No changes in either school meals or dining room	128
More sustainable foods available (fair trade, higher animal welfare, organic, sourced from school garden)	79

Better information on menus	62
Less good school meals	61
Less good dining room environment/any other negative change	57
Other positive change - non specific or no code	54
Better value meals	23
Price increase/less good value	15
Illegible	7
Other change - neither positive or negative	225
Nothing written	395

11.9 Cooking and food preparation at school and home

The following charts illustrate the differences between the baseline and follow up responses to cooking and food preparation related behaviours. At follow up, double the amount of Year 5 and 6 children reported practising food preparation skills in school in the last month (from 17.3% to 37.5%: a rise of 20.2%). This trend is also reflected in practising these skills at home. However, no significant changes were found for assisting to cook at home and cooking with basic ingredients at home.

Chart 11.7: Student responses to: “When was the last time you chopped a vegetable or fruit AT SCHOOL?” Valid percent. Years 5 & 6. Baseline n=1501. Follow up 1483. Missing data Baseline =33; Follow up n=36

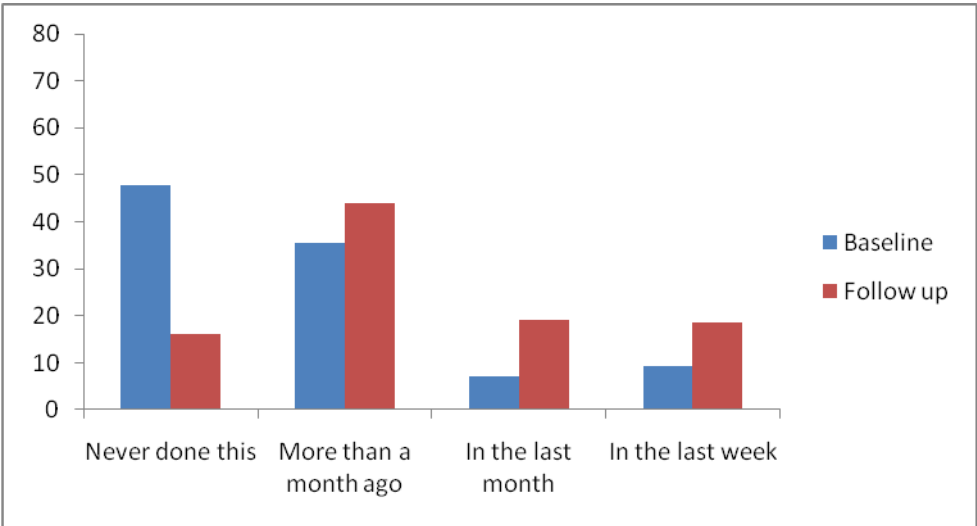


Chart 11.8: Student responses to: “When was the last time you chopped a vegetable or fruit AT HOME?” Valid percent. Years 5 & 6. Baseline n=1501. Follow up 1483. Missing data Baseline =22; Follow up n=32

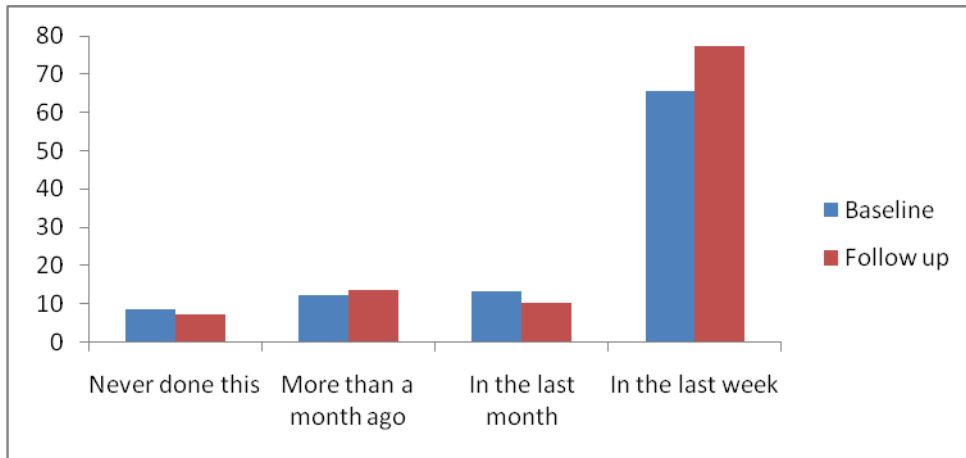


Chart 11.9 Student responses to: “Do you help cook at home?” (valid percent) Years 5 & 6. Baseline n=1501. Follow up 1483. Missing data Baseline =26; Follow up n=12

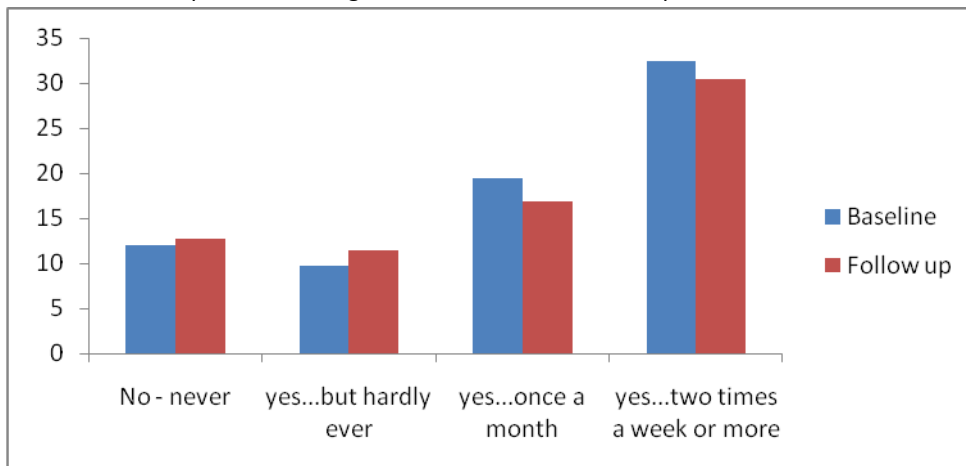


Chart 11.10: Student responses to: “At HOME would you feel confident cooking with basic ingredients like rice, pasta or fresh vegetables?” (valid percent) Years 5 & 6. Baseline n=1501. Follow up 1483. Missing data Baseline =22; Follow up n=14

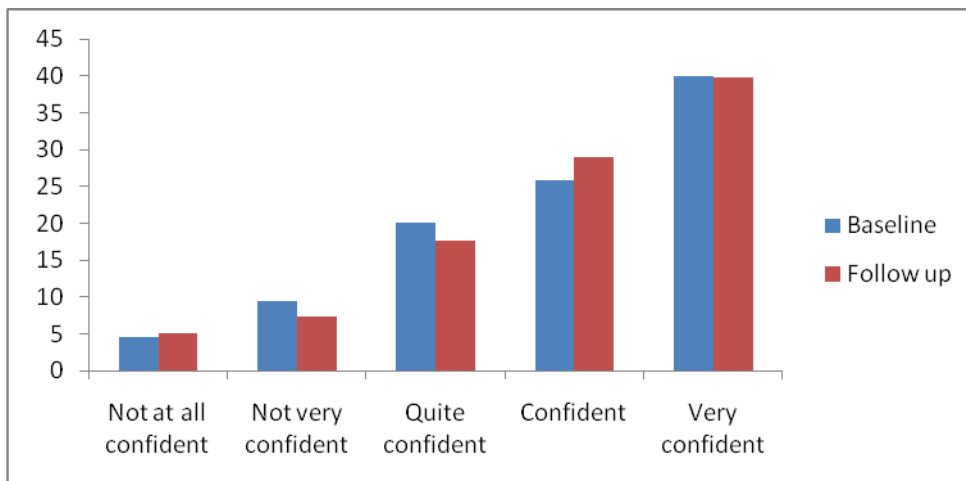
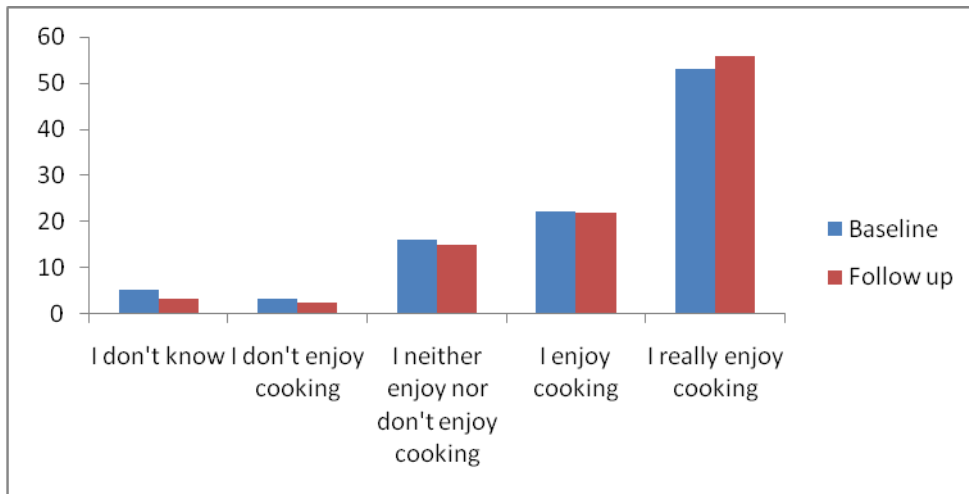


Chart 11.11. Student responses to: “What do you think about cooking...?” (valid percent) Years 5 & 6. Baseline n=1501. Follow up 1483. Missing data Baseline =24; Follow up n=19



11.9 Growing fruit and vegetables at school and home

At follow up, over 50% more Year 5 and 6s reported helping to grow fruit and vegetables school (from 54.4% to 82.5%, a rise of 28.1%) (Chart 11.12). Fewer respondents at follow up report having never helped to grow fruit and vegetables at school.

This trend is reflected in behaviour at home. Chart 11.13 shows that a higher percentage of follow up respondents report having helped grow fruit and vegetables at home compared to the baseline group. There are also fewer respondents at follow up who report having never helped to grow fruit and vegetables at home.

The pattern for Year 5 and 6 is reflected more widely. For all year groups, 35.3% more children reported often helping to grow fruit and vegetables at home (from 26.0% to 35.2%: a rise of 9.2%).

Overall, respondents hold very positive attitudes towards growing fruit and vegetables. Chart 11.14 shows that higher percentages of Year 5 and 6 students reported enjoying growing fruit and vegetables at follow up compared to baseline students.

Chart 11.12 Students responses to: “In the last year at SCHOOL, have you ever helped to grow food e.g. sowing, watering or picking fruit & vegetables?” Valid percent. Year 5 and 6. Baseline n=1490
 Follow up=1483 Baseline Missing data baseline =44, Follow up=24

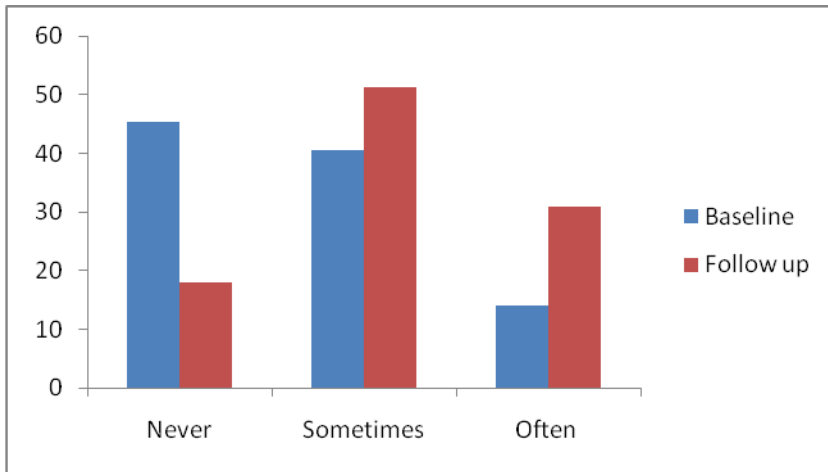


Chart 11.13 Students responses to: “In the last year at HOME, have you ever helped to grow food e.g. sowing, watering or picking fruit & vegetables?” Valid percent. Year 5 and 6. Baseline n=1490
 Follow up=1483 Baseline Missing data baseline =12, Follow up=15

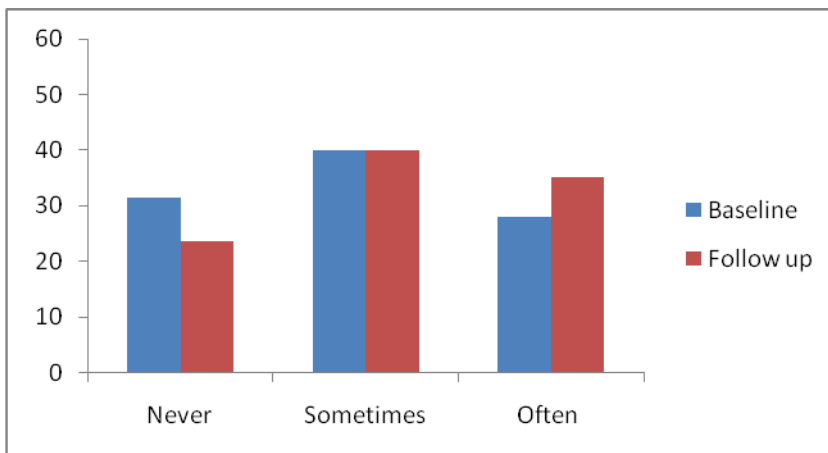


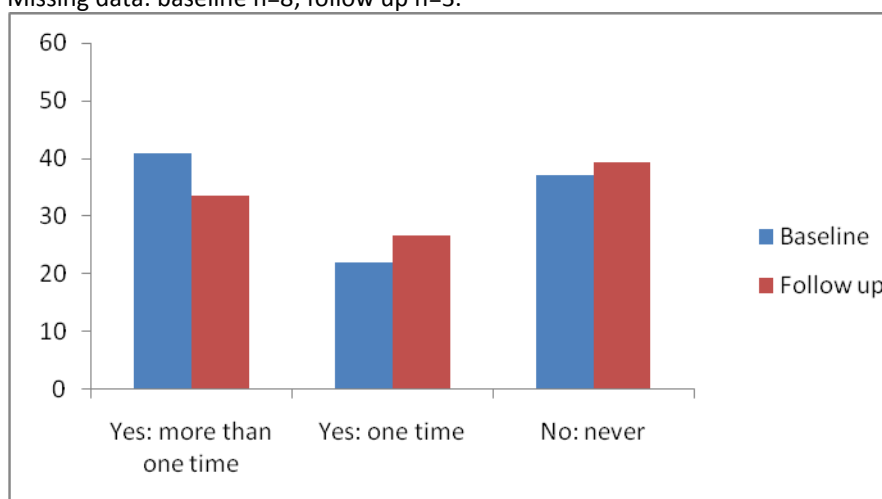
Chart 11.14 Student responses to: “What do you think about growing fruit and vegetables?” Valid percent. Years 5 and 6. Baseline n=1488; Follow up n=1483. Missing data Baseline n=14 Follow up n=4



11.10 Participation in farm-based activities

Children were asked “In the last year, have you ever done a job or activity on a farm?” with examples provided such as ‘collect eggs’, ‘feed animals’, ‘pick fruit’ and so forth. This was a question introduced for later phases of the baseline study only. Therefore the baseline follow up comparison is between matched 13 schools at baseline (n=1112) and follow up (n=971) with balanced Year groups.

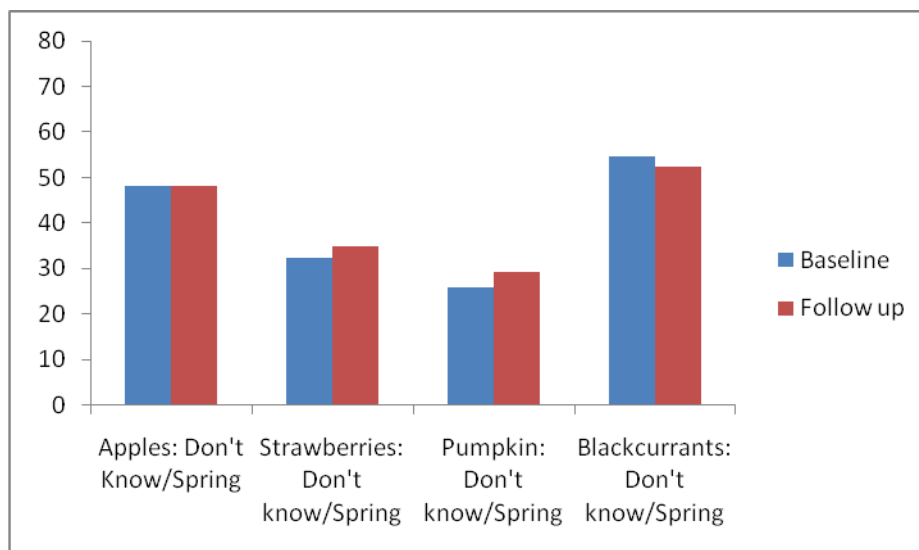
Chart 11.15 Student responses: “Have you ever helped do jobs on a farm...like get fresh eggs, milk a cow, feed farm animals, pick fruit...?” (Percentages) Bases: Baseline n=1112; Follow up n=971. Year group comparisons for baseline to follow up respectively: Yr1-2: 130v129; Yr3-4: 352v320; Yr5-6: 627v521. Missing data: baseline n=8; follow up n=3.



Overall the responses show that the percentages of children reporting having ever taken part in a farm based activity is somewhat less in the follow up (60.3%) compared to the baseline (62.8%) samples for the 13 schools reported on here.

Children in Years 5 and 6 were asked “What is the MAIN season for harvesting these fruit or vegetables?” The items were apples, strawberries, pumpkin and blackcurrants. The results show only small differences between the two groups.

Chart 11.16 Children’s awareness of seasonality. Valid percent. Baseline N=1502; Follow up 1477.
 Note: Although strawberries and blackcurrants can be harvested in spring, this was not categorised as the ‘main season’.



These findings were similar for the younger year groups (Years 1-4) who were only asked “What time of the year do farmers pick apples?” Respondents opting for ‘Don’t know’ or ‘Spring’ were 70.8% at baseline and 68.7% at follow up (Bases: 675 & 828 respectively).

11.11 FFLP educational activities and student attitudes towards sustainable foods

The original evaluation plan was to track student attitudes towards food sustainability issues in the context of focused FFLP activities in schools. However, the programme design meant that it was not possible to identify which class groups would be participating in sustainable food education activities. The following analysis therefore undertook a *post hoc* test of the relationship between educational inputs and student attitudes. Teachers were asked to report whether their class groups had participated up to four sustainable food education activities (covering fair trade, organic food, animal welfare and local food) in the last year. Students were then asked to express their choices between sustainable (fair trade, organic, free range, ‘British local’) or ‘non-sustainable’ foods based upon a price comparison. Full details on the measures used and the construction of scales are reported in the Appendix.

There was a strong association between educational input and student’s attitudes (McNemar test: $p=0.003$). Compared to students who had no educational exposure, the results show that children who participated in FFLP-related activities were over twice as likely to have strong preferences for organic, local, free range and fair trade foods (21.8% compared to 10.7%).

The analysis therefore suggests that FFLP-related educational inputs on sustainability are associated with improved attitudes towards food sustainability issues amongst Year 4 to 6 primary school children.

Secondary School Students: Questionnaire Results

11.12 Secondary schools: testing the theorised links between FFLP activities and behavioural outcomes

This section presents the results from a student questionnaire administered in FFLP Flagship secondary schools. It first examines links between healthy eating and FFLP-related behaviours and then goes on to analyse the baseline and follow up data.

For the follow up survey we analysed the associations between a number of key variables. Table 11.6 shows the variables that have a statistically significant association with self reported fruit and vegetable intake. Higher reported consumption of fruit and vegetables is associated with positive attitudes towards healthier foods (+whole meal bread; -high fat foods), sustainable foods and fast foods (-microwave meals).

The Spearman's correlation coefficients were measured between the fruit & vegetable intake and most of the other variables to establish the statistically significant results to allow the ordinal regression modelling. As with the primary schools survey again the variables such as preparing meals from basic ingredients, and enjoy growing are predictors of the fruit and vegetable consumption. The analysis therefore demonstrates that FFLP programme model has a basis in empirical validity.

Table 11.6 Secondary school associations between fruit and vegetable consumption and FFLP related behaviours.

Cross tabulation			d.f	χ^2 value	P- value
Fruit & veg intake	X	Attitude towards high fat food	16	62.0	<0.001
	X	Attitude towards organic food	16	36.9	0.002
	X	Attitude towards fair trade food	16	43.9	<0.001
	X	Attitude towards whole meal bread	16	32.5	0.008
	X	Attitude towards locally produced food	16	39.9	0.001
	X	Attitude towards microwave meals	16	53.2	<0.001
	X	Attitude towards home grown food	16	47.2	<0.001

Cross tabulation			d.f	χ^2 value	P- value
Fruit & veg intake	X	Attitude towards growing healthy food	16	54.8	<0.001
	X	Attitude towards eating healthy food	24	108.2	<0.001
	X	Attitude towards helping to cook	20	59.6	<0.001
	X	Attitude towards growing fruit/veg. allotment	12	47.0	<0.001

	X	Attitude towards grow potatoes	4	17.9	0.001
	X	Attitude towards grow other vegetable	4	24.3	<0.001
	X	Attitude towards grow herbs	4	29.5	<0.001
	X	Attitude towards grow food at school	8	15.0	0.059*

11.15 Profile of school and student respondents

The overall number of respondents was 2054 at baseline and 1926 at follow up. Chart 11.17 shows the breakdown of student respondents by school. Chart 11.17 shows correspondence between Year groups and gender for respondents at baseline and follow up. Chart 11.18 shows little difference between the pre and post groups in terms of school meal take up.

Chart 11.17 Distribution of respondents in percentage for the secondary schools

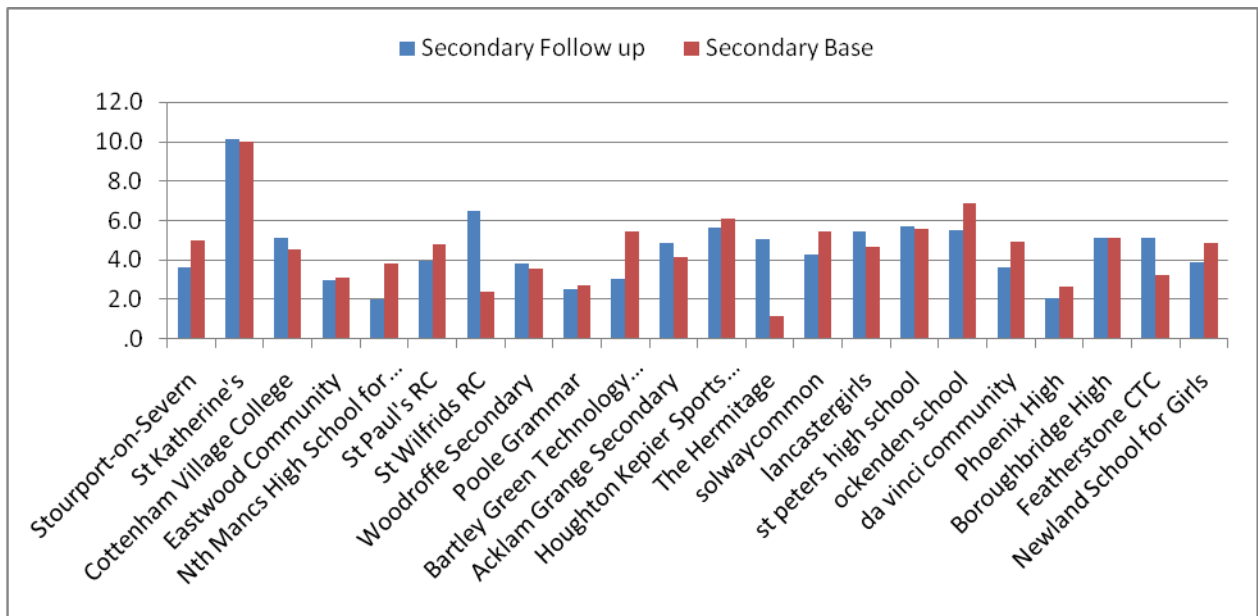


Chart 11.18 Distribution of respondents by gender and Year groups (frequency). Missing data: Baseline n=0; Follow up n=2

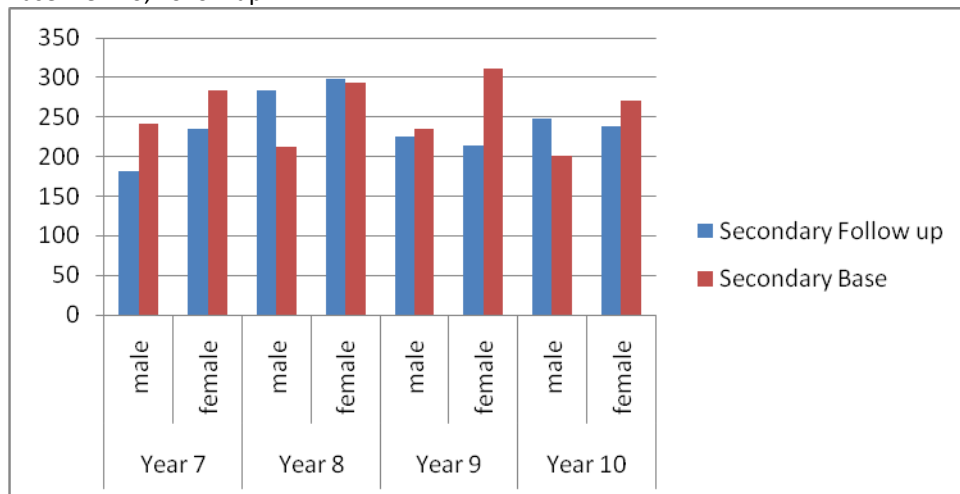
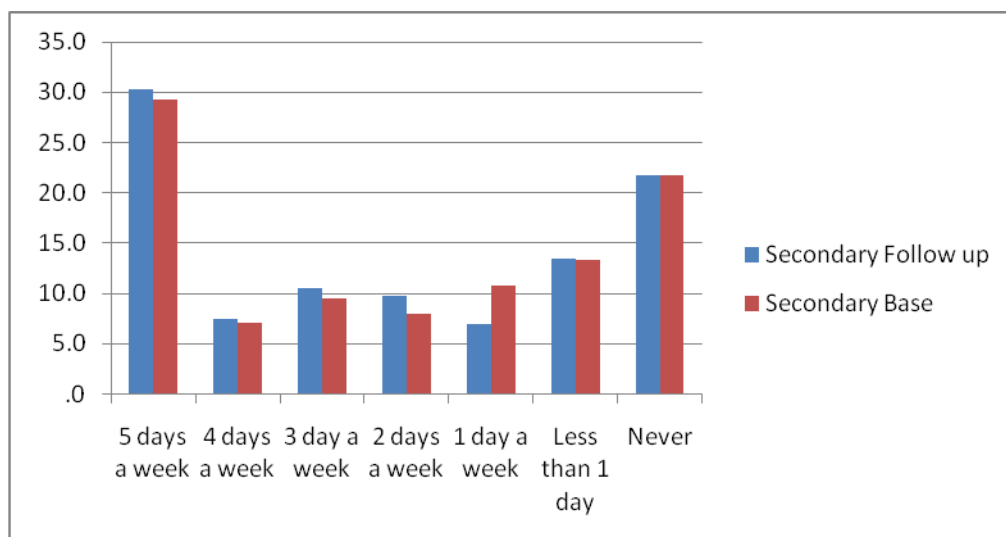
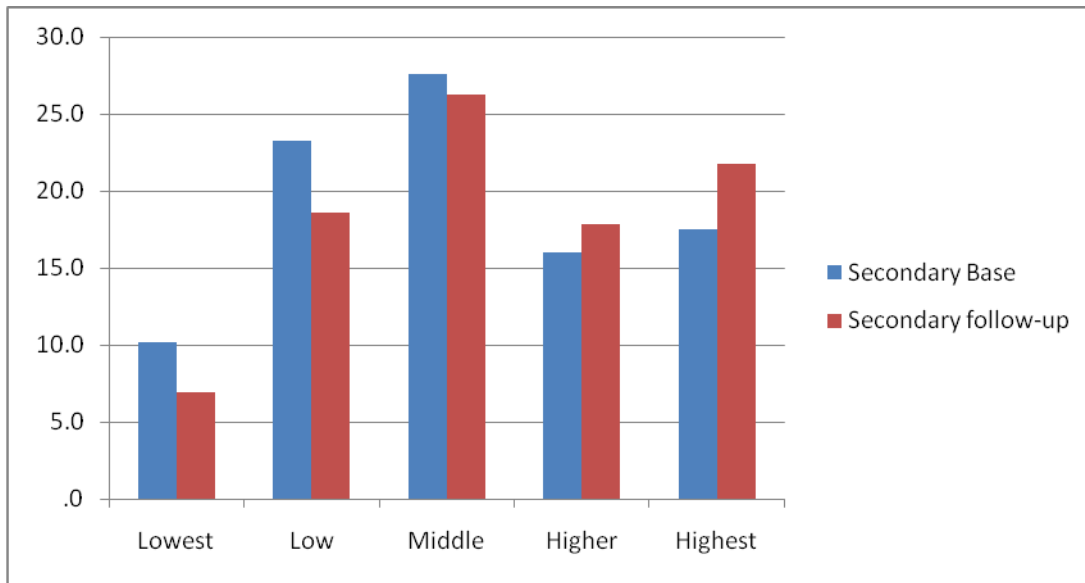


Chart 11.19 Student take up of meals from the school canteen (percentage)



There were no differences for self reported fruit and vegetable consumption at baseline and follow up. The mean for the baseline was 3.06, and 3.32 for the follow up survey. This is higher but not statistically significant. The median in both cases are 3. This matches the pattern for the Health Survey for England 2008. Analysis by gender showed a positive, but not statistically significant, positive trend for both girls and boys.

Chart 11.20 Self reported fruit and vegetable consumption for Year 7 to 10 respondents.
 (percentage). Lowest = under 2 portions. Highest =5 or more portions. Baseline n=2054. Follow up n=1926.



11.14 Perceptions of school meals and the dining hall

Charts 11.21 and 11.22 show student response to open questions about the changes they have noticed to school food and the dining room in the last year.

Chart 11.21 Student perceptions of changes to school meals in the last year. Follow up only n=1926.

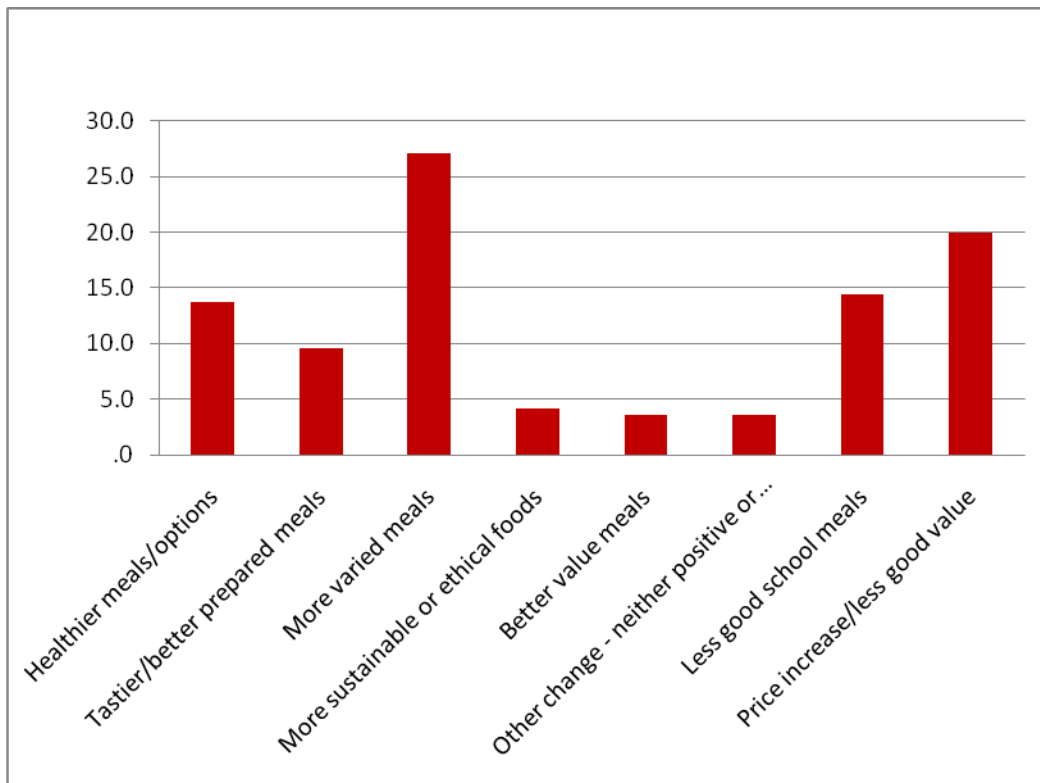


Chart 11.21 shows that students have noticed a number of positive changes to the dining environments of the study schools. The main themes are concerned with improved information about school food and improvements to the organisation of the service. A notable percentage (12.8) gave feedback on negative changes. There was a high frequency of non responses to the questions about meals and the dining room which suggests that many students had observed no changes.

Chart 11.22 Student perceptions of changes to the school dining area in the last year. Follow up only n=1926

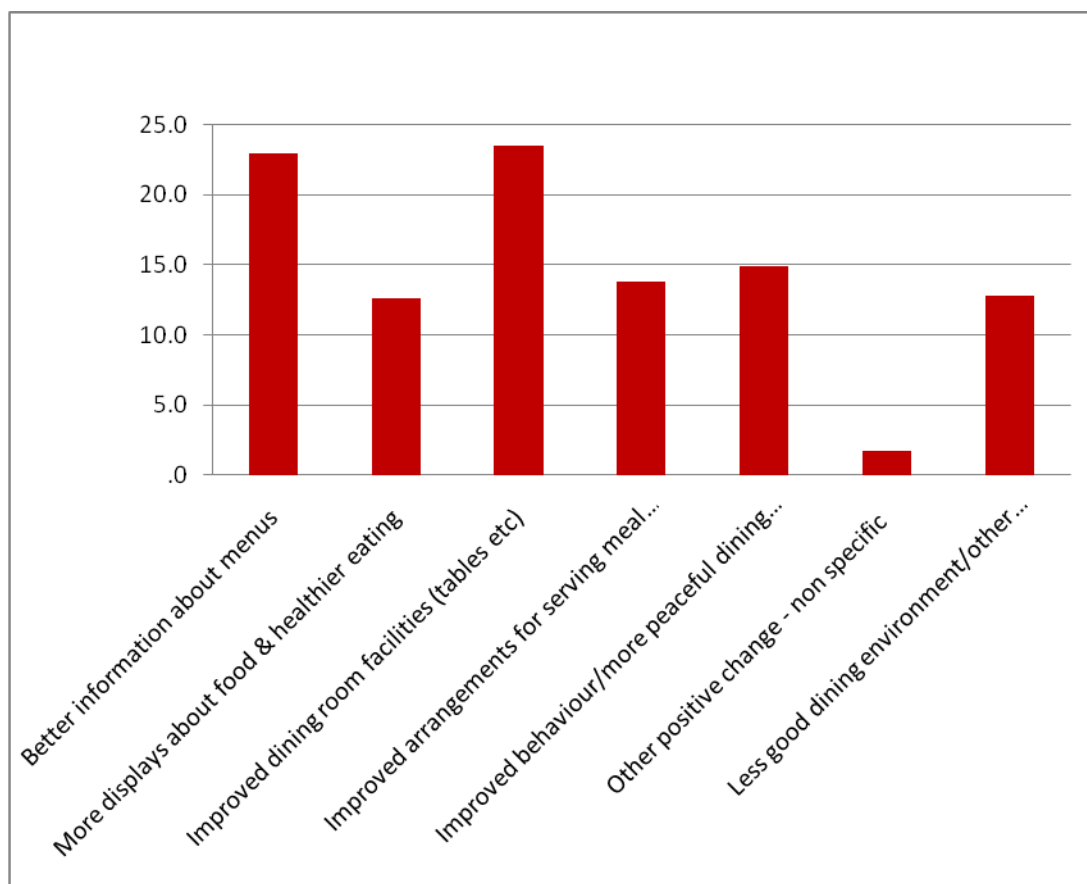


Chart 11.23 suggests that attitudes towards the school dining have not improved over the course of the programme. There were no significant differences in the ratings of school food. This might reflect some of the mixed responses to changes observed at follow up (see above).

Chart 11.23 Student's rating of school food (percentages) Baseline n=2054. Follow up n=1926

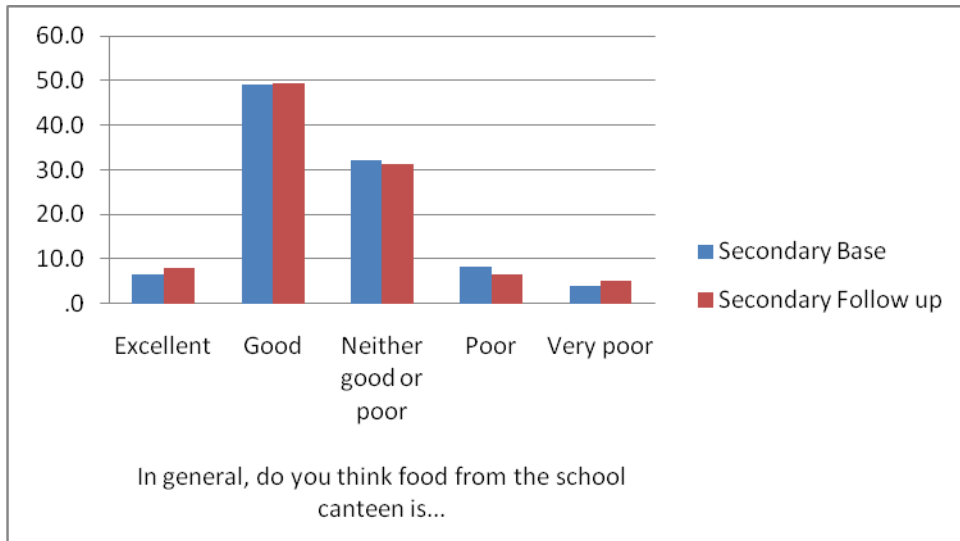
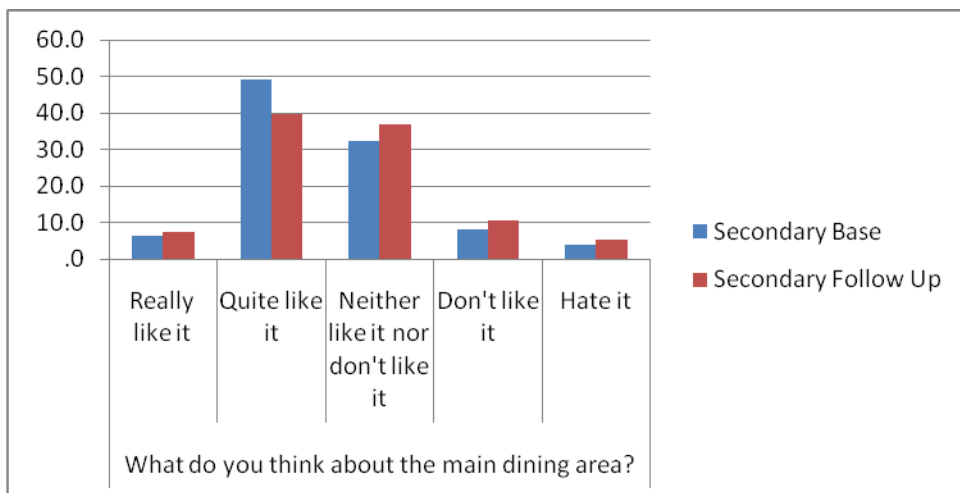
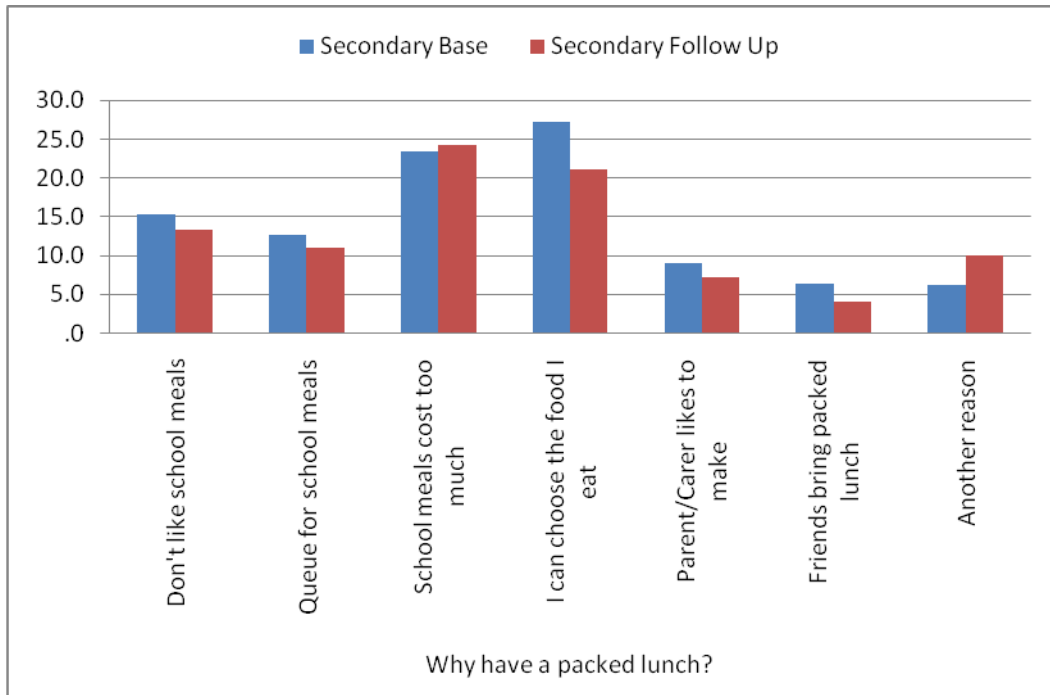


Chart 11.24 Student ratings of the main dining area. Baseline n=2054. Follow up n=1926



Whilst there was very little change in the number of students reporting having a packed lunch (Appendix), Chart 11.25 indicates that student's motives have shifted away from negative perceptions of schools meals and queues. The percentage of students reporting that the school cost is a factor in decisions to have a packed lunch has increased.

Chart 11.25. Student motives for choosing a packed lunch



Students were asked whether they recalled being asked for their views about school meals by the school: for example through a questionnaire. Chart 11.26 and 11.27 show no statistically significant difference between the baseline and follow up respondents.

Chart 11.26 Student perceptions of whether they have been consulted on school meals

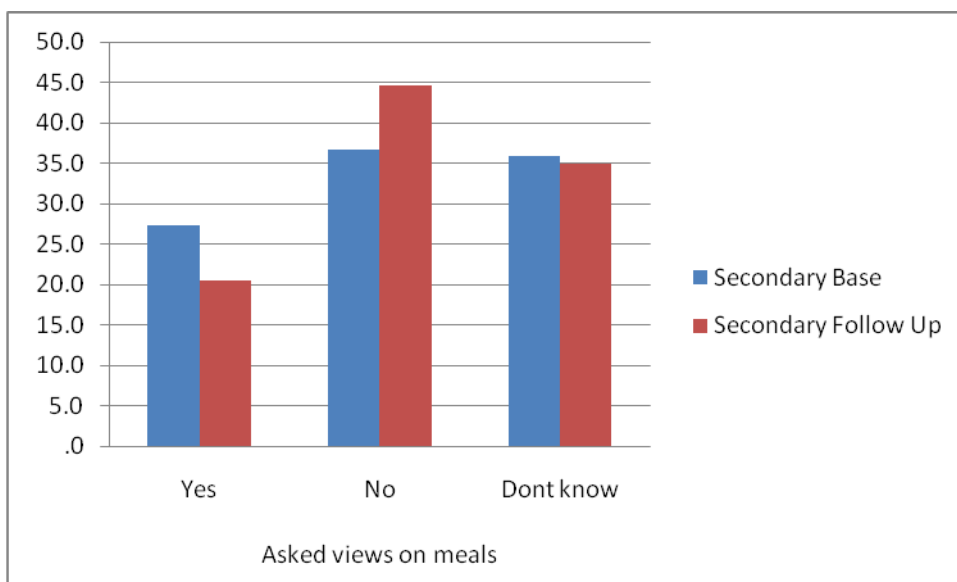
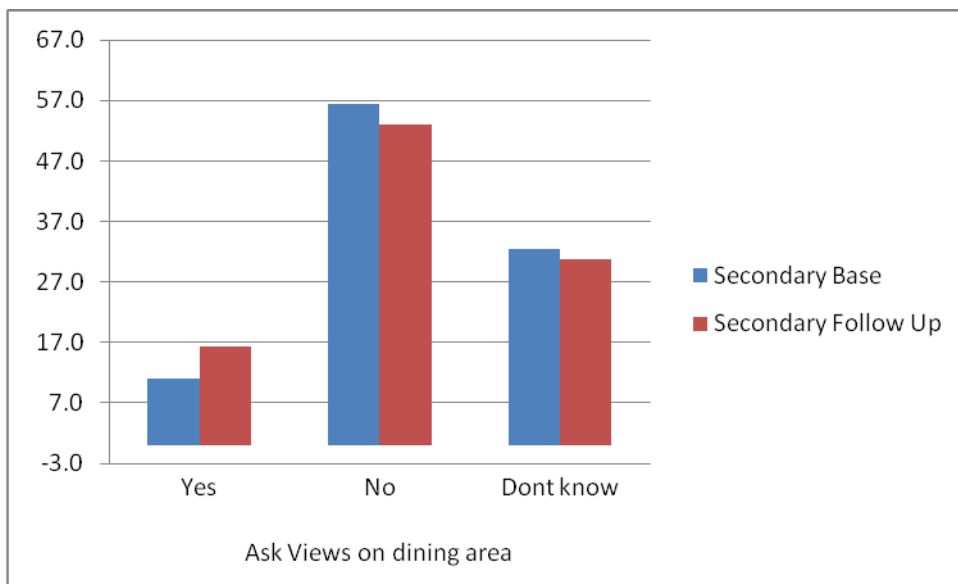
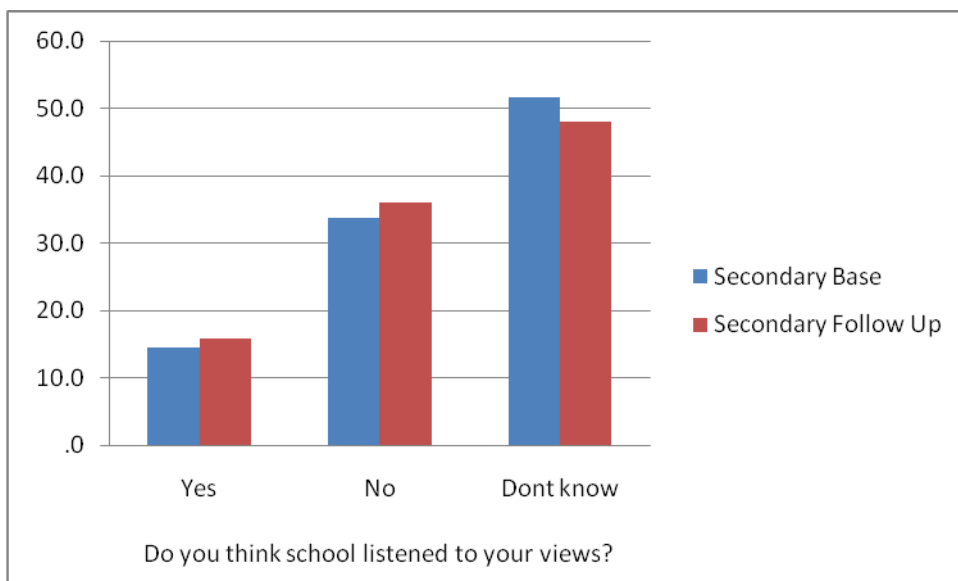


Chart 11.27 Student perceptions of whether they have been consulted on the dining area



Similarly Chart 11.28 indicates that almost half of students- both at baseline and follow up- were unsure about whether their views on food in school had been listened to by the school.

Chart 11.28 Student perceptions on whether they felt the school had listened to their views on school food



11.15 Cooking, food preparation and eating at home

Students were asked to report on their cooking, food preparation and eating behaviours at home both in the baseline and follow up questionnaires. No significant differences were found for these behaviours.

Chart 11.29 Student perceptions of their ability to prepare a meal from basic ingredients.

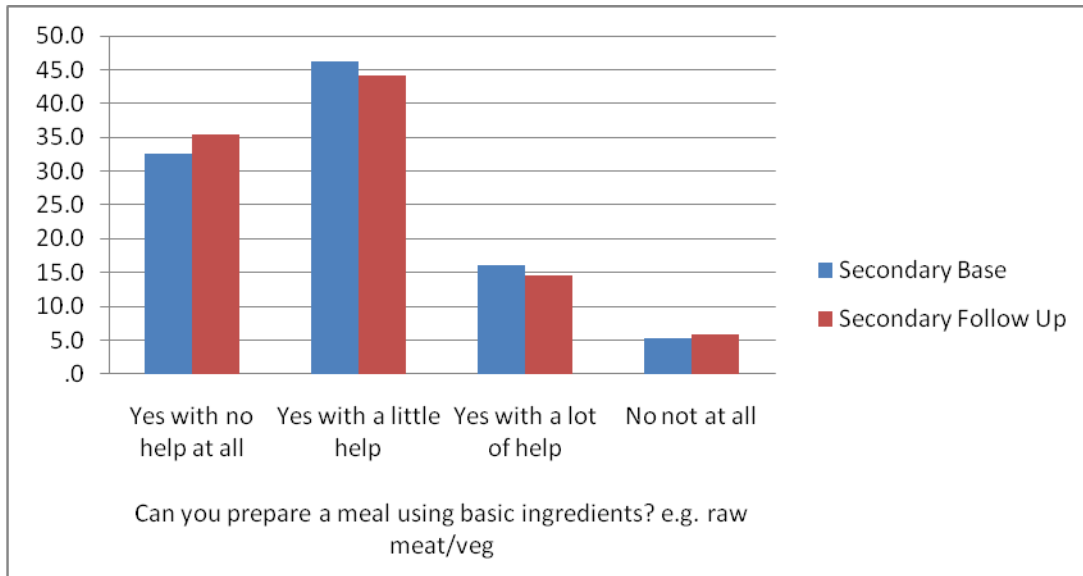


Chart 11.30. Student responses to the question: “How often do you sit and eat in front of the TV?”

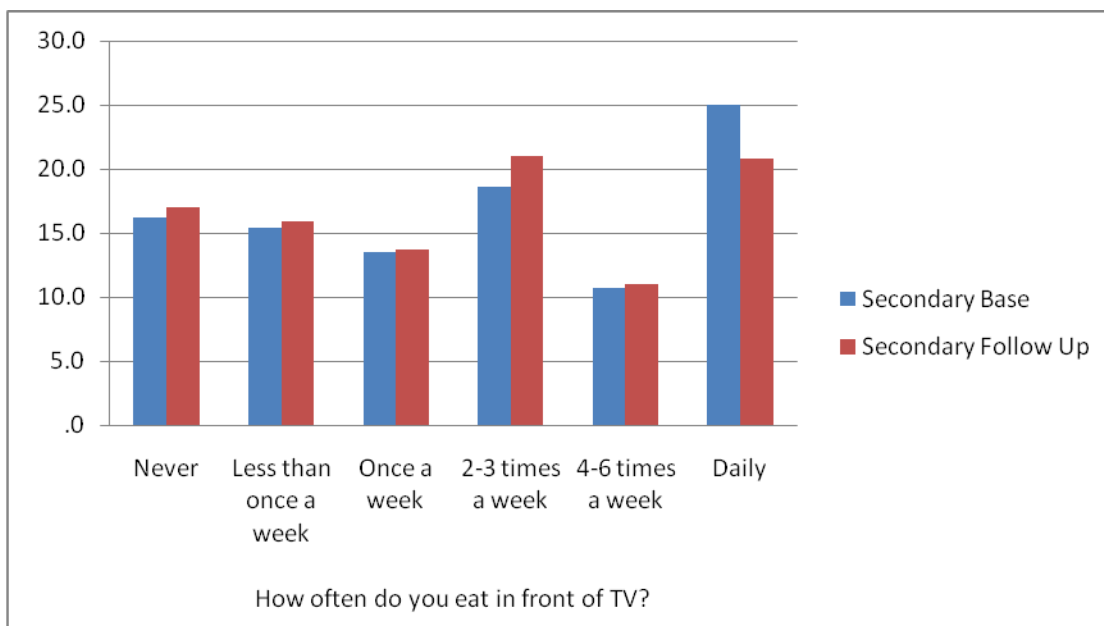


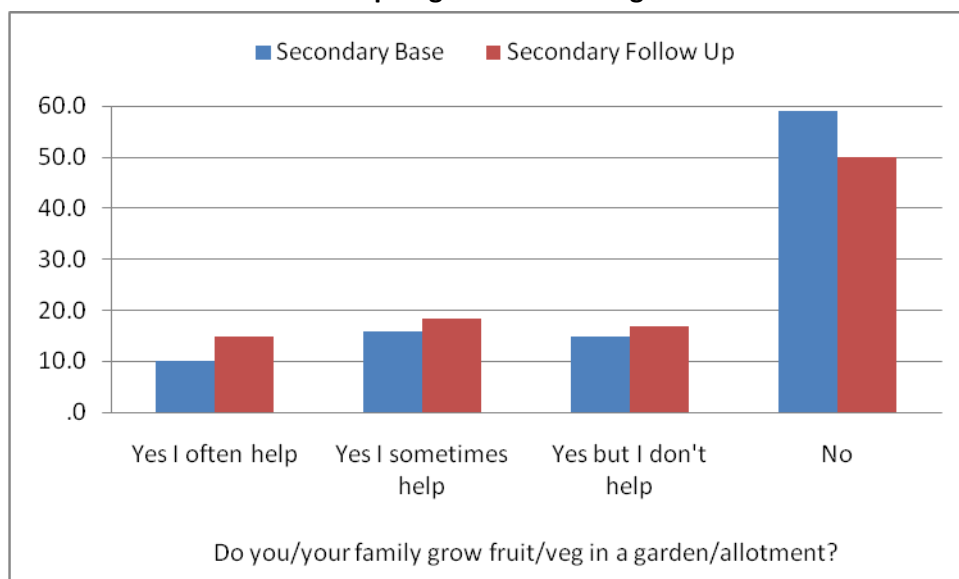
Chart 11.30 suggests a positive improvement at the follow up in the percentage of students who never eat in front of the TV. Whilst this trend is positive, there is no statistically significant difference between baseline and follow up groups.

11.16 Participation in Growing Fruit and Vegetables at Home and School

Student reports of helping to grow fruit and vegetables at home showed no statistically significant differences – although the trend is towards increased engagement. With regard to specific gardening activities, the differences are more marked, for example, the percentage of students who reported

helping to grow potatoes has increased by nearly 8% in the follow up survey. Overall, however, gardening is a minority activity for this age group.

Chart 11.31. Students who help to grow fruits or vegetables at home.



11.17 Attitudes towards eating healthy and sustainable foods

Students were asked to give their views about eating healthier food, helping to cook and helping to grow fruit and vegetables. The results showed no statistically significant differences between the two groups.

Students were asked to give their views on eating a range of types of food. The range included sustainable foods, energy dense (high fat, high sugars foods), and processed or 'fast foods'. The following charts suggest overall positive attitudes towards sustainable foods for both survey groups. This suggests that a majority of students held favourable views towards the increased availability of such foods in the school environment.

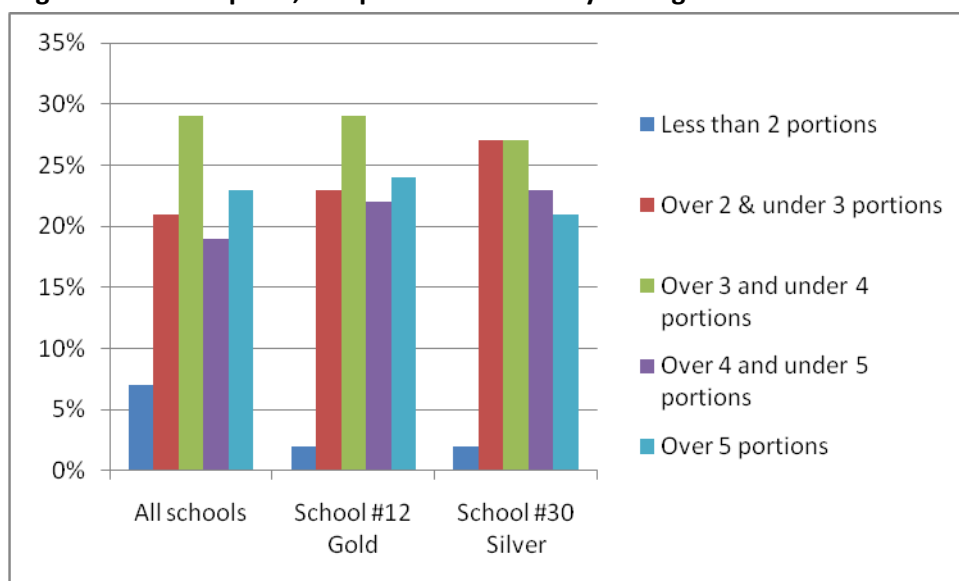
No statistically significant differences were found for any of these variables (applying t-test with unequal variances) between the baseline and follow up profile of responses. However there is a clear pattern of an increased trend in more positive attitudes towards sustainable foods. This trend is more pronounced for positive attitudes towards fair trade food, home grown food and free range eggs. Further details on the results are recorded in the appendix.

11.18 Gold and Silver Mark Schools

Schools based analysis found that patterns of fruit and vegetable consumption were quite varied. Although the number of schools sampled mean that a formal analysis cannot be undertaken, it appears that schools with lower FSM entitlement and in the south of England were more likely to have children reporting eating more fruit and vegetables. It was also clear that students in some (but not all) Silver and the one Gold secondary schools report eating more than the average across the whole survey (see chart 11.32). However, there was no statistically significant association between

healthier eating indicators and FFLP Mark status for secondary schools (See Correspondence analysis in the Appendix).

Chart 11.32 Two FFLP high performing schools and student self reported average fruit and vegetable consumption, compared to the survey average.



11.19 Conclusions

There are a number of limitations to the study that need to be taken into account when interpreting the findings, particularly with regard to the characteristics of the baseline and follow up respondents. The questionnaire was administered on two cross sectional occasions to similar Year groups in the same schools. This means that the study is not tracking longitudinal change in individual student behaviour. For primary schools self reported fruit and vegetable consumption is higher in the follow up population. Whilst the validity of the measure with this age group needs to be taken into account, changes in students' favourite food reports lends support to the case that follow up group report healthier eating behaviour.

Whilst the research design does not control for external factors, improved measures associated with FFLP related activities –notably in food preparation skills and growing activities – lend support to the theory of change that the programme has had an impact on healthy eating outcomes. Some of the results also show a positive trend at follow up. These include: perceptions of school meal dining hall ratings, food preparation at home and school, enjoyment of cooking and growing, helping to grow fruit and vegetables at home and school.

Other results for both primary and secondary surveys show little or no difference in the response profiles between the two survey points. These include: experience of farm activities, awareness of seasonality, helping to cook at home, and confidence to cook with basic ingredients. In the follow up survey, students report very positively on changes to school meals and the dining area in the year before the follow up survey. The content of the written feedback corresponds well with the programme planned inputs. This lends plausibility to some of the other changes observed at follow up.

12. Programme Influences on the Home Environment: parent perspectives

Key points

1083 parents from 52 FFLP Flagship schools completed an evaluation survey on the programme between May and September 2010

The results show high levels of awareness amongst parents of the FFLP programme combined with strong take home messages from children had important impacts at home.

For those surveyed these impacts were connected to changes in buying and consumption particularly around increases in fair-trade, local and seasonal foods.

Parents identified that children wanted to translate their learning at school into activities at home: cooking, growing and shopping. In some cases this had resulted in increased participation by parent's changes to a more healthy diet.

The degree to which parents responded to food messages from the FFLP was related to their own beliefs and values, their financial situation and general engagement with the school.

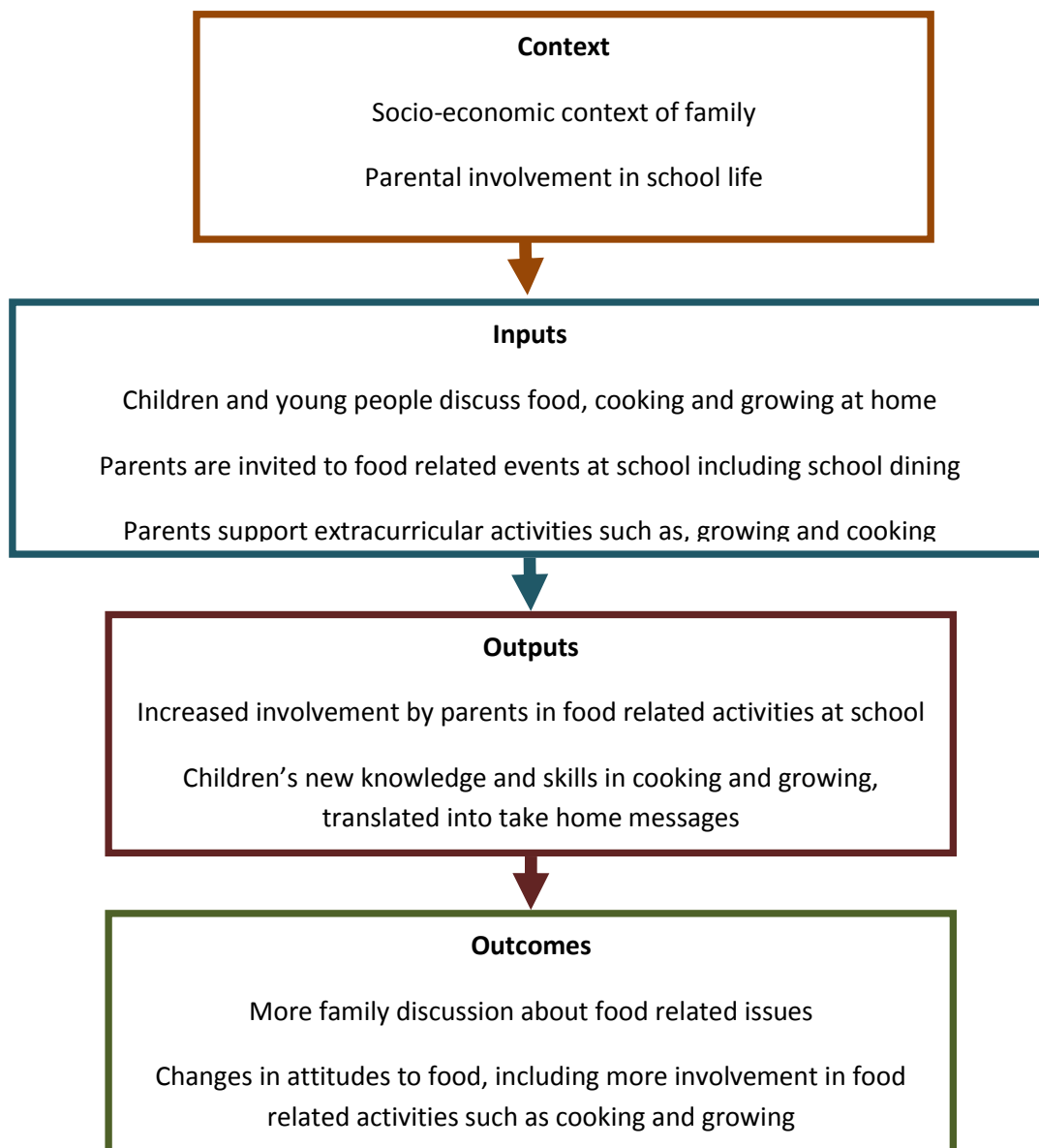
Evidence from school teacher questionnaires and monitoring records provide supplementary evidence that schools considerably expanded the scope of their parental and community engagement with regard to food issues over the evaluation period

12.1 Introduction

This section of the report is concerned with the influence of FFLP on the home environment of students – particularly from the perspective of parents. It draws upon a survey of parents from a sample of Flagship primary and secondary schools conducted 18 to 24 months after enrolment with the programme. It should be noted that other findings relevant to the question of take home influences are reported on elsewhere in the report. These include the perceptions of students themselves (Section 11) and lead teaching staff (Section 13).

[See Section 2.6
for research & policy context](#)

Figure 12.1 The Take Home Message Component of FFLP: Key elements in the theory of change



12.2 Methods

A sample of 35 out of 75 primary and 22 out of 31 secondary schools from phase 1 to 6 were asked to complete the survey as part of the follow up review. For all schools records were collected from lead teachers on the nature and extent of parental and community involvement before and during the programme period. In primary schools children who had undertaken the ‘What’s on your Plate’ survey were asked to take home a sealed questionnaire to their parents or carers. On average 75 questionnaires were distributed through three classes – although this number varied according to the class size. In secondary schools the school office was asked to post the parent questionnaire to the home addresses of a random sample of 120 parents of children in Years 7-10. All questionnaires were returned via a stamped addressed envelope directly to the University. Questions focused on a number of areas: perceptions of school food improvement, children’s involvement in FFLP activities,

the impact of FFLP on discussions at home and subsequent food choices and shopping behaviours. In total 52 schools completed the survey, representing 1083 parents.

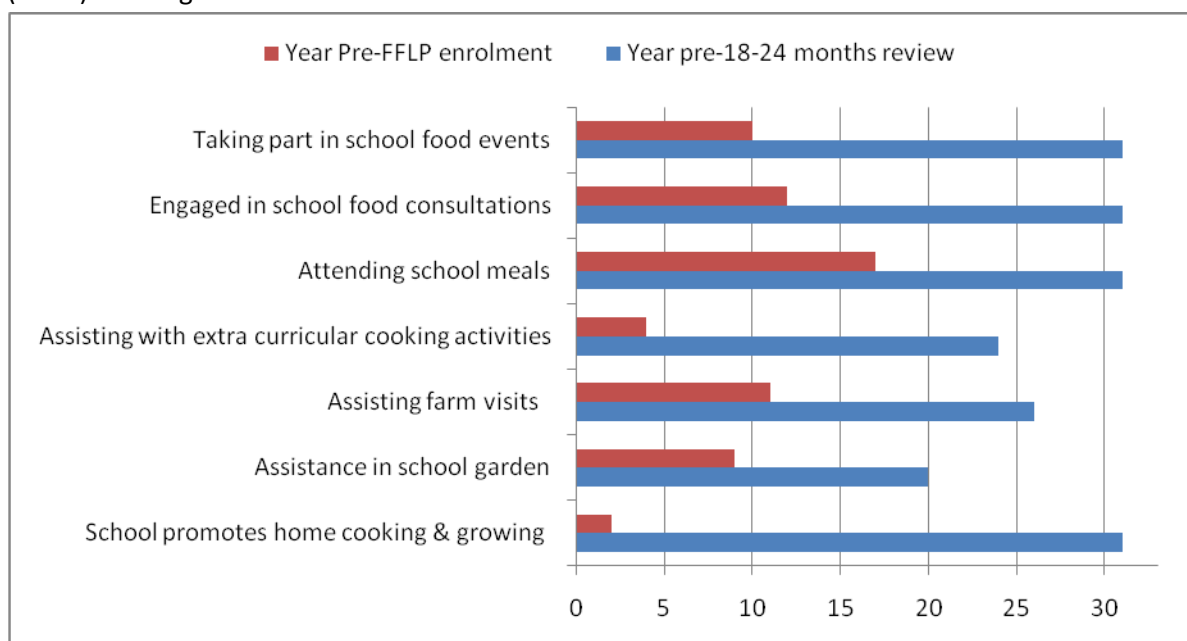
The aim was to establish a purposive sample of parents across schools. This was a pragmatic decision, it was not possible to establish with any certainty response bias which means findings must be interpreted with caution and not generalised to whole school populations. Thirty-three of the schools were primary schools and the target number of completed questionnaires for each school was 24. The range of completions across the sample was between 10 and 38, however 19 schools (58%) did reach the target. The low number of returns for four of the primary schools reflected the small pupil roll (under 100). Reasons for low response rates from some school settings could also have been connected to more general feelings about responding to school requests. Data from OFSTED suggests that survey responses rates from parents are consistently low in schools (see Appendix), so this is not an issue specific to this study.

In total across all primary schools, parents completed 740 questionnaires. Parents reported the ages of their children; these data established that those who responded represented parents who had children across all Year groups. To establish the ages of children represented by survey participants, parents were asked to state the ages of their first, second and third children. The Summary statistics for the ages of the first child are as follows: reception (2%), Years one (7%), two (10%), three (13%), four (17%), five (27%) six (22%), and the final 2% were missing data or reports of older first children at secondary school. In terms of gender, 47.7% of the first children were boys and 51.2% were girls with missing data on the remaining 1.1%. Of the 740 parents, who completed the survey 81% said they had heard of the Food for Life Programme prior to the questionnaire, 19% said they had not and data were missing from 1%. This indicates a strong awareness and coverage of the programme across parents and year groups.

12.3 School engagement with parents

All lead teachers were asked to complete a questionnaire on a number of aspects of parent and carer involvement in their schools. This information was collected on enrolment with the FFLP programme and at the point of the parent survey. On both occasions, lead teachers were asked to provide supporting evidence. At review this took the form of documentary evidence based upon their programme monitoring file. Table 11.1 shows that the primary schools participating in the parental survey had considerably increased their engagement with parents across a number of indicators.

Chart 11.1 School reports on parental engagement. Primary schools participating in parental survey (N=33). Missing data N=1



Supplementary data indicates the nature and extent of this engagement. At review schools reported holding an average of 5 whole school events over the previous year. Respondents estimated that – on average - 7 out of 10 children had at least one parent who had attended one of these events.

Ten schools reported that, for each food education activity (cooking, growing, farm visits) at least 8 parents had taken part. On average, 29% of children had one parent or carer who had tried a school meal in the previous year, although evidence of parental school meal tasting varied considerably between schools.

The pattern for 22 secondary schools participating in the parental survey is similar in terms of overall increased reports of engagement over the course of the programme. However, the exposure of FFLP type activities to parents is on a considerably smaller scale and, aside from whole school event and consultations, was reported to be focused on specific year groups for a shorter duration compared to primary schools.

Parents' involvement in school food activities

Within the survey parents described a number of different types of involvement in school life particularly related to the aims of the programme. These included harvest celebrations (42%), cooking events such as barbecues (37%), food festivals (14%) and food related activities such as events with homemade food (33%). Often events were connected to growing, with 32% of parents' surveyed attending school gardening sessions, or evening taster sessions where school produce and school meal menus were the focus. This may suggest that, for the respondents, food-related activities constituted a significant route for involvement. However, it must be noted that 77.5% of primary and 56.6% of secondary said that they had also been involved in non-school related activities such as sports day or drama performances in the last year.

12.4 Perceptions of school meals

A central objective of the Food for Life Partnership (FFLP) is to increase school meal take up through the improvement of school meals. Parents were therefore asked about the levels of school meal uptake. In total 364 parents were asked 'over the last year, has your child had school meals'? All parents responded to this with 44% of the sample reporting that their child had school dinners every day, or nearly every day, an additional 41 % reported their child had dinners on some days of the week or sometimes, only 15% reported that their child never had school dinners. All parents (n=740) reported on the level of free school meal take up, 11% said their child had free school meals, 74.5% did not. There were missing data from 14.7% of the sample. Parents were asked questions about the level of consultation they had received both in relation to school meals and food issues across the school more generally. The majority of parents (61%) reported that they had been consulted about school dinners, 27% said they had not, 11% could not remember or did not know and non-responses was very low at less than 1%. Most parents also felt they had been consulted more generally (67%), 24% said they had not, 8% did not know and non-response were 1%.

Parents were also asked to assess the quality of school meals and the degree to which they had improved over the previous twelve months resulting in 637 parental responses to these questions. The results are illustrated in the following tables:

Table 12.1 Assessment of school meals

Quality of meals	Frequency of response	Percentage of total sample
Excellent	220	29.7
Good	389	52.6
Neither good or bad	93	12.6
Poor	21	2.8
Very poor	6	0.8
No response	11	1.5
Total	740	100%

Table 12.2 Assessment of levels of improvement

Level of improvement	Frequency of response	Percentage of total sample
Improved enormously	96	13
Got better	350	47
Stayed the same	221	30
Got worse	19	3
No response	54	7
Total	740	100%

This shows positive perceptions of school meal quality and levels of improvement with over 82 % of parents surveyed reporting school meals as either excellent or good. For the majority of respondents, 60% said there was marked improvement and for some (13%) it was felt that the

improvement was very significant. Parents were less positive about the degree to which the school dining area had improved with 51% reporting that it had stayed the same or become slightly worse. Nevertheless, 40% did report improvements, with a significant percentage (8%) reporting dramatic improvements.

12.5 Children's involvement in school based food related activity

In relation to parental perception of children's involvement with food related activities associated with the FFLP, most parents (77%) reported knowing that their children were involved. An important point of note was that, rather than an even distribution of parents who had not heard about the programme across all participating schools there appeared to be clusters of parents in specific schools. This was highlighted again in the more open-ended questions, where these parents reported that consultation and information sharing was poor across all aspects of school life. One parent commented: "I had no idea she was involved in anything so cannot answer. The school is diabolical at keeping parents properly involved, despite their glowing OFSTED". (Q 84:31).

As a result of this involvement parents were asked about whether their child had raised discussions about healthier food choices at home with other family members. There was a very strong endorsement to this question with 77% reporting that they had. 42% reported that their child had raised the issue of fair-trade, 27% had talked about locally grown food. Some children had been able to connect this with the concept of food miles with 15% of parents reporting this had been discussed at home as a consequence of the programme.

A key element of the programme was the development of food culture that encouraged children to cook and try new foods. Although this had often happened at school as part of the programmed activities, a large number of parents (40%) reported their children were also becoming more adventurous at home, talking about new fruit and vegetables in family discussions. This extended to an interest in shopping with 21% reporting that their children were more interested in local shopping. It also included an interest in where food came from, and animal welfare where 23% of parents highlighted free range eggs as something specific that had been discussed. In addition, 25% reported that their child had raised the issue of organic food. In terms of the environment, 20% of parents reported their children had raised the issue of food packaging and its negative environmental impact.

12.6 The content and perceived impact of parent-child discussions

Primary Schools

Cooking was a dominant area of conversation, in particular trying out new recipes and excitement about the development of new skills with 72% of parents reporting conversations at home on this topic. Similarly, lots of children (75%) discussed their experiences of growing fruits and vegetables with parents and siblings. The degree to which the children's involvement in FFLP and subsequent family discussions resulted in changes in eating behaviour was also a focus of the evaluation. Parents were asked to rate the degree to which they ate more, the same or less of a particular food types. These included: organic, seasonal, fair-trade, and locally produced food. In addition parents were asked about changes in relation to free range eggs and organic meat. The results of these questions are summarised in the following table.

Table 12.3 “As a result of your child’s involvement in Food for Life do you eat any more or less of any of the following”

	More %	Same %	Less %	Non response%
Organic food	11	69	3	17
Seasonal food	33	60	0	7
Fair trade food	25	59	1	15
Local food	26	62	1	11
Free range eggs	25	64	1	10
Organic meat	7	69	3	21

Parents self reported increases in buying seasonal, locally grown and fair trade foods. 25% of parents also said they were buying more free range eggs, though reported a smaller increase in organic meat purchases. Interestingly there was a much higher non-response rate to this question. These non-responders were also less likely to report that they were aware of the FFLP programme in their school. As demonstrated above the numbers of parents buying less of the identified food groups were very low.

Parents were asked to complete a five point Likert scale against a number of statements connected to their perception of how their child’s involvement had changed family knowledge, attitudes and behaviours around a number of key areas. These areas included school involvement; cooking from scratch; growing; attitudes to food, food buying and consumption. The table below summarises the main findings from the 740 parents who took part:

Table 12.4 “As a result of my child’s involvement with FFLP we have:”

	Strongly agree %	Agree %	Neither %	Disagree %	Strongly disagree %	Non response %
Got more involved in school life	9	24	50	9	2	6
Learned more about cooking from scratch	13	40	30	10	3	4
Learned more about growing fruit & vegetables	13	40	30	10	3	4
Changed some of the foods we buy	9	35	34	11	3	8
Changed our family attitudes to food	7	31	40	11	3	8
Eaten more fruit and vegetables	11	34	37	10	3	5
Not changed our level of involvement in school life	7	23	35	16	4	15

From a parental perspective children’s involvement in the project had resulted in take home messages that influenced food culture at home. For example, children’s discussions had influenced cooking and food consumption with 38% reporting they either strongly agreed or agreed with a statement suggesting family attitudes to food had changed. In addition, 43% reported changes in

buying patterns and 45% reported they were eating more vegetables as a result of FFLP. For many (53%) these increases were connected also to learning more about growing fruit and vegetables. On the surface it appeared that FFLP had less impact on school involvement. However, there is a plethora of literature that has highlighted the challenges facing schools in their attempts to get parents involved and participating in all school activities. There are particular challenges in areas of deprivation; nevertheless, nearly a third of all parents reported (strongly agreed or agreed) that their involvement had increased.

These changes were explored in more depth, by inclusion of an open-ended question asking parents to share how their child's involvement in FFLP had influenced discussions or behaviours at home. Many parents (60%) completed this section in some depth. Content analysis identified the following categories: radical impact of FFLP on family decision making; take home message directly influenced others; impact of take home message on family members; positive impact on family and child's attitudes and behaviour; an increase in the number of family related food activities taking place; no impact and those who felt that FFLP had a positive impact but included some reservations. A discussion of the main themes and the number of times particular issues were mentioned are summarised in the following table.

Table 12.5 Parent perceptions of take home influences. Themes for written comments.

	Examples of the types of issues raised	Frequency and % (n=740)
Radical impact on family decision making	Strongly reported changes in family buying sustainable, making healthier, choices sustainable foods, food labelling. Report of good curriculum links or increasing family involvement in buying or choosing foods	11 (1.5%)
Take home message directly impacted on others	Parent reported through FFLP child has directly influence others, and gave examples	9 (1%)
Positive impact on family and child's attitudes and behaviour	Some changes in child or family attitudes to food, some possible changes to behaviour. For example child more willing to try varied / new foods, cooking or growing at home	286 (39%)
Positive impact on family activities	More practice of cooking or growing at home as a result of FFLP or shopping More parental involvement/connection with school	56 (8%)
No impact (positive, negative and neutral)	Hard to establish from the data a view, but no negative comments are made about take home messages. Although no concrete examples of behaviour or attitude changes given, parents positive about the programme overall. Hard to establish from the data a view, but no negative comments are made about take home messages Comments that nothing has changed but is negative overall about	73 (10%)

	the programme	
Positive with reservation(s)	Positive but with potential negative consequences	6 (1%)
No comment or not applicable	Nothing written	299 (40%)
Total		740 (100%)

The most common theme was connected to parental reports of the positive impact on family and child's attitudes and behaviour as a result of FFLP. Parents focused in particular on an increased interest in food that included trying new foods and attempts to cook as the following quotes demonstrate:

Food for life makes my son chat more about everyday foods full stop he passed his comments on food knowledge he has learnt in cooking such as ingredients. (44:03).

We buy more of a variety of fruit and vegetables whether they like it or not they will try food now. (55:09).

My child is happier to eat more vegetables especially if home-grown following his involvement in a very successful growing season and their subsequent preparation, cooking and tasting the food is grown. (Q 90:06).

My child has show more interest in cooking at home and is now more understanding as to why we choose to cook from scratch. Also why we choose foods with less air miles, so although it has not changed our way of cooking it has changed her attitude (Q 84:15).

The suggestion that the programme was reinforcing parental values about food was perceived as a good outcome, particularly in relation to healthy eating:

She is very interested in healthy eating as a result we do not eat convenience foods. We eat lots of fruit and vegetables and meat very rarely, mostly fish and eggs that are free range and cheese. (Q 80:17).

This theme extended into discussions about the positive impact of FFLP on other family activities. In some instances the ability of children to influence family discussions about food led to changes in parental behaviour in relation to buying, growing and aspects of food preparation. At home children had articulated strong views about the importance and implications of buying fair trade, free range products and the consequences of excessive packaging on the environment. As the following quotes demonstrate these discussions had led to children's active participation in shopping trips, that influenced parent's decisions around consumption:

My child now tells me to buy more fair trade and free range products which I am happy to do. She also tells me what ingredients she wants me to buy for things she likes to cook. She can now make Victoria sandwich cake without help! (57:04).

We talk about the difference between organic and non-organic food, fair trade and food packaging. Our daughter come shopping with us and has an active input into our meals. (44:01).

Other parents reported preparing different kinds of food and in some cases even growing their own:

We now make smoothies for breakfast with children and grow vegetables in the garden. We are more willing to try new foods. (43:13).

My daughter shows more of an interest in food now. We grow our own tomatoes and chillies. We even attempted growing miniature cucumbers. The family as a whole are a lot more aware of the benefits of healthy eating. (27:02)

For a small minority of parents this had led to radical and significant changes in life style. Parents clearly identified being more aware themselves and having proactive relationships with their children as result of the discussions children had brought home. In the following quotes parents illustrate this with instances of regular meal planning; discussions about shopping; and reductions in buying convenience food.

Every Sunday we discuss which meals to have for the following week so I can compose a shopping list. My son has used his knowledge from school to help with this and make suggestions in relation to vegetables and healthy dishes such as vegetable lasagne and pasta dishes. (Q 73:06).

The children actively dislike convenience food now. I have always bought free range eggs and some organic and cook a lot from fresh, but we eat even less processed and convenience food now I would say. (Q 73:09).

My child has shown a greater interest in healthier eating however, it is in other people's healthier eating not his own! He has however, started to try new things which is a huge improvement. He loves to shop and would also like to start cooking meals at home as a direct result of this program. (Q 20: 12).

They take the sourcing of food very seriously -- food miles, locally produced supporting local, UK growers and farmers. Similarly fair trade while concern has attended a fair trade conference. We do now buying more fair trade products but not organic as preferred to buy products grown near to home as possible. (45: 21)

A number of parents who did view the programme positively overall also raised a number of reservations. This was connected to children wanting to buy more fair trade food but parents feeling that this was unaffordable. In the following quote a single parent highlighted the need for the programme to be sensitive to issues of affordability:

My children each make one meal per week and usually decide what ingredients they need. However, as a single parent on a low income, I feel it is important for them to use what is available at home and be creative. (Q 49:11)

There were a small number of parents who stated that the reason they felt the programme had not had an impact was because it was difficult to establish what kids have picked up from school. For these parents there had been little discussion at home, however, children had reported enjoyed particular activities such as attendance on the cooking bus. Several parents suggested that the programme had had a negative impact; this was connected to parental perception that the programme was a distraction from more important learning or the messages communicated as part of the programme were inappropriate. As the following quotes demonstrate some parents were

particularly concerned about healthy eating messages, particularly around their daughters and the consumption of fat.

My child's involvement in food for life has had Zero impact (non, nil, zilch) on discussions at home. This is a good thing as time given over to this, to meet the latest government fads is time taken away from real education (by which I mean liberal education rooted in subject-based knowledge, but I doubt you would understand that). (Q 59:51).

The message is too much do not enjoy your food, because of its fat content. And not enough focus on balanced diet. Of course they can have cake from time to time as long as they have their vegetables during the same meal. The message should be more moderate especially for girls wearing in a few years time they will become image-conscious. (Q80: 13)

As younger children do, my son saw healthy eating in very black and white ways. He decided that all cake was bad after lessons at school. So I had to explain that home-made wholemeal scones are fine! (27:55).

Secondary schools

Much smaller numbers of secondary schools (n=19) took part in the parental survey. School completion ranged from 4-33, 58% (11 schools) reached the target of 24 parents. The age and Year group profile of parent's first children are included in table below and represented parents of 47% males and 51% females, with a non response rate of 2%. Thirty four per cent of all parents reported their child had school dinner's everyday, 31% some days, 17% never and 18% did not respond. In total 343 parents completed the survey representing a less enthusiastic engagement than primary school parents. This may be connected to lower levels of awareness of the programme with only 47% reporting that they had heard of the programme prior to the survey. This compared poorly to primary parents, at 80%.

There were some similarities in terms of the characteristics between the two samples, with 11% of secondary school parents also reporting their child had free school meals. In relation to school food secondary parents reported a lack of consultation about school meals (57%) and food issues more generally (63%). Nevertheless, they had a positive view of school meals with 69% reporting school meals were excellent or good and 42% suggesting that they had improved enormously or at least got better over the last year. In addition 32% reported seeing improvements in the school dining area. Questions connected to discussions about healthy eating, fair trade, local shopping, organic buying, food miles and new fruits and vegetables were not as marked with primary schools (see tables in appendix). This may be connected to a more general reluctance by older children and teenagers in particular to discuss their learning at home. This also had an impact on subsequent changes in parental and family shopping behaviours, though approximately one fifth (20%) of all parents reported increases in relation to buying seasonal, fair trade and local food and included free range eggs. These results are summarised in the table below.

Table 12.6 “As a result of your child’ involvement in FFLP do you eat any more of the following?”

	More %	Same %	Less %	Non response %
Organic food	8	63	4	25
Seasonal food	28	57	-	15
Fair trade food	20	59	2	19
Local food	20	53	1	26
Free range eggs	26	55	1	18
Organic meat	5	63	5	27

Far fewer parents responded to the more open ended questions asking about the impact of FFLP on discussions at home. Of those (n=141) who did respond, the most common view (n=73) was that involvement had resulted in a positive impact on the family and child’s attitudes and behaviour at home, followed by no impact (n=50). In terms of these positive impacts one parent suggested, “my child now chooses healthier options at school and this is due to the school's excellent attitudes towards food “(Q 84:15). Others focused more on the view that the programme in itself could offer good educational opportunities: “my daughter had a great time at the organic farm, a day trip organised by the school as part of the food for life program. I'm sure this was a great educational opportunity for her “(77:51). Those who reported no or a negative impact focused on concerns about the messages their children were getting. This had resulted in some children becoming faddier about food and feeling preached at. Others felt that the programme had no educational benefit. The following quote eloquently highlights this:

As a result of government and school initiatives for example less salt or sugar less fats etc daughter's diet has become increasingly difficult as she cannot understand why in moderation and salt sugar fat, etc is not allowed in the food preparation process. We always monitor her diet for health purposes but it has now got to the stage where as parents we completely object to schools telling us how and what to feed our daughter! (77:53).

Generally there have been discussions at mealtimes however my daughter still doesn't enjoy food! We have never been faddy eaters and had never encouraged this in our daughter but being at school has made her more choosy about food she eats but not for the healthier or economically or ethically better (77:53)

The FFLP partnership is one of those things which are an irrelevancy to school education and I would disband and spend the money on more books. (Q 59:51).

12.7 Discussion & Conclusions

Data from primary parents in particular indicated a high level of awareness of the FFLP. These parents reported significant impact on discussions at home around the activities children had been involved with and the learning that had taken place. These had focused on the core aspects of the programme connected to: food production and preparation, healthy eating, school food culture and the environment. In a significant number of families these discussions had resulted in raised family awareness and changes in patterns of purchasing and consumption. For example parents reported increases in buying fair trade, local and seasonal foods. Parents also reported that their children were now trying more new foods and were more enthusiastic about cooking

and growing at home. Children wanted to practise the skills they had learnt at school with other family members, for some children this extended to active engagement with family shopping and menu planning.

These findings demonstrate from a parental perspective that there were behavioural outcomes that could be attributed to the programme. Nevertheless, the limitations of the survey sample and the self reported nature of the data must be acknowledged. Those parents who completed the survey possibly represented parents sympathetic to the programme's aims and objectives. Consequently these data may not include the diverse and sometimes contradictory range of views held across whole school populations. Given the challenge of generating change in food and health behaviours across home school boundaries FFLP did appear to create increased opportunities for families to discuss food, its relationship to family health and developed innovative ways of improving food related behaviours and activities in home settings.

The literature in the field consistently highlights the importance of understanding the social context of behaviour change. This is particularly important when messages are crossing boundaries that generate their own limitations and complexities. For instance parents did report children feeling strongly about buying more fair trade goods but felt unable to respond due to their own financial constraints or felt messages from school sometimes undermined family food views. This raises issues for programme developers about how to create programmes that can flexibly engage children in school contexts but also within their family and community contexts. Although the programme developers created hypotheses about the impact of take home messages, no clear methodology was developed to shape or support productive communication across home school boundaries. Similarly there were no clear strategies of communication to reinforce or further develop the primary messages delivered to the child within the school setting. It is possible parental reporting of outcomes could have been further improved by an enhanced and systematic approach that clearly identified parents and families as secondary audiences.

13. Wider Aspects of Programme Influence: School Performance, Pupil Behaviour & Attainment

Key findings

School Census data show that FFLP Flagship schools, on average, improved their attainment scores over the course of the programme period.

Ofsted reports are more than twice as likely to give FFLP Flagship primary schools a rating of 'outstanding' across 10 criteria for inspection compared to the period before programme enrolment.

For all cases where data were available, Ofsted inspection reports are 30% more likely to comment positively on an aspect of healthy or sustainable food related activity in schools in the period after enrolment with FFLP.

Half of the Ofsted reports analysed clearly comment directly on FFLP and FFLP activities. These comments largely focus on health aspects, although they also include references to a wide range of ways in which school food culture impacts upon performance.

Eight out of ten senior teaching staff in FFLP flagship schools report that the initiative has been effective across a range of school development priorities. 67% of school leads say that FFLP activities fed through into positive Ofsted assessments for personal development and well-being. Almost a third report direct links to improved test results.

School leads reflect wider research evidence on the complex links between health programmes and attainment. Nevertheless respondents, particularly in primary school settings, highlight the educational value of whole school food reforms.

School leads report that the most challenging aspects of the programme concern time and resource implications - and the reform of catering and school meals. The most successful elements identified include the mainstreaming of food education (growing, cooking and farm links) and the strategic approach to promoting the participation and enthusiasm of pupils in school life.

13.1 Introduction

Improving pupil behaviour and attainment and wider aspects of school performance are key long term goals for the Food for Life Partnership. As a holistic and multi-level initiative, healthier eating -for children, their families and the community- links through to a wider set of social and educational benefits. This section of the report examines these broader

aspects through an analysis of official reports and external reviews of FFLP schools. In order to help interpret this evidence more closely, it also draws upon the expert perspectives of teachers and senior school management who have had a leading part to play in the programme. Figure 14.1 gives the framework for analysis in this section.

[See Section 2.7
for research & policy context](#)

13.2 Methods

This component of the evaluation employed a mixed methods approach that drew upon both school records and the quantifiable and qualitative responses of lead school staff. Ellis, Hillier, & Summerbell's (2006) report notes a vast array of objective and subjective measures used in the assessment of educational attainment, learning and behaviour. This is reflected in the considerable range of indices available and the diversity of professional opinion. The approach reported here intended to capture both official data on performance and the perceptions of professionals with insight into the programme's implementation. In so doing the study sought to examine some of the plausible linkages between short term impacts and longer term outcomes by drawing upon multiple data sources.

The sample included all 111 schools enrolled as phase 1 to 6 FFLP Flagships. These were 31 secondary schools, 75 primary schools and 5 special schools from all 9 England regions. The data sources, measures and analysis used are summarised as follows:

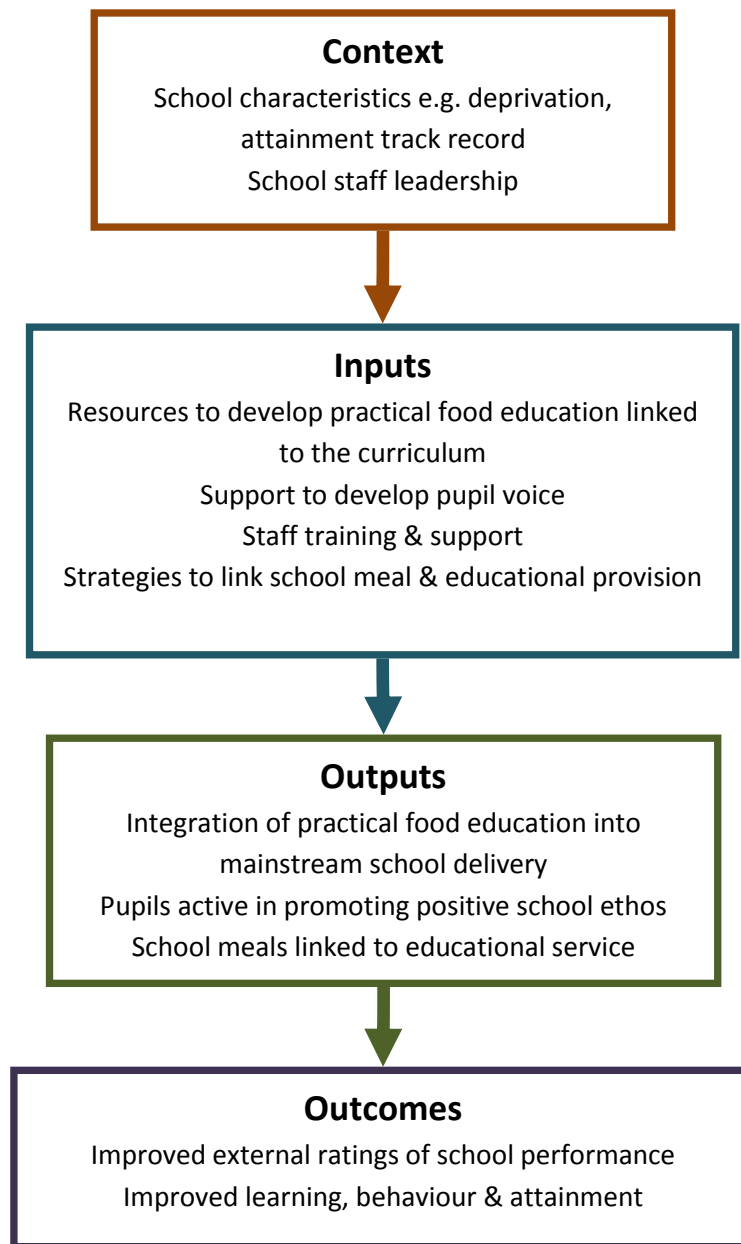
1. Official school data and Ofsted reports

Drawing upon Government School Census and National Statistics data for the period before and after enrolment on the programme we collected information on test scores.

All Ofsted reports were sought for the 1-30 months period prior to enrolment and the 4 to 30 month period post enrolment with the programme. Ofsted inspections are normally conducted on a three year cycle⁸. Due to the phased enrolment process, later phase schools less likely to have post-Ofsted reports. Ofsted letters were included in the analysis. Data on Ofsted judgement ratings and commentary salient to the programme were systematically analysed. Where appropriate for the data, statistical tests were used to examine the strength of association and to compare means.

⁸ Ofsted's inspection process is currently under review (Oct,2010).

Figure 14.1 FFLP and wider influences on school performance: key elements in the theory of change



2. School lead reports

All school leads (usually Head teacher or a member of the SMT) were asked to complete a school leads questionnaire at review. These included closed and open questions of attainment, and wider aspects of the programme's impact on the school. The questionnaire was completed alone or as part of an interview by a member of the research team or FFLP regional coordinator. All FFLP coordinators were trained by a member of the research team to adopt a standardised approach interview questions. The research team checked written responses and subsequently contacted school leads for further clarification if necessary. Where appropriate, we used SEFs and FFLP Mark application forms to collect supplementary information. The qualitative data were thematically analysed.

Findings

13.3 School census data on attainment

The attainment scores show that the FFLP Flagship secondary schools attainment scores are slightly lower than the national average but the gap is slightly smaller in 2009 than for the period prior to the programme. The attainment scores for FFLP Flagship primary are slightly greater than the national average and increase in the period following participation in the programme. In both cases the 2009 scores show a decrease in attainment differences over time. The trends in attainment were therefore positive for the study schools, however the sample sizes are too small to make a reliable inference.

Table 13.1: Flagship Secondary Attainment Scores (Mean average of % GCSEs 5/+ Grades A*-C)
N=31 secondary schools

	Pre-FFLP	Post-FFLP
Academic year	2006	2009
Phase 1-6 Flagship Schools	42.67	49.34
All England Schools	46	50
Difference	-3.33	-0.66

Table 13.2 Flagship Primary School Attainment Scores (Mean average of Key Stage 2 Aggregate test scores) N=71 primary schools. Missing data: 4 schools

	Pre-FFLP	Post-FFLP
Academic year	2006	2009
Phase 1-6 Flagship Schools	246.3	254.32
All England Schools	242	247
Difference	4.3	7.32

13.4 Ofsted Inspection reports: data collection and analysis

This section reports on the analysis of Ofsted reports for the Flagship schools. Out of the 111 schools, 103 had Inspection reports for the 30 month period prior to FFLP enrolment on the Ofsted website. A total of 70 schools (48 primary, 22 secondary) had Inspection reports that covered both the periods of 1 to 30 months before enrolment and 4 to 30 months following enrolment.

For both pre-enrolment and post-enrolment reports, ten Ofsted judgements were recorded for the 70 schools. The ten areas of judgement included overall assessments of school performance, areas with clear links to the FFLP (e.g. healthy lifestyles), and areas where the links were less direct (e.g. attendance). We also recorded Ofsted judgements for parental engagement and community cohesion, however for these it was not possible to make a before and after comparisons because, as recently introduced assessment criteria, they were not available in pre-enrolment reports. For each criteria the inspection judgement of 'outstanding', 'good', 'satisfactory' or 'inadequate' was recorded. These outcomes were put in the context of national data for England schools.

We also conducted a systematic content analysis of all Ofsted reports with the assistance of the Adobe Systems Inc. electronic search function for PDF documents (see Neuendorf, 2001). The set of salient search words used were:

health*; food*; meal*; dinner*; nutrition*; diet*; garden*; grow*; cook*; farm*;
"fair trade"; sustain*; MSC; organic*; SNAG.

All instances of "Food for Life" were logged during the search. Following preliminary analysis 'sustain' and 'organic' were excluded from the search because both terms produced high frequencies of returns that were not relevant to the study. Following Krippendorff's (2004) methodology for content analysis each return was then coded semantically using the following framework:

1. "Positive reference"
2. "Negative reference"
3. "Neutral reference"
4. "Duplicate reference"

A 'positive' or 'negative reference' was used to code the appearance of a search word in the context of an affirmative or critical inspection comment. A 'neutral reference' was classified as the use of a search word descriptively with no positive or negative semantic meaning. These search words usually occurred in the standard headings for inspection reports.

A syntactically defined unit was classified as between one to three adjacent sentences that addressed the same subject. Therefore, a search word that occurred in the same syntactic unit as another was coded as a 'duplicate reference'. The coding protocol and examples for each reference frame are provided in the Appendix.

13.5 Ofsted Report Inspection judgements

With regard to the 48 primary schools in the sample of 70, the inspection judgement ratings show considerable improvement when comparing pre-enrolment and post-enrolment reports. Table 14.3 [Appendix] shows that across the ten selected Ofsted ratings the sample of schools were more than twice as likely to receive a judgement of outstanding (17.3% pre: 36.2% post). In table 14.4, paired T tests results showed statistically significant improvements for 7 out of 10 recorded areas of performance.

Table 13.4: Ofsted Inspection Judgements analysed for Flagship primary schools (N=48)

	Inspection judgements	Paired T test P values
	Overall effectiveness	
1	How effective, efficient and inclusive is the provision of education, integrated care & any extended services in meeting the needs of learners?	0.002
	Achievement and standards	
2	How well do learners achieve?	0.001
	Personal development and well-being	
3	How good is the overall personal development and well-being of the learners?	0.083
4	The extent to which learners adopt healthy lifestyles	0.001
5	How well learners enjoy their education?	0.441
6	The attendance of learners	0.000
7	The behaviour of learners	0.224
	The quality of provision	
8	How effective are teaching and learning in meeting the full range of learners' needs?	0.000
9	How well are learners cared for, guided and supported?	0.003
	Leadership and management	
10	How effective are leadership & management in raising achievement & supporting all learners?	0.003

External factors need to be taken into account when considering these positive trends. Table 13.5 shows that during the study period, there have been annual rises in the percentage of schools receiving positive Ofsted judgements. Nevertheless, even when the national context is factored for, the trends for the primary school Flagship sample is very favourable. There were no clear distinctions in terms of the school deprivation, size or geographical characteristics. This suggests that these positive trends apply to a range of school settings.

The smaller number of secondary schools (22) did not make it possible to conduct a pre- and post- statistical analysis on Ofsted ratings. However the positive trend compares similarly to primary schools.

13.6 Content analysis of Ofsted Inspection commentary

For half the schools, the inspection report commentaries clearly recorded either the FFLP programme, or activities related to the programme. Content analysis of the post enrolment Ofsted reports showed that 50% (35/70) made direct and positive reference to FFLP or FFLP activities.

Table 13.6: Content analysis of Ofsted Reports for FFLP Flagship schools pre- and post enrolment (N=70)

	Total frequency of search words	Positive reference	Negative reference	Neutral reference	Duplicate reference
Ofsted reports 1-30 months enrolment	683	159	8	75	441
Ofsted reports 4-30 months post enrolment	581	208	3	129	241

Table 14.6 shows that overall there were more references to the search words in the pre-enrolment Ofsted reports for schools than in the reports for schools in the post-enrolment period. This is likely to be an artefact of revisions to the Ofsted report formats. Over successive years Ofsted have reduced the overall text length of reports: reports published in 2009-10 are considerably shorter than those produced in 2006-7.

Nevertheless despite reduced word length, table 14.6 shows that the frequency of positive references has increased: Ofsted reports are 30% more likely to comment positively on an aspect of healthy food or sustainable food related activity in schools post-enrolment with FFLP. A T-test for the all 70 schools found that the increase was statistically significant (Mean: from 2.23 to 2.83; SEM 0.217; $t = -2.769$; $P = 0.007$). The association for the sub-set of 48 primary schools was highly significant ($P = 0.001$).

Of the 70 post-enrolment Ofsted reports content analysed, 30% ($n = 21$) referred to 'Food for Life' directly and a further 20% referred to an activity specifically linked to the programme. Examples of these specific activities included:

- Using food grown in the school garden for school meals,
- Cultivation of organic fruit and vegetables,
- The role of a pupil food action group,
- Encouragement to cook from scratch at home.

The majority of the references concerned pupils' adoption of healthy lifestyles and were located in the personal development and well-being section of the report commentaries. However Ofsted inspections also linked the programme to a wide range of aspects of school performance. These lend plausibility to an argument that FFLP programme activities are associated with wider aspects of school performance. Examples of some of the links made by Ofsted are provided in boxed section.

Overall, Ofsted reports for primary schools were more likely to comment on the programme compared to those for secondary schools. A number of factors may account for this, however a specific issue is that Ofsted often conduct focused inspections on specific

aspects of school provision in the secondary sector. Such inspections may not address FFLP related aspects of provision. Ofsted letters to pupils, where available, were also content analysed. These show that there are cases where Inspectors use achievements in relation to food as a fitting subject for congratulating the children.

Ofsted Inspection Commentary on Primary School Food Subjects

Educational value of school meals

They have a very good understanding of how to stay healthy. One of the main reasons for this is because they eat in the school restaurant 'La Cocina', which provides freshly cooked food, which has been locally sourced, including produce from the school allotment in the summer. This means that a much larger proportion of pupils now eat a hot meal at lunchtime.

#48) Mar2009

Experiential learning for a healthy lifestyle

The extent to which pupils adopt a healthy approach to life is outstanding. This is seen in the choices they make for their lunch time meal, their understanding of what constitutes a healthy diet, the experiences they gain from cooking and growing their own food.

#75) Apr2010

Connection between food sustainability and healthier eating

Pupils have an exceptionally good understanding of the importance of a healthy lifestyle reflecting ...its recognition as a Food for Life flagship school. They know what constitutes a healthy diet and, for example, are growing organic potatoes using environmentally sustainable compost produced by the school wormery. Ethical issues are integral to school initiatives and, for example, pupils are challenged to think about the growing and procurement of food as part of the Food for Life project.

#92) Mar2010

The role of food in the creative curriculum

Much of pupils' personal and academic development comes from their engagement with a creatively planned curriculum. Within it, teachers enliven lessons with innovations to catch pupils' interest and deepen their understanding. Examples include successful lessons in philosophy, involvement in a community effort to grow and eat healthy food and good links with children in other countries.

#26) Jan2009

Active pupil voice and personal development

The 'pupil voice' is heard on a range of important issues through their participation in the school council and other groups. The 'Food for Life' group has been actively involved in helping to promote pupils' excellent understanding of healthy foods and lifestyles.

#67) Jan2009

The school-home connection

Staff have planned a curriculum which meets pupils' needs well because they find it engaging, relevant and fun. A good example of this is the innovative work on the 'Food for Life' project, which has been extended to involve parents in providing healthy meals at home.

#26) Jan2009

Food learning and citizenship education

The 'Food for Life Programme' which involves the growing of vegetables in the school garden to enhance the lunchtime menus and cookery classes is particularly interesting. A good programme for social, health and citizenship education pays dividends in terms of outcomes in pupils' personal development.

#55) Jun2009

Food and civil society

The 'Food for Life' initiative, and close links with outside agencies such as 'Water Aid', are increasingly helping teachers to link subjects together so that pupils can see the relevance of learning, and also promotes community cohesion at a global level.

#50) May2009

School as a hub for food culture innovation

Pupils' understanding of ...awareness of healthy lifestyles [is] outstanding. The school's status as a Flagship Food for Life Partner, providing hot meals to five other local schools as well as subsidising lunches for its own pupils, is rightfully valued by staff, pupils and parents.

#57) May2009

Ofsted Inspection Commentary on Secondary School Food Subjects

Linking food technology education to the school meals service

Students have a good grasp of healthy eating fostered, for example, through enthusiastic involvement in a partnership between food technology lessons and the school catering service

#68 Nov2008

Role of food education in promoting take up of school meals

Students understand the importance of healthy lifestyles through work in lessons, assemblies and the additional enrichment activities such as the 'Food Fayre' and the visit of the 'Cooking Bus'. The number of students taking school dinners has significantly increased showing that they appreciate the healthy food on offer.

#17 Oct2008

Food education as an element of PSHE

Pupils are well informed about the need to lead healthy lifestyles and this is well promoted through the specialist status during food technology lessons and through the outstanding programme of personal, social and health education. A high proportion chooses to eat healthily from the exceptional range of nutritiously balanced food available within school.

#62 Sep2009

Reformed school meal provision

Despite the limited lunchtime facilities, a large number of students are able to have a healthy lunch through an excellent, well-thought-out lunchtime rota.

#6

Integration of PSHE and school catering service

The school's commitment to healthy living is exemplary. Use in the canteen is made of vegetables grown by students and parents in the school's allotment. Innovative practice includes a teacher in charge of the hospitality and catering course who oversees the catering in the school canteen, and is also involved in the planning of the personal, social and health programme delivered to students. All this ensures that students are prepared very well to lead healthy lives.

#37

Parent engagement in school life

Students are actively encouraged to opt healthy lifestyles and benefit from the school's approach to the 'Food for Life Partnership' which involves parents and reinforces key messages about healthy living.

#65

Ofsted Inspector's Letters to Pupils on School Food Subjects

The school looks after you extremely well and gives you really good support when you need help. We especially liked the way they help you keep healthy and learn to grow food for the school meals.

#7) Jul2008

You enjoy the many opportunities that the school offers, both in lessons and the interesting visits and clubs. We were very impressed by your school garden and by the 'Chestnut chickens'.

#38) Apr2009

You are lucky to be in a school with such good facilities, including specialist rooms for art, cooking, music and dance, as well as the vegetable garden where some of you help.

#47) May2008

13.7 School lead reports on Food for Life Partnership and school performance

This section analyses the perspectives of school leads on the programme and its impact on wider aspects of school performance. 95 out of 111 schools responded: 77.8% (71/95) of the forms were completed by the head teacher or member of the senior management team (SMT), the remainder was completed by delegates of the SMT with the role of leading on the FFLP programme in their school.

Table 14.7 shows that, on the whole, school leads believe that the programme has been highly effective across a number of domains of whole school food culture. Furthermore, the responses also show that the areas in question are clearly linked to development priorities for the schools. The areas for the clearest positive ratings were for the overall vision for improving school meal culture and pupil involvement in school food issues. The areas where ratings are less strong concern impact on pupil behavior, attention and attainment; parent involvement; and school meal take up.

Table 13.7 Responses to the questions: With regard to the following areas (1) how effective has FFLP been in helping your school make improvements? (2) how important has this area been as a priority for your school?

N=95. Note: percentages have been rounded to the nearest whole number, therefore percentages may not total to 100%. * = Missing data for these items.

	Perceived effectiveness of FFLP in assisting the school				Level of priority for the school			
	Very effective	Effective	Neutral	Ineffective	Very Important	Important	Neutral	Unimportant
A whole school vision for transforming food culture	56.8%	36.8%	4.2%	2.2%	58.9%	34.7%	5.3%	1.1%
Forums (eg SNAG) for leadership, inclusion & action on food in school	45.3%	47.4%	6.4%	1.1%	37.9%	49.5%	10.5%	1.1%
Enhancing the curriculum through food education	38.9%	47.4%	12.7%	1.1%	47.4%	38.9%	8.4%	0%*
Pupil involvement in school food issues	49.5%	45.3%	3.2%	1.1%	57.9%	33.7%	1.1%	1.1%*
Parent involvement in school food issues and wider school life	11.6%	69.5%	16.8%	2.1%	44.2%	44.2%	6.3%	1.1%*

Partnership work with local schools, farmers, businesses & other agencies	34.7%	53.7%	10.6%	1.1%	34.7%	50.5%	11.6%	0%*
Healthier food messages to pupils and their families	36.8%	58.9%	4.2%	0%	61.1%	32.6%	2.1%	0%*
Increasing school meal take up	17.9%	44.2%	29.6%	8.5%	41.1%	43.2%	7.4%	4.4%*
Provision of more local, seasonal and sustainably sourced food in school	40.0%	46.3%	11.6%	3.2%	41.1%	43.2%	7.4%	1.1%*
Improving pupil behaviour, attention and attainment	17.9%	37.9%	42.2%	2.2%	51.4%	29.6%	16.9%	0%*

School leads were asked to judge the extent to which their school's participation had an impact upon the school's Ofsted inspection reports. Matched analysis to the Ofsted inspected schools reported on in the section above shows that, overall, the perceptions of school leads corresponded to the content analysis findings. Table XX shows that school leads clearly identified the programme's link to the Ofsted assessment area of 'pupils' personal development and well-being.'

Table 13.8 Responses to the question: Has participation with Food for Life Partnership had an impact on your school's Ofsted inspection reports?

Note: percentages have been rounded to the nearest whole number, therefore percentages may not total to 100%. Base =70

	<i>Yes, clear impact on Inspection Report (%)</i>	<i>Uncertain impact on Inspection report (%)</i>	<i>No, no evident impact on Inspection report (%)</i>	<i>No response (%)</i>
Achievement and standards	32.8	34.3	21.4	11.4
Pupils' personal development and well-being	67.1	20.0	4.2	8.5
The quality of teaching and learning	35.7	22.8	27.3	14.2
Curriculum provision	54.2	21.0	12.9	11.9
The care, guidance & support provided by the school	45.7	24.3	15.7	14.3
The leadership and management of the school	35.7	26.8	21.4	16.1
Overall impact (mean)	45.2	24.6	17.2	12.7

School leads were asked to further assess the impact of the programme on wider aspects of the school's performance. Table 14.9 shows that the programme was very positively linked to most of the areas in question, however fewer respondents linked the programme to achievement and attainment, and National Curriculum test results.

Table 13.9. Responses to the question: Has participation with Food for Life Partnership contributed to any of the following areas?

Notes: Percentages have been rounded to the nearest whole number, therefore percentages may not total to 100%.

*Bases change due to late introduction of some questions to the questionnaire

	<i>Yes- clear contribution(%)</i>	<i>Uncertain contribution(%)</i>	<i>No evident contribution(%)</i>	<i>No response(%)</i>
Achievement and attainment. National Curriculum test results Base=95*	29.5	45.3	24.2	1.1
Staff development e.g. CPD, team building, work satisfaction Base=74	84.0	0	2.0	14.0
New awards, recognition, grants and/or funds Base=95	72.3	3.2	21.3	2.7
Sharing good practice with other schools Base=74	75.5	4.1	8.2	12.2
New links with other organisations Base=95	84.1	2.3	11.4	2.3

For all the areas reported on above, school leads were given the option to provide additional written commentary or - in the case of interviews – recorded verbal commentary which was then transcribed. This commentary reveals some layers of complexity to the subjects and the impact processes addressed. Respondents perceptions of the most challenging and most successful aspects of the programme are summarised in the following tables.

Table 13.10 Themes in response to the question: What have been the most challenging or difficult aspects of the programme for your school?

78/95 responded to the question. [Note: non respondents likely to have addressed this question elsewhere in their report]

	Frequency
Staff time, staff costs associated with developing management, development of school food policy and delivery of activities	22
FFLP criteria: meeting the criteria, paperwork	17
Caterer commitment	16

Increasing meal take up	15
Food sourcing	14
Parent and wider community involvement	14
Facilities and capital costs for educational cooking and growing. Farm link costs	10
Momentum. Maintaining change over a long period of time	8
Kitchen and dining hall facilities and capital costs	6
Making links with other schools	5
Problems with FFLP communications and staff support	3

Table 14.11 Responses to the open question: What have been the most successful aspects of the programme for your school?

86/95 responded to the question. *[Note: non respondents likely to have addressed this question elsewhere in their report]*

Successful area	Frequency
Development of garden enhanced education	35
Development of cooking education	28
Promotion of whole school food culture	23
Development of farm link and sustainable food education	20
Promoting pupil participation and enthusiasm in school life	20
Parent and community participation in school life	18
Promotion of a healthy lifestyle / healthy eating	16
Improvements to school meal provision	12
Improvements to school dining hall, dining ambience	11
Development of links between teaching & cooking/catering staff	6
Development of links with other schools and outside agencies	6
Creation of new food sourcing opportunities for the school	5

13.8 Qualitative analysis of responses from school leads

In addition to the open question on successes and challenges, schools were asked to make further comments to the closed questions reported on above. These additional written (or transcribed verbal) responses provide an important resource for understanding the interaction between programme processes and the school setting.

Ofsted Inspection views on FFLP: school lead perceptions

Some school leads felt that FFLP formed a very visible aspect of the school's work during the Ofsted inspection and that this was reflected in their reports.

In our recent Ofsted we were congratulated on achieving our Silver Mark. Our work through FFLP was which is clearly visible throughout the school was well noted by the inspectors. #8

The children were very vocal during OFSTED. We were able to demonstrate children's' confidence and self-esteem with the example of the Pass It On event where pupils presented to and taught other children and parents. This came through in the report. #21

We showed them [Ofsted] how the school garden has helped to develop personal skills and well being, as well as community cohesion. #18

However some school leads reported that FFLP related work had not been a focus for the Ofsted Inspection and therefore had gone unrecorded.

We feel that participation with FFLP has made an impact on these areas, as frequently referred to in the SEF, however OFSTED did not write about it in their inspection report. #100

OFSTED is only driven by attainment which influences all judgements and did not report favourably on aspects of healthy eating within school. #14

We had a recent OFSTED inspection. The school promoted FFLP but OFSTED weren't interested. However the Statutory Inspection of Anglican Schools (SIAS) was positive and very interested. #40

Pupil attainment, academic achievement

The responses to closed questions suggested that many school leads were not certain about the impact of the programme on student attainment or academic achievement. Many school leads provided written explanations that they felt unable to determine evidence of impact on attainment. Nevertheless these judgements were often qualified by supplementary points about how the programme activities provided a platform for attainment outcomes.

This impact on attainment is not quantifiable, however the contribution to the curriculum and family dining has increased enthusiasm and motivation #87

It's very hard to cite improvement in behaviour - apart from during cooking skills. #21

FFLP related activities were reported to have an important role in the education of children who were struggling with standard educational provision. The following respondent provided an illustration of this work:

A small number of pupils with learning/behaviour difficulties have been taken off time table for the last 2 years. They have had a curriculum based on food technology - growing, planting, cooking, eating. Their behaviour and attitude to learning increased immeasurably as they took on responsibilities, devised and prepared meals, ate with invited adults and peers in a social setting. Socially and verbally the pupils increased skills, their confidence

soared, and they learned from the focus on organisation, purposeful work tasks, sharing and nurturing. # 88

For some schools, existing good academic achievement meant that FFLP was unlikely to make a significant direct impact:

Pupil behaviour is generally good so really FFLP has simply helped us maintain this. #40

Our academic achievement levels were already above national averages in the core subjects, but FFLP has greatly enhanced achievement in other subjects. #101

Some respondents felt that they could confidently make some connections with attainment. A feature of this feedback was the emphasis on the role of the creative and experiential learning associated with FFLP activities

The new Creative Curriculum has been the catalyst for an improvement in children's learning experiences, and FFLP has been built in to the curriculum from the start. #101

FFLP has helped us move better across curriculum, helped joined up thinking. #64

The connection between healthier school food and children's performance was less frequently raised. For example:

Food for Life has had general links with behaviour by helping promote a balanced diet. #41

Wider effects of the programme

The quantitative data reported above shows that school leads frequently reported effects of the programme on areas of school performance that are indirectly connected to FFLP. The Ofsted inspection judgements and commentary also suggests wider links. With regard to care guidance and support school leads supplemented these connections with examples:

Keeping the chickens & guinea pigs has helped children with self esteem issues/children who struggle at school with friendships and issues such as bereavement #87

The gardening and cooking activities provide vital life skills for the children. FFLP radically improves all the aspects of care, guidance and support. #101

Our exclusions have gone down (since participating in FFLP). #38

The programme was also reported to have an effect on aspects of school leadership and external engagement with the wider community.

*FFLP has united the leadership team, and created excellent working relationships between teams (eg dining room staff/ kitchen staff/children/parents) through the SNAG group.
101*

It's helped develop community links with local Indian restaurant #34

FFL has helped with community cohesion. Our links with the allotment community are now a reality. #72

This project has given children real first-hand experience and enabled the school to broaden its relationships with the wider community, for example, we have an active group of grandparents who regularly help #7

FFLP has played a key role in our Extended Schools and Community Cohesion. #5

Whole school food culture reform

One noteworthy finding recorded in Table 13.11 is the relatively high number of respondents reporting wider whole school system changes. These were coded as the promotion of whole school food culture. Examples of these responses show how the programme is clearly interpreted as a package that integrates different spheres of school life:

The whole process has changed the outlook of the school. We have wider knowledge across the board about the school's vision and philosophy. We've provided the best possible education and welfare based upon a foundation of food culture and well-being. #2

FFLP has focussed and united the staff and pupils in shared vision in the development of a creative curriculum with a green ethos for our school. #49

Whole school involvement has helped transform our culture. This has worked having committed and enthusiastic and hard working co-ordinators. #23

The general approach of the whole food process; growing is embraced and celebrated, this then feeds in to the school dinners where a positive approach to food and eating is developed. #7

Collaborative work inside college between several facilities, and outside agencies and schools [has been successful]. This has been helping with applications into other projects. Here the efforts of three people separately aren't as effective as those being combined and creating more momentum with often unexpected results. #85

The way the whole programme links together & getting the programme to cascade within the school. #81

13.9 Discussion and Conclusions

Whilst commitments to improve school meals and school food education have been primarily made on health grounds, there is considerable interest in whether such these activities may also impact on behaviour, learning and performance. Yet the links between multi-component programmes and wider aspects of school performance are unlikely to be straightforward. In the context of this study it should be noted that the research design allows for the exploration of associations – but can make no causal inferences from the data. Nevertheless the mixed methods approach here have sought to

combine an analysis of official data and expert views to provide a basis for judgements based upon plausibility and reference to external evidence.

The findings show that there are differences in Ofsted Inspection reports on schools before and after enrolment with FFLP. Comparing the two data collection periods, Ofsted Inspection Reports are twice as likely to rate schools as Outstanding across ten areas of judgement on school performance for the period following FFLP enrolment. Content analysis of Ofsted references to food in school show that Inspectors are likely to comment positively on FFLP activities in their reports. These comments are mainly concerned with the healthy lifestyles of children, but also include references to a wider range of ways in which school food culture impacts upon performance. These positive comments show a significant increase in comparison to the period before FFLP enrolment – despite reduced length of the later reports.

School leads report very positively on the impact of the programme across a wide range of domains of school life. They are considerably less certain in their assessment of impact upon attainment and academic achievement. In some cases this reflects the lack of clear links between inputs and outcomes as perceived by lead actors in the programme setting. Equally School Census data on attainment results cannot offer clear supporting evidence. However school leads assessment of impacts on Ofsted ratings and commentaries broadly concur with the documentary evidence. For school leads, particularly in the primary sector, there were some areas of agreement on the positive links between FFLP and sound educational values. Moreover they clearly account for the linkages – or causal mechanisms – that connect the programme to children’s personal development and wellbeing and to wider processes of school improvement. Some of these claims reflect educational research in similar contexts (Houlihan & Waring, 2008). These holistic perspectives also reflect current educational theory and research on the importance of a creative and empowering curriculum within the school environment (Cambridge Primary Review, 2009; Rose Review, 2009).

14. Study Conclusions and the Whole School Food Programme Approach

14.1 Introduction

This section of the report revisits the central research questions that have informed the evaluation. It brings together different elements of the evaluation to examine the theorised connections between the delivery and the longer term goals of the programme. As a whole school initiative, the section explores links between different components of the programme working together.

14.2 Food Sourcing

Although limited in its scope, the analysis of FFLP food sourcing activities presented in this report show clear direct benefit in terms of the numbers of local and organic producers supplying FFLP schools. Impact on MSC producers was less pronounced, mainly because sourcing requirements within the award criteria were less and at least one established food distributor was able to supply an MSC certified line along with its conventional range of products. Nonetheless, the reported increase of 73% for local suppliers and 50% for organic suppliers represents significant new market opportunities when extrapolated across the programme.

This analysis is unable to take account of displacement effects (i.e. producers gaining new local contracts but losing distant contracts as a result of FFLP). Moreover, apart from Gold standard schools, values and volumes of these foods are likely to be small unless part of a larger procurement contract. Evidence does exist however, of Local Authority caterers altering their sourcing arrangements for all schools to assist mark attainment for a small number of FFLP flagship schools. In terms of impact on individual producers, our data shows a large presence of relatively small producers for whom even individual school supply arrangements are likely to be significant. Public procurement contracts are, in principle at least, more secure than other supply arrangements for producers although margins tend to be lower as well.

The increase in both awareness and non-school consumption of local, organic and MSC products demonstrated by pupils and their families as well as other stakeholders involved in the programme (including teachers and catering staff) will no doubt also have a positive impact for producers.

In terms of integration with other elements of the programme, both producers and caterers have clearly become more involved with school based food education. Although there was little evidence of many producers both supplying food and hosting farm visits, FFLP should be confident that programme interaction produced a positive two-way learning experience for many farmers and producers.

As existing literature demonstrates, sourcing from local and organic producers stimulates additional premiums, principally in terms of economic and environmental benefits, than conventional producers (Thatcher & Sharpe 2008, Lancaster & Durie 2008). A more complete account of the

impact of FFLP involvement on local, organic and MSC producers will be provided in the Evaluation Food Sourcing Case Study report.

14.3 Healthier eating and food sustainability awareness

After 18 to 24 months of programme delivery, the evaluation finds plausible evidence of an impact on Year 5 and 6 students' attitudes towards healthier eating and sustainable foods. As a whole school approach there are several evidence-based lines of connection between the programme activities and these longer term behavioural goals. Teacher reports and monitoring records from schools show a considerable upward shift in the scale, integration and range of educational sustainable food activities over the evaluation period. This was accompanied by a rapid process of staff training, improvements in facilities and redeveloping a curriculum for experiential learning.

Activities have increased most markedly in primary schools and these were focused on gardening, practical skills based cookery and engagement with topics on sustainable food. Visits to farms and food businesses were reported as less frequent -but high impact- activities. Through food action planning, students are reported to actively carry this learning into the school environment, for example, with respect to helping to reduce waste at school lunch, running healthy tuck shops or assisting with whole school food celebrations.

This engagement fed through into student questionnaire reports where it was evident that some school based activities had increased amongst the Year 5 and 6 groups that we focused on. Student attitudes, particularly in primary settings, were already very positive. Sustainable food education is clearly linked to student attitudes which indicate the value of this learning. The association between student attitudes and FFLP related activities, is reported in the questionnaires, lends support to the potential for education on sustainability to influence health behaviour.

Increased take up of school meals is itself predictive of healthier eating given external evidence on the better dietary value of school meals as opposed to packed lunches (e.g. Rees et al, 2008). Over 17% more children rated school meals positively, and over 24% more children rated their dining room positively compared to baseline respondents. Over half of children thought that school meals had improved in the last year. Responding to an open question, over one third of children wrote that they thought the meals had become healthier and over 30% wrote that there had been improvement to their dining room. This evidence suggests that healthier school food has increasingly become an established aspect of provision.

Amongst Year 5 and 6 students, increased self reported consumption of fruit and vegetables suggests behavioural impact. However it is important bear in mind that the sample comparison is between two cross sectional studies. Other factors may account for the differences including influences outside the programme itself. Despite larger sample sizes than Health Survey for England, it should also be recognised that the analysis of children's consumption in this evaluation could be questioned, not least because of issues with the reliability of self report data.

At a school level, the contextual factors of higher socio-economic status (measured as lower percentage of free school meal entitlement) and home background appear to be predictors of healthy eating behaviours. The data show that the most promising programme change mechanisms

the experiential and skills based learning elements: notably practical gardening and food preparation activities. As a holistic intervention, a general stimulus effect is also probable.

Supplementary data tracking a sub-sample of six primary schools suggests that behaviour changes occur in the first year of the intervention, and are sustained one year after most FFLP external staff inputs have withdrawn. Behaviour changes are most evident amongst children in the upper middle bracket of fruit and vegetable consumption.

The secondary school surveys with Years 7 to 10 produced less conclusive results. At follow up there were positive trends for increased fruit and vegetable intake, and attitudes towards: the school meal service, cooking, growing, food sustainability and healthier eating. However none of these positive trends were statistically significant. Student questionnaire reports and school lead reports indicate quite limited exposure of students to the combined elements of the programme. This may account for the results, although it could also be the case that a longer time period is needed for observable changes to occur.

Nevertheless the secondary surveys provide valuable insight for health and sustainability programmes in schools. The findings suggest that action to promote practical food skills and interest in environmental sustainability is needed to address deficits in the learning experiences of young teenagers.

14.4 School Meal Take Up

The evaluation finds that the FFLP Flagship school programme is associated with increases in school meal take up that are above national trends for both paid and free school meals. Increases in take up are evident within the first year and are sustained into the second year of the programme.

For primary schools increased take up was greater amongst those schools supplying higher quality data. This might be because these schools and caterers were keen to evidence their positive results. However better monitoring in itself is also likely to help schools and caterers track the progress of their reforms –which can link through to clearer and more focused action (Ofsted, 2010). Poor quality monitoring at the local level has been reported elsewhere (ibid) and this evaluation has also found that this did not assist in their food action planning.

The take up trends in relation to FFLP Mark status was found to be broadly positive, although the specific added value of stakeholder involvement proved harder to evidence. The link between programme actions and free school meal take up is an important connection. This may reflect evidence of the building of greater trust and confidence in the quality of school meals amongst parents and students. It also needs to be recognised that external economic trends are likely to have played a role for some schools. Nevertheless these trends suggest that participation in the FFLP Flagship programme has been effective for schools with in areas of high social deprivation.

In addition to the evaluation data provided in the school meal section of the report, other data sources lend plausibility to the effectiveness of FFLP strategies. Records provided by schools show a considerable volume of activities from different quarters to promote school meals. These include school food action planning, closer integration between food education and the work of the school kitchen and, to a lesser extent, reforms to school food procurement.

In primary school settings these changes are evidenced in participant feedback. Questionnaire survey results find that students rate school meals more positively as a result of FFLP. They also report that school meals have become healthier, tastier and better presented and that the dining environment has improved. 60% of parents surveyed reported that they believed school meals had markedly improved. Student and parent feedback from secondary schools is more mixed, although positive overall.

14.5 Home influences and parental engagement in school life

The evaluation suggests that from a parental perspective schools adopting the FFLP approach influenced parental behaviours towards healthier & sustainable foods. This was characterised by parents as increased discussions at home about food and more involvement in food based activities such as cooking, growing and shopping. Findings from children supported this with 35% reporting they had helped to grow fruit and vegetables at home in the last year. For some families this translated into changes in patterns of buying and consumption, particularly in terms of healthier, locally produced, fair trade and seasonal foods. These are findings that are consistent with others in the field that have highlighted the impact of children's learning in influencing family eating patterns (Heim et al 2009; Demas 1998). In particular, parents talked with enthusiasm about their children taking more interest in what they ate, how it was produced and a desire to try new foods. Writers such as Byron (2009) have argued that engaging with children in discussion about areas they are enthusiastic to share is a key way of maintaining open dialogue with children and young people, as it is unthreatening. On a practical note, parents did raise some concerns about the financial implications of making changes for those on low incomes and aspects of the health promotion messages delivered by the programme. In particular, those connected to promoting foods with a low fat content for children and young people already concerned about body image and dieting.

In addition, the proposition that the FFLP approach encouraged parents and community members to get more involved in school life" certainly resonated with increased participation in a whole number of food related activities. Discussion and involvement included not just parents but also extended families (grandparents, & siblings) and engagement with other members of the local community. Moreover, two thirds of the parents who took part in the case study suggested it had changed their interest and involvement in school life. Activities associated with FFLP attracted high levels of parent engagement and acted as a basis for involving a wide range of parents in school life. This is important given the recognised challenges school face particularly within deprived communities in successfully engaging and retaining parental involvement.

This is supported in the analysis of Ofsted Commentaries where positive reference to FFLP or its activities were connected to the school-home connection; reviewers suggested that this had culminated in parents providing healthy meals at home. These community connections were also highlighted in the school lead review where the programme was reported to have an effect on aspects of school leadership and external engagement with the wider community. School leads highlighted the close networks of teams between dining room staff/ kitchen staff/children/parents that had worked together to maximise the impact of the programme. This had also enabled the school to broaden its relationships with the wider community, including for example active groups of grandparents who regularly helped in extracurricular activities. Some of these links extended to

external agencies such as 'Water Aid', which were used to link subjects together so that pupils understood the relevance of learning, and also promotes community cohesion not only at a local but also a global level.

Nevertheless, those parents who most actively engaged with this evaluation are perhaps those most sympathetic to the programme's aims and objectives. These data may therefore not include the diverse and sometimes contradictory range of views held across whole school populations. In addition, given the literature in the field highlights the complex and challenging nature of communicating messages across home school boundaries, an enhanced and systematic approach that clearly identified parents and families as secondary audiences may have improved outcomes still further.

14.6 Wider school programme influences of the programme

Official data shows a diverse mix of schools participating in the evaluation in terms of sector, region, size, catering model, free school meal eligibility, pupil ethnicity and attainment. The FFLP approach has therefore been implemented in a wide range of school and catering contexts across England. External research suggests that the links between health promotion initiatives and school performance is likely to be shaped by these factors. Moreover the links between programme inputs and educational outcomes are likely to be complex and longer term in character.

In terms of shorter term influences, the evaluation has found that external official school assessments by Ofsted often comment positively on FFLP activities. Such inspection commentaries go beyond the health aspects to identify wider educational benefits of the programme. Comparing the periods before and after programme participation, Ofsted Inspection Reports are twice as likely to rate schools as Outstanding across ten areas of judgement on school performance in the period following FFLP enrolment. Whilst the connections are not always easy to draw, 45% of school leads reported that the programme has had a clear impact on their Ofsted results.

Evidence from official data sources for changes in test results, absenteeism and other indicators apart from Ofsted reports are inconclusive. These processes are best examined over a longer period of years and with a larger sample of schools.

Although direct connections were not always evident, one third of school leads associated FFLP activities with improved attainment and behaviour. As research on other health promotion initiatives has found (e.g. Houlihan & Waring, 2008), teachers identify the holistic programme approach and whole school vision as underpinning drivers for creating better educational outcomes in their schools.

The FFLP programme design gave emphasis to the role of programme activities in promoting enjoyment and confidence to grow and prepare food and to understand food origins. The evaluation surveys suggest positive changes in these areas, especially in primary school settings. Parent and teacher reports suggest that improvements in these areas contributed to wider learning outcomes. The connections were therefore widely perceived by those engaged with the FFLP approach, even where clear outcome evidence was not necessarily available.

14.7 Strengths and Limitations of the study

The methodology section outlined a number of challenges in the evaluation of complex community based programmes. The theory of change approach adopted in this study helped track the links between programme inputs through to early evidence of outcomes. The scope and depth of data collection has provided an opportunity to test the mechanisms for change articulated in the FFLP programme model.

Nevertheless the findings of this report need to be put into to context of the scope of the evaluation and the research design. There are a number of aspects of the programme that were not included within the scope of the evaluation commission. Some aspects include:

- an economic analysis of the programme,
- in depth analysis of the phase 1-6 special schools,
- evaluation of longer term development and outcomes of the programme,
- evaluation of the FFLP partnership schools,
- analysis of clusters or networks of schools adopting the FFLP approach,
- analysis of the wider policy impact of the programme.

Whilst the study has a pre- and post- design, there is no external comparison with schools outside the Flagship programme. This limits understanding of how schools can employ FFLP approaches in the absence of FFLP Flagship programme support. The original evaluation proposal included a matched comparison with non-Flagship schools, however this component of the evaluation was not finally commissioned.

Some other limitations to the evaluation findings include:

- the self selected programme recruitment process,
- the subjective nature of the evaluative ratings and qualitative feedback from school and caterer lead staff,
- scope for an approval bias in the responses of some participants closely engaged in the programme,
- revisions to the data collection tools in response to emerging elements of the programme delivery,
- non-responses, missing data and low quality data notably for some aspects of the food sourcing and catering elements of the programme.

14.8 FFLP and the Whole School Approach

FFLP's Flagship programme whole school approach has been extensive and wide ranging. It has sought to work not only with children and young people but the whole school community: including parents and other stakeholders such as school cooks. Its educational work has sought to go beyond the classroom to include the lunch break and the extended school environment. The programme delivery has included support to develop new resources and facilities, staff training, policy development and external partnerships.

As a multi-component initiative the programme therefore works on a variety of levels of implementation. It has also sought achieve short term and longer term objectives that not only that

address the promotion of health, but also connect to social and economic sustainability and the improved performance of school based education.

For FFLP, the whole school approach appears to have had some benefits that might be less evident in a single issue programme. Some of these deeper processes can include:

- Working on a wide range of issues at the same time, FFLP's whole school approach generates a general stimulus. Programme messages become reiterated or amplified in multiple settings – such as the classroom, the dining room and the after school club.
- As part of an inclusive process, the whole school approach mobilises diverse stakeholders to act, each within their spheres of influence - whether these are amongst student peer groups, catering teams or parent social networks.
- Previously disconnected areas of activity become linked – such as the kitchen and the school garden – and these connections unlock creative possibilities for action. Moreover they then become areas of school activity that obtain greater visibility and credibility as part of a joined up initiative.
- The whole school approach creates an overarching set of principles and practises for organising work over the longer term. This helps the school maintain continuity of action despite shifting circumstances.

The evaluation results show all of these processes in operation across different areas of the FFLP's programme implementation. They support the case for holistic rather than single issue reforms in school settings. However, the evaluation also identified a number of downsides associated with the whole school approach. Some of these include:

- Programme inputs become highly dispersed in an effort to create an impact across the whole school. This dilutes the potential impact of the programme.
- Action to address a wide range of goals leads to difficulties for prioritisation. In some contexts this led to action on the quick wins rather than the more complex or demanding aspects to the programme.
- Programme messages become conflated with local or other external issues such that there is an erosion of the programme's identity.
- The extent, intensity and duration of the actions required create high levels of demand for participating schools.

Thus, although FFLP's whole school approach holds considerable appeal, some of the ambitious aspirations have clearly presented a challenge for participants. The evaluation results show all of these processes in operation across different areas of the FFLP's programme implementation. Changes theorised in the FFLP model were found to have an empirical basis across a number of domains of action. Although not universally the case, FFLP Mark standards can act as a point of reference for school meal take up, parental engagement, sustainable food attitudes and healthier eating. These outcomes relate to schools in different settings for example those with indicators of higher social deprivation or lacking in infrastructure or staff skills at the outset. Achievement in these circumstances provides a strong case for multi-level and holistic food reform programmes in school settings.

15. References

- Abdallah, S., Steuer, S., Marks, N. and Page, N. (2008) Well-being Evaluation Tools: a research and development project for the Big Lottery Fund. New economics foundation
- Alaimo, K., Packnett, E., Miles, R. and Kruger, D. (2008) Fruit and vegetable intake among urban community gardeners. *Journal of Nutrition Education Behaviour*.40(2):94-101.
- Behrman, J. (1996) The Impact of health and nutrition on education. *World Bank Research Observer*. 11 (1): 23-37
- Belot, M. & James J. (2009) Healthy School Meals and Educational Outcomes. ISER Working Paper Series.
- Birch L.L. (1999) Development of Food Preferences. *Annual Review of Nutrition*.19:41-62.
- Blair, D. (2009) The Child in the Garden: An Evaluative Review of the Benefits of School Gardening. *Journal of Environmental Education*. 40(2):24.
- Blanchette, L. and Brug, J. (2005) Determinants of fruit and vegetable consumption among 6-12 year old children and effective interventions to increase consumption. *Journal of Human Nutrition and Diet*. 18(6):431-443.
- Brooks, R. and Tough, S. (2006) Pupil attainment. Time for a Three R's guarantee. IPPR
- Brug, J., Tak, N.I., te Velde, S.J., Bere, E. and de Bourdeaudhuij, I. (2008) Taste preferences, liking and other factors related to fruit and vegetable intakes among schoolchildren: results from observational studies. *Br J Nutrition*. 99 Supplement 1:S7-S14.
- Byron, T. (2009) The "Oh, Nothing Much" Report: The value of after-school conversation. Coventry: Becta. nextgenerationlearning.org.uk/Global/The%20Oh%20Nothing%20Much%20report%20-%2023.03.09.pdf
- Cambridge Primary Review (2009) Towards a New Primary Curriculum. http://www.primaryreview.org.uk/Downloads/Curriculum_report/CPR_Curriculum_report_briefing.pdf. Accessed 26th November 2010.
- CDC [Centers for Disease Control and Prevention]. (2010) Evidence Base. Guide to Fruit and Vegetable Strategies to Increase Access, Availability and Consumption. Available at: <http://www.eatsmartmovemorenc.com/TheEvidence/Texts/StratstoIncreaseFruitVegConsumption.pdf> Accessed 26th November 2010
- COI Communications on behalf of Food Standard Agency. (2004) FSA Cooking Bus: Qualitative Research Report of *Findings*. London: COI Communications.
- Connell, J. & Kubisch, A. (1998) Applying a theory of change approach to the evaluation of comprehensive community initiatives: progress prospects and problems, in Fulbright-Anderson ,A.,

Kubisch, A., and Connell, J. (eds.) New approaches to evaluating community initiatives: theory measurement and analysis. Pp15-44. DC Aspen Institute.

Contento, I. (1981) Children's Thinking About Food and Eating - a Piagetian-Based Study. *J Nutrition Education*.13(1):S86-S90.

Crowther R., Dinsdale H., Rutter, H. and Kyffin, R. (2007) Analysis of the National Childhood Obesity Database 2005-06. A report for the Department of Health by the South East Public Health Observatory on behalf of the Association of Public Health Observatories. Department of Health: London

Crozier, G. and Davies, J. (2007). Hard to reach parents or hard to reach schools? A discussion of home-school relations, with particular reference to Bangladeshi and Pakistani parents. *British Educational Research Journal*. 33,3: 295-313.

Currie C., Gabhainn S., Godeau E., Roberts C. and Barnekow, V. (2006) *Inequalities in Young People's Health*. HSBC international report from the 2005/2006 survey. WHO.

<http://www.euro.who.int/Document/E91416.pdf>

Accessed 26th November 2010.

Daykin, N. and Jones, M. (2008) *Sociology of Health in Naidoo J & Wills J, (eds.) (2008) Health Studies: An Introduction*. 2nd Edition London: Palgrave Macmillan

DCSF [Department of Children Schools and Families]. (2005) Transforming School Meals: setting the standard. Policy statement.

www.dcsf.gov.uk/pns/DisplayPN.cgi?pn_id=2005_0052

Accessed 26th November 2010.

DCSF [Department of Children Schools and Families].(2007) Every Child Matters: Change for Children. Policy document.

<http://www.dcsf.gov.uk/everychildmatters/about>

Accessed 26th November 2010.

de Sa J & Lock K (2008) Will European agricultural policy for school fruit and vegetables improve public health? A review of school fruit and vegetable programmes. *European Journal of Public Health* 18 (6): 558-568.

Department of Health and Department for Children, Schools and Families (2007). *Healthy Schools Handbook*. London: DH and DCSF.

Dean, H. (2010) *Understanding Human Needs*. Bristol: The Policy Press

Demas, A. (1998) Low-fat school lunch programs: achieving acceptance. *American Journal of Cardiology*. Nov 26; 82(10B):80T-82T.

Department of Health (2008a) *Healthy Weight, Healthy Lives: Consumer insight Summary*: London HM Government

Department of Health (2008b) *High Quality Care For All, NHS Next Stage Review Final Report*. London. DH

Department of Health (2010) *Healthy Lives, Healthy people: Our strategy for public health in England*. London: The Stationery Office.
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_121941.

Department of Health & Food Standards Agency (2010) *National Diet and Nutrition Survey Headline results from Year 1 of the Rolling Programme (2008/2009)* Edited by: Beverley Bates, Alison Lennox, Gillian Swan. DH & FSA: London

Devine CM., Wolfe WS., Frongillo EA. Jr. and Bisogni CA. (1999) Life-course events and experiences: association with fruit and vegetable consumption in 3 ethnic groups. *J Am Diet Association*. 99(3):309-314.

DfES [Department for Education and Skills] (2003) *Establishing a Food Partnership between Primary and Secondary Schools*. Halifax: DfES

Ellis, L., Hillier, F. and Summerbell, C. (2006) Centre for Food, Physical Activity and Obesity Research. A systematic review of the effect of nutrition, diet and dietary change on learning, education and performance of children of relevance to UK schools.
www.food.gov.uk/multimedia/pdfs/systemreview.pdf
Accessed 26th November 2010.

Evans, C., Greenwood, D., Thomas, J., and Cade, J. (2010) A cross sectional survey of children's packed lunches in the UK: food- and nutrient-based results. *Journal of Epidemiology & Community Health*. 10.1136/jech.2008.085977

FFLP (2010) Return of the Turkey Twizzler? How cost cuts threaten the school food revolution. Food For Life Partnership.

Fung, T., Chiuve, S., McCullough, M., Rexrode, K., Logroscino, G. and Hu, F. (2008) Adherence to a DASH-style diet and risk of coronary heart disease and stroke in women. *Archives of Internal Medicine*. 168(7):713-720.

Government Office for Science (2007) *Tackling Obesities: Future Choices. Summary of Key Messages*. Department of Innovation Universities and Skills: London

Gustaffson, U. 2003 *School Meals Policy: The Problem with Governing Children*, Oxford: Blackwell,

Haase, M. et al, (2004) Center for Food & Justice, Fresh from the Farm and Into the Classroom. available at: http://departments.oxy.edu/uepi/c>/publications/fresh_from_the_farm.pdf

He, FJ., Nowson, CA., MacGregor, GA. (2006) Fruit and vegetable consumption and stroke: meta-analysis of cohort studies. *The Lancet*.;367(9507):320-326.

Health Survey for England (2009) Children Trend Tables. National Statistics. Accessible at <http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england>
Accessed 26th November 2010

- Heim, S., Stang, J. and Ireland, M. (2009) A garden pilot project enhances fruit and vegetable consumption among children. *J Am Diet Association*.;109(7):1220-1226.
- Houlihan, B. and Waring, A. (2008) The impact of School Sport Partnerships on pupil attainment. Loughborough Partnership. Loughborough: YST
- Hu, FB. (2003) Plant-based foods and prevention of cardiovascular disease: an overview. *Am J Clinical Nutrition*;78(3 Suppl):544S-551S.
- Jones, M., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2010) Food for Life Partnership Evaluation: primary schools case study. Bristol: University of the West of England.
- Joshi, A., Azuma, A. and Feenstra, G. (2008) Do farm-to-school programs make a difference? Findings and future research needs. *Journal of Hunger & Environmental Nutrition* 2008;3: 229-246
- Joshi, A., and Azuma, A. (2009) Bearing Fruit: Farm to School Program Evaluation Resources and Recommendations. Center for Food & Justice Urban & Environmen Available at: <http://departments.oxy.edu/uepi/cfj/bearingfruit.htm>
Accessed 13th November 2010
- Joshi, A., Kalb, M. and Beery, M. (2006) Going Local: Paths to success for farm to school programs. Case study "Illinois: Fresh from the Farm -and into the Classroom", available at: <http://departments.oxy.edu/uepi/c/> /publications/goinglocal.pdf>.
- Lancaster, O. & Durie, S. (2008) The Social Return On Investment of Food For Life School Meals In East Ayrshire, Edinburgh: Footprint Consulting Limited
- Lautenschlager, L. and Smith, C. (2007). Beliefs, knowledge, and values held by inner-city youth about gardening, nutrition, and cooking. *Agriculture and Human Values*, 24(4):245-258.
- Libman, K. (2007). Growing Youth Growing Food: How Vegetable Gardening Influences Young People's Food Consciousness and Eating Habits. *Applied Environmental Education & Communication* 6(1): 87 - 95.
- London Economics (2009) An analysis of the relationship between school meal take-up and prices. A report prepared for the School Food Trust. London, London Economics
http://www.schoolfoodtrust.org.uk/UploadDocs/Library/Documents/sft_elasticity_of_demand.pdf
Accessed 26th November 2010.
- McAleese, JD. and Rankin, LL. (2007) Garden-Based Nutrition Education Affects Fruit and Vegetable Consumption in Sixth-Grade Adolescents. *Journal of the American Diet Association*;107(4):662-665
- Medical Research Council (Human Nutrition Research) (2007) *The 'Healthy Living' Social Marketing Initiative: A review of the evidence*. London: Department of Health.
- Montonen, J., Knekt, P., Jarvinen, R. and Reunanen, A. (2004) Dietary Antioxidant Intake and Risk of Type 2 Diabetes. *Diabetes Care*.;27(2):362-366.

- Morgan, K. and Morley, A. (2006) *Sustainable Public Procurement: From Good Intentions to Good Practice*. Welsh Local Government Association, Cardiff.
- Morgan, K. and Sonnino, R. (2008) *The School Food Revolution: Public Food and the Challenge of Sustainable Development*, Earthscan.
- Morris, J.L., Neustadter, A. and Zidenberg-Cherr, S. (2001). First-grade gardeners more likely to taste vegetables. *California Agriculture*. 55:43-46.
- Morris J.L. and Zidenberg-Cherr S. (2002) Garden-enhanced nutrition curriculum improves fourth-grade school children's knowledge of nutrition and preferences for some vegetables. *J Am Diet Association*.102(1):91-93.
- National Statistics (2009) *Health Survey for England Children Trend Tables*. National Statistics. Accessible at <http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england>
Accessed 13th November 2010
- Nelson, M., Erens, B., Bates, B., Church, S. and Boshler, T. (2007a) *Low Income Diet and Nutrition Survey*. Norwich: TSO
- Nelson, M., Erens, B., Bates, B., Church, S., and Boshler, T. (2007b) *Low Income Diet and Nutrition Survey. Appendices and Tables*. Norwich: TSO
- Nicholas J., Powell R. and Smith R. (2006) *Review of the School Meals Service and Other School Nutritional Issues in Wales: Final Report*. Slough: NFER.
- Nutbeam, D. (1998) Evaluating Health Promotion – progress, problems and solutions. *Health Promotion International*. Vol. 13, No. 1, 27-44.
- NYorks BEP [North Yorkshire Business & Education Partnership, Business & Education South Yorkshire] (2004). *The Dining Room Environment Project*. Food in Schools Programme (DfES, DH).
- Ofsted (2010) *Food in schools - Progress in implementing the new standards*.
<http://www.ofsted.gov.uk/Ofsted-home/News/Press-and-media/2010/June/Schools-show-encouraging-progress-in-promoting-healthy-eating>
Accessed 26th November 2010.
- Oliver, S. (2001) Making research more useful: integrating different perspectives and different methods. In: Oliver, S. and Peersman, G. (eds) *Using Research for Effective Health Promotion*. Buckingham: Open University Press, pp. 167-179.
- Oliver, S., Milne, R., Bradburn, J., Buchanan, P., Kerridge, L., Walley, T. and Gabbay, J. (2001) Investigating consumer perspectives on evaluating health technologies. *Evaluation* **7**: 468-486.
- Orme J., Powell J., Taylor P., Harrison H. & Grey M. (2003) *Public Health for the 21st Century: New Perspectives on Policy, Participation and Practice*. Buckingham: Open University Press.
- Ozer, E.J. (2007) The Effects of School Gardens on Students and Schools: Conceptualization and Considerations for Maximizing Healthy Development. *Health Education Behaviour*.;34(6):846-863.

POST [Parliamentary Office of Science and Technology] (2009) NUTRITIONAL STANDARDS IN UK SCHOOLS.

http://www.parliament.uk/parliamentary_offices/post/pubs2009.cfm

Accessed 26th November 2010.

Rees, G., Richard C., Gregory J. (2008) Food and nutrient intakes of primary school children: a comparison of school meals and packed lunches. *Journal of Human Nutrition & Dietetics*.21:420-427

Rolls, BJ., Ello-Martin, JA. and Tohill, BC. (2004) What can intervention studies tell us about the relationship between fruit and vegetable consumption and weight management? *Nutrition Review*. Jan;62(1):1-17

Rose Review (2009) Independent Review of the Primary Curriculum.

http://webarchive.nationalarchives.gov.uk/tna/+http://www.dcsf.gov.uk/primarycurriculumreview/downloads/primary_curriculum_execs_summary.pdf

Accessed 26th November 2010.

Schmidt, M.C. and Kolodinsky, J. (2006) The Burlington School Food Project, Final Evaluation Report, December 2006, Centre for Rural Studies.

School Food Trust (2007) School Food Standards

<http://www.schoolfoodtrust.org.uk/nutrientbasedstandards>

Accessed 26th November 2010

School Food Trust (2008) Annual Survey

<http://www.schoolfoodtrust.org.uk/school-cooks-caterers/reports/fourth-annual-survey-of-take-up-of-school-meals-in-england>

Accessed 26th November 2010

School Food Trust, (2009) School lunch and learning behaviour in primary schools: an intervention study. School Food Trust.

School Food Trust, 2010 Annual Survey

<http://www.schoolfoodtrust.org.uk/the-standards/other-important-information/collecting-data-on-the-take-up-of-school-meals/sftlaca-annual-survey>

Accessed 26th November 2010

School's Meals Review Panel (2005) 'Turning the Tables: Transforming School Food' London: DCFS.

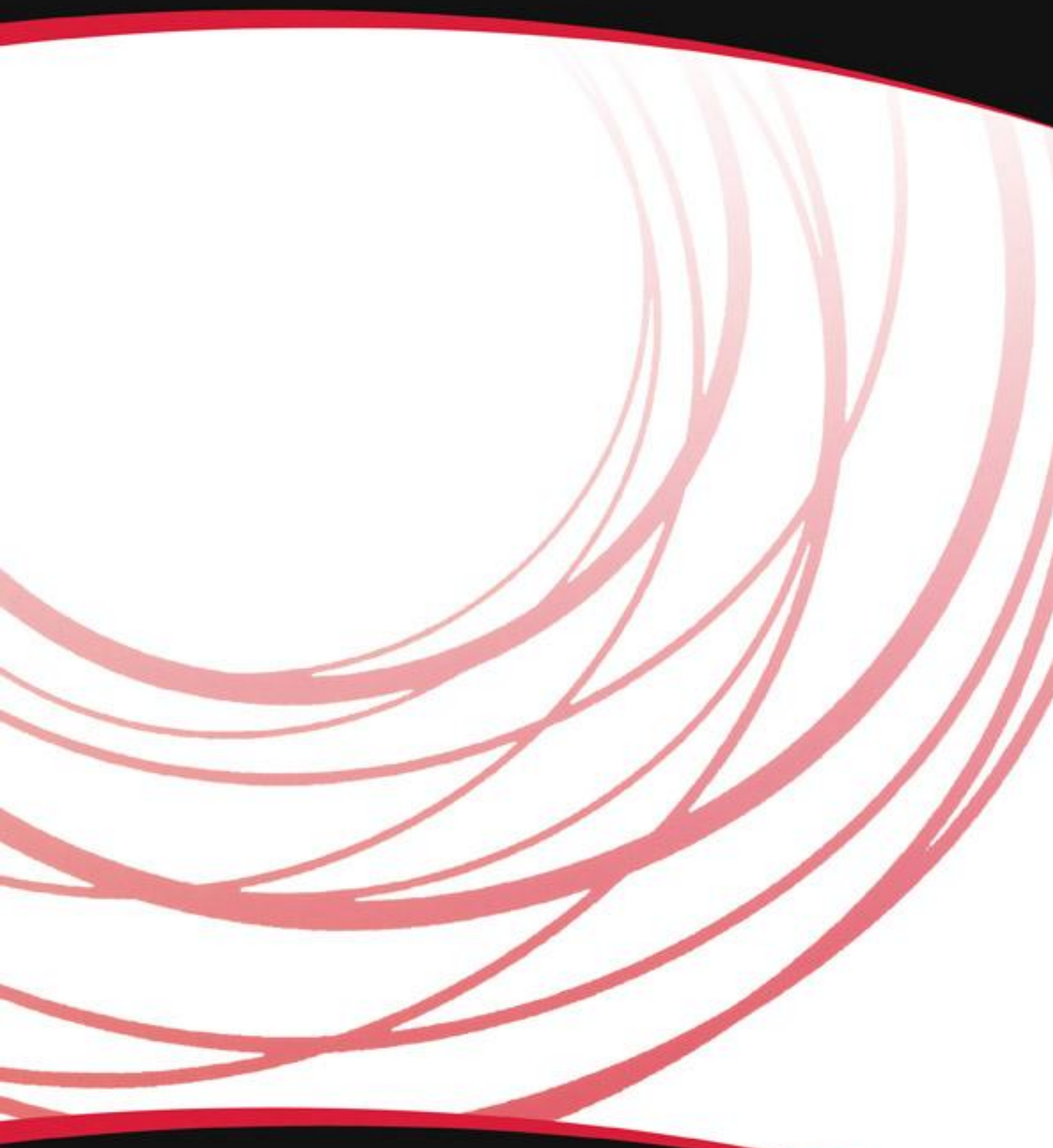
<http://www.dfes.gov.uk/consultations/downloadableDocs/SMRP%20Report%20FINAL.pdf>

Scott W., Reid A., Jones N. (2003) An Evaluation of 'Growing Schools' in the UK. Centre for Research in Education & the Environment. University of Bath

Scottish Government Executive (2003) Hungry for Success - A Whole School approach to School Meals in Scotland.

Sergrott, J., Holliday, J., Roberts, J., Philips, C. and Murphy, S. (2009) *Evaluation of the Cooking Bus in Wales: Final Report*. Cardiff Institute of Society, Health & Ethics Cardiff University: Cardiff

- Somerset, S. and Markwell, K. (2009) Impact of a school-based food garden on attitudes and identification skills regarding vegetables and fruit: a 12-month intervention trial. *Public Health Nutrition*. 12(2):214-221.
- Sorhaindo, A. and Feinstein, L. (2006), What is the Relationship Between Child Nutrition and School Outcomes. *Wider Benefits of Learning Research Report No.18*. Centre for Research on the Wider Benefits of Learning.
- Springett, J. (2001), Appropriate approaches to the evaluation of health promotion. *Critical Public Health*. Vol. 11 No.2, pp.139-151.
- Statutory Instrument (2000) No. 1777. Education (Nutritional standards for School Lunches) (England) Regulations 2000. London: TSO.
- Statutory Instrument (2006) No. 2381. The Education (Nutritional Standards for School Lunches) (England) Regulations 2006. London: TSO.
- Statutory Instrument (2007) No. 2359. The Education (Nutritional Standards and Requirements for School Food) (England) Regulations 2007. London: TSO.
- Sterling, S. (2005) *Whole Systems Thinking as a Basis for Paradigm Change in Education: Explorations in the Context of Sustainability*. (PhD thesis). Centre for Research in Education and the Environment, University of Bath, www.bath.ac.uk/cree/sterling.htm
- Stewart-Brown, S. (2006). *What is the evidence on school health promotion in improving school health or preventing disease and specifically what is the effectiveness of the health promoting schools approach?* Copenhagen: World Health Organization.
- Story, M. Nanney, MS. and Schwartz, MB. (2009) *Schools and obesity prevention: creating school environments and policies to promote healthy eating and physical activity*. *Milbank Q.* 87:71-100
- Thatcher, J. & Sharpe, L. (2008) Measuring the local economic impact of National Health Service procurement in the UK: An evaluation of the Cornwall Food Programme and LM3, *Local Environment*, 13(3):253-270.
- Thomas, J., Sutcliffe, K., Harden, A., Oakley, A., Oliver, S., Rees, R., Brunton, G and Kavanagh, J. (2003) *Children and Healthy Eating: A systematic review of barriers and facilitators*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
- Van Cauwenberghe E, Maes L, Spittaels F, Frank J, van Lenthe, Brug L (2010) Effectiveness of school-based interventions in Europe to promote healthy nutrition in children and adolescents: systematic review of published and 'grey' literature. *British Journal of Nutrition*, 103:781-797
- Welsh Assembly Government (2006a). *Food and Fitness – Promoting Healthy Eating and Physical Activity for Children and Young People in Wales*.
<http://cymru.gov.uk/dphhp/publication/improvement/food/plan/food-fitness-implementation.pdf?lang=en>
- Welsh Assembly Government (2006b). *Appetite for Life Action Plan*.
<http://wales.gov.uk/dcells/publications/publications/guidanceandinformation/apetiteforlife/apetitforlifeactionplane.pdf?lang=en>



University of the
West of England

bettertogether