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## **Engaging Secondary School Students in Food-Related Citizenship: Achievements and Challenges of A Multi-Component Programme**

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**Abstract:** Global food security and sustainability, animal welfare, dietary health, and socially just relations of food production have become prominent societal issues. They are of particular concern for young people as their lives progress towards becoming independent consumers and citizens with the capacity to shape food systems of the future. This paper examined the role of the Food for Life Partnership programme in promoting young people's engagement with food-related citizenship education in secondary schools. The research consisted of a two stage study of 24 English schools. We surveyed experiences and attitudes of students and staff, and recorded programme activities. The results presented a mixed picture. Staff reports and monitoring evidence showed much successful implementation of programme activities across the whole school. However, there was less evidence of positive student behavioral change. Amongst a range of possibilities to account for the findings, one explanation is the organizational challenges of delivering a complex and ambitious programme in the secondary school setting. This

suggests the need to develop food citizenship programmes that combine long term institutional reforms alongside focused interventions with specific groups of students. It also highlights the case for ensuring a place for food related citizenship on the educational policy agenda.

**Keywords:** food; citizenship; sustainability; environmental education; schools; young people

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## 1. Introduction

Increasingly, international attention has turned to the environmental and social dimensions of food production. A recent UK Government report, *'Food 2030'* [1] highlights a number of key issues such as growing concerns about the security and sustainability of a food system that is reliant on high inputs of limited or non-renewable resources; the socially exploitative nature of some food production systems; the impact on industrialized systems on animal welfare; and the dietary and nutritional quality of highly processed foods.

Many of these issues are of particular concern for young people as their lives progress towards becoming more independent consumers and citizens with the capacity to shape the character of food systems of the future. Yet whilst an imperative for young people's engagement seems clear, it may also be the case that young people in industrialized countries are becoming progressively disconnected from the food that they eat, both in terms of their understanding of an increasingly complex global food production system and of the skills required to act as critically informed producers, purchasers and preparers of food [2,3]. The influence of the multinational fast food, snacks and soft drinks industry on shaping young people's consumer tastes only serves to further reinforce their distance from the environmental and social relations of food [4,5]. This disconnect has been further attributed to a risk averse culture [6]; parental bubble wrapping [7]; and the demand for safe, sanitized environments for young people [8].

In the UK, the mainstream secondary school system includes some elements of food-focused education. Topics occur within the main curricular subjects such as science, geography, and personal, social and citizenship education. Food is also a subject that is addressed through cookery skills classes, student school councils, school meal consultations and occasionally through other routes such as assemblies. However, for most secondary schools such activity is fragmented, dispersed and represents little in terms of a coherent approach to food and citizenship education [9]. Multiple other priorities-for example on core academic attainment [10]-could also consign such education to the periphery of secondary school experience in the future.

Nevertheless there has been interest in promoting learning about sustainability-and related food issues-in schools [11]. A number of initiatives in school settings have sought to develop education specifically on the environmental and social aspects of food and, in so doing, encourage young people to become active citizens and consumers with regard to food issues [12]. In the UK these include the Eco-schools programme [13], Healthy Schools programme [14] and other more specific initiatives such as Growing Schools [15] and annual focused events such as Fair Trade fortnight [16].

Evidence of the synergy between food-related health and citizenship is beginning to emerge. For example, in primary school settings climate change, biodiversity, animal welfare, local economic development, social justice and cultural regeneration aspects of food are topics that may create alternative routes for health education messages [17]. However, to date there has been little research on these initiatives in secondary schools. This is a setting that raises some specific challenges. Apart from competing educational pressures, schools have limited resources—including staff, funding and appropriate expertise—to promote active citizenship [18]. Staff report problems embedding new and prescriptively organized programmes into routine school life [19]. The aim of this paper is to understand the opportunities and challenges for the implementation of a food education and sustainability programme, the Food for Life Partnership (FFLP), and its relationship to student food citizenship learning.

## 2. The Food for Life Partnership Programme

The Food for Life Partnership is an England wide food programme working to transform food culture in schools by reconnecting individuals and communities with food production. Underpinning the ethos of the programme is a commitment to supporting communities to live within environmental limits and the enabling of a strong, healthy and just society in the future [20]. In the period 2007–2012 FFLP succeeded in recruiting over 3600 primary, secondary and special schools to the programme. All received printed and online resources and tailored support in the form of, for example, advice on developing food sustainability projects. Table 1 summarizes how FFLP organized its activities based upon criteria in four strands.

**Table 1.** The Food for Life Partnership Programme. Schools are encouraged to work towards Bronze, Silver and Gold Mark awards based upon criteria in four strands.

<b>The food for life partnership programme</b>	
Food leadership	Including promoting the programme aims through an action group with student, teacher, catering staff and parent representatives.
Food quality and provenance	Including work with school meal caterers to procure more local, seasonal, organic, marine stewardship council and higher welfare foods. It also includes reforms of the kitchen and school dining room to enable, for example: greater use of freshly prepared foods, advertising of ingredient origins, and a pleasurable mealtime experience.
Food education	Including the reform of practical and skills based food education, particularly with regard to raising issues of environmental and social sustainability through gardening, cooking, visits to farms and local food producers, and classroom projects.
Food culture and community involvement	Including engagement with parents and the wider community on the use of healthier and more sustainably sourced ingredients in food in school and at home.

This paper concentrates on a sub-group of FFLP “flagship” secondary schools that received enhanced levels of support from visiting programme officers and approximately £1500 to help fund trips, equipment and events. A wide range of schools were recruited for the flagship scheme including those with little previous track record in food and citizenship studies.

The FFLP initiative exemplifies a complex intervention with several interacting components [21]. It involved a number of behaviors required by those delivering the initiative across different groups and organizational levels, resulting in a range of outcomes. It is also important to note that a degree of flexibility and tailoring of the different elements of the initiative was permitted throughout the delivery. The components were delivered by a partnership of four educational charities as a package. These involved: (1) The development of a Flagship School Nutrition Action Programme led by the Health Education Trust and designed to support schools through an action planning process involving consultation and the development of School Food Policy; (2) A focus on school food sourcing led by the Soil Association; (3) A school meals and catering programme led by the Soil Association; (4) A growing skills programme led by Garden Organic; (5) A cooking skills programme led by the Focus on Food Campaign; (6) A farm links and sustainable food education programme led by the Soil Association. Central to the School Food Policy element of the programme was setting up a School Nutrition Action Group (SNAG), a school based alliance, in which teaching staff, pupils and caterers supported by health and education professionals work together to review and improve the school meals service and adopt a whole school approach to food based education and citizenship. As a typical experience of the programme, students would expect to encounter much stronger emphasis on food sustainability education across a range of curricular and extra-curricular subjects; they would see this reflected in school food available in the canteen at other times of the school day and in whole school celebration events; finally, they and their parents could also expect to be consulted-or otherwise involved-on school food issues across the course of the year.

### 3. Methods

#### 3.1. Design

The study used a two stage multi-method research design. For each area of analysis, we collected data at the point of enrolment (baseline) and then at a second stage approximately 18–24 months following enrolment (follow up). Given the complex and diverse character of the programme initiatives, the evaluation collected multiple types of data to capture changes in terms of programme outputs, student behaviour and staff perspectives [22].

#### 3.2. School Sample

Thirty one secondary schools were recruited to the FFLP flagship programme between September 2007 and September 2008. Of these, 24 were sampled to take part in the evaluation. These were list selected to represent at least 3 from each of the nine regions of England. The seven schools that did not participate were simply the seven last entrants to the regional recruitment list.

The 24 schools reflected a range of sizes, ranging from 401 to 1809 pupils (average: 978; SD: 323). Pupil ethnic background for participating FFLP Flagship secondary schools was similar to England School Census figures for “White British” origin (88% compared to 86%). Free school meal (FSM) entitlement (an indicator of socio-economic deprivation) suggested that the sample of schools reflected a range of socio-economic contexts: the highest FSM eligibility was 55% and the lowest was 2%. In terms of activities relating to environmental and citizenship aspects of food, at the beginning of the

programme 48% of schools had achieved Eco-School flag status and 76% had achieved national Healthy School status.

### *3.3. Data Collection: Outputs Associated with Programme Implementation*

Drawing upon the programme's own achievement criteria, we developed indicators of programme related outputs. School staff who led on different aspects of the programme were asked to provide evidence of relevant activities at baseline and follow up. This usually resembled the documentation that schools needed to provide in their applications for FFLP Bronze, Silver or Gold Awards

### *3.4. Data Collection: Student Perceptions*

At baseline and follow up, from Years 7, 8, 9 and 10 we requested 20–30 students in each Year to complete a standard questionnaire. In consultation with lead staff, the students were drawn from mixed ability groups who were available on the day of the questionnaire administration. In each school, students completing the follow up questionnaire were of the same Year group to those undertaking the baseline questionnaire. They were not the same individuals. For both surveys, the questionnaires were administered by the research team or, on occasions, FFLP programme officers using standardized guidance.

The questionnaire measures covered attitudes towards food, citizenship and sustainability issues. The measures were derived from the Food Standards Agency Low Income, Diet and Nutrition Survey [23], the Big Lottery Well-being questionnaire toolkit [24], or were developed specifically for the programme. The questionnaire was piloted with 104 students and subsequently revised for clarity before being adopted for the present study.

### *3.5. Data Collection: Staff Perceptions*

Teaching and other school staff completed semi-structured questionnaires at baseline and follow up. Schools delegated lead roles for different aspects of programme to specific members of staff. The respective lead person was therefore asked to respond to the relevant section of the questionnaire. The questionnaire covered a range of school activities that related to the implementation of the programme. Staff were asked to provide ratings on their perception on the role of the programme in effecting these changes. Staff were able to provide further written feedback to reflect on their experiences. The baseline questionnaire was piloted with 6 schools, and then revised to provide greater salience and simplicity.

### *3.6. Data Analysis*

To enable statistical analysis all data were entered, cleaned and analyzed using SPSS, version 17—A statistical software package. All staff written data were transcribed and thematically analyzed.

### *3.7. Ethical Issues*

The evaluation protocol was approved by UWE Research Ethics Committee. School head teachers were asked to give written consent based upon written and verbal information provided by the

researchers. Schools provided parents with standard written information on the study, data protection and right of withdrawal. Students were informed of the purpose of the study. We adhered to each school's policy on the right of students to opt out.

## 4. Findings

### 4.1. Outputs Associated with Programme Implementation

Table 2 shows a range of indicators of school programme related outputs. Overall the results suggest that in the period before enrolment only a minority of schools were engaged in whole school social and environmental food activities. Over the course of the programme schools clearly engaged in a range of reforms. In most cases, training, facilities, participation and student exposure to sustainable food issues increased over the course of the evaluation period. Routine provision of higher welfare foods and community participation stood out as areas where fewer schools were able to demonstrate programme implementation.

**Table 2.** Examples of school level programme indicators. Measures cover the 12 months period prior to each data collection point.

Programme strand & indicator	Stage 1	Stage 2
	Baseline	Follow up
	<i>Number of schools N=24</i>	
<b><i>Food leadership</i></b>		
School food policy and food action plan covering sustainability issues	2	22
Student representation on school food action group or similar group	4	22
<b><i>Food quality and provenance of school food</i></b>		
School menus are seasonal and highlight in-season produce	0	19
Meat is farm assured and eggs are from cage-free hens	0	14
Menu includes a range of locally sourced items	0	14
Poultry, eggs and pork conform to Freedom Food scheme or 10% of ingredients are from a certified organic source	0	10
<b><i>Food education</i></b>		
Staff training covering skills based, food sustainability issues—e.g., a member of staff with formal organic horticultural education training	2	20
School-wide curriculum references sustainable food education	2	20
Facilities for whole-class cookery classes	14	18
Use of sustainably sourced ingredients in cookery classes	6	19
Students prepare organic growing area and composting facilities	2	10
An ongoing educational link with a working farm	4	16
<b><i>Parent and community engagement</i></b>		
Parents consultation process on food in school	4	18
Home projects: growing and cooking with sustainable food ingredients	4	12
Community participation-volunteers assist in school garden	1	5
<b><i>Overall programme performance</i></b>		
Schools meeting FFLP award criteria: 'Bronze', 'Silver' or 'Gold'	0	18

## 4.2. Student Perceptions

### 4.2.1. Profile of Student Respondents

Two of the 24 schools withdrew from the student element of the study at follow up due to competing educational priorities. The present study therefore reports student results from 22 schools. In total, 2054 students completed the baseline and 1926 students completed the follow up questionnaire. The profiles of the two groups were similar in terms of the mean respondents per school (baseline: 71.6, SD: 33.5; follow up 69.4, SD: 29.8); gender (baseline: 54.2% female; follow up: 52.2% female); and take up of school meals (baseline: 30.3%, follow up: 30.1% for purchase of school food 5 days a week).

### 4.2.2. Attitudes Towards Food in School and at Home

Student responses to a range of questionnaire measures are summarized in Table 3. The findings show a mixed pattern of responses between the baseline and follow up survey groups, although the data suggest that, overall, there were few differences between the two groups.

**Table 3.** Attitudes to, and experiences of, food in school and at home. Percentages. N = 22 schools. Baseline n = 2054; Follow up, n = 1926.

<b>Attitude to, or experience of, food in school and at home</b>	<b>Baseline</b>	<b>Follow up</b>
Rating of school food from the canteen as good or excellent	55.4%	57.3%
Really or quite liked main dining area	55.7%	47.2%
Recalled being consulted on the dining area in the last year	11.1%	16.3%
Recalled being consulted on school meals in the last year	27.3%	20.5%
Felt the school had listened to their views on school food	14.6%	15.9%
Helped to grow fruit or vegetables at school in last year	6.9%	12.5%
Agreed or strongly agreed that enjoyed helping to cook at home	67.3%	66.7%
Agreed or strongly agreed that enjoyed eating healthy food	63.5%	65.3%
Felt able to prepare a meal, without help, from basic ingredients	32.8%	35.3%
Often helped to grow fruits or vegetables at home	9.6%	14.6%
Ever taken part in a practical farm activity (such as feeding animals)	47.2%	48.1%
Reported eating five or more portions of fruit and vegetables on previous day	17.5%	21.8%

The last variable presented in Table 2 summarised the result of students self reported fruit and vegetable consumption. This suggests higher consumption at follow up. The mean for the baseline was 3.06, and 3.32 for the follow up survey, however the difference was not statistically significant. The median in both cases were 3. Analysis by gender showed a positive, but not statistically significant, positive trend for both girls and boys.

### 4.2.3. Attitudes Towards Eating Healthy and Sustainable Foods

Students were asked to give their views on eating a range of types of food. The range included sustainable, energy dense (high fat, high sugars foods), and processed or “fast foods”. Table 4 suggests

little overall difference between the two survey groups. Statistical analyses found no significant differences for any of these variables (applying t-test with unequal variances) between the baseline and follow up profile of responses. However there were some trends towards more positive attitudes towards sustainable foods. This trend was more pronounced for positive attitudes towards fair trade food, home grown food and free range eggs.

**Table 4.** Attitudes towards eating types of food and food related issues. Percentage of respondents stating that they thought about eating more of the item listed. N = 22 schools. Baseline n = 2054; Follow up, n = 1926.

Type of food and food related issue	Baseline	Follow up
Fair trade food	24.2	31.0
Whole meal bread	36.8	36.5
Locally produced food	27.8	31.4
Home grown food	27.6	33.3
In season food	50.2	51.5
Organic food (any)	30.0	33.5
Free range eggs	29.6	34.7
Organic chicken	28.5	31.5
Organic pork/ham/bacon	25.3	27.5
Organic beef	23.6	26.0
Food transported over a long distance	5.2	5.8
Microwave ready meals	6.2	7.0
Processed meat (e.g. sausages, burgers)	10.6	12.2
Food with a lot of packaging	6.4	6.6
High fat food	5.5	5.8

#### 4.2.4. Theorized Links Between FFLP Activities and Behavioral Outcomes

**Table 5.** Secondary school associations between fruit and vegetable consumption and FFLP related behaviors. N = 22 schools.

Cross tabulation		Degrees of freedom	$\chi^2$ value	P-value
Higher self reported fruit&vegetable consumption on previous day	× positive attitude towards organic food	16	36.9	0.002
	× positive attitude towards fair trade food	16	43.9	< 0.001
	× positive attitude towards whole meal bread	16	32.5	0.008
	× positive attitude towards locally produced food	16	39.9	0.001
	× positive attitude towards home grown food	16	47.2	< 0.001
	× positive attitude towards eating healthy food	24	108.2	< 0.001
	× positive attitude towards helping to cook	20	59.6	< 0.001
	× positive attitude towards growing fruit & vegetables	4	24.3	<0.001
	× positive attitude towards growing food at school	8	15.0	0.059*

\* no statistically significant association.



For the follow up survey we analyzed the associations between a number of key variables. With the exception of the last cross tabulation, Table 5 shows the variable higher reported consumption of fruit and vegetables had a statistically significant set of associations with positive attitudes towards healthier and sustainable foods.

#### 4.3. School Staff Perceptions of Programme Implementation

School leads were asked to provide feedback on the implementation of the programme and its impact on wider aspects of school life. In all 24 schools the questionnaires were completed by a member of the senior management team, with specific sections completed by staff with a role in leading aspects of the FFLP programme in their school.

**Table 6.** Responses to the questions: With regard to the following areas: (1) how effective has FFLP been in helping your school make improvements? (2) How important has this area been as a priority for your school? N = 24 schools.

	Perceived effectiveness of FFLP in assisting the school				Level of priority for the school			
	Very Effective	Effective	Neutral	Ineffective	Very Important	Important	Neutral	Unimportant
A whole school vision for transforming food culture	9	14	1	–	13	9	1	1
Forums (e.g., SNAG) for leadership, inclusion & action on food in school	8	14	2	–	8	13	1	2
Enhancing the curriculum through food education	3	14	7	–	9	11	4	–
Pupil involvement in school food issues	7	14	2	1	13	10	1	–
Parent involvement in school food issues and wider school life	2	16	6	–	10	9	4	1
Partnership work with local schools, farmers, businesses & other agencies	6	16	1	1	9	11	4	–
Healthier food messages to pupils and their families	7	17	–	–	16	8	–	–
Increasing school meal take up	2	13	8	1	10	9	4	1
Provision of more local, seasonal and sustainably sourced food in school	5	15	2	2	8	10	5	1
Improving pupil behaviour, attention and attainment	5	7	10	2	15	7	2	–

Table 6 shows that, on the whole, school leads believed that the programme was highly effective across a number of domains of whole school food culture. Furthermore, the responses also show that the areas in question are clearly linked to development priorities for the schools. The areas for the clearest positive ratings were for the overall vision for improving school meal culture and pupil involvement in school food issues. The areas where ratings are less strong concern impact on pupil behavior, attention and attainment; parent involvement; and school meal take up.

School leads were given the option to provide additional written commentary on the most successful and the most challenging aspects of the programme. This commentary revealed some layers of complexity to the subjects and the impact processes addressed. The main themes arising from respondent's perceptions are summarized in Tables 7 and 8.

**Table 7.** Themes in response to the question: What have been the most challenging or difficult aspects of the programme for your school? Frequency of theme from 24 schools.

<b>Challenging or difficult aspect of programme: main themes</b>	<b>Frequency</b>
Staff time, staff costs associated with developing management, development of school food policy and delivery of activities	13
FFLP criteria: meeting the criteria, paperwork	11
Caterer commitment	9
Increasing meal take up	6
Sourcing sustainable and ethical foods	6
Parent and wider community involvement	5
Facilities and capital costs for educational cooking and growing. Farm link costs	5
Momentum. Maintaining change over a long period of time	4
Kitchen and dining hall facilities and capital costs	4
Making links with other schools	2
Problems with FFLP communications and staff support	2

**Table 8.** Responses to the open question: What have been the most successful aspects of the programme for your school? Frequency of theme from 24 schools.

<b>Successful aspect of the programme: main themes</b>	<b>Frequency</b>
Promotion of whole school food culture	15
Promotion of a healthy lifestyle / healthy eating	14
Development of cooking education	10
Promoting pupil participation and enthusiasm in school life	8
Development of farm link and sustainable food education	8
Development of garden enhanced education	8
Improvements to school meal provision	4
Improvements to school dining hall, dining ambience	4
Development of links between teaching & cooking/catering staff	4
Parent and community participation in school life	3
Development of links with other schools and outside agencies	2
Creation of new food sourcing opportunities for the school	2

## 5. Discussion and Conclusions

This study focused on the involvement of 24 secondary schools in England in the FFLP flagship programme between 2007 and 2011. The results show that the programme was implemented across a wide range of areas of school life in accordance with the planned design of the scheme. Many of the programme outputs and the perceptions of school staff suggest that the scheme was successful in promoting food-based citizenship education. Such learning took place through formal classroom settings in which students had the opportunity to engage in the wider social and environmental dimensions of garden, cookery and farm-linked education in addition to other learning that became more embedded in mainstream curriculum subjects. Students also had the chance to engage in less formal learning through participation in school food policy making, school food reforms and extra-curricular activities. However other results present a less convincing picture of the behavioral impact of the programme on students. The surveys suggest few differences between comparable student groups before and after the intervention at 18–24 months—although there were positive trends for some measures.

The whole school approach appears to have had some benefits that might be less evident in a single issue programme, including:

1. Working on a wide range of issues at the same time, FFLP's whole school approach generated a general stimulus. Programme messages became reiterated or amplified in multiple settings.
2. Previously disconnected areas of activity became linked—Such as the kitchen and the school garden—and these connections unlocked creative possibilities for action. Moreover they then became areas of school activity that obtained greater visibility and credibility as part of a joined up initiative.
3. The whole school approach created an overarching set of principles and practices linked to citizenship for organizing work. This might help schools maintain continuity of action despite shifting circumstances.

The evaluation results showed these processes in operation across different areas of the FFLP's programme implementation. They support the case for holistic rather than single issue reforms in school settings. Staff reported a range of challenges, notably associated with the implementation of the complex set of reforms. Indicators for a range of programme elements suggest that not all schools were able to demonstrate evidence of whole school change. Furthermore, two of the 24 schools had to suspend their involvement in the programme during the evaluation period.

There are a number of explanations that could account for the mixed picture of programme implementation and student behavioral impact. Firstly a number of limitations to the study need to be taken into account when interpreting the findings. With regard to the baseline and follow up respondents, the student questionnaire was administered on two occasions to similar Year groups in the same schools. This means that the study is not tracking longitudinal change in individual student behaviour. Furthermore, the study design cannot attribute change (or absence of change) to the intervention given that it did not have an external comparison with schools outside the Flagship programme.

Although the mixed methods approach helps triangulate the findings, some measures are inherently subjective—so for example there was scope for an ‘approval bias’ in the responses of some staff closely engaged in the programme. It should also be recognized that the study period of 24 months may have been simply too short to capture changes in student behaviour that are longer term in character. This perspective certainly reflects wider learning from the outcome evaluations of complex community based interventions [22].

A second area of explanation also reflects the complex nature of the programme. Staff accounts of the challenges suggest that programme inputs became dispersed in an effort to create an impact across the whole school. The extent, intensity and duration of the programme actions created high levels of demand for participating schools [19]. On occasions, action to address a wide range of goals may have led to difficulties for prioritization. These processes may have diluted the potential impact, and so students had quite a limited direct exposure to, or awareness of, the combined elements of the programme. For example, the significance of changes to the sourcing of school meal ingredients may not have been sufficiently reinforced through joined up elements of the programme. This explanation is plausible given the competing pressures on secondary schools to address a wide range of agendas—including those that are likely to take greater precedence. By contrast, it is notable that the evidence of FFLP’s positive behavioral impact in primary school settings [17] is clearer than in secondaries. In part this may be connected to the smaller organizational scale of primary schools and the ability of senior staff to effect whole school changes.

A third area of explanation relates to the lives of the students themselves. Commentators have argued that young people in the West have become profoundly disconnected from many social and environmental aspects of the food they eat, whilst simultaneously becoming the focus of a food industry dedicated to highly processed, convenience foods. Young people aged 11–16, in comparison to younger children, may also be more fixed in their dietary, societal and environmental views—and less influenced by school driven norms and values [25]. This perspective therefore highlights the challenges of effecting behavioral changes with regard to food-based citizenship education with this age group. Some evidence from our study reflects this picture. Most students lacked experience of activities such as growing fruit and vegetables, cooking from scratch, visiting working farms or making decisions about food in school. However, in many cases they held positive attitudes towards social and environmental food issues. This suggests a more positive outlook and one that indicates latent scope for behavioral change.

Whilst all of these explanations are likely to hold some water, the more direct evidence presented in this study points towards the organizational challenges of delivering a complex and ambitious programme in the secondary school setting. This poses some challenges for research, policy and programme development in this field. Clearly longer term, controlled studies would have value, although they are best warranted with an FFLP-type programme that has refined its theory base and blueprint for delivery [21]. For secondary schools, FFLP-type programmes may have greater impact when delivered as two tier initiatives that consist of (a) an overarching set of coordinated and long term school policy reforms and (b) highly focused, project driven interventions with discrete groups of students. This approach would assist the design of a monitoring and evaluation framework to track behavioral change for targeted students. Finally, for food citizenship initiatives to become more firmly embedded in schools, they need supportive school-level leadership and clear national policy drivers.

Given the tangible significance of food and dietary health, and the importance of active citizenship for young people, focused action in secondary school settings clearly needs to stay on the educational policy agenda.

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### References

1. Luke, J.; Food Policy Unit; Department of Environment, Food and Rural Affairs (DEFRA). *Food 2030: The UK's National Food Strategy*; DEFRA: London, UK, 2010.
2. Bissonnette, M.M.; Contento, I.R. Adolescents' perspectives and food choice behaviours in terms of the environmental impacts of food production practices: Application of a psychosocial model. *J. Nutr. Educ.* **2001**, *33*, 72–82.
3. Larson, N.I.; Story, M.; Eisenberg, M.E.; Neumark-Sztainer, D. Food preparation and purchasing roles among adolescents: Associations with socio-demographic characteristics and diet quality. *J. Am. Diet. Assoc.* **2006**, *106*, 211–218.
4. Story, M.; French, S. Food advertising and marketing directed at children and adolescents in the US. *Int. J. Behav. Nutr. Phys. Act.* **2004**, *1*, 1–17.
5. Lang, T. Food control or food democracy? Re-engaging nutrition with society and the environment. *Public Health Nutr.* **2005**, *8*, 730–737.
6. Gill, T. *No Fear: Growing up in A Risk Averse Society*; Calouste Gulbenkian Foundation: London, UK, 2007.
7. Malone, K. The bubble-wrap generation: Children growing up in walled gardens. *Environ. Educ. Res.* **2007**, *13*, 513–527.
8. Hougie, D. The not-so-great outdoors? The findings of a UK study of children's perspectives on outdoor recreation. *Child. Youth Environ.* **2010**, *20*, 219–222.
9. Morgan, K.; Sonnino, R. *The School Food Revolution. Public Food and the Challenge of Sustainable Development*; Earthscan: London, UK, 2008.
10. Department for Education (DFE). *The Importance of Teaching: The Schools White Paper 2010*; The Stationery Office: London, UK, 2010.
11. Department for Education and Skills (DFES). *Sustainable Schools for Pupils, Communities and the Environment: An Action Plan for the DFES*; DFES: London, UK, 2007.
12. Department for Children Schools and Families (DCSF). *Evidence of Impact of Sustainable Schools*; DCSF: London, UK, 2010.
13. The Eco-Schools Programme Home Page. Available online: [http://www.eco-schools.org/15-years\\_eco-schools/index.html](http://www.eco-schools.org/15-years_eco-schools/index.html) (accessed on 12 February 2012).
14. Department for Education (DFE). *Healthy Schools, Tools and Planning Aids*; DFE: London, UK, 2011.

15. Growing Schools Home Page. Available online: <http://www.growingschools.org.uk/> (accessed on 25 February 2012).
16. Fairtrade Schools. About Fairtrade Schools Home Page. Available online: [http://www.fairtrade.org.uk/schools/about\\_fairtrade/default.aspx](http://www.fairtrade.org.uk/schools/about_fairtrade/default.aspx) (accessed on 27 February 2012).
17. Jones, M.; Dailami, N.; Weitkamp, E.; Salmon, D.; Kimberlee, R.; Morley, A.; Orme, J. Food sustainability education as a route to healthier eating: evaluation of a multi-component school programme in English primary schools. *Health Educ. Res.* **2012**, *27*, doi: 10.1093/her/cys016. Available online: <http://her.oxfordjournals.org/content/early/2012/02/21/her.cys016.short?rss=1> (accessed on 24 February 2012).
18. Middleton, E. Youth participation in the UK: Bureaucratic disaster or triumph of child rights? *Child. Youth Environ.* **2006**, *16*, 185–195.
19. Teeman, D.; Featherstone, G.; Sims, D.; Sharp, C. *Qualitative Impact Evaluation of the Food for Life Partnership Programme*; NFER: Slough, UK, 2011.
20. Food for Life Partnership: Resources Home Page. Available online: <http://www.foodforlife.org.uk/Resources/Programmeguidance.aspx> (accessed on 2 February 2012).
21. Medical Research Council (MRC). *Developing and Evaluating Complex Interventions. New Guidance*; MRC: London, UK, 2008.
22. Nutbeam, D. Evaluating health promotion-progress, problems and solutions. *Health Promot. Int.* **1998**, *13*, 27–44.
23. Food Standards Agency (FSA). *Low Income Diet and Nutrition Survey*; The Stationary Office: London, UK, 2007.
24. Abdallah, S.; Steuer, S.; Marks, N.; Page, N. *Well-Being Evaluation Tools: A Research and Development Project for the Big Lottery Fund*; New Economics Foundation: London, UK, 2008.
25. Story, M.; Neumark-Sztainer, D.; French, S. Individual and environmental influences on adolescent eating behaviors. *J. Am. Diet. Assoc.* **2002**, *102*, S40–S51.

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