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Food for Life Partnership Evaluation (FFLP): monitoring the impact of the growing skills programme

Final Report

July 2011

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Executive Summary

The impact of food growing in schools

This evaluation report sets out evidence for the impact of growing as part of a broader food education drawing on work in schools as part of the Food for Life Partnership (FFLP) programme. The report identifies benefits in terms of

- growing activity at home/ within the local community
- fruit and vegetable intake
- knowledge of food growing skills as a life skill
- pro-environmental behaviours
- attitude to learning and behaviour through experiential learning.

It is more difficult to establish direct benefits between food growing and school meal uptake as this seems complicated by parental perception of the greater cost of school lunches at a time of economic uncertainty and difficulty for some. Nevertheless, the evidence shows that growing activity has impacted positively on pupils' experience of school meals, including their choices and willingness to try new foods, and their interest in food that is grown in the school or by known growers.

Three key elements of schooling

The findings of this evaluation suggest that there are three key elements of a school's emphasis on growing as a set of activities that children take part in, learn through, and benefit from, which can optimise its impact:

1. *Growing has to be something that all children do*

this is an entitlement because of the wide range of educational, well-being and social benefits that accrue, including for pupils from less advantaged backgrounds and those who do not otherwise flourish and/ or achieve at school

2. *Growing should take place throughout a child's schooling, and be experienced in different contexts*

This should not be tokenistic, or a one-off, one-context experience

3. *Growing experiences should be integrated, rather than stand-alone, activities*

children should be helped to see the connections between growing and what they are learning elsewhere in school, and with how the school lives its daily life and values, and how it inter-connects positively with its community.

Key Messages about growing as part of a food education programme in schools

We have identified 20 key messages for practitioners and policy-makers which are introduced within the report as they arise in the discussion of findings. Here, they are organised under four separate, but obviously inter-related, headings: whole-school ethos; leading & embedding; developing an integrated approach; and including everyone. The original numbering is shown in [square brackets]

A] Whole school ethos

- A focus on food and growing activities can support and develop a school ethos that places an emphasis on: healthy lifestyles and enhancing well-being, environmental sustainability, building social capital in the community, and on embedding the school within that community. [#1]
- Pupils learn more about a school's values and commitment to food and growing when what it is trying to teach is reinforced by pupils' everyday experience. [#2]
- A school that takes 'food for life' as an integrating framework across curriculum, campus and community is able to increase the coherence and effectiveness of what it is trying to achieve. [#14]
- If the school 'lives out its espoused values in practice' pupils are more likely to realise its good food goals in relation to positive lifestyles. [#19]

B] Leading and Embedding

- School leadership (from head/ assistant/ deputy/ governors/ business manager, bursar) is crucial in ensuring that food and growing activity becomes successfully embedded in everything the school does, and how it sees and presents itself. [#3]
- For food and growing activity to become more embedded in a school there needs to be a shift in who drives the work from enthusiastic but lone champions to multi-skilled teams including pupils. [#4]
- To ensure that a food education and growing focus is sustained schools need, where possible, to make formal appointments for all staff with food education roles, and adjust job descriptions and committee terms of reference. [#5]
- Following initial expert input (e.g. from FFLP) schools can sustain growing activity by drawing on local and community networks, for example, local growers, gardeners and farmers). [#18]

C] Developing an integrated approach

- Where schools see lunchtime as an extension of learning, rather than an interlude from it, they are more likely to use it as a means of developing skills and positive social and eating attitudes. [#8]
- Lunches that regularly include food grown by the school pupils (or grown very locally to it by people who work with the pupils), help to reinforce core messages and understandings about healthy eating. [#9]
- Schools that plan pupils' growing, cooking and eating experiences with all three curriculum influences in mind (formal, informal and hidden) are more successful at

providing coherent experiences for pupils around food and growing; this reinforces positive messages about healthy eating and positive lifestyles. [#10]

- To be effective, what young people learn through the curriculum about food, nutrition, growing, cooking and eating has to be as fully integrated as possible with how they experience food both personally and socially. [#15]
- Integrating formal curriculum inputs with informal approaches through clubs, food growing in the school grounds, and family- and community-based activities is necessary if the benefits to pupils are to be optimised. [#16]
- A whole school integrated approach to food growing and cooking reinforces the essential lessons that food doesn't just appear on a plate: rather, [i] it is grown or harvested, purposefully, and [ii] how it is grown or obtained affects its quality and usefulness to humans and other animals. [#17]

D] Including everyone

- Primary schools find it easier to involve all children systematically in growing activity because of how their curriculum, learning environment and school days are organised. However, evidence from secondary schools shows that they can overcome problems and barriers. [#6]
- Growing activities such as gardening and sharing produce, recipes, seeds, etc which involve parents, grandparents and others from the wider community (for example allotment holders, market gardeners, and farmers) add important social, economic and cultural elements to the experience of producing and eating food. [#7]
- The more that pupils (and parents) are involved in decision-making around food growing and cooking experiences, the more likely it is that what they experience will reinforce positive messages about healthy eating and positive lifestyles. [#11]
- Growing activity is an excellent way of enabling all pupils to participate in and make a contribution to school life. [#12]
- Growing activity is an excellent way of enabling parents/ carers/ grandparents to participate in the school by providing relevant skills and experience that school staff do not always have. [#13]

A Typology of outcomes from growing

From our evaluation, it is clear that food growing adds value to a broader food education programme and can lead to valuable educational, personal and practical outcomes.

We have identified four possible types of outcomes for pupils from being involved in growing in school, as part of a food education programme that includes working in the school grounds, on sites in the local community, and at home where school-based work has initiated this. These are [i] the development of a wide range of skills, [ii] increased physical activity, [iii] the acquisition of knowledge and understanding, and [iv] personal development in terms of values, attitudes, dispositions and behaviours.

The Typology of growing outcomes

1 SKILLS

- 1.1 Gardening: propagating, planting, growing, pruning, harvesting, composting ...
- 1.2 Keeping animals (e.g. chickens, bees): feeding, caring, cleaning, maintaining ...
- 1.3 Social and inter-personal: learning through experience, and with/ from others (pupils, staff, (grand)parents/ carers and community members) through collaboration and competition
- 1.4 Work-related (employability) e.g. leadership, teamwork, planning, decision making, problem solving, critical thinking, enterprise ...
- 1.5 Participation; working with others (pupils, staff, (grand)parents/ carers and community members) to plan and make decisions e.g. the growing calendar

2 BEING PHYSICALLY ACTIVE

- 2.1 Appropriate, regular physical activity that contributes to fitness through the development of strength, co-ordination and skills
- 2.2 Enjoyment and fulfillment of satisfying physical activity in the open air, enhancing feelings of well-being

3 KNOWLEDGE & UNDERSTANDING

- 3.1 Horticultural science: propagation, cultivation, irrigation, soil, fertilizing, pest control, composting, breeding...
- 3.2 Nutritional science: theories of nutrition and links to well-being and healthy eating
- 3.3 Ecology: the wider picture, biodiversity, ecosystems and interdependence, sustainability, responsibility and stewardship ...
- 3.4 Garden design: soil, weather, exposure, altitude, irrigation
- 3.5 Culture, food & well-being: what people eat and why; broadening the range of known foods
- 3.6 Industrial practice: farming, horticulture, fishing; issues and choices around distribution, storage, fair trade, organic, GM, procurement and marketing etc.
- 3.7 What to do with the produce in readiness for eating, e.g. processing, distributing, marketing ...

4 PERSONAL DEVELOPMENT: VALUES, ATTITUDES, DISPOSITIONS & BEHAVIOURS

- 4.1 An interest in, and commitment to, the idea, production and consumption of good food
- 4.2 An interest in eating fresh fruit and vegetables and a willingness to try new foods including fresh fruit and vegetables
- 4.3 A personal desire to garden and grow food; associating food growing with enjoyment
- 4.4 A pro-sustainability disposition: an ethos of care towards the Earth and its peoples
- 4.5 A sense of satisfaction, enjoyment and of making a positive contribution
- 4.6 Engagement with, and positive attitudes to school, school work and learning
- 4.7 Preparation for adulthood, for example, personal responsibility for adopting healthy/ sustainable lifestyles, community participation, vocational preparation ...
- 4.8 Positive involvement in school life with shared learning through growing-related activity with (grand)parents/ carers at home and in school

Barriers, problems and overcoming them

Schools reported a range of barriers and problems which hold back the development of a greater focus on growing and cooking food and as a consequence the potential impacts. Here, we summarise these, and strategies to overcome them.

Barriers / Problems

Strategies to overcome them

1. A lack of space for growing	Even small spaces inside and outside the school can be used successfully. Larger spaces are often available locally in community gardens, allotments, on farms, etc. Building bridges to community organisations helps make using such spaces a possibility, and brings external expertise into the school.
2. Things go wrong all the time	They do, of course, in this real world of seeds, pests, weeds, wind, drought, and rain, and they always will. What matters is the care you take, and what you learn from the experience about optimising yields. Make sure that this learning comes out of discussions with pupils, is very visible and can be remembered. Keep records of how well growing worked – much maths and English here, of course.
3. Health & safety issues	Gardening, growing and cooking all involve developing a wide range of new skills. Learning how to take appropriate care of yourself and others during this acquisition and mastery of skills is a positive way of dealing with the risks involved.
4. Coping during the holidays	Plants keep growing, sometimes need watering and picking, and generally looking after (as do animals). This difficulty is built into school life. Whether you are growing food crops in the school grounds or outside the school, a garden manager, or a rota of adults who are responsible for this, is useful strategy. This could be a teacher, a parent, or an “other”, whose work will need to be paid for (perhaps in kind).
5. Hard to involve some families and community groups	Think small. Look for obvious allies and links, make these work, and then build on them. See pupils as ambassadors (though not foot soldiers). Don’t proselytize. Use tasty food to showcase and demonstrate; share expertise through collaborations and competitions
6. Some parents don’t share our values	This is inevitable to some extent in any community, and it is really important not to position the pupil between school and parental values with no wiggle room. The key questions here are: [i] how do we help the pupils learn? And [ii] how can we draw parents into what we do? Using good food to bring people together is usually a positive strategy.
7. Families don’t apply for free school meals	To boost FSM take up, schools need to make it very clear who’s eligible, and to make it as easy and private as possible to apply (and re-apply if eligibility changes).
8. Vandalism and theft of plants, materials and tools	This can be reduced, or eliminated, where the growing activity is widely seen as something that is part of the shared life of the community and school, and something that involves families and local enterprises and where the approach to growing nurtures an ethos of care

Barriers / Problems

Strategies to overcome them

<p>9. Raising food quality can be difficult with external caterers</p>	<p>Attempting negotiation is the obvious first step, inviting the caterers to become partners in your plans. Find someone who is sympathetic, and offer to be a trial school for any plans they have. Some improvements, even if only at the margins, will be possible in this way. Taking full responsibility is a big step and will not be possible for every school. However, seeing this as a community-based partnership with benefits to local businesses may provide useful solutions, and adopting a consortium approach offers economies of scale.</p>
<p>10. We can't cook and eat our own food</p>	<p>Seeing this done is hugely important for pupils, and schools do this successfully through lunches, cooking clubs, food technology classes, teas for visitors, and in special events and celebrations. Not all external caterers are keen to allow this, but there are no problems that cannot be overcome, and FFLP and others know all the useful strategies.</p>
<p>11. Lunch is not a good experience</p>	<p>Whether it's long queues, a lot of noise, not enough seats, cramped conditions, drab surroundings, or litter, there are many causes of dissatisfaction – even when the food is good. None of this is inevitable and FFLP (and others) have effective strategies for making the lunch experience more efficient <i>and</i> more enjoyable. Don't think you have to learn about all this from scratch.</p>
<p>12. School lunches seen as costly</p>	<p>Helping families is the key here. Positive strategies include: discounts where there is more than one pupil per family; being able to opt in for lunch only some of the time; giving every new child to the school, a period of free lunches; engaging with new suppliers, particularly local ones; using seasonal produce; bulk buying of staples, etc.</p>
<p>13. Passive or negative staff attitudes</p>	<p>Not everyone needs to be ultra-committed. What's important is leadership from the top, a team of staff with clear responsibilities, appropriate funding, and very visible activity with successful outcomes. With this in place, more staff can be gradually drawn into the idea that "this is what our school does; it's good, and I can join in". Find ways of drawing every tutor group in, for example, through a growing competition.</p>
<p>14. We don't have the skills</p>	<p>The teaching skills needed for involving pupils in growing and gardening will never be taught in initial training. However, existing pedagogic and planning skills can be adapted and extended to the garden if this is done with care and over time, building up both experience and capability. External community input is possible here, as it is when it comes to gardening skills, <i>per se</i>. Being open to being seen to make mistakes, and the role model of learning through/ from those mistakes, are both crucial.</p>
<p>15. Nothing's joined up</p>	<p>This can be hard, especially in secondary schools, but it's necessary if pupils are to make sense of the totality of what they do in clubs and whole-school activities, and through the curriculum more formally. Show through displays that what is done in science and food technology helps pupils understand why gardening, growing and cooking are done in a particular ways.</p>

Barriers / Problems

Strategies to overcome them

<p>16. Growing is time-consuming and a distraction</p>	<p>It is time-consuming, but you need to let people see that the time is well spent because of all the positive educational, personal and social outcomes: skills, knowledge, understanding, attitudes, and the way that these are linked directly to pupils' everyday lives in and out of school. Make all this very visible, and go on about it. The local press loves stories about gardens and growing.</p>
<p>17. Hard to involve everyone</p>	<p>It's easy to involve just a few pupils, and whilst this can be good to start with, it's of limited value. Starting small makes sense, though, through gardening and cooking clubs and making these open to everyone interested. Using produce in the school kitchen makes what's being done visible to everyone, and having every class involved in growing projects or competitions can be easy. Assemblies are important as are visitors to the school.</p>
<p>18. Whole class gardening is hard</p>	<p>It is, but split classes and rota timetabling help, as does a clear separation of tasks into more and less hands-on & activities. Involving people with good technical skills from outside the school is very useful, and managing their involvement well is crucial.</p>
<p>19. Young pupils can't do some things</p>	<p>They can't – heavy digging and lifting, for example; but there is lots that they <i>can</i> sensibly and successfully do. The key here is to plan, as usual, with their abilities in mind.</p>
<p>20. Paying for external visits is a problem</p>	<p>The cost of transport is the issue that tends to be cited most frequently by schools in relation to any external visit, including farms, and there are limited ways round this. Where practicable and sensible, making use of local (especially within walking distance) facilities makes a lot of sense, and not just financially.</p>

Introduction

This report sets out evidence for the impact of growing as part of a broader food education programme within the Food for Life Partnership (FFLP) programme. Food growing presents a unique opportunity for children to have hands on experience of their natural environment and learn more about the food that they eat; the educational and social benefits of children's involvement in practical outdoor experience is widely recognised (for example, see Chawla and Escalante, 2007, Malone, 2008). The Growing Skills element of the FFLP programme recognises that schools are a valuable learning resource for young people and their communities. As noted elsewhere:

“... taking part in activities, e.g., gardening, growing food, and conservation, in and around the school enables young people to see the interconnections between healthy eating and lifestyles, environmental quality, and well-being.”

Barratt Hacking, et al., 2010 p8)

There is a growing body of evidence to show the benefits of young people's involvement in school gardening and food growing. Benefits include the development of skills, positive attitudes to learning, improved achievement, healthy eating and pro environmental behaviour, and it is recognised that this equally applies to young people from special populations (Yost and Chawla, 2009, Blair, 2009). The roles of schools, teachers, outside agencies and communities are clearly important in promoting such opportunities. Studies show that teachers' enthusiasm for food growing varies depending on support and horticultural confidence (Blair, 2009); the support of programmes such as Growing Skills is clearly significant here.

This report presents the findings of an evaluation of the Growing Skills Programme within the Food for Life Partnership (FFLP). The report begins with the background to the evaluation, including its purpose and methods. It goes on to discuss findings from visits, e- consultations and telephone interviews in respect of nine case study schools which were all FFLP Flagship schools¹. These findings also draw on evidence about the case study schools from Garden Organic Education Officers [GEOs]. Finally, the report brings together examples of distinctive practice in growing within the FFLP programme by means of *vignettes* which are drawn from evidence from each of the schools.

In this report, *growing activities* are defined as the cultivation of plants that produce an edible crop, whether consumed raw or after cooking. Growing activities can take place in the school, or in the local community when under school supervision, and can be part of the formal curriculum or aspects of non-formal activity such as a growing club. It should be noted that in our school sample, there were also several instances of animals being kept in school for food, and looked after by school staff, pupils and others. For example, one school kept bees for honey and a number kept chickens for eggs. In all cases, this care for, and rearing of, the animals had clear educational purposes and featured in both formal and non-formal curricula.

¹ There are a number of Flagship schools in all regions across England that receive intensive support and resourcing to progress towards the FFL Partnership mark and beyond. They are selected based on a broad set of criteria with the following headings: working towards the FFLP targets; developing growing, cooking activity, farm links in the school and wider community; creating strong links with the local community on healthy eating, sustainable food and food culture; making a senior management team responsible for managing the FFLP programme; and reporting on progress and sharing learning with other schools and local communities. In their bid each individual school, its community and the food provider also had to demonstrate commitment to a number of other areas such as a commitment to the development of pupil voice. Flagship schools act as a hub for other schools in their region that want to sign up to the programme and gain the Partnership marks.

Section 1: Purpose

This evaluation focuses on the impact of the Growing Skills Programme within FFLP, and in particular on the benefits of linking growing with other FFLP food education activities for maximum benefit.

Garden Organic wishes to establish the impact that food growing, within the context of wider food education programmes, has on a variety of factors including

- School meal uptake
- Growing activity at home/ within the local community
- Fruit and vegetable intake
- Knowledge of food growing skills as a life skill
- Pro environmental behaviours
- Attitude to learning and behaviour through/ because of experiential learning

and, in this context, to establish the added value of adopting a whole school approach to food education.

Section 2: Evaluation Methods

This evaluation has adopted a case study methodology involving nine schools and their communities across the nine English regions. This has included

- s
- i] Documentary analysis of case study schools (website, OFSTED reports, FFLP website and other information on schools)
 - ii] Visits to case study schools including
 - site survey of indoor/ outdoor and off-site spaces used for FFLP and growing activity
 - focus group with pupils
 - focus groups with adults involved: school leaders/ governors/ bursars/ business managers, FFLP/ growing co-ordinator, other staff involved, catering staff, parents/ community members.
 - iii] Consultation with Garden Organic staff including their perspectives on FFLP and growing at the case study school in the region for which they hold responsibility.

The interviews and focus groups in schools sought evidence from key stakeholders about how growing activities add value to FFLP food education work, and about the value of a whole school approach to food education. Interviews with adults (school staff, parents and others community members) focused on why and how they got involved, identified the FFLP and growing activities they are involved in, and investigated what impact they think these have had. Interviews with pupils focused on what pupils have gained from growing food and other activities in FFLP; photographs of food-related activities were used as a stimulus for discussion with pupils.

Following phase 1 of the evaluation, the CREE Research Team prepared a summary of findings and researcher reflections from each case study school visit around a set of key headings (See Appendix 1). The headings were identified from the results of the first three visits to schools and were then used retrospectively and prospectively to summarise phase 1 findings. To do this the team reflected on and analysed records of the interviews, focus groups and site surveys together with their documentary analysis. Garden Organic Education Officer [GEO] perspectives were also incorporated into the summary of findings; GEOs were asked to comment on the school in their region using the same headings. This was used as a validation check and to elaborate points, or identify contradictions in the findings.

Phase 2

The Phase 1 findings including a number of themes and propositions and a set of examples of distinctive FFLP/ growing practice (one from each school) were presented in an interim report (CREE, June 2011). This was used in phase 2 as a stimulus for further consultation with stakeholders from the case study schools in order to probe and validate the findings. Four of the case study schools were selected for second visits in order to undertake in depth interviews with adults (FFLP lead, head teacher and others) and child stakeholders in two separate focus groups. These schools were selected on the basis of specific findings that we wished to probe and pursue further. The selections also reflect advantaged/ disadvantaged communities and primary/ secondary schools as phase 1 findings suggested differences in impact by community advantage and phase of schooling. In practice we were only able to visit two of the case study schools, because of competing pressures in schools towards the end of the school year. In place of visits we conducted telephone interviews and an e-consultation for stakeholders in respect of the interim report.

We also obtained systematic feedback from the remaining case study schools on the draft report of our phase 1 findings using an e-consultation for adult and pupil stakeholders.

A note on analysis

Most (but not all) of the Phase 1 and Phase 2 face to face interviews were audio recorded; it was not possible in a few cases because of consent issues and logistics (e.g. outdoor recording). These were then transcribed and a preliminary analysis was completed on a selection of the Phase 1 interviews using the computer assisted qualitative data analysis system, NVIVO9. This provided us with a set of themes that was used alongside the themes drawn out of the interviewers' reflections to inform the shape of the draft report, the second phase of face to face interviews and the written survey. During the redrafting phase of the final report the interviews were analysed again to verify the findings and conclusions. This involved a thematic analysis of the transcriptions with the additional aim of selecting appropriate quotes to put into the report.

Section 3: The case study schools

Table 1 sets out basic data on the 9 case study schools. We had difficulty establishing a case study school in one region and therefore we identified nine schools in eight regions. As a consequence one region had two case study schools; however, they were at opposite ends of the region and had very different profiles. When schools were selected to take part two other matched schools were selected in case the first school selected declined to take part. All schools that had been previously involved in FFLP evaluations were disregarded.

Table 1: Summary of case study schools

Region	Phase	No of Pupils	FSM%	CVA	FFLP Award	Specialism/ Faith/ Gender	Location
London	Special (Through School)	60	73	n/a	Silver	Special School	Urban
South East	Primary	203	4	100.4 <i>(n/a)</i>	Silver	C. of E. (VA)	Village
East Midland	Primary (Junior)	241 <i>(230)</i>	23	98.8 <i>(99.4)</i>	Gold	C. of E. (VC)	Town & Fringe
East England	Secondary	1306 <i>(1297)</i>	6	998.9 <i>(1001.2)</i>	No award <i>(Silver)</i>	Languages	Town & Fringe
South West	Secondary	966 <i>(992)</i>	1	1011.3 <i>(1006.7)</i>	Bronze	Boys' Grammar Maths & Computing	Urban
West Midlands	Primary (Infant)	219	9	n/a	Bronze <i>(Silver)</i>	None	Suburban
Yorks & Humber	Primary	39 <i>(35)</i>	11	n/a	Bronze <i>(Silver)</i>	C. of E. (VC)	Village
South West	Secondary	1610 <i>(1546)</i>	18	1002.3 <i>(993.8)</i>	No award <i>(Bronze)</i>	Sports	Urban
North East	Primary	286 <i>(324)</i>	28	99.7 <i>(n/a)</i>	Silver	None	Urban

Notes:

1. All data were correct at the time that sampling decisions were made.
2. Updated data are provided in *italic*, representing data at the time of writing this report.
3. FSM (Free School Meals) data were provided by FFLP. FSM represents the number of pupils eligible for free school meals in the school; higher figures are sometimes used as an indicator of poverty and deprivation amongst the school's pupil population.
4. CVA (Contextual Value Added) scores provide information about the impact that the school has on the progress of its pupils (what is sometimes called the 'school effect') that can be used to make comparisons between different schools because it takes into account factors such as pupil mobility and social deprivation. For primary schools this is based on their progress from KS1 to 2 while for secondary schools it is based on their progress from Year 6 to GCSE or GCSE to A level. For primary schools the score is a number around 100 with scores above that being pupils who made more progress than the average and scores below representing pupils who made less progress than the average. The same applies for secondary schools except that the score is based around 1000.

The nine case study schools were selected using the following criteria

1. FFLP school status: Flagship schools (9) with different levels of award from gold to no award. [This reflects the aim to identify impact of the Growing Skills element of FFLP and to gain insight into models of successful working]
2. School phase: secondary schools (3), primary schools (5) and a special school (1).
3. Degree of social disadvantage/ deprivation measured by eligibility for free school meal (FSM) entitlement at the school level. Whilst we recognised that there are difficulties in

using FSMs to measure deprivation, we looked across the schools' FSM %s to give us an indication of difference in advantage/ disadvantage. We aimed for least one school with very high deprivation at approximately 65%.

4. One school from each government region
5. Longer involvement with FFLP (up to phase 8)

Supplementary sampling criteria included

6. Successful involvement with growing and / or noteworthy practice (using data provided by Garden Organic's Garden Education Officers)
7. The sample will reflect the range of school types and contexts e.g. urban/city (3), rural (4) and suburban schools (2), size of school (large medium and small by type). The sample will also include, where possible, faith schools and specialist schools (e.g. the rural dimension).
8. School effectiveness, including range of OFSTED grades and range of Context Value Added (CVA) measures.

Section 4: Discussion of Findings

Within our findings there are some distinct differences between types of schools. These are most evident between primary and secondary schools, and can be explained to some extent by their different contexts for learning. The formal learning contexts of primary and secondary schools tend to be quite different. Secondary schools, particularly as pupils get older, have segmented lesson structures built around subjects (English, science, maths, geography, etc) which reflect discrete organisation of knowledge, and the public examinations that are taken at 16 and 18; these subjects have specialist teachers with qualifications that map onto the subject areas, and the school day is normally broken up into a number of short lessons. In primary schools, by contrast, there is less emphasis on discrete subjects, and so lesson structures and the school day are not as fragmented. As a result, primary schools and their teachers tend to find it more straightforward to bring issues and ideas from a range of backgrounds together.

In relation to 'growing', for example, this means that a primary school class could be harvesting crops in the school garden, preparing these and then cooking and eating them all in one morning, whilst discussing science numeracy and literacy issues arising along the way. This integrated approach is impossible in the formal secondary school curriculum. This said, however, there is much less difference between the non-formal curriculum experience in primary and secondary schools where what works in one type of school can be just as effective in the other.

The following discussion synthesises the findings illustrated with quotations from stakeholders in the nine case study schools, and this is organised around the key headings from our phase 1 school visits (Appendix 1). Each section ends with *key messages* which derive from the findings and set out what schools need to do in order to maximise the benefits of growing within a food education programme.

4.1 School ethos

How does FFLP fit with school ethos, goals and aspirations, and with food culture, and other initiatives?

“We feel that it [FFLP] enables our children to be better prepared for life. We have felt for a long time we want to consider how we can develop the less quantifiable, less measurable attributes, of children and help them have a more broadened approach to life and the curriculum. We had a meeting of governors, parents and children... they (all) wanted children to feel they’ve had a childhood when they’ve finished at this school... Yes, we want to do the best for the children and want them to achieve as highly as possible academically, but we also want them to feel valued and prepared for life.”

Head teacher, primary school

“[FFLP] gave us a... vehicle to go out into the community and say ‘Look we can do this’ and challenge that view that EBD kids can achieve and do achieve. It’s given [the pupils] an opportunity to work in a way that they now are successful. So that feels nice in our philosophy... . Getting the kids to eat sensibly has made a difference to the way the kids actually behave in school. Because they’re not being filled up with sugary drinks and processed food all the time we have a healthier group of kids, a group of kids who are easier to settle down and achieve more and are happy and content. You can’t ask for much more than that.”

FFLP co-ordinator, special school

Case study schools report that FFLP provides a good fit with their ethos and purpose as illustrated in the above quotations. Leaders describe this good fit in different ways including in terms of educating the whole child and a preparation for life. Evidence also suggests a number of overlapping links between specific elements of school ethos and purpose and FFLP whereby FFLP work has supported the school ethos and in some cases developed it or given it more structure.

Healthy lifestyles

All schools made explicit links between their existing and ongoing commitment to healthy schools/ lifestyles and their FFLP work.

“We’d gone through the Healthy Schools process of being accredited and [FFLP] just seemed to fit very well with that from the perspective of supporting what was an aspect of health that I... think is important.”

Head teacher, secondary school

These links are expressed in terms of diet, food culture and health, and also in terms of outdoor activity and experience (fresh air and exercise through growing activities) and health. In one school the link is expressed by the head teacher as aspiring to a ‘fulfilling life’ for their students, in another ‘educating the whole child’. In some schools health is incorporated into their wellbeing and Every Child Matters (ECM) agenda.

Environment and sustainability

“We want our children to know about where their food comes from and to know about the care of animals and sustainability, all those things in the world they’re going to grow up in, they’re really important issues.”

Head teacher, primary school

A number of case study schools are also working towards eco school awards (pre dating FFLP) and most schools recognise FFLP as contributing to their commitment to environment and sustainability. Again this is expressed in a variety of ways, for example as a desire to cut down food miles by sourcing local food, as a desire for a good quality of life (and quality of environment) and as a way of fulfilling a care agenda (care for the environment).

Support for disadvantaged/ needs and inclusion

In schools in the most disadvantaged communities in the sample (as indicated by free school meal data), staff indicate a desire to enhance their commitment to supporting their communities and pupil needs (including behavioural issues) through their FFLP work.

“[pupils have] an opportunity to work in a way that they now are successful.”

Head teacher, special school

Community role

FFLP is recognised as a way of contributing to the school’s community ethos, for example by supporting the local economy and environment (e.g., local food sourcing), through challenging the existing food culture, and by learning with and from the community.

“It’s our ethos. We want to be valued and valuable to the community and the world.”

Head teacher, primary school

The 2011 NFER evaluation study for FFLP (Teeman *et al.*) also noted that community members and partners provided a rich resource of knowledge and support for implementing activities such as gardening or cookery clubs.

Care and wellbeing

“There’s a lot of good stuff that comes out of [FFLP], which is about nurturing and caring for other people and the community, that I think benefits the school hugely and I suppose that’s one strand that’s emerged.”

Head teacher, secondary school

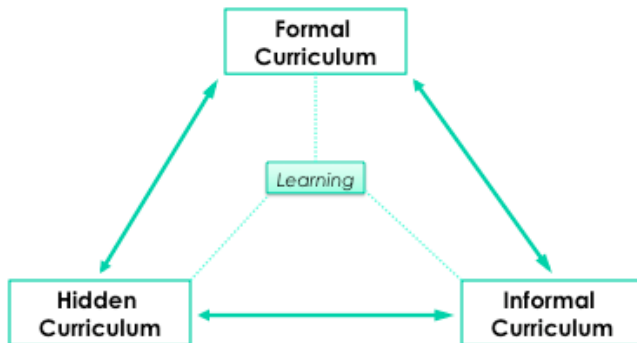
The link between FFLP and an ethos of ‘care’ is most explicit in the primary schools; nevertheless, the contribution of FFLP to a school’s commitment to care (for myself, others and the environment) and wellbeing (of pupils, communities and staff) is evident across all the case study schools.

Influences on learning

To think about learning in relation to the totality of all school activities, it is useful to see three sets of influences on the student’s experience (Figure 1) which influences were identified from the findings.

In relation to food, and activities such as growing and cooking, the role of the hidden curriculum in influencing and shaping learning is particularly important as the practice of the school around the procurement and cooking of food (and the treatment of waste) has the power to either reinforce or counteract what the school is trying to teach through formal and informal approaches.

Figure 1: School influences on the pupil learning experience



Key message 1

A focus on food and growing activities can support and develop a school ethos that places an emphasis on: healthy lifestyles and enhancing well-being, environmental sustainability, building social capital in the community, and on embedding the school within that community.

Key message 2

Pupils learn more about a school's values and commitment to food and growing when what it is trying to teach is reinforced by pupils' everyday experience.

4.2 From champions to teams

Who drives the growing activities within FFLP? How committed is the school leadership? How embedded are the activities?

In all case study schools the senior leadership team (head/ assistant/ deputy/ governors/ bursar/ business manager), plays a significant part in joining and/ or developing FFLP, as do teachers and other involved staff, particularly the catering staff who, in some cases, champion this initiative. Evidence from all schools suggests that champions, including those from the school leadership, are significant to the success of FFLP.

In many of the case study schools champions have left since FFLP was established and there is evidence of schools [i] making formal appointments to food education roles to sustain the focus, and [ii] ensuring FFLP is represented in the school's committee structure (including pupil involvement).

We also found evidence of an evolution in who drives the FFLP work with a shift from individual champions to broader teams as FFLP is embedded in schools. For example,

Interviewer: “Is it fair to say that you have been the driver of this?”

Head teacher (secondary school): “I would say initially... but you can’t carry on driving on your own. You have to have people around you who are very willing volunteers and enthusiasts, for example, [teacher] is a huge enthusiast to the whole thing. Fantastic.”

The shift from individuals to teams reflects evidence of distributed leadership of FFLP:

“We’d got a lot of things in place and we were looking at the criteria and we all as a SNAG (School Nutrition Action Group) team sat with all the criteria and said “Well if we don’t do it how can we achieve it? What do we need to do?” and we became a whole unit and worked together so that we’re not doubling up on everything. We used tactics in a procedural way and just thought ‘How can we move on?’”

Teaching Assistant, primary school

“We allocated people different tasks and roles to meet the criteria, then we’d come back together.”

Teaching Assistant, primary school

Key message 3

School leadership (from head/ assistant/ deputy/ governors/ business manager, bursar) is crucial in ensuring that food and growing activity becomes successfully embedded in everything the school does, and how it sees and presents itself.

Key message 4

For food and growing activity to become more embedded in a school there needs to be a shift in who drives the work from enthusiastic but lone champions to multi-skilled teams including pupils.

Key message 5

To ensure that a food education and growing focus is sustained schools need, where possible, to make formal appointments for all staff with food education roles, and adjust job descriptions and committee terms of reference.

4.3 Growing within FFLP

How much growing goes on, where does it happen, who does it, and what happens to the produce?

The NFER report for FFLP (Teeman *op. cit.*) noted that parents were regularly invited to special events, taster sessions, and meals, and had the opportunity to take part in after-school clubs or sit on the SNAG, with some schools also offering adult education cookery or gardening classes. Growing in our case study schools is typified by activity in which pupils work alongside staff, parents/ carers/ grandparents and community members to grow plants and keep animals in different contexts (See Table 2)

Table 2: A summary of the varying contexts that case study schools use for growing with examples; contexts include growing-related activity taking place in school and out of school.

	In school	Out of School
Formal curriculum	<p>Regular timetabled slot in the formal curriculum for selected groups of students (e.g. <u>ASDAN</u> classes)</p> <p>Suspended timetable provision for whole school (e.g. Fun Fridays)</p> <p>Non-timetabled provision within subject or theme timetable (e.g. the Giant Turnip in Reception classes)</p>	<p>An out of school visit as part of formal curriculum (e.g. geography visit to a farm)</p> <p>Home based activity as part of formal curriculum (e.g. growing a pumpkin as homework to learn about following instructions)</p>
Non-formal curriculum	<p>Gardening/ Growing club</p> <p>School Nutrition Action Group (SNAG) or Food for Life Action Group (FLAG)</p> <p>Lunchtime activities (e.g. composting)</p> <p>Whole school activity/ event (e.g. Apple Day)</p>	<p>Local community based activity as part of non-formal curriculum (e.g. growing at the local allotments or selling produce at the local farmer's market)</p> <p>Home based activity as part of non-formal curriculum (e.g. hottest chili pepper growing competition)</p>

During their involvement with FFLP, all nine schools increased the amount of land available for growing and broadened the range of growing activities. For example,

“The whole school has become galvanised into doing things with food. There are little plots around the school now with things growing and it was all bits of land that sat doing nothing and were being trampled on and the children naturally care about those plots now.”

Farm co-ordinator, secondary school

“Our grounds, since we’ve started FFLP, have totally changed. We were looking at some photos before we started the project and we only had the gardens, but now we’ve got the poly-tunnel and the orchard and the fruit beds and we’re growing more. There’s lettuce outside. Wherever we can grow we’re growing.”

FFLP co-ordinator, primary school

There was also an increase in composting and irrigation, and in the number of stores, shelters, and other resources. This includes growing spaces in the school grounds and inside the school.

The increase of growing spaces has also extended teachers' use of and ideas about outdoor spaces for learning, for example,

“I'm developing it more as an outside classroom, so it's not just the ethos about growing, it's actually a nice place to be, it's airy.”

FFLP Co-ordinator, special school

Some schools also extended growing in, and with, the local community, for example, on local farms and allotments (Appendix 2 Vignette 2.8). As also noted in the FFLP evaluation carried out by the University of the West of England (UWE) and the University of Cardiff (Orme *et al.*, 2011), in our case study schools, there has been success in encouraging growing at home through initiatives and encouragement, for example, sending seeds and pots home. One school was instrumental in establishing land for new allotments in the local community.

All of the case study schools work with local farms on growing activity, albeit in different ways and with different levels of integration and inclusion. In the most intensive examples there are regular visits to the farm and the development of an effective partnership with farm staff. For example, two of the primary schools (one urban and one rural) have pupils visiting the farm to do various activities and farm partners working with pupils in school-based work. One of these schools was a rural school where pupils also interacted with other farms and farmers, for example contributing to the community potato field and community orchard. One secondary school has its own plot on a farm for growing and it also keeps chickens there with a group of pupils working on the plot every day and all year 7 pupils visiting the farm in the summer. In the less intensive examples, work with farms is typified by one-off visits. For example, in one secondary school pupils studying geography visit a farm as part of their formal studies.

All schools adopt an inclusive approach to growing using various methods, but with some pupils usually more actively involved, for example, through gardening clubs or particular curricular provision. It seems to be easier for all pupils to be actively involved in primary schools, for example, through the use of class planters, the provision of outdoor spaces for all classrooms, indoor growing in the classroom, and groups or classes taken out to garden in rotation. Secondary schools have adopted some innovative ideas to involve all children, for example, inviting (with resources) all incoming year 7s to grow a vegetable in a pot following their induction visit (the previous term) and bring it back when they start in the Autumn term. Often such ideas are stimulated by the GEO. All of the case study schools have integrated growing, eating and composting to a larger or lesser extent in their FFLP work.

In some schools there is extensive involvement of parents and other members of the community supporting growing in the school grounds, off site and at home. For example, in one school a group of parents support growing every week by taking groups of children out of their classes in rotation to work on the class bed. In many of the schools pupils, (grand)parents/ carers, governors and other local experts, for example, from the local allotments, supported setting up growing areas

“We had governors and parents involved in coming in at the weekend and actually setting up the beds.”

FFLP co-ordinator, secondary school

There has been success in encouraging growing at home through initiatives and encouragement, for example, sending seeds and pots home.

All of the schools have activities designed to support growing at home. For example

“Like the potato day ... to get the children growing at home, so on that day there will be stalls in the hall for parents to come and look at different potatoes and buy them from local farmers and (local experts) are coming in to help. Each child will take home a potato that they are then going to enter into a competition six weeks later and bring back. So we use (the potato day) to launch gardening at home projects as well.”

Head teacher, primary school

The NFER report (Teeman *et al.*, 2011) noted the parents who reported the enthusiasm of their children in recounting their experiences of FFLP activities at home, which had helped to promote parental awareness. There is also evidence in our study of some pupils' persuading parents/ carers to grow at home as a result of their involvement in FFLP activity,

“My family didn't really want to grow anything and I came home and said I really wanted to grow things because it was really fun and healthy and we started. My mum said she didn't used to like strawberries, so we started growing those.”

Pupil, primary school

“I've got more involved at home since I've been going to these [gardening] clubs; ... involved in growing things.”

Pupil, secondary school

Produce grown by the school is used in a variety of ways including selling it to parents, staff and the community; cooking with it in food technology lessons, in cooking clubs, and at events, and feeding to animals. In one school produce is used in the 'bistro' menus, an innovative café, managed by staff with pupils for community use (the bistro is popular and takes bookings). Seeds and bulbs are also exchanged between home and school in some cases. There is some, albeit limited, use of food in school lunches, for example, the use of herb beds and seasonal crops in the school kitchen when preparing lunches. Where pupils are aware that their produce is being used in the school canteen this can be motivational, for example,

“[the pupils] just turn up with big containers and smiles on their faces and say 'Can I come and wash this?' ... potatoes, carrots, onions, etc. I tend to try and use them the next day because the children know or the headmaster announces that the children have grown [it] and this is what we're eating today.”

Cook, primary school

Nevertheless the case study schools have found occasional ways of using produce grown in school in the school lunches and some have aspirations to extend this:

“We had a meal where everyone in the school had strawberries for pudding one day. We had enough for the whole school, which was amazing. So we're working on growing things that we can use in school dinners.”

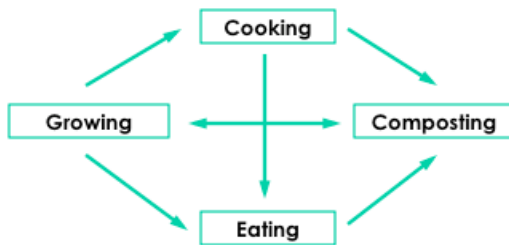
FFLP co-ordinator, primary school

However, available nutrition from growing could be described as marginal; growing activities in schools are more about learning (skills, knowledge, attitudes, engagement, behaviours), and

about outdoor experience, exercise, fresh air (in all weathers) and physical activity. The learning also impacts on kitchen staff in terms of encouraging the incorporation of fresh produce into school lunches and menus. Nevertheless, the importance of being able to grow and taste crops cannot be overstated, as it plays a hugely significant psychological role in the story of good food, and represents an experience which is only available to a minority of children outside school.

The findings show that it is impossible to present a complete picture of food and its significance for human health and well-being without a strong growing component to FFLP work. Figure 2 shows this relationship between growing, cooking, eating and composting, and illustrates the centrality of growing and composting to the *cycling of nutrients* and the *elimination of waste*, which fully mimics natural ecological systems. In particular, without *composting*, there is no circularity to energy and nutrient flows.

Figure 2: The relationship between growing, cooking and eating



Key message 6

Primary schools find it easier to involve all children systematically in growing activity because of how their curriculum, learning environment and school days are organised. However, evidence from secondary schools shows that they can overcome problems and barriers. (see [Section 6](#))

Key message 7

Growing activities such as gardening and sharing produce, recipes, seeds, etc which involve parents, grandparents and others from the wider community (for example allotment holders, market gardeners, and farmers) add important social, economic and cultural elements to the experience of producing and eating food.

4.4 Lunch

What are lunchtime experiences like?

We found a distinct difference in the lunchtime experience in primary and secondary schools. This, in part, may be due to the size and scale of the catering operation in secondary schools; hence issues such as queues, litter and noise seem to be more of a barrier to a positive experience. All schools reported dramatic changes in the lunch experience following the introduction of FFLP. For example, in one secondary school a lot of work has been done to reduce queues (changing the queuing system and layout), improve the atmosphere and dining environment (new tables and trays), and reduce waste (cutting down extensive menu choices).

In primary schools there seems to be more emphasis on quality of the dining environment, for example, by introducing colourful tablecloths and new furniture. Because of the age of the children, there is more emphasis on staff and pupil helpers encouraging pupils to try or taste new food, finish their meals and use appropriate manners. One primary school has introduced the idea of the 'family dining experience', using small tables with groups of year 4 and 6 pupils and year 3 and 5 pupils. The food is laid out on the table in tureens and the pupils then serve each other from these. Any leftover food is passed to another table if they want it. There are two sittings. The head teacher at this school claims that this has improved eating and behaviour:

"We do family dining and that's had a massive impact on lunchtime behaviour and social skills and manners and how they eat and even with packed lunches they get the food out and behaviour in the afternoon *has improved*, because some of the children weren't eating because they wanted to be outside playing, so they were just eating minimal to get by to go out. And that's all stopped now. So it's just the whole of our curriculum it permeates through really."

Head teacher, primary school

There is evidence of pupil involvement in developing the lunch experience, for example, redesigning dining spaces, painting walls, choosing new tablecloths, crockery and trays, choosing aprons for the helpers, involvement in menu planning and so on. This is evident in both primary and secondary schools.

Key Message 8

Where schools see lunchtime as an extension of learning, rather than an interlude from it, they are more likely to use it as a means of developing skills and positive social and eating attitudes.

Key Message 9

Lunches that regularly include food grown by the school pupils (or grown very locally to it by people who work with the pupils), help to reinforce core messages and understandings about healthy eating.

4.5 Linking FFLP work across the school

How is FFLP work linked/ integrated to other activities in the school?

There are many ways in which FFLP work is integrated with other activities in the school through whole school or co-ordinated approaches linking the campus, community and curriculum. Overall, the case study visits provided excellent evidence of integrated FFLP activity across all the elements of food growing, pupil and parent involvement, cooking, school meals, the work of cooks and farmers, as well as across the curriculum. Pupil voice is a strong feature of FFLP work in many schools through the School Nutrition Action Group (SNAG), and all schools recognise the benefits of having positive parental involvement (they have much to contribute and gain).

Schools are clear that the curriculum is a significant element in fully-integrated FFLP work, although 'curriculum' is not included in FFLP's 'whole school approach' model² because FFLP funding does not activity relate to curriculum. Nevertheless, curriculum *is* part of the FFLP awards scheme (the bronze award uses the phrase 'linked to wider learning'), and as part of growing/ cooking/ farm visits, schools can receive advice about incorporating these activities into the curriculum. There are also resources on the FFLP website about curriculum development.

There is certainly evidence of success in making links between the curriculum and other aspects of FFLP; especially in primary schools. Schools claim that pupils gain a more holistic understanding through this integrated approach

"Part of what we'd like to do is not only the vegetable growing, but actually to talk about the role that flowers play and encouraging bees and the other insects into the garden and the impact they'll have on the vegetable growing side as well. So we're trying to get that all-round understanding really."

Teacher, primary school

"It's an interesting way to learn. Especially my children come home and they've learnt stuff they've done as part of the growing that goes along with the curriculum as well. And they may be weighing in maths in terms of working out areas or whatever."

Parent, primary school

In the case study primary schools growing plans are integrated within curriculum topics.

"We try and link it in. In Reception it's The Enormous Turnip, that story, so they grow turnips in Reception."

Teaching Assistant, primary school

The more compartmentalised nature of the secondary school tends to make curriculum links more challenging and less systematically realised across the curriculum, although there are examples of good links in case study secondary schools. For example, one school has excellent links between FFLP activity and food technology; this subject has increased in popularity (as measured by numbers opting for this subject at GCSE resulting in an increase from 1 to 3 groups and the building of a new food technology block) which those involved attribute to the school's FFLP work.

² The sustainable schools 'Campus, community, curriculum' model is worth considering as an alternative whole school model.

Figure 3: The major contributions that the curriculum makes to young people’s learning about cooking, growing, eating and composting

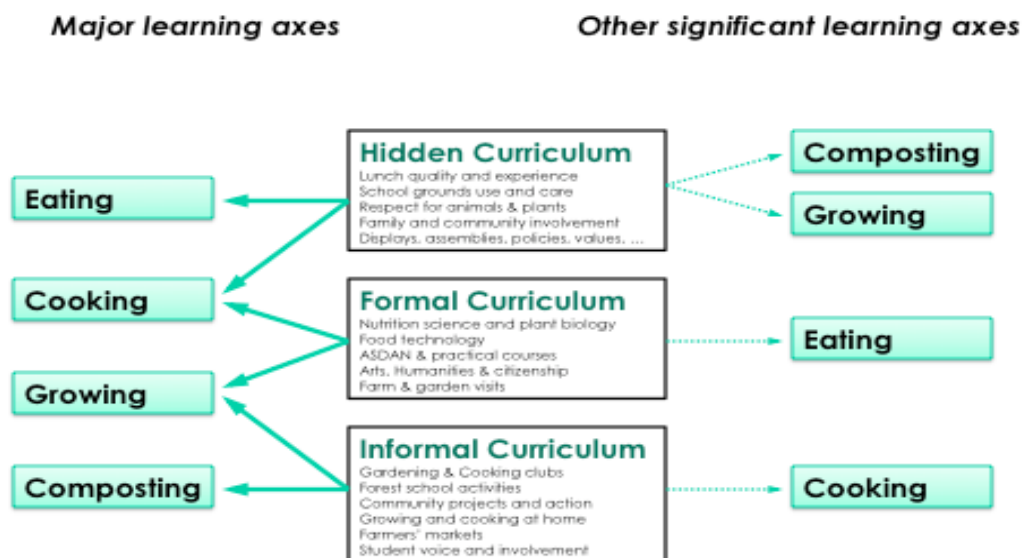


Figure 3 is a model, developed from our findings, that shows the major contributions that the three aspects of curriculum make to young people’s learning about cooking, growing, eating and composting. For example, the formal curriculum has its main focus on learning about cooking and growing. The right-hand side of the model shows other significant contributions³ that these three curriculum areas make. For example, the informal curriculum also has a focus on cooking but this is usually less significant as that through food technology in the formal curriculum.

In some schools, work with local farms is excellent; these schools include all pupils and farm links are fully integrated into FFLP work (see, for example, Appendix 2 Vignette 2.8). In two of the three case study secondary schools, farm links are less integrated. In one of these the farm link is a subject specific visit for a year group with little evidence of integration across FFLP activity.

In all schools good community links are evident through regular planned events and training sessions, for example, apple days, potato growing, chutney making, gardening lessons, and so on. In one secondary school in a less advantaged area intergenerational learning is very strong through work on a nearby allotment. Here pupils and staff have excellent links with members of the allotment society; there are regular meetings between society members, staff and pupils both at school and on the allotment, to advise, plan and discuss growing. A group of pupils [who are extracted from the curriculum for Social and Emotional Aspects of Learning (SEAL)] work on the allotment every week during the growing season and this is linked to work back in

³ This figure is an attempt to identify connections which are most important to young people’s learning.

school. At the same school all year 7s visit a farm 15 miles away in the summer term and there are 'behaviour' groups visiting and working on the farm every day (Appendix 2, Vignette 2.8).

Parents are more involved in our primary case study schools than in the secondary and special school ones, each of which reported some difficulty engaging parents that reflects a more general trend in terms of parental links with schools. For example, in one primary school a parent group takes a lead on growing and gardening with pupils; groups of pupils join the parents (and teaching assistants) in class time to work on the vegetable plots and polytunnels. Pupils are extracted from all class groups in rotation so every pupil is involved.

Key Message 10

Schools that plan pupils' growing, cooking and eating experiences with all three curriculum influences in mind (formal, informal and hidden) are more successful at providing coherent experiences for pupils around food and growing; this reinforces positive messages about healthy eating and positive lifestyles.

Key Message 11

The more that pupils (and parents) are involved in decision-making around food growing and cooking experiences, the more likely it is that what they experience will reinforce positive messages about healthy eating and positive lifestyles.

4.6 Inclusion

Who is involved/ not involved in FFLP and growing?

Inclusion is evident in all schools with pupils involved in FFLP activity in different ways and to different extents. However, the active involvement of all pupils and staff is less evident in secondary schools and the evidence suggests that it is easier to include many, but rarely all, parents in primary schools. One secondary school ensured pupil inclusion by a timetabling shift so that all year 7 pupils now participate in growing activity during an alternative curriculum day (Fun Fridays). Other secondary/ special schools make use of competitions and activities for all pupils. For example, in one school each pupil plants and tends a 'pumpkin in a pot'. Inclusion is normally a positive feature in primary schools where the reach of FFLP and growing can extend to almost all staff and pupils; in one school all classes and class teachers are involved through the class vegetable plot with separate composting bins for every class.

In each school there is evidence of enthusiasts leading and being actively involved in FFLP, and growing in particular, and this is the case for staff, pupils and community members including parents. This is manifested in many schools in a gardening club, cooking club or equivalent. In some schools there is a waiting list to join these; in others club membership is rotated to ensure all pupils who wish to, can get involved.

Key Message 12

Growing activity is an excellent way of enabling all pupils to participate in and make a contribution to school life.

Key Message 13

Growing activity is an excellent way of enabling parents/ carers (and grandparents) to participate in the school by providing relevant skills and experience that school staff do not always have.

4.7 Value added

How has FFLP added value to what the school was doing previously (and might have been doing anyway)?

Findings from the case study schools suggest that FFLP can

- i. integrate and extend a school's food-related activity especially in terms of growing, cooking and eating, and that this integration brings benefits in terms of learning (see also 4.8)
- ii. extend and enhance the quality of the school's wider community engagement
- iii. provide an enabling framework and a structure for food related activity
- iv. enhance the status of food-related activities, especially growing and cooking
- v. 'pump prime' and stimulate food related work including through funding, training, confidence building and disseminating 'know how' e.g. horticultural expertise
- vi. give many children an aspect of school that they can excel in and enjoy (e.g. gardening, cooking)
- vii. increase and enhance pupil voice and parent involvement
- viii. result in significant improvements to the quality of school meals and the dining experience
- ix. enhance and extend the use of the school grounds, especially for growing
- x. extend opportunities in the school for outdoor education and experience and physical activity
- xi. nurture an ethos of care for oneself, extending to others and the environment (school grounds, local community and environment and further afield).

Key Message 14

A school that takes 'food for life' as an integrating framework across curriculum, campus and community is able to increase the coherence and effectiveness of what it is trying to achieve.

4.8 Value of a whole school approach

How has growing and linking different food activities added value to the FFLP? What is the key element of the whole school approach that does this?

Findings from the case study schools show that integration brings benefits in terms of pupil learning especially the development of more holistic food awareness. This awareness is described by the stakeholders (including pupils) using phrases such as 'seed to plate', 'seed to compost', 'digging to eating', 'knowing where your food comes from'.

"It's like you know you've grown something from a little seed and then you eat it. [That is good] because you know where it's come from."

Pupil, primary school

"But if they can actually see something that starts off as a tiny little thing and you put it in the ground and it grows into something like a carrot, you then lift that out and hand it to the cook and they then prepare it and cook it and then they get the chance to eat it. It's a complete cycle and it's fantastic."

Teacher, primary school

Stakeholders describe pupils' previous lack of knowledge and understanding about where food comes from

"I liked [FFLP] because ... it's a case of [pupils] can grow it, see it, eat it, and a lot of children don't know where their food comes from. ... It's like the pork, we have a loin of pork and I slice it and they don't realise that that pork has come from that pig that's been outside running around But I like that aspect of it because they see it [growing] out there and then bring it in and I cook it or they put it out on the salad table. They deal with it. They cook with it, which is good because they've then grown it right from the beginning and they've watched that whole process, which I think is good."

Cook, primary school

The consensus is that FFLP approaches address poor food awareness effectively by an integrated approach to food education in which links are made between the curriculum, growing (including on farms and in horticulture), cooking, selling, eating, composting, community involvement and pupil/ parent voice, and by the practical involvement of pupils (and parents/ carers and grandparents) in all of this. Importantly, the leaders, staff and parent stakeholders say that FFLP activity needs strong cross-curriculum links, and integration between formal and informal curriculum activities. Food itself has an integrating capacity because every pupil is involved in food and related experiences, most significantly through the cultural experience of communal eating as part of the school day. It is clear that a whole school approach to growing, cooking and eating food links this everyday experience of communal eating (and the kitchen/ dining area) to their wider school experiences, and so becomes a positive feature of the school day.

Key Message 15

To be effective, what young people learn through the curriculum about food, nutrition, growing, cooking and eating has to be as fully integrated as possible with how they experience food both personally and socially.

Key Message 16

Integrating formal curriculum inputs with informal approaches through clubs, food growing in the school grounds, and family- and community-based activities is necessary if the benefits to pupils are to be optimised.

Key Message 17

A whole school integrated approach to food growing and cooking reinforces the essential lessons that food doesn't just appear on a plate: rather, [i] it is grown or harvested, purposefully, and [ii] how it is grown or obtained affects its quality and usefulness to humans and other animals.

4.9 Impact of Garden Organic (GO)/ FFLP resources

What has been the impact of resource materials on what the school does?

All schools report the positive impact of GO/ FFLP (and especially GEOs and other link staff) on staff development (see also 4.7). Impacts are described in terms of

- implementing innovative and practical ideas provided by FFLP staff/ GEOs
- developing staff, pupil and community knowledge (pedagogical and horticultural)
- building staff (pupil and parent) confidence
- suggesting sources of funding and providing funding
- enabling networking with other schools.

Looking back, all schools reported benefits from the advice and support of GEOs and other FFLP staff (in school/ on the end of a phone), for example, horticultural advice, stimulating new ideas and motivation.

“What you got from the FFLP was the expertise. So if we wondered something about getting the garden done, like [GEO] in Garden Organic has helped us plan the growing calendar and talked about how to rotate the crops and ...composting.”

FFLP co-ordinator, primary school

“So from a resource point of view they’ve been fantastic and from a motivation point of view they’ve been very good.”

Head teacher, special school

“... and (the GEO helped with) things like growing the beans with purple pods. Suddenly they become visible on a bean plant, because when they’re all green they’re quite hard to spot, but when they’re purple it’s very easy to spot them. Things like that help.”

Parent growing helper, primary school

Stakeholders in all of the schools reported the cooking bus and five reported the FFLP Food Growing Manual (produced by Garden Organic) as adding value to their FFLP work.

“...we’ve been sent the other resources from Garden Organic. They were a really good starting point that we just used to pick up and refer to.”

Parent growing helper, primary school

This ties in with the findings from the UWE / Cardiff evaluation report for FFLP (Orme *et al.*) which reported that the cooking bus had acted as a catalyst for change within schools.

Stakeholders in six schools also reported on the value of courses, training and demonstration sessions by GEOs and other FFLP staff.

There is some evidence that schools can sustain FFLP without GEOs once community networks and other support is established. For example, one school says that they can now go to the local allotment society for horticultural advice and therefore have less need to call on their GEO. Another school reports that community expertise is having the same level of impact as

GO on their growing but in different ways. They feel that GO had contributed valuable tools, advice, resources, lesson activities and budgetary advice.

Key Message 18

Following initial expert input (e.g. from FFLP) schools can sustain growing activity by drawing on local and community networks, for example, local growers, gardeners and farmers).

4.10 Rhetoric and reality

Is what the school says about FFLP/ growing seen in practice? How have FFLP ideas been translated into practice?

Organic growing and organic food are treated as uncontroversial in most schools and are not a strong element of the discourse and discussion. There seems to be more emphasis on the ideas around sourcing local food and food miles. In schools in more disadvantaged communities local and organic are seen to be less relevant; the priority here is fresh food and one hot meal a day, although this is not to say these schools did not see any value to local and organic. The cost of school meals tend to rise as the proportion of organic produce is increased, and some schools see limited opportunities to achieve the FFLP gold award as a consequence.

We did not see much dissonance between what the school says about FFLP and evidence of practice. Although, inevitably perhaps, not all staff members seem enthusiastic about FFLP and growing and cooking, the cooking bus experience was a turning point in many of the schools for spreading enthusiasm amongst all stakeholders, including school staff.

“Yes, [the cooking bus] was a good kick starter for members of the community and other schools came, the Catering Services... . It really acted as a catalyst, the starting point, something with a wow factor to get everything up and running because then the children were enthused and the children were coming up with the ideas because in the SNAG groups it was very much what the children were wanting. That was the most amazing part. If we hadn't had that I think we'd have found it difficult pushing everybody, but everybody got involved, staff, parents, governors and everybody, teachers, kids themselves. It was amazing. It's always in my mind that.”

Head teacher, primary school

Key Message 19

If the school 'lives out its espoused values in practice' pupils are more likely to realise its good food goals in relation to positive lifestyles.

Section 5: Impacts and Outcomes

5.1 Evidence of impact on learning and food behaviour

What has been the impact on pupils, staff, parents, and others on what they know and now do? We present our findings in relation to *Impact* and [i] disadvantage, [ii] learning, [iii] pro-environmental behaviour, [iv] engagement and behaviour, and [v] food behaviours

Impact and disadvantage

Our findings from visits to case study schools suggest that FFLP has a particular impact on

- pupils from disadvantaged communities
- pupils with special educational needs
- pupils with social, emotional behavioural difficulties (SEBD)
- some pupils who do not otherwise flourish at school

Schools in more disadvantaged communities report significant issues in terms of local food culture and how FFLP has been able to militate against this to some extent. For example, one urban primary school in a disadvantaged community reported undertaking a survey of eating habits at the start of FFLP. Staff were ‘shocked and astounded’ by the results; for example, the number of children and families eating regularly at, or from, a fast food outlet. Since FFLP they say that subsequent surveys show different, more positive outcomes. Similarly, the special school and other schools where SEN and behaviour pupils are a focus of FFLP work report improvements in food consumption inside school and some evidence of take home impact, for example, pupils cooking with their parents for the very first time, or indeed cooking anything at home for the first time (something also noted in the UWE / Cardiff report to FFLP). It is evident that improved school meals, including those at breakfast clubs and holiday clubs together with other FFLP activity, can have a positive impact on the diet and awareness of healthy eating of pupils from more disadvantaged communities. Nevertheless, these schools are unable to completely overcome poverty and a lack of access to fresh produce in the local community.

Impact on learning

One striking impact on learning is the more holistic knowledge, understanding and awareness of food that pupils develop; that is, the idea of ‘seed to plate’ and the nature of healthy eating. There is less evidence of an awareness of the controversy surrounding some food issues, for example, organic versus non organic growing. However, in one primary school, visits to organic and non organic farms is helping pupils to understand the pros and cons of organic farming, issues to do with food miles, and the like.

Pupils, staff and others involved also develop food-related skills, including those related to cooking, growing and composting.

Many of the pupils, parents/ carers and staff interviewed reported starting their own growing at home since their involvement with FFLP

“I’ve got more involved at home since I’ve been going to these clubs. Like involved in how we grow things.”

Pupil, primary school

... and also changes in their food sourcing, cooking and food waste practice at home.

“Before I joined my family used to buy normal non-organic and all of that, but then I went and said my school had delicious organically grown vegetables and fruits and I said they were delicious and all of that and they’re healthy, then [parents] thought ‘Why don’t we get it? ‘ Because if we get it, it means that my family will have a better diet.”

Pupil, primary school

The evidence suggests impact on learning about the environment

Interviewer: “Have you seen children in the school who’ve really developed their interest in gardening and food growing?”

FFLP co-ordinator (primary school): ‘Yes, there are. There are some children who are fascinated by it. Sometimes more by the wildlife. ‘I’ve found a worm’.’

Teacher: ‘I think that’s fascinating too, so I’m quite happy with that. ‘Let’s see all the ladybirds’ because last year they were fantastic. ... The sequence of ladybirds. We had lots of pupils who came out and watched that.”

There are also examples of unexpected learning outcomes from growing experience, for example, when things go wrong with the growing there can be useful and inspirational learning outcomes.

“We lost the entire broad bean crop didn’t we? Because of the ladybirds. (...) they laid the eggs and we had all stages of the ladybird. They were fascinated at seeing the eggs and the larvae going round and then watching them hatch. And the colour coming out. They were very pale.”

FFLP co-ordinator and parent growing helper

“That caterpillar [that ate the produce] – I can’t get over it. If I had my five year old in here now he’d be telling you all about that caterpillar. He would, honestly. It was huge and the best of it was that obviously caterpillars are green, the same colour of the leaf, and we were there in the middle of a dark evening looking with a torch to see this caterpillar, because you can’t see them! And if you could have seen all three of us looking for this caterpillar! It was so funny.”

Parent, primary school

Impact on pro-environmental behaviour

One recurring theme from school staff is the impact that growing experience can have on care for the environment and pro environmental behaviour. This is expressed in terms of improvements that had been seen, for example in how the school grounds are treated and cared for, as well as the environment farther afield.

“Even the toughest of the tough care, and they’re not afraid to show it are they?”

Head teacher, primary school

“The whole school has become galvanised into doing things with food. There are little plots around the school now with things growing and it was all bits of

land that sat doing nothing and were being trampled on and the children naturally care about those plots now.”

Farm coordinator, secondary school

“I think looking after the environment, the growing, does make children think about plants and the growing and the benefits of them. I think the children do respect the green environment because if it stops them pulling a branch off a tree when they’re outside, then that is a big impact because it stops them and they think ‘Oh I grow things like that. I know all the things that have gone into making that grow. I’m not going to destroy it’. I think years ago all the daffodils ... were picked... and thrown about by children... now they’re left. You used to go past and it looked like a ... war zone... I’ve actually heard the children in my class, as soon as it turned into spring, saying to me ‘You can’t touch the daffodils that are growing outside. You have to leave those there’... the growing aspect, the hands on experience the children are getting with this kind of project we know they’re getting this experience here, so it means something to them.”

Head teacher and co-ordinator, primary school

It is clear that growing activity can also develop enterprise and vocational skills. One urban secondary school claimed that their involvement in FFLP and work with farms in particular had broadened pupils’ ideas about jobs and careers; in this urban area farm work is farther afield but the school was able to cite examples of pupils who had either gone on to work in this area, or had aspiration for it. Schools also gave examples of enterprise and vocational skill development, for example,

“[chickens] helped the children deal with money skills, controlling the stock, health checks, we’ve had the vet in. We made a good link with the local vet who comes in and he talks to the children when he’s carrying out these health checks. The children have also learnt to deal with bereavement as we lost one of the chickens and they coped very well with that. And they don’t look at them as pets. They see them there to produce the eggs for us.”

Teacher, primary school

Impact on engagement and behaviour

There is also evidence of the positive benefits of teamwork/ solo work and practical outdoor experience. For example, in one special school staff report the enjoyment and success that their pupils experience from growing

“It enables kids to dig and grow and achieve and in a sense our pupils like to be doing things as much as anything else, so their work – the practical work – they excel in and that’s reflected in some of our art work and technology work... it’s given them an opportunity to work in a way that they now are successful.”

Special school, FFLP co-ordinator

“The FFL Partnership I think focuses more on the actual school meal, whereas our school I think got more out of it out of the actual growing activities that improves behaviour, engages the kids, they feel part of something, as well as having an improvement in their school dinners.”

Special school, FFLP co-ordinator

Similarly a number of schools report improvements in behaviour and socialisation as a result of growing.

“It’s definitely impacted on behaviour. It’s positive. Yesterday [boy] had a bad day everywhere else, but over there [the garden] fantastic. It does bring out the best in the kids.”

FFLP coordinator, primary school

Such claims were made in the context of the actual experience of growing and, in some cases, reported a more sustained improvement in pupil behaviour.

Many stakeholders mentioned the impact of fresh air and physical activity on pupils’ wellbeing, engagement and enjoyment at school.

“People enjoy it. It’s not like we go ‘Oh, no, we’re planting again’. It’s fun for everyone and a chance for everyone to get messy and have fun.”

Pupil, primary school

“I also loved the fact that it was very practical learning and having seen a whole bunch of children who just didn’t want to be sitting in the classroom, mainly boys, but not all, it was just brilliant to know that they were going outside and doing something with their hands and learning that way.”

FFLP co-ordinator, primary school

“... and they’re so calm when they’re outside, which is why in KS1 we do nearly all our teaching, if I can, outside.”

Teacher, primary school

The FFLP evaluation report from UWE / Cardiff (Orme *et al.*, 2011) noted the particular enjoyment than the care of animals offered some pupils. This was echoed in our own study where contact with living things is also seen to be beneficial

“I am from a farming background and we’d been to visit a couple of schools that were keeping farm animals and I was aware of the benefits there and brought it back here. ... and it has been very beneficial, particularly for some children who find it difficult to make friends or have emotional difficulties. It has been very, very beneficial.”

Teacher, primary school

The NFER evaluation report (Teeman *et al.*, 2011) noted that pupils remembered farm visits and were able to recall large amounts of detail about the experience of the visit and their learning about food provenance.

Pupils and staff interviewed are enthusiastic about and enjoy gardening and growing and take pride in the outcomes.

“You feel really proud of yourself at the end; that you’ve actually managed to grow something.”

Pupil, primary school

Adult stakeholders involved in growing report a calming and therapeutic effect on both themselves and pupils they work with and how this seems to improve pupil behaviour immediately afterwards, and in general. They also report improved relationships between adults and pupils, and between pupils as a result of working alongside each other and talking in different ways and about different matters than when in more formal classroom settings. Improved self-esteem and confidence and increased enjoyment is also reported, especially for pupils who do not necessarily flourish in other aspects of school life.

“...often some children who maybe find it difficult being confined to the classroom, you get them outside and they absolutely love it and are totally different. They just get so into it.”

Teaching Assistant, primary school

Impact on food behaviours

Stakeholders report that school lunches have improved in case study schools, sometimes dramatically. Cooks/ Chefs have experienced an increase in their skill acquisition and, in some cases, changed food behaviour at home to do with growing, food sourcing, food choices and so on. The consensus in all schools was that menus and school meals have improved and as a consequence

- pupils prefer the food and eat better at lunchtime
- pupils are more willing to try new foods
- more pupils eat school lunches (or bring healthier packed lunches) and
- there is less wasteful behaviour and waste from school kitchens.

“They’re much more interested in the food they eat now. I think that’s a huge impact. They will try it, even if they end up not liking it. If you tell them it’s out of the garden and it’s from this particular bed ...”

FFLP co-ordinator, primary school

“I’ve been in the lunch hall and noticed them encouraging one another to try different foods that they’ve maybe not tried before or have said they don’t like They’ve got the choice, they’re sitting with friends and it’s a happier experience.”

Lunch time supervisor, primary school

“[there are] dietary [benefits], because some children were tasting food that they hadn’t tasted before and they’re not frightened to try it. There’s no pressure but we say ‘Just try it. Have a go.’”

Teaching Assistant, primary school

“...also they’re making better choices about their food and if you look at the menu and how many people are choosing what, it appears from my side of the counter that people are being a bit more adventurous with what they eat.”

Cook, secondary school

5.2 Three key elements of schooling

The findings of this evaluation suggest that three key elements of a school's emphasis on growing as activities that children take part in, learn through, and benefit from, can optimise its impact:

1. *Growing has to be something that all children do*

This is an entitlement because of the wide range of educational, well-being and social benefits that accrue, including for pupils from less advantaged backgrounds and those who do not otherwise flourish and/ or achieve at school

2. *Growing should take place throughout a child's schooling, and be experienced in different contexts*

This should not be tokenistic, or a one-off, one-context experience

3. *Growing experiences should be integrated, rather than stand-alone, activities*

children should be helped to see the connections between growing and what they are learning elsewhere in school, and with how the school lives out its daily life (its values), and how it inter-connects positively with its community.

5.3 Key outcomes from growing in schools

From our evaluation, it is clear that food growing adds value to a broader food education programme and can lead to valuable educational, personal and practical outcomes.

We have identified four possible types of outcomes for pupils from being involved in growing in school, as part of a food education programme that includes growing in the school grounds, on sites in the local community, and at home where school-based work has initiated this. These are the development of a wide range of skills, increased physical activity, the acquisition of knowledge and understanding, and personal development in terms of values, attitudes, dispositions and behaviours. These are shown in Figure 4.

Figure 4: A Typology of outcomes from Growing

1 SKILLS

- 1.1 Gardening: propagating, planting, growing, pruning, harvesting, composting ...
1. 2 Keeping animals (e.g. chickens, bees): feeding, caring, cleaning, maintaining ...
- 1.3 Social and inter-personal: learning through experience, and with/ from others (pupils, staff, (grand)parents/ carers and community members) through collaboration and competition
- 1.4 Work-related (employability) e.g. leadership, teamwork, planning, decision making, problem solving, critical thinking, enterprise ...
- 1.5 Participation; working with others (pupils, staff, (grand)parents/ carers and community members) to plan and make decisions e.g. the growing calendar

2 BEING PHYSICALLY ACTIVE

- 2.1 Appropriate, regular physical activity that contributes to fitness through the development of strength, co-ordination and skills
- 2.2 Enjoyment and fulfillment of satisfying physical activity in the open air, enhancing feelings of well-being

3 KNOWLEDGE & UNDERSTANDING

- 3.1 Horticultural science: propagation, cultivation, irrigation, soil, fertilizing, pest control, composting, breeding...
- 3.2 Nutritional science: theories of nutrition and links to well-being and healthy eating
- 3.3 Ecology: the wider picture, biodiversity, ecosystems and interdependence, sustainability, responsibility and stewardship ...
- 3.4 Garden design: soil, weather, exposure, altitude, irrigation
- 3.5 Culture, food & well-being: what people eat and why; broadening the range of known foods
- 3.6 Industrial practice: farming, horticulture, fishing; issues and choices around distribution, storage, fair trade, organic, GM, procurement and marketing etc.
- 3.7 What to do with the produce in readiness for eating, e.g. processing, distributing, marketing ...

4 PERSONAL DEVELOPMENT: VALUES, ATTITUDES, DISPOSITIONS & BEHAVIOURS

- 4.1 An interest in, and commitment to, the idea, production and consumption of good food
- 4.2 An interest in eating fresh fruit and vegetables and a willingness to try new foods including fresh fruit and vegetables
- 4.3 A personal desire to garden and grow food; associating food growing with enjoyment
- 4.4 A pro-sustainability disposition: an ethos of care towards the Earth and its peoples
- 4.5 A sense of satisfaction, enjoyment and of making a positive contribution
- 4.6 Engagement with, and positive attitudes to school, school work and learning
- 4.7 Preparation for adulthood, for example, personal responsibility for adopting healthy/ sustainable lifestyles, community participation, vocational preparation ...
- 4.8 Positive involvement in school life with shared learning through growing-related activity with (grand)parents/ carers at home and in school

Section 6: Barriers and problems, and how they can be overcome

A consideration of the issue of barriers to healthy eating in and out of schools is hardly new. As Orme *et al.* (2011) noted in their report to FFLP, “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).

Schools in our study reported a range of barriers and problems which hold back the development of a greater focus on growing and cooking food and as a consequence the potential impacts. This section summarises discusses barriers and problems, and strategies to overcome them as reported in the case study schools, under 5 headings: Growing, Family & Community, Lunch, School-, community-, and staff-development, and Curriculum.

6.1 Growing

“There should be a book about how to grow vegetables based around the school calendar because I think it’s actually one of the biggest challenges.”

Parent growing helper, primary school

Barriers and Problems

Strategies to overcome them

1. A lack of space for growing	Even small spaces inside and outside the school can be used successfully. Larger spaces are often available locally in community gardens, allotments, on farms, etc. Building bridges to community organisations helps make using such spaces a possibility, and brings external expertise into the school.
2. Things go wrong all the time	They do, of course, in this real world of seeds, pests, weeds, wind, drought, and rain, and they always will. What matters is the care you take, and what you learn from the experience about optimising yields. Make sure that this learning comes out of discussions with pupils, is very visible and can be remembered. Keep records of how well growing worked – much maths and English here, of course.
3. Health & safety issues	Gardening, growing and cooking all involve developing a wide range of new skills. Learning how to take appropriate care of yourself and others during this acquisition and mastery of skills is a positive way of dealing with the risks involved.
4. Coping during the holidays	Plants keep growing, sometimes need watering and picking, and generally looking after (as do animals). This difficulty is built into school life. Whether you are growing food crops in the school grounds or outside the school, a garden manager, or a rota of adults who are responsible for this, is useful strategy. This could be a teacher, a parent, or an “other”, whose work will need to be paid for (perhaps in kind).

6.2 Family & community

“My dad never does (gardening). He’s lazy... he sits down in his chair all day.”

Pupil, primary school

“I do know a parent who once got very upset because their child had had a chocolate bar confiscated out of a packed lunch.”

Parent, primary school

“I keep on asking my mum [to try new food] because I just tried jacket potatoes and I kept on pestering my mum but she wouldn’t let us.”

Pupil, primary school

Barriers and Problems

Strategies to overcome them

5. Hard to involve some families and community groups	Think small. Look for obvious allies and links, make these work, and then build on them. See pupils as ambassadors (though not foot soldiers). Don’t proselytize. Use tasty food to showcase and demonstrate; share expertise through collaborations and competitions
6. Some parents don’t share our values	This is inevitable to some extent in any community, and it is really important not to position the pupil between school and parental values with no wiggle room. The key questions here are: [i] how do we help the pupils learn? And [ii] how can we draw parents into what we do? Using good food to bring people together is usually a positive strategy.
7. Families don’t apply for free school meals	To boost FSM take up, schools need to make it very clear who’s eligible, and to make it as easy and private as possible to apply (and re-apply if eligibility changes).
8. Vandalism and theft of plants, materials and tools	This can be reduced, or eliminated, where the growing activity is widely seen as something that is part of the shared life of the community and school, and something that involves families and local enterprises and where the approach to growing nurtures an ethos of care

6.3 Lunch

“Procurement has been the most difficult thing that we’ve had to look at because it’s out of our control.”

Head teacher, primary school

“There was a slight hurdle in that we weren’t allowed to use the produce that we grew in the kitchen initially because it wasn’t officially sourced.”

Head teacher, secondary school

Barriers and Problems

Strategies to overcome them

9. Raising food quality can be difficult with external caterers	Attempting negotiation is the obvious first step, inviting the caterers to become partners in your plans. Find someone who is sympathetic, and offer to be a trial school for any plans they have. Some improvements, even if only at the margins, will be possible in this way. Taking full responsibility is a big step and will not be possible for every school. However, seeing this as a community-based partnership with benefits to local businesses may provide useful solutions, and adopting a consortium approach offers economies of scale.
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10. We can't cook and eat our own food	Seeing this done is hugely important for pupils, and schools do this successfully through lunches, cooking clubs, food technology classes, teas for visitors, and in special events and celebrations. Not all external caterers are keen to allow this, but there are no problems that cannot be overcome, and FFLP and others know all the useful strategies.
11. Lunch is not a good experience	Whether it's long queues, a lot of noise, not enough seats, cramped conditions, drab surroundings, or litter, there are many causes of dissatisfaction – even when the food is good. None of this is inevitable and FFLP (and others) have effective strategies for making the lunch experience more efficient <i>and</i> more enjoyable. Don't think you have to learn about all this from scratch.
12. School lunches seen as costly	Helping families is the key here. Positive strategies include: discounts where there is more than one pupil per family; being able to opt in for lunch only some of the time; giving every new child to the school, a period of free lunches; engaging with new suppliers, particularly local ones; using seasonal produce; bulk buying of staples, etc.

6.4 School-, community- and staff-development

“That was the biggest challenge ... getting all the staff on board because we had some key members of staff who were enthusiastic, but we had others who were actually so busy with their English and Maths and what they were teaching that they didn't want to go out in the garden.”

Head teacher, primary school

Barriers and Problems

Strategies to overcome them

13. Passive or negative staff attitudes	Not everyone needs to be ultra-committed. What's important is leadership from the top, a team of staff with clear responsibilities, appropriate funding, and very visible activity with successful outcomes. With this in place, more staff can be gradually drawn into the idea that “this is what our school does; it's good, and I can join in”. Find ways of drawing every tutor group in, for example, through a growing competition.
14. We don't have the skills	The teaching skills needed for involving pupils in growing and gardening will never be taught in initial training. However, existing pedagogic and planning skills can be adapted and extended to the garden if this is done with care and over time, building up both experience and capability. External community input is possible here, as it is when it comes to gardening skills, <i>per se</i> . Being open to being seen to make mistakes, and the role model of learning through/ from those mistakes, are both crucial.
15. Nothing's joined up	This can be hard, especially in secondary schools, but it's necessary if pupils are to make sense of the totality of what they do in clubs and whole-school activities, and through the curriculum more formally. Show through displays that what is done in science and food technology helps pupils understand why gardening, growing and cooking are done in a particular ways.

6.5 Curriculum

‘There are certain things the children can’t do because they’re too small ... Or you would possibly destroy their enthusiasm for growing ... Like if they spent all their time weeding.’

Parent growing helper team, primary school

Barriers and Problems

Strategies to overcome them

16. Growing is time-consuming and a distraction	It is time-consuming, but you need to let people see that the time is well spent because of all the positive educational, personal and social outcomes: skills, knowledge, understanding, attitudes, and the way that these are linked directly to pupils’ everyday lives in and out of school. Make all this very visible, and go on about it. The local press loves stories about gardens and growing.
17. Hard to involve everyone	It’s easy to involve just a few pupils, and whilst this can be good to start with, it’s of limited value. Starting small makes sense, though, through gardening and cooking clubs and making these open to everyone interested. Using produce in the school kitchen makes what’s being done visible to everyone, and having every class involved in growing projects or competitions can be easy. Assemblies are important as are visitors to the school.
18. Whole class gardening is hard	It is, but split classes and rota timetabling help, as does a clear separation of tasks into more and less hands-on & activities. Involving people with good technical skills from outside the school is very useful, and managing their involvement well is crucial.
19. Young pupils can’t do some things	They can’t – heavy digging and lifting, for example; but there is lots that they <i>can</i> sensibly and successfully do. The key here is to plan, as usual, with their abilities in mind.
20. Paying for external visits is a problem	The cost of transport is the issue that tends to be cited most frequently by schools in relation to any external visit, including farms, and there are limited ways round this. Where practicable and sensible, making use of local (especially within walking distance) facilities makes a lot of sense, and not just financially.

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Appendix 1

Key headings from the phase 1 case study school visits

1. School ethos

How does FFLP fit with school ethos/ goals, aspirations etc, and with food culture, and other initiatives?

2. Champions

Who is driving the FFLP/ growing work? How committed is the school leadership? How embedded is it?

3. Growing

What's the extent of growing; i.e. what takes place, where, who with and what happens to the produce?

4. Lunch

What is the lunchtime experience like?

5. Links

How (or whether) FFLP work is linked/ integrated to the other activities in the school (FFLP 'whole school approach', 'campus, community, curriculum')?

6. Inclusion

Who's involved/ not involved in FFLP and growing?

7. Value added

How has FFLP added value to what the school was doing previously (and might have been doing anyway)?

8. Value of a whole school approach

How has growing and linking different food activities added value to the FFLP? What is the key element of the whole school approach that does this?

9. Impact of GO/ FFLP resources

What has been the impact of FFLP/ GO resources on what the school does?

10. Evidence of impact on learning and food behaviour

What has been the impact on pupils, staff, parents, others on what they know and now do?

11. Barriers

What does the school see as holding back the development of FFLP / growing?

12. Future plans

What plans does the school have to overcome the barriers?

13. Distinctive practice

What would you describe as the most outstanding feature of the work that this school does?

Appendix 2

School Vignettes: examples of distinctive practice

2.1 Bee keeping

At this secondary school set on an urban fringe bee keeping is a distinctive feature of FFLP work. The head teacher had kept bees at a previous school and so supported the introduction of bees. The teacher i/c of bees has, along with the head teacher, championed bee keeping, viewing this as a central aspect of food and growing given the role that bees play and the issues surrounding the health of bees worldwide.

The school has two hives with another on the way thanks to FFLP funding. The hives were initially positioned centrally in the school quad and recently moved to the roof due to building work and increased traffic in the quad. The hives now have a viewing area behind a large window from a central stairwell and there are weekly demonstrations in the summer which gather a large crowd of pupils.

Whole school links include integration into the science curriculum with research on bees. Temperature monitoring data loggers have been installed to develop the bee research programme. The school bee club makes and sells honey to pupils, staff, parents and the community; in the first year the club extracted, filtered, bottled and marketed 40 lb of honey making £250 profit (this will be used to develop the initiative in future). The school has also introduced an "Adopt a Bee" scheme to support the project. For 50p, pupils get a picture of their bee and get to name it

The school is conscious of the safety issues surrounding bee keeping; parents were consulted early on with few issues raised and a safety policy was put in place. Despite all efforts to avoid a swarm, one occurred in April 2010 when 60,000 bees left the hive to fly around the quad. With all windows and doors shut, staff and pupils were able to get a safe and close up view of the spectacular swarming process.

2.2 Keeping chickens

This junior school in an urban fringe location has chickens on site in a hutch in a location that is highly visible and accessible to all staff and students. This has had a considerable impact in various ways. Some impacts are obvious, for example, the supply of fresh organic eggs for cooking in the kitchen and the reduction in food waste. Others are more unexpected, for example, helping children to learn about bereavement through the death of one of the chickens and the interaction that it hatched between the children and the cooking staff who share the duties of caring for them and feeding them; this is overseen by a member of staff with a farming background. Other staff members volunteer to help out when ever they are needed. Children and parents feed the chickens at weekends and during school holidays and a number of families now keep chickens at home as a result.

The success with keeping chickens has resulted in plans to foster pigs for short periods of their lives. The school also has guinea pigs, gold fish and hamsters that the children are able to

interact with on a daily basis and which greatly enrich the school environment and the children's understanding of the nature of caring.

Other distinctive features of the work at this school are the headteacher's approach to distributing leadership in a way that empowers her staff, enabling them to be innovative and creative and her willingness to free up teachers time through the use of HLTAs (higher level TAs) to take lessons so that staff can be released to talk to visitors and help other schools develop their plans.

2.3 Linking and experimenting

This infant school in an urban fringe location has several distinctive features; for instance, the way that they link their FFL work to the Forest Schools initiative which has had quite an impact on how that their grounds are used and what the school looks like. There is much visual evidence of growing all around the school which is interwoven with areas where natural woodland is made accessible to the children giving the school the look of a place where learning is as much an experience of the outdoors as the classroom.

Another feature of their work which has contributed to their success is the enthusiasm with which they participate in Garden Organic Members' Experiments through growing heritage varieties of crops and saving seeds. This adds a different dimension to the children's learning by giving it historical and cultural significance. It also increases the amount of interaction with the Garden Organic team which encourages them to continue to develop and maintain the work that they are doing.

2.4 The Head's vision

The Head has driven the FFLP in the school, work following his arrival in 2007, and has now assembled a team of staff to realise his vision and ambition. The key point is that the Head's interest is values-driven through a personal understanding and conviction of the importance of good food to a fulfilling life (health, enjoyment, etc).

In relation to the school, he sees FFLP in terms of an every child matters entitlement. No one talking with him about food and FFLP could doubt about his understanding and commitment. Three key people work closely with him in implementing the vision: the FFLP co-ordinator, the Head of Food Technology, and the Catering Manager. The very committed co-ordinator has a newly promoted post, and sees FFLP, and food-related issues more generally, in terms of a wide-ranging consideration of environment and sustainability.

Through the simple approach of an inter-class competition (e.g., growing chill pepper plants in pots in each class), every class becomes involved in growing which generates a palpable interest. The Catering Manager is extremely positive and speaks eloquently about her team's skills acquisition through FFLP training, and about how this has changed what they now do giving rise to significant positive change in relation to the work of the school canteen. The contribution of the students to these developments, especially those involved in the SNAG and the Clubs, has been significant.

2.5 Community embedding

The community embeddedness of this school is a strong feature. This village school serves a widespread farming (sheep mostly) community where it is said that there is a conservative approach to food with little by way of an established culture of gardening and growing. About 20% of children live on farms. The school said that its strong link to growing and food was important for the school as it forged a link to local heritage and culture. As an example of this, the whole school went to the 2010 Westmorland Show for the first time. The link to the farms (some organic; some not) and to other aspects of the community was notable, and there was evidence of school to home influence; for example, a cookbook produced in school was sold to parents.

The village had set out deliberately to foster a community interest in food / growing / sustainability through a number of initiatives, such as

- [i] a community orchard with fruit trees spread across the village (including in the school),
- [ii] a communal potato field (the children grew, looked after, harvested, cooked and ate 'their' potatoes last year),
- [iii] providing garden tools to the school on the proviso that these are available for use in / by the community when needed, and
- [iv] the children had developed a recipe and persuaded a pub chef to cook it (the pub kept it on the menu).

The school also has a strong link to a very local (safe walking distance) organic grower such that the grower spent time regularly in the school and the children went to the nursery (where biodiesel was also made). Their products are used in the school, and they help with the Gardening Club.

2.6 Expanding growing in the school and community

This primary school set in a small village has achieved a great deal in terms of expanding growing in the school grounds and local community. The school has very strong connections and networks with the village which have been capitalised upon to develop more local growing.

This is encouraged through seeds being sent and grown at home. As a result of FFLP activities and events, more parents now grow in their gardens and participate in growing activities in school including as 'leaders' supporting pupils' growing in regular timetabled sessions and the gardening club. Allotments have also been established in the village as a direct result of the school's FFLP work. The school's Garden Organic Education Officer supported the school to campaign for allotments to be established on some spare land in the village. The school petitioned the local authority which then had to consider providing allotments which they eventually agreed to. A parent recently built a heat exchange unit in the greenhouse to help keep the temperature constant and another parent is setting up a project to track down and log old varieties of fruit trees in the village.

Growing and composting is very visible in this school; there are displays indoors, and the growing / composting areas are adjacent to the playground. The school is continually striving to expand its growing area, an orchard has recently been planted in a community event and there are edible areas including edible hedges (strawberries, raspberries etc) that the children can pick and eat in season when they want. There is also a well developed wildlife area with a pond and a bridge built by a parent. The school is also attempting to develop edible

hedges in a nearby location and is striving to obtain access to some disused land adjacent to their grounds for pig rearing.

2.7 International links: growing together

This urban primary school has made productive connections between FFLP activity and international links. The school has active links with schools in England, France, Turkey, Spain and Poland through a joint Comenius project. The Comenius programme is organised by the European Union and is aimed at bringing students and teachers in different European countries together with funding to support joint projects. FFLP was the stimulus for a focus on growing within the 2nd year of the Comenius project. All the schools involved are developing a project called 'Growing together'. Pupils from this school are sharing details with pupils from the link schools about what is grown in each of their areas and how the food is used in local recipes. Through this pupils are learning about food that is grown and eaten in different places across Europe. One outcome of this project will be a healthy cookbook of national dishes compiled by all the schools in the project. The head teacher says that this initiative would not have happened without the FFLP.

2.8 Productive partnerships and inclusion

This urban secondary college's FFLP activity has led to a number of productive partnerships within the local community.

i] Allotment association

The allotments are within walking distance from the school and the school now has its own plot on the allotment. A member of the allotment association was keen to link with the school following some vandalism on the allotment; he also wanted children to learn how to grow vegetables as he had as a child. The partnership has been developed by two teachers and their group of pupils together with two members of the allotment association. These pupils have alternative curriculum provision for Social and Emotional aspects of Learning (SEAL). The allotment members support their work on the allotment by joining them in meetings and lessons at school and working alongside them at the allotment. The pupils work at the allotment regularly (at least once a week in the growing season). The produce is used in various ways, including in the school canteen and in cooking activities with the pupils, for example, chutney making. The pupils are very enthusiastic about their allotment work, and there is clear evidence of intergenerational learning between the pupils and the allotment holders. The FFLP lead says that the school now benefits more widely from the horticultural expertise of the allotment holders.

ii] Zoo

There is a large zoo adjacent to this secondary college and the college has developed good links with the zoo over a number of years through visits and work experience; the zoo manager is now a governor of the college. The college-zoo partnership has been extended through the college's FFLP activity. Every Friday year 7 pupils are involved in a range of alternative curriculum activities which includes growing for the zoo. Each year y 7 pupils choose an animal in the zoo that they would like to feed, to do this they have to undertake research about the animals, their diets and where the food comes from. This year the pupils are growing leeks in the school quad vegetable beds for the mountain gorillas. Once the leeks are ready for harvest the pupils will take the crop to the zoo and observe feeding time.

iii] Farm

The college has a close partnership with a farm 15 miles away which is based on a large estate. All pupils have experience of the farm but it has a particular role in supporting pupils with behavioural issues. A minibus leaves the college every day at 8.30am for the farm and all y7s visit the farm for a day in the summer term. The college has its own plot on the farm for growing and it also keeps chickens there. The college has to manage all aspects of the farm plot, for example, pupils look after the chickens, purchase feed, and use the eggs in the school canteen. Y7 pupils are currently discussing and deciding what to do with the older chickens. The farm lead says that this partnership has been especially helpful for pupils with behavioural issues who gain a great deal from regular practical, physical and vocational experience on the farm. The farm partnership has also influenced the job aspirations of their 'urban' pupils who do not typically consider jobs on farms.

2.9 A school bistro

This urban special school for pupils with social, emotional and behavioural difficulties has transformed its food technology lessons by setting up a community restaurant, the 'bistro'. Every Thursday the food technology classroom is transformed into a restaurant, able to seat up to 15 people for three-course meals. Guests can watch the food being prepared and cooked by the chef (the food technology teacher) and the pupils and pupils also serve the food 'waiter' style. The school is proud that 'at any busy secondary school this bistro would be remarkable, but it is particularly impressive for a school that teaches children with social, emotional and behavioural difficulties'. The chef and pupils use fresh produce from the school's impressive kitchen garden which has numerous vegetable beds, polytunnels, composting, orchard (due to be expanded), irrigation system and large potting shed. The bistro is popular with staff and the local community; it already has bookings for next Christmas.