National Foundation for Educational Research

Evaluation of Food and Nutrition Education Provision in Wales

Final Report

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WFP

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1. Policy background

This project was commissioned by the Food Standards Agency Wales to map current food education provision for 5-16 year olds in maintained schools across Wales.

It is widely considered that a whole-school approach to food education is the most effective way to influence the eating habits of the next generation. The Welsh Assembly Government's commitment to such an approach is evident in *Promoting Eating and Physical Activity for Children and Young People in Wales; 5 Year Implementation Plan* (June 2006) and the consultation *Appetite for Life* which make proposals for the improvement of food and drink consumed across the whole school day, supported by education to eat more healthily. These build on actions in *Food and Well Being*, the joint Food Standards Agency Wales and Welsh Assembly Government [WAG] nutrition strategy for Wales, which aims to improve the diet of the whole population, and in particular of priority groups such as children and young people.

The teaching of food education, both in terms of understanding what constitutes a healthy balanced diet and its relation to health and well being, and developing the necessary skills to access such a diet, is an integral part of a whole-school approach to diet and nutrition. There is a commitment in *Food and Well Being* to ensure that full consideration is given the teaching of nutrition and cooking skills in schools in the current curriculum review.

The Qualifications, Curriculum and Assessment Authority for Wales, ACCAC, conducted a review of the current curriculum at the request of the Minister for Education and Lifelong Learning. The *Review of the school curriculum and assessment arrangements: 5-16: A report to the Welsh Assembly Government* was published in September 2004. This recommended a more skills-focussed, learner-based curriculum. The Minister accepted the recommendations and the proposed changes to the curriculum are being taken forward, with the aim of teaching the revised curriculum from September 2008.

Progress on implementing the Food and Well Being action plan and monitoring its impact is overseen by a multidisciplinary Monitoring and Implementation Working Group. A sub-group was established to develop the

specific action in Food and Well Being to strengthen the teaching of food education. This group requested the Food Standards Agency Wales to commission a baseline study on food education provision in Welsh schools to inform their recommendations. This report from the National Foundation for Educational Research [NFER] describes the methodology and findings of that study.

2. Aims and methodology

This chapter outlines the aims and objectives of the research and the methodology used. It also contains background information about the research sample.

The term 'food education' is used in this report to denote all teaching and learning activities that are related to food in schools. This includes diet and links to health, learning about what constitutes a healthy diet, and practical skills such as budgeting, preparation and cooking skills.

2.1 Aims and objectives

The overarching project aim was to establish the current situation with regard to the provision of food education in maintained schools in Wales, including cooking skills and healthy eating.

The specific objectives of the project required the gathering of data on the following:

- in which subjects food education was taught, and the proportion of teaching spent on this in the different subjects
- what, if any, inter-relationships there were, between the food aspects taught in different subjects, whether there was overlap and if so, whether this was useful e.g. reinforced the message
- whether schools had formal policies on the teaching of food education and what these were, and whether these formed part of their participation in the Welsh Network of Healthy Schools Scheme (WNHSS)
- how food education was taught in the curriculum e.g. practical, theory, the proportion of each, and perceptions as to what was most effective
- staff members and support e.g. were practical classes not run because of a lack of kitchen space, equipment, trained food technology/home economics staff or technical help
- what resources were used to help with the teaching of food education, how useful these were, and whether further resources were required
- what proportion of pupils received food education, including an analysis by gender and age
- what training on the teaching of food education teaching staff had received, whether any gaps in training provision existed, including an

examination of links with primary schools and any informal training support

- what future plans were for the provision of food education.

Pupils' perspectives were also sought on the following issues:

- food skills and the teaching of food education in schools
- in what subjects pupils learn about food education and what teaching methods are most effective
- the usefulness of a life skill such as food preparation outside the classroom.

2.2 Methodology

At the proposal stage, two possible models for the methodology were outlined. Following discussion, it was agreed that an approach combining both qualitative and quantitative research methods, would be used.

Stage 1: Scoping Meeting (June 2006)

A scoping interview was conducted between the research team and key personnel in the Food Standards Agency Wales to discuss the parameters of the research, the key issues to be explored, the proposed application of the research, and the dissemination strategy.

The scoping interview placed the research issues within the broader context of educational, health, and inclusion policies in Wales and helped to inform the design of questionnaires and interview schedules for the later data-gathering exercises.

Stage 2 - Data collection (June - September 2006)

Quantitative research

Quantitative research was conducted through the design and distribution of **two questionnaire**s.

A Local Authority (LA) questionnaire survey collected basic information on LAs' policies and practice on issues such as:

- how LAs interpreted the curriculum orders and how much discretion schools enjoy
- how they supported schools to provide information on health and food education a) as a specific area of study and b) as a cross-curricular theme
- the information provided to promote healthy eating amongst pupils in the curricular subjects
- the adequacy of teaching and learning facilities and current plans to address any issues, including plans for schools that were to be built/remodelled
- the adequacy of teaching and learning resources
- personnel issues, including staff recruitment issues (LA advisers, teaching staff, technical and support staff) initial and in-service training, and staff development matters
- how LAs monitored the effectiveness of the information and support they provided to schools
- funding and resource issues
- the training provided by staff on specifically nutritional issues
- future plans.

This questionnaire was produced in a bilingual format and **distributed to all 22 LAs in Wales.** Although addressed to the lead officers responsible for Education, Schools or Children's Services, it was intended for completion by the principal staff with responsibility for food education in schools.

A **school questionnaire survey**, also in bilingual format, was designed to gather information on issues such as those outlined below. It was expected that the questionnaire would be completed by more than one member of staff, for example PSE coordinators, and headteachers.

- how food education was addressed in the school curriculum (e.g. as a specific subject, through PSE etc)
- the number of pupils accessing different types of learning about food education, including an analysis by gender, age etc
- the adequacy of teaching and learning resources for food education
- the adequacy of teaching and learning facilities, including the reasons why any issues had arisen
- the qualifications and skills of staff delivering messages about food education, shortages/posts that were difficult to fill, and staff confidence in teaching the subject

- how schools were supported by LAs, including the nature of the support and whether schools considered it to be adequate
- the training received by staff on specifically nutritional issues, and whether any gaps in training provision existed, including an examination of links with primary schools and informal training support
- funding and resource issues
- future plans.

This questionnaire was distributed to national samples of **120 primary and 80 secondary schools across all 22 LAs in Wales.** The sample was drawn from the Register of Schools database which is held and maintained by the NFER. The database contains schools' contact details and data on schools' characteristics such as school type, rates of eligibility for free school meals and attainment data.

A stratified, representative sample of maintained primary and secondary schools was drawn from NFER's Register of Schools database. The sample characteristics, or stratifiers were: school type, free school meals rates (a socio-economic measure), geographical location, and Welsh-medium designation. There is a limit to how many characteristics can be used as stratifiers whilst still retaining representativeness. However, the composition of the sample was defined by all these variables, even those not used as stratifiers, to ensure that the schools in the sample represented a wide range.

The LA and school samples were allowed two weeks to complete and return the questionnaires. After that time a series of reminders were sent to those who had not responded.

Qualitative research

Qualitative, face-to-face interviews were conducted in a sample of LAs and schools. These were schools which had not been included in the questionnaire surveys.

Local authority sample

Five LAs were either visited or took part in telephone discussions. Interviews were held with staff having responsibility for cooking and nutrition issues and inclusion matters. The actual personnel to be interviewed were nominated by the LA, and their exact roles varied across the sample. However, they included

LA curriculum advisers, health promotion staff, and officers with strategic responsibilities for food education on the school curriculum.

School sample

The research commenced in June 2006 which allowed one half term to:

- select the school sample
- invite schools to take part
- set up school fieldwork
- conduct all field interviews.

It was therefore decided that the school-based fieldwork should be conducted in two phases:

Phase 1	June/July 2006
Phase 2	September 2006.

A sample of 10 schools, including five primary, four secondary and one special school were included in the research. During each school visit interviews were held with:

- the headteacher or another appropriate member of the school's Senior Management Team
- other member/s of staff with responsibility for food education in the school, including the PSE curriculum
- a sample of pupils, drawn from each key stage.

These qualitative interviews enabled the research team to conduct a more in-depth and flexible investigation into the issues covered in the questionnaire surveys. Respondents were given opportunities to raise matters of particular concern to them. Examples of good practice, as considered by respondents, were also identified.

A strong focus of the LA and school interviews was on issues such as:

Influences

- the extent to which participation in the WNHSS acted as a catalyst for schools to develop effective policies in this area

Policy

- the content of any formal policies, on the teaching of food education in schools
- who was involved in developing school policies, what was the value of the input of different stakeholders and what constituted good practice in their development

Delivery

- how schools addressed issues such as food education and the extent to which they were developed as a cross-curricular theme, what was good practice in doing so
- how could effective links be developed between specialist staff to promote awareness of food education
- the balance between the practical and the theoretical aspects of the teaching and learning activities around food education in the curriculum, and the factors which influenced that balance

Staffing

- the background of staff working in the area of food education, the extent to which expertise was shared, whether schools could access staff with appropriate expertise, and the extent to which this impacts on provision
- the role of technical support staff and the expertise they deploy

Resources

- issues concerning physical resources, e.g. kitchen space, equipment etc, and their impact, and how their use could be maximised
- teaching and learning resources, including the process by which they were developed, their appropriateness and usefulness, and how they might be developed

Staff development

- what training on the teaching of food education teaching staff had received, and whether any gaps in training provision exist, including the nature of any training and perceptions of its effectiveness

Impact

- what proportion of pupils received education in food education, what accounted for any trends, and how the widest audience could be reached.

The focus group discussions with pupils examined issues such as:

- pupils' experiences of learning about food education, both inside and outside school, including any differences by gender and age
- their experience of food education as a cross-curricular theme within their school
- how they had been taught about food education and their response to different approaches/teaching methods
- the balance between practical and theory work
- their views on the adequacy of resources
- how the teaching of food education might be made more effective and interesting
- awareness of the uses of food preparation skills and knowledge of nutrition.

The analysis stage of the project examined the extent to which differences existed among different age groups and among boys compared with girls.

Data Analysis (August - September 2006)

The questionnaire responses were analysed by qualified statisticians at the NFER's Statistical Research and Analysis Group (SRAG) and tables of response produced on each question. The qualitative information obtained was analysed with the support of MAXQDA software which facilitates the classification and analysis of different types of response.

2.3 The research sample

Of the 200 school questionnaires distributed, a total of 53 responses were received. The response rate of 26.5 per cent, despite the sending of reminders to schools, was disappointing, particularly in the primary sector. The findings of the school survey should therefore be seen as indicative of school practice rather than fully representative. Of the schools who returned the questionnaire, 30 (56.6 per cent) were secondary schools and 23 (43.4 per cent) primary schools.

10 LAs completed and returned their questionnaire. The response rate to the LA questionnaire (45 per cent) was also disappointing. The lack of dedicated food technology advisers in some LAs may have been a factor in the non-participation of some authorities, according to representatives of two LAs.

3. LA and whole-school policies

This chapter examines the extent to which schools and LAs had developed policies that addressed issues concerning food education.

3.1 The Welsh Network of Healthy Schools Scheme (WNHSS)

Most (6 out of 10 LAs) said that they had developed Healthy Eating policies for their schools and only two said that they had not done so.

Table 3.1 Were schools part of the WNHSS?

	Yes		No		No response	Total
Primary	18		4		1	23
Secondary	19		8		3	30
N=53						

Source: NFER Survey of Food Education (2006)

Most sample schools indicated that they were part of the WNHSS. The proportion of participating schools was higher in the primary than the secondary sector. The majority of schools which took part in the qualitative research were also involved in the scheme.

3.2 Healthy eating policies

Table 3.2 School Healthy Eating Policy

	Yes		No		No response	Total
Primary	12		10		1	23
Secondary	9		18		3	30
N=53						

Source: NFER Survey of Food Education (2006)

Just over half of the sample primary schools but under a third of the secondary schools had a school healthy eating policy. The type of issues addressed in school policies varied. Primary schools in general had less autonomy over issues such as the content of school meals. Therefore, their approaches to issues such as mid-day meals were influenced strongly by the policies adopted

by their respective LAs. Most primary schools were also developing or implementing a range of policies to address issues such as:

- providing water fountains in school
- changing the nature of tuck shops to remove items such as crisps, sweets and fizzy drinks and replacing them with fruit etc
- developing awareness through poster campaigns etc
- specific activities e.g. themed days and raising the issues through school assemblies etc.

Secondary schools were also introducing water fountains and some were moving towards a policy of healthy eating. For example, in some schools all vending machines other than those selling healthy items had been removed. Secondary schools, which enjoyed varying degrees of autonomy concerning school meals, were also in the process of introducing healthier options and had removed or were phasing out choices which were considered fattening or unhealthy.

All schools said that their policies to promote healthier lifestyles, including positive choices about food and nutrition, had to be undertaken in the context of broader, whole-school approaches which addressed issues such as:

- pupils' awareness of nutrition and its impact on health
- pupils' ability to make informed choices about issues such as diet during the school day
- pupils' ability to prepare healthy meals.

A typical comment was '*We have to reinforce the messages all the time, that means we have to use opportunities when they come up across the curriculum not just in certain subjects. Many of these children have been brought up in a culture in which fast food is the norm and we have to counter that.'*

However, there was some evidence that the focus to date had been on changes to school meals and gradually altering the options available in tuck shops or vending machines, alongside some specific whole-school initiatives. Less attention had been paid to the task of examining how key messages about food education could be integrated, especially in secondary schools, in order that pupils received consistent and constantly reinforced messages.

Key findings

- Most of the sample schools were part of the WNHSS and most primary schools had developed Healthy Eating Policies.
- Just under a third of the sample secondary schools had developed Healthy Eating Policies.
- Primary schools were guided more by the LAs in terms of the content of school meals and therefore depended more on LAs to develop approaches to diet.
- Providing water fountains and healthy vending were important aspects of work undertaken to promote healthier lifestyles.
- Whole-school approaches were also being developed to promote awareness of food education.

4. Learning about food and nutrition

This chapter examines the opportunities available for children and young people to learn about food education. It considers the extent to which young people were engaging in the area, perceptions about its status, the subjects in which pupils learned about food education, the time devoted to them, and the extent to which practical opportunities were available. The extent to which children and young people were able to access extra curricula activities in food education was also explored.

4.1 Curriculum reach

Schools reported that all pupils learned about food as part of design and technology up until the end of KS3. However, the qualitative research highlighted variations in the arrangements in Year 9 whereby in some schools pupils' opportunity to study food technology varied from year to year. For example, some schools allowed pupils to choose two design and technology subjects in Year 9; however, all pupils would have studied all design and technology subjects in Years 7 and 8. In KS4 pupils had more subject options and only approximately one quarter of pupils in Year 10 and Year 11 were reported to be studying food technology.

Table 4.1 KS4 take-up of food technology by gender

	Gender	% studying food technology
Year 10	Male	10
Year 10	Female	22
Year 11	Male	9
Year 11	Female	22
n=30		

Source: NFER Survey of Food Education (2006)

The proportion of girls in Year 10 (22 per cent) and Year 11 (22 per cent) studying food technology was higher than the proportion of boys.

These figures meant that the majority of young people aged 14-16 did not pursue a course where food, including knowledge of nutrition and food preparation skills, was a major focus. This was a cause of concern for teachers in both primary and secondary schools. According to one primary school teacher: '*We try to give them a grounding in primary schools and in KS3, but it's only part of one subject and there's no way can we say that what we do is sufficient.'*

In one secondary school all sixth form pupils also studied a limited module on food preparation as part of a life skills course. In the special school visited, post-16 learners pursued a Home Management course which included skills such as budgeting.

4.2 Status perceptions

Staff and pupils of all ages were agreed that the ability to cook was an important life skill which was important for family, personal, and health reasons.

At the same time, all stakeholders emphasised the growing economic importance of the food industry. This was reflected in NC-ELWa's *Regional Statements of Needs and Priorities* and in discussions with school staff across Wales. According to one of them: '*It's a growth area, linked to things like tourism. You only need to go to places on the continent or Ireland to see what a difference high-quality food can make to visitor numbers. But here, we seem to be cooking less and buying more in – the fast food mentality with all its consequences*.'

Young people in KS3 and KS4 who studied food technology or equivalent subject were aware of the career opportunities within the food and catering sector. According to one young person: '*Restaurants in this area are having to recruit from all sorts of places because the skills aren't available locally.'* However, pupils were aware that the type of things which they learned in food technology were not what employers needed. For example, young people with

Saturday jobs in catering reported that they were being taught practical food preparation skills which they felt they should be learning in school.

The link between cooking skills and healthy lifestyles was also recognized by both staff and pupils. Staff believed that the tendency to resort to pre-prepared meals was due to the perception that they were cheap and convenient. Teachers sought to promote the counter argument that cooking from scratch was often the most economic option and need not be time-consuming. This message was reflected in the comments of many of the pupils who were convinced that '*cooking a healthy meal doesn't have to be expensive and it's often easier than getting a takeaway'* and a pupil who said that his friends who did not cook '*go for a takeaway when they have to fend for themselves and that costs a lot and isn't healthy … I make something for myself with a lot of vitamins which doesn't cost a lot.'*

Pupils at one school in South Wales felt that they had received strong food safety messages about the effect of eating food that was past it's sell-by date or not cooked thoroughly or which had been left uncovered; the pupils concerned felt that there was a need to ensure that these messages were conveyed and understood because of the risk to public health.

There was little difference in the opinions of boys and girls in either primary or secondary schools.

4.3 Curriculum areas

Science, design and technology, physical education, and PSE were the main lessons in which pupils took part in food education. However, there were major differences in the amount of time devoted to those topics in different schools (see section 4.4) Other subjects in which food and nutrition were discussed included English and Welsh. For example, in a primary school pupils made gingerbread cakes to accompany a story on the Gingerbread Man, and in history, where in another primary school pupils learned about diet and rationing during the Second World War. There was less explicit evidence that food and nutritional issues were discussed in such subjects in secondary schools.

4.4 Time devoted to food and nutrition

There were differences in the amount of time devoted to food education in the sample of schools.

Design and technology

Table 4.2 Hours per year spent on food education in design and technology, Nursery-Year 9

	More than 15 hours	10 - 15 hours	5 - 10 hours	0-5 hours	None	No response	Total
	No of schools	No of schools	No of schools	No of schools	No of schools	No of schools	
PRIMARY							
Nursery	6	2	5	5		5	23
Reception	7	3	4	5		4	23
Year 1	7	3	3	5	1	4	23
Year 2	7	3	4	4	1	4	23
Year 3	8	4	2	7		2	23
Year 4	8	5	1	7		2	23
Year 5	8	5	1	6	1	2	23
Year 6	8	5	1	5	2	2	23
SECONDARY							
Year 7	9	6	4	8		3	30
Year 8	9	4	5	8	1	3	30
Year 9	9	6	4	8	1	2	30
N=53							

Source: NFER Survey of Food Education (2006)

In design and technology, most primary schools spent more than 10 hours per year on food education and around a quarter of those schools did more than 15 hours. Around a quarter of primary schools said they did less than five hours. However, there was evidence that this was because food education would be emphasised in different years. There was no clear pattern in secondary schools although nine schools said that they spent five hours or less on food technology in Years 8 and 9.

Teaching staff responsible for food education in secondary schools felt that the subject had become ‘subsumed’ within other aspects of design and technology and that its status may have been eroded. As illustrations of this, it was noted

that the amount of time devoted to food technology was limited because design and technology encompassed a vast range of subjects requiring different skills and competences. Moreover, there was little specific advisory support for food technology within dedicated design and technology teams, which was perceived as further evidence of its limited status.

Moreover, staff, including food technology teachers and some senior managers, and pupils in secondary schools expressed strong views that the amount of time devoted to food education, even within food technology, was inadequate and did not equip the young people with the necessary range of skills. Staff indicated that food education, focusing on the skill of cooking and knowledge of nutrition accounted for between a quarter and half of the time devoted to food technology. This reflected the requirement for pupils to design and manufacture practical outcomes. Pupils were also required to use computer-aided design which many felt was inappropriate in food technology.

The range of issues which had to be covered within food technology included investigating skills, designing skills, and testing and evaluating skills alongside the practical skills. This meant addressing issues such understanding systems and control, carrying out research, planning work, using IT, and knowing about industrial practice, alongside things such as practical skills, understanding of nutrition and a balanced diet, and knowledge of hygiene.

Although some pupils were given an opportunity to develop more of those skills in KS4 (especially where options such as catering were offered), the majority of pupils did not choose those options. These issues are examined in greater detail in section 4.6.

Science

Table 4.3 Hours spent on food education in science, Nursery – Year 11

	More than 15 hours	10 - 15 hours	5 - 10 hours	0-5 hours	None	No response	Total
	No of schools	No of schools	No of schools	No of schools	No of schools	No of schools	
Nursery	5	4	4	5		5	23
Reception	5	6	3	5		4	23
Year 1	5	5	5	4		4	23
Year 2	5	5	6	3		4	23

Year 3	5	6	6	4		2	23
Year 4	5	8	4	3	1	2	23
Year 5	5	8	5	3		2	23
Year 6	6	7	4	3	1	2	23
Year 7	1	1	5	10	5	8	30
Year 8	1	1	6	12	3	7	30
Year 9	1	1	5	14	2	7	30
Year 10	1	3	6	12	2	6	30
Year 11	1	2	7	9	2	9	30
N=53							

Source: NFER Survey of Food Education (2006)

In science most primary schools devoted more than 10 hours a year to food education in all year groups. The pattern was very different for secondary schools where most schools reported that less than 5 hours a year were given to this aspect of the subject in key stage 3. This figure has to be considered against the evidence from many secondary schools pupil focus groups that pupils got most of their information about issues such as nutrition, the composition of different foods, and the impact of different components on the body and health, in science lessons.

PE

Table 4.4 Hours spent on food education in PE Nursery-Year 11

	More than 15 hours	**10 - 15 hours**	**3 5 -10 hours**	**0-5 hours**	**None**	No response	Total
	No of schools	**No of schools**	**No of schools**	**No of schools**	**No of schools**	**No of schools**	
Nursery	10	1	3	3		6	23
Reception	10	2	3	3		5	23
Year 1	10	2	3	3		5	23
Year 2	10	2	3	3		5	23
Year 3	10	3	3	4	1	2	23
Year 4	10	3	3	4	1	2	23
Year 5	10	3	3	4	1	2	23
Year 6	10	3	3	4	1	2	23
Year 7	3		1	10	8	8	30
Year 8	3		1	10	7	9	30
Year 9	3		1	10	7	9	30
Year 10	4	2	7	9	1	7	30

Year 11	4	2	7	9		8	30
N=53							

Source: NFER Survey of Food Education (2006)

In PE more time was devoted to food education in primary schools. 10 schools reported that they discussed food and nutrition for 15 hours or more in each year from Nursery to Year 6, while only three secondary schools did so. In KS3, most secondary schools reported that they spent less than five hours on food and nutrition in PE, a pattern which was repeated to slightly lesser extent in KS4.

PSE

Table 4.5 Hours spent on food education in PSE Nursery-Year 11

	More than 15 hours	10 - 15 hours	5 – 10 hours	0-5 hours	None	No response	Total
	No of Schools	No of Schools	No of Schools	No of Schools	No of Schools	No of Schools	
Nursery	9	4	1	3		6	23
Reception	9	5	1	3		5	23
Year 1	9	5	1	3		5	23
Year 2	10	4	1	3		5	23
Year 3	10	5	1	4		3	23
Year 4	10	5	1	4		3	23
Year 5	10	5	2	3		3	23
Year 6	10	6	1	3		3	23
Year 7	4		4	17	1	4	30
Year 8	4		3	14	2	7	30
Year 9	4		3	11	5	7	30
Year 10	3	1	3	9	9	5	30
Year 11	2	1	4	8	8	7	30
N=53							

Source: NFER Survey of Food Education (2006)

In primary schools, food education received more time during PSE than in secondary schools. To some extent this reflected the thematic, cross-curricular approach adopted in primary schools. More than half of the primary schools which responded indicated that they spent more than 10 hours a year in PSE on food education, and two thirds of those schools indicated that they spent more than 15 hours on the area. The least amount of time was devoted to these issues in KS3 although there was a small increase in KS4. Even so, most schools devoted less than 5 hours to it in PSE in these years.

Staff in secondary schools attributed some of the pattern in their schools to the nature of the PSE syllabus. They considered that it was overburdened and not given enough time. According to one PSE coordinator: '*We can barely fit in everything they expect us to do in the time we've got.*' While staff regarded PSE as a means of delivering a range of important and valuable messages to children and young people, they felt that the demands of doing so in the time available had not been thought through. They maintained that delivering additional messages about food and nutrition could not be done within the

allotted time for PSE and that it would not be possible to provide practical opportunities to cook during those sessions.

Cross-curricular theme

The inter-relationship between subjects was influenced by the differences in the way subjects were taught in primary schools where a more integrated approach was used to curriculum delivery. Table 4.6 shows that about three-quarters of primary schools reported that food and nutrition appeared as a cross-curricular theme in their schools.

Table 4.6 Schools teaching about food and nutrition as a cross-curricular theme

	Yes		No		No response	Total
Primary	17		4		2	23
Secondary	13		16		1	30
N=53						

Source: NFER Survey of Food Education (2006)

Nearly three quarters of all primary schools indicated that they taught food education as a cross-curricular theme, but less than half of the secondary schools said that they did so. According to one primary school: '*We do our best to highlight messages about diet as much as possible and that reflects the way primary schools' methods of delivering the curriculum is geared towards a more cross-curricular approach'*. However, some teachers considered that cooking skills received less attention than nutrition as a cross-curricular theme in many primary schools.

Good practice in respondents' view was identified where schools had devoted some in-service training time or Preparation, Planning and Assessment (PPA) time to consider how food education could be developed a cross curricular theme. However, less than half of the secondary schools had done so. In part this could be attributed to the fact that subjects were less integrated. Some secondary schools felt that this situation should be addressed. One comment was: '*There is a need to break down the silos on this as in other subjects and that may be one of the greatest challenges that we'll face.'*

There was a consensus in both primary and secondary schools that there were opportunities to devote greater attention to food education in subjects other than science and PE, which should be exploited. These included:

- English/Welsh
- modern languages
- geography
- history.

For this to happen, however, there was a need for staff to have dedicated, focused time to build such notions into their schemes of work and for the idea of doing so to be championed by a member of staff with sufficient authority and standing within a school. According to a senior manager at one school: '*There's a danger that these type of things are seen as peripheral. If it's going to be taken seriously then it needs to be given adequate time and it has to be driven by someone who can make things happen, someone who will be taken seriously by the staff and who can't be fobbed off.'*

In the Special School visited, a different approach was adopted. Although pupils spent most of their day with a year group tutor they attended a designated class for certain subjects, including food technology.

The children and young people interviewed said that they obtained messages about food education from a variety of sources, including design and technology and science lessons, but less in PSE. However, this was not always the case. In one school pupils reported that they learned more about the practical aspects in food technology, but that their knowledge of nutrition was derived from PSE. They recognized, however, that the total amount of time devoted to the subject in PSE was very limited.

4.4 Opportunities for practical work

Table 4.7 Extent to which schools provided opportunities for practical work in food and cooking skills, by year group

	Three times or more per term	Once or twice a term	Once or twice a year	Never	No response	Total
	No of schools	No of schools	No of schools	No of schools	No of schools	
Nursery	7	7	3	1	5	23
Reception	6	9	3	1	4	23
Year 1	5	8	4	2	4	23
Year 2	5	8	4	2	4	23
Year 3	5	9	7		2	23
Year 4	4	10	6	1	2	23
Year 5	4	7	8	2	2	23
Year 6	5	7	7	2	2	23
Year 7	21	6	1		2	30
Year 8	20	6	1		3	30
Year 9	23	5		1	1	30
Year 10	24			1	5	30
Year 11	24			1	5	30
N=53						

Source: NFER Survey of Food Education (2006)

Opportunities to prepare food occurred more often in the secondary schools than in primary schools. For example, more than 20 secondary schools reported that pupils had practical experiences at least three times a term in key stages 3 and 4, but fewer primary schools did so. Even so, the amount of time devoted to the practical work was much less in secondary schools than many staff and pupils would like (see section 4.6). In secondary schools, older pupils who studied food technology had more opportunities to prepare food as subjects became more specialised in Year 9 and more so again in KS4. For example, in one of the secondary schools visited, pupils did all design and technology subjects in Year 7 and Year 8 but chose their preferred two in Year 9.

4.5 Extra-curricular opportunities

In some schools a minority of pupils who contributed to the focus groups said that they took part in extra-curricular activities which examined food education organised by their schools.

Table 4.8 Opportunities for school-organised extra curricular activities

	Yes	%	No	%	No response	Total
Primary	4	17.4	17	73.9	2	23
Secondary	11	36.7	17	56.7	2	30
N=53						

Source: NFER Survey of Food Education (2006)

Only a minority (a third) of secondary schools provided opportunities to prepare food during extra-curricular activities focusing on food and nutrition and even fewer (a fifth) of primary schools did so. In the schools visited, the type of activities included ones organised by schools themselves, such as cooking competitions, and after-school cooking clubs. In these cases participants were given opportunities to prepare different dishes.

Youth clubs and other extra-curricular events where young people could develop cooking skills were other influences. For example, respondents referred to the role played by the WAG 'Cooking Bus'. Those activities organised on school premises tended to provide more opportunities for young people to gain practical experiences. Where the activities were delivered outside school, the practical work tended to be more limited.

However, it was emphasised by both teachers and young people that the numbers reached through these methods were small and that using extra-curricular activities as a means of developing young people's cooking skills was not a substitute for school-based work. Moreover, such opportunities were usually offered solely to secondary school pupils.

Some young people, around half the sample interviewed in the focus groups, said that they cooked at home or with grandparents. The range of cooking skills varied from basic meals to full roast dinners. Primary pupils generally reported more interest in and enjoyment of food preparation and basic cooking tasks at home. Many secondary school pupils said they were able to prepare simple snacks for themselves and use the microwave for heating food.

4.6 Opinions about food in the school curriculum

There were strong messages that the way that food education was taught in Welsh schools needed to be revised. LAs expressed concern about the nature of the curriculum and thought that the opportunities for children to enjoy practical cooking were too limited. For example, an LA advisor noted: '*There's not enough emphasis on preparation skills, especially in KS3, and the way schools have organised their timetables puts additional pressure by limiting the time available for practical cooking.'* Similar views were echoed by another adviser who noted: '*Schools would very much like more time in teaching food skills. They would like to see food and food skills being taught as a separate subject as opposed to being part of DT.'*

As noted earlier, staff who taught food technology described a range of topics which appeared in their schemes of work, over and above those directly concerned with cooking skills. These included matters which they felt had little relevance to cooking skills. There was a strong view from those stakeholders that cooking did not sit easily within design and technology. This was summarised by an adviser who said: '*Cooking should be given the status it deserves as a stand-alone, compulsory subject.'*

Moreover, it was felt that food technology did not prepare pupils adequately for vocational courses in KS4. This issue was felt by several advisers to be a cause for concern since such opportunities were likely to become more prevalent due to changes initiated by the 14-19 Learning Pathways agenda.

This feeling among stakeholders had led a number of schools (including one of the secondary schools visited) to introduce alternatives to food technology.

For example, a school had reverted to a course that was '*more akin to home economics than food technology*'. The emphasis was placed on developing an understanding of nutrition and cooking skills alongside issues such as health and safety, hygiene and food values. According to the teacher concerned: '*Although it runs within the technology time, the content is very different to what it used to be.'* The main advantage of this approach was that it enabled pupils to develop practical skills. Pupils in the school concerned welcomed the change in approach, and believed that they learned more and that the subject

had greater relevance. Take-up of these courses was higher than had been the case when food technology was offered.

Where the food technology approach was used, the majority of pupils were not happy with the focus of the lessons. They found it too theoretical, paper-based, and many referred to it as boring. The activities they enjoyed most were those where they had practical, hands-on experiences. This was true of primary and secondary school pupils. In the school where alternatives to food technology had been introduced, pupils expressed greater satisfaction. However, as these were relatively recent developments, it was impossible to come to firm conclusions about their impact on pupils' lifestyles or cooking skills. Care must also be taken because of the numbers included in the sample.

Key findings

- In science, PE and PSE the primary schools devoted more time to food education than the secondary schools.
- In design and technology, the primary and secondary schools devoted on average similar amounts of time to food technology.
- In secondary schools, design and technology lessons involved all pupils up to the end of key stage 3, although there was a limited choice of subject within Year 9 in some schools.
- In key stage 4, the time devoted to food education largely depended on what subjects pupils were studying for GCSE.
- There was some concern that pupils' understanding of food education, developed in design and technology from primary school onwards, was not being built upon sufficiently in secondary schools.
- Cooking was acknowledged as an important life skill which was likely to offer career opportunities in pupils' later years.
- There was evidence that the concept of cooking meals was being promoted and that this was influencing pupil opinion about the value of the skill.
- There was concern that attention to the food aspect, especially cooking skills, was not given enough priority within design and technology.
- PSE was an important source of information about food education for pupils, but teachers were concerned that the PSE curriculum was already over-burdened and that there was little scope for including further messages about food education in it.
- There was evidence that a more integrated, cross-curricular approach was being used in primary schools, where some very good practice in the teaching of food education was identified.

- Some extra-curricular activities were provided which focused on food education; however, there were strong messages that these should be seen as enrichment activities and not as alternatives to curriculum provision.
- Many stakeholders believed that food technology focussed too much on issues other than knowledge about food education; pupils echoed calls for more practical experiences to be included.

5. The learning environment

The focus of this chapter is on the facilities used to teach food education, the resources that teachers have at their disposal, and the support which they can access from outside their schools.

5.1 Adequacy of facilities and resources

LAs reported that facilities to teach about food education, particularly the practical aspects, varied. The adequacy of the facilities in primary schools was identified as an area of particular concern in the questionnaire survey, with eight of the 10 LAs describing them as less than adequate and none as adequate.

Table 5.1 LA judgements on adequacy of facilities

	Adequate	Fairly Adequate	Less than Adequate	Completely Inadequate	No response	Total
Secondary	3	4	2		1	10
Primary		1	8		1	10
Special	1	3	4		2	10
N=10						

Source: NFER Survey of Food Education (2006)

LAs also judged that the facilities in some Special Schools were less than adequate. Some LAs reported that the issue had not been given much attention unless particular problems had arisen. For example, an LA officer noted that no school had highlighted the issue of food preparation facilities in their monitoring surveys, although this did not mean that they were adequate. The LA judgments can be compared to the views expressed in the school survey.

Table 5.2 School judgments about adequacy of facilities

Phase		Adequate	Fairly adequate	Less than adequate	Completely inadequate	No response	Total
		No of Schools	No of Schools	No of Schools	No of Schools		
Primary	Cooking equipment	4	10	8		1	23
	Kitchen areas	2	5	10	3	3	23
	Classrooms	2	6	9	4	2	23
	Funding		4	11	7	1	23
Secondary	Cooking equipment	16	10	2	1	1	30
	Kitchen areas	17	8	2	1	2	30
	Classrooms	15	9	3	2	1	30
	Funding	2	17	8	2	1	30
N=53							

Source: NFER Survey of Food Education (2006)

Cooking equipment was judged appropriate (adequate or fairly adequate) in 14 of the 23 primary schools and 26 of the 30 secondary schools. However, some of the primary schools reported that the equipment they used was very basic.

More than half of primary schools (13 out of 23) said that their food preparation facilities were less than adequate or worse. Most of those visited had to resort to cooking within classrooms, using portable appliances, which was usually challenging and severely limited in terms of its scope. None of those visited had dedicated classroom space devoted to teaching cookery skills. However, one could use part of the staffroom although this arrangement was not wholly satisfactory. The need to have more than one adult present when practical cooking sessions were conducted also complicated the task of planning practical sessions in primary schools, but was recognised to be essential.

In general, secondary schools were content with the facilities for teaching food education. 24 of the 30 secondary schools indicated that their classrooms were adequate or fairly adequate. Most (26) said that their equipment was fairly adequate or better. However, specific concerns were raised, for example about the need to refurbish rooms and enable more individual work to take place. Moreover, it was noted in some schools visited that the number of rooms dedicated to teaching food education had decreased since the introduction of

food technology, something which some teachers attributed to a '*reduction in status'* since the subject's designation was changed.

Representatives of the Special School that was visited said that their cooking resources were good as '*it's been a priority for the Governors who gave money to do up part of the kitchen ... but that is down to the school and the head thinking it's a very important subject'*.

Table 5.3: School judgements on adequacy of funding for food, nutrition and cooking

	Adequate	Fairly Adequate	Less than adequate	Completely inadequate	No response	Total
Primary		4	11	7	1	23
Secondary	2	17	8	2	1	30
N=53						

Source: NFER Survey of Food Education (2006)

Most (18/23) primary schools said that the funding for teaching food education in their schools was less than adequate. To some extent this reflected the way school budgets were organised in primary schools without a formal departmental structure. Primary schools also reported mixed experiences of asking pupils to bring ingredients to school. In some cases this meant that teachers resorted to bringing their own materials because it was the easiest option. Secondary schools were less critical; 19 out of 30 thought that the funding was adequate or better. However, staff insisted that resources, both in terms of funding and facilities, were adequate only in regard to what schools were expected to do within the current food technology syllabus. Any increase in practical work would need to be accompanied by commensurate funding and take into account factors such as increased wear and tear on kitchen facilities. Funding for consumables would also need to be increased.

5.2 Teaching and learning resources

Nature and source

Most LAs reported that they provided teaching and learning resources to support work in food education. Of these, eight LAs noted that they provided specific materials to assist the teaching of cooking skills and eight reported

that they provided materials to support teaching about those issues as a cross-curricular theme. The type of materials produced included:

- a bespoke LA programme of materials about nutrition
- resource boxes containing information and teaching materials focusing on nutrition
- advice about events that could be used to raise awareness of the topic
- signposting materials drawing attention to websites and other materials.

Table 5.4 shows the sources accessed by schools for teaching and learning materials. Schools were asked to identify all relevant sources, so the numbers of primary and secondary schools in this table are greater than the numbers of schools in the sample.

Table 5.4 Source of teaching and learning materials

Phase		Responses		Percent of Cases
		N	Percent	
Primary	**LA**	10	11.0%	43.5%
	Welsh Assembly	7	7.7%	30.4%
	Food Standards Agency	13	14.3%	56.5%
	Internet Resources	13	14.3%	56.5%
	Local Health Board	13	14.3%	56.5%
	National Charity Campaigns	4	4.4%	17.4%
	Published Educational Materials	17	18.7%	73.9%
	Commercial Companies	8	8.8%	34.8%
	Other	5	5.5%	21.7%
	No response	1	1.1%	4.3%
	Total	91	100.0%	395.7%
Secondary	**LA**	7	5.5%	23.3%
	Welsh Assembly	10	7.8%	33.3%
	Food Standards Agency	24	18.8%	80.0%
	Internet Resources	24	18.8%	80.0%
	Local Health Board	12	9.4%	40.0%
	National Charity Campaigns	8	6.3%	26.7%
	Published Educational Materials	23	18.0%	76.7%
	Commercial Companies	13	10.2%	43.3%
	Other	6	4.7%	20.0%
	No Response	1	.8%	3.3%
	Total	128	100.0%	426.7%
N=53				

Source: NFER Survey of Food Education (2006)

The FSA, internet resources, LHB materials and published educational resources were the main sources of materials used by schools to teach food education. Teachers said that they were constantly looking for materials which they could adapt to meet the specific needs of their pupils. However, most felt that more materials were required, especially on issues such as hygiene, nutrition, and healthy eating.

Eight LAs were fairly satisfied with the way that their materials were being used by schools and none was very dissatisfied.

Adequacy

LAs were asked whether they considered that the available resources on food education were adequate.

Table 5.5 LA opinion on adequacy of available resources

	Adequate	Fairly Adequate	Less than Adequate	Completely Inadequate	No response	Total
Secondary	5	5				10
Primary	4	5	1			10
N=10						

Source: NFER Survey of Food Education (2006)

Most LAs considered that the resources were fairly adequate or better and only one thought that the resources available (for primary schools) were less than adequate.

Table 5.6 School opinion on adequacy of available resources

	Adequate		Fairly adequate		Less than adequate		Completely inadequate		No response		Total	
Primary	1		13		7		1		1		23	0
Secondary	7		16		3				4		30	0
N=53												

Source: NFER Survey of Food Education (2006)

Although most primary schools thought that the teaching and learning resources were adequate, a third did not. The main weaknesses identified in the qualitative research were:

- resources were perceived to be geared more towards the curriculum in England
- there was a need for more resources that could be used with interactive whiteboards
- insufficient linkage between existing materials.

There was a strong view among secondary schools that resources were adequate although some perceived that they had a 'slant'. For example, one teacher commented: '*When we were doing a lesson about rice the only videos were made by the Rice Growers' Association so I have to stress that the people who made that video were the people who grow the rice*.'

Some schools felt that teachers with a background in food education would have no difficulty using available teaching resources. However, others were concerned that those who had been trained as design and technology teachers, with some limited specific focus on food and nutrition, would require greater support.

Developing resources

Table 5.7 School intention to improve facilities

	Yes		No		No response		Total
Primary	7		12		4		23
Secondary	5		12		13		30
N=53							

Source: NFER Survey of Food Education (2006)

A minority of the primary schools (a third) and secondary schools (a sixth) reported that they had plans to improve their facilities for food education. The needs identified in secondary schools were for more modern facilities, in particular storage units, sink units, and cookers. The type of improvements identified in discussions with primary schools were:

- better facilities for washing dishes/utensils

- dedicated teaching rooms
- better ventilation
- better storage facilities.

However, some LAs felt that investing in such facilities would only become a priority when food education became a more prominent feature in the school curriculum. According to one LA: '*A lot will depend on what comes out of Curriculum 2008.*

5.3 Support from outside of schools

LAs were asked how support was provided to schools to enable them to deliver effective teaching and learning opportunities in food education. The main foci of LAs' activities were:

- the provision of in-service training opportunities for staff, including both teaching and non-teaching practitioners
- the provision of teaching and learning resources either to individual schools or cluster groups
- the provision of advisory support either to support food education as a cross-curricular theme or through specific support for design and technology.

Only a small number of LAs provided specific support in design and technology and these were usually employed where LAs were members of a consortium to deliver such services. Some of the consortia offered services which schools outside the LAs for which they provided a core service could access. This was regarded by respondents as good practice because it increased the use of those consortia's capacity..

There was qualitative evidence that where such consortium arrangements existed, very few advisory staff had a background in food technology. Some LAs felt that because of their size they could not be expected to cover all curriculum areas. Some of the smaller authorities reported that they worked with schools to identify their needs and facilitated that support; in their experience very few schools had identified a need for support in the area of food and nutrition.

WNHSS coordinators and nutrition coordinators were all perceived by LA staff as having important roles in terms of providing such support. However, a need was expressed for effective communication between such staff and curriculum advisors or with the consultants who acted as curriculum advisors in consortia. This was felt to be currently lacking in some instances.

Table 5.8: LA opinion of impact of different categories of staff on quality of teaching and learning about food, nutrition and cooking

	Important	Fairly Important	Not Important	Unimportant	No response	Total
Chief Adviser	3	4	1		2	10
Subject Advisers	4	5			1	10
Head of School Meals	5	2	2	1		10
External Consultants	3	2		1	4	10
Health Advisors	8	1			1	10
WNHSS/Nutrition Coordinators	9	1				10
Others	1				9	10
N=10						

Source: NFER Survey of Food Education (2006)

Some LAs also highlighted the importance of community-based staff, such as community dieticians and food workers. The LAs which referred to such staff had clear strategies to reach the wider community to deliver messages about issues such as health and nutrition, which included work through community-facing schools. At the same time, LAs had developed strategies which linked with work being undertaken by LHBs.

Table 5.9: School rating of usefulness of different types of support

Phase		Very useful	Fairly useful	Slightly useful	Not useful	No response	Total
		No of Schools	No of Schools	No of Schools	No of Schools	No of schools	
Primary	Local authority learning materials	2	4	6	3	8	23
	Local authority training opportunities	2	5	4	3	9	23
	Healthy Eating Initiatives	10	8	2	1	2	23
	Local authority curriculum support	2	8	3	1	9	23
	Visits from local authority nutrition co-ordinators	3	3	3	4	10	23
	Access to local authority external consultants	1	5	2	4	9	23
	Other support from local authority		1			22	23
Secondary	Local authority learning materials	1	6	3	2	18	30
	Local authority training opportunities	1	3	1	4	21	30
	Healthy Eating Initiatives	3	9	7	2	9	30
	Local authority curriculum support	2	4	5	3	16	30
	Visits from local authority nutrition co-ordinators		4	1	5	20	30
	Access to local authority external consultants	1	3	2	3	21	30
	Other support from local authority	1	1			28	30
N=53							

Source: NFER Survey of Food Education (2006)

This table shows a broad divergence of views in schools of the usefulness of different types of support they received. It suggests that schools have had different experiences and that the quality of support offered by individual LAs varies considerably. For example, training provided by the local authority was rated as 'Very useful' by some schools and 'Not useful' by others. Schools' responses indicate that all types of support have the potential to be useful if the

quality of the particular intervention is good, although the opposite also applies. Considerable numbers of schools omitted to record a response for some of the above types of support as they had no experience of them .This was true of the response of around a third of primary schools and between approximately half and two-thirds of secondary schools, in all categories except 'Healthy Eating Initiatives'.

Healthy Eating Initiatives were ranked positively. There was strong qualitative evidence that schools held positive views about national initiatives such as the WNHSS.

However, schools noted that they rarely accessed curriculum advice on food education from their LAs either because they thought no such service was provided or because they obtained it elsewhere. There was some concern about the lack of LA support. For example, a teacher noted: '*I feel so isolated. There is no advisory teacher [for food technology] in the county and I'm not aware of any training being provided. I have asked the LA if I can meet with an advisor and they said no, they don't exist.'*

LAs emphasised that a joined-up approach that involved all relevant agencies was needed if efforts to promote pupils' understanding of health and nutrition and the importance of cooking skills were to be effective. For example, in one county, a strategy was developed which '*endorses a partnership approach to addressing poor diet and lack of exercise amongst children and young people.'* The partnership principles which they identified were that:

- working in partnership with other agencies will achieve more than any one group or organisation alone, and a whole-school approach will be more effective than that of a single teacher or department
- children's health and wellbeing should be the first priority, even when difficult decisions and choices have to be made, based on finite resources
- every opportunity should be sought to involve and engage young people in the process
- practices adopted should be based on evidence of what works.

The need for cooking skills to be included as an integral part of such strategies was advocated by a majority of those who took part in the research.

Key findings

- Facilities for teaching food education in schools varied; secondary schools were generally satisfied that their cooking facilities were adequate to meet current requirements; the same was not true of primary schools.
- Primary schools' capacity to deliver food education, especially the practical aspects, were limited; in general, secondary schools were better equipped.
- There was concern about the level of funding for food education; stakeholders felt that any changes, e.g. an increase in practical work, should be funded appropriately.
- Schools used teaching and learning resources produced by a range of organisations, including local authorities, the FSA, internet resources, and LHBs.
- In general, resources were considered adequate although there was a need among primary schools for more materials tailored to the curriculum in Wales and materials that could be used with interactive whiteboards.
- Primary schools reported that they would like to introduce better facilities to teach food education.
- LAs provided a range of food and nutrition services to schools including in-service training, teaching and learning resources, and advisory support.
- Only a few LAs (usually those involved in a joint arrangement to provide advisory support) had dedicated design and technology advisors; few of those had a specific background in food technology.
- LAs were developing strategies to work with a range of community-based practitioners, often as part of strategies to increase the role of schools in the community.

6. Teaching food and nutrition

The focus of this chapter is on the teaching of food education. In particular, it considers the qualifications and expertise of staff and the opportunities to train and develop professional expertise.

6.1 Staff expertise and capacity

The research examined staff capacity to teach food education. This was an issue of concern for LAs, who felt that it was becoming increasingly difficult to recruit staff to teach food technology.

On average, no primary school teachers had specific qualifications in food education. In secondary schools the average was two per school.

Table 6.1 Difficulty recruiting staff with appropriate qualifications

	Yes		No		No response		Total
Primary	2		12		9		23
Secondary	11	7	18		1		30
N=53							

Source: NFER Survey of Food Education (2006)

Half of the primary and two-thirds of the secondary schools said that they had no difficulty recruiting staff who could teach food education, more than a third of secondary schools responded that they had experienced difficulties.

In general, the concerns focused on the difficulty of recruiting staff with specific qualifications in food education. One LA representative commented: '*There are not enough people applying for technology posts in secondary schools with food and nutrition skills,*' while another noted '*a growing trend for unqualified staff to teach basic food handling skills. This is an*

unacceptable situation and additional funding should be made available for supplementary training.'

Moreover, some school-based staff and HE staff responsible for teacher training questioned the extent to which staff who had studied food technology as part of their qualification to teach design and technology could deliver it. According to one food technology teacher, the amount of time devoted to the subject within the course was very limited. An HE representative echoed the opinion that initial training was not sufficient to enable staff to teach the subject. Addressing this issue by making use of existing resources such as the facilities enjoyed by different types of teaching institutions, was advocated as a means of overcoming resource problems.

6.2 Training opportunities

LAs were asked about the training opportunities they provided. Table 6.2 indicates that, although most LAs offered training opportunities on food education to teaching staff, few offered such provision to other stakeholders such as governors or parents.. Moreover, most LAs suggested that such training was not offered to classroom assistants and all of the LAs indicated that training opportunities with a specific focus on food education was not offered to heads.

Table 6.2 Training opportunities offered by LAs

	Yes	No	No response	Total
Heads		10		10
Teachers	8	2		10
Classroom Assistants	4	6		10
Nursery Nurses		6	4	10
School Governors	1	9		10
Parents	2	8		10
N=10				

Source: NFER Survey of Food Education (2006)

The main foci of this training were the WNHSS and training delivered to enable schools to develop their community role.

Table 6.3 School opinions of training opportunities

	Adequate		Fairly adequate		Completely inadequate		No response	Total
Primary	3		4		3		13	23
Secondary	9		6		5		10	30
N=53								

Source: NFER Survey of Food Education (2006)

One third of primary schools and half of secondary schools indicated that the opportunities for in-service training were adequate or fairly adequate. The qualitative evidence suggested that the type of provision which was available focused more on nutrition and promoting healthy lifestyles rather than on practical aspects such as cooking skills. The training reflected the influence of specific national and local initiatives such as the WNHSS and other programmes which focused on such issues.

Subject advisors, health advisors, and health or nutrition specialists were said to be the main providers of education and training about food education by the LAs. The main areas they covered were:

- training for the primary hygiene certificate
- specific activities for KS1 and KS2
- training on how to work with adults as part of a more community-focused approach.

However, many LAs were concerned about the small numbers of staff who attended available training provision, and this was one of the major challenges for the provision of food education. To some extent it reflected the limited priority which schools gave to food education other than that concerned with the WNHSS. Many of those interviewed maintained that schools and LAs had other priorities, such as improving literacy and numeracy and developing the 14-19 learning pathways, and that they had not yet been able to prioritise food education.

Key findings

- Generally, primary schools felt that they did not have staff with specific qualifications to teach food education.
- There were some doubts about the extent to which staff teaching design and technology had adequate initial training in food education.
- Schools generally thought that opportunities for in-service training were adequate or better than adequate.
- The main providers of information on nutrition were subject and health advisors and nutrition specialists.
- Teacher attendance at LA training events on food education was often disappointing.

7. Impact

This chapter considers the perceived impact of the teaching of food education on pupils and on the wider community.

Most LAs felt that their approaches were having at least some impact although there was concern in three LAs about pupils' food preparation skills. In field interviews, LA staff said that emphasis on food education would not have an immediate impact and that a sustained, on-going, integrated programme of activities was needed to ensure that the messages were conveyed to pupils.

Table 7.1 LA perceptions of impact of school-based activities on pupils

	A great impact	Some impact	Very little impact	No impact	No response	Total
Understanding	2	7			1	10
Preparation skills	2	4	2	1	1	10
Diet	1	7	1		1	10
N = 10						

Source: NFER Survey of Food Education (2006)

To date, few LAs had developed standardised methods to monitor progress in this curriculum area. Most of the evaluatory evidence that was collected was done through the WNHSS.

Table 7.2 School perceptions of impact of school-based activities on pupils

Phase		Highly effective	Fairly effective	Little effect	No effect	No response	Total
		No of schools	No of schools	No of schools	No of schools	No of schools	
Primary	Pupils' understanding	4	16	2		1	23
	Pupils' food preparation skills	3	11	5		4	23
	Pupils' diet	2	10	8	1	2	23
Secondary	Pupils' understanding	3	21	4		2	30
	Pupils' food preparation skills	8	18	2		2	30
	Pupils' diet		9	16	1	4	30
N=53							

Source: NFER Survey of Food Education (2006)

In the questionnaire surveys, schools had mixed views about the impact which they were having on pupils in terms of their understanding of food education. Many primary schools (20) believed that they were fairly effective or better at influencing pupils' understanding and preparation skills (14), but eight of them felt that they had little impact on pupils' diets. A clear majority of the secondary schools thought food education had very little influence on pupils' diets. Similar messages were conveyed in the discussions with the staff in the sample schools. They insisted that there was a need to take the subject seriously in order to maximise impact and they noted that schools had to counteract a range of powerful social, economic, and cultural factors that influenced pupils' perceptions about food and nutrition. Some felt that although the impact on pupils varied, and that sometimes pupil attitudes changed with age, it was important to equip children with the knowledge to make informed choices in later life. A representative comment was: '*There are no quick fixes and if people think we will change attitudes overnight then it's just not going to happen.'*

Schools and LAs differed in the extent to which they felt that the messages being conveyed through schools were permeating into the wider community. Although there was some evidence, gathered during pupil interviews in particular, that pupils were relaying messages home, it was impossible to judge whether they were impacting on parents/guardians, and others with whom they came into contact. For example, in some areas it was noted that the

messages about the importance of thorough cooking and how to avoid cross-contamination had been reinforced by the school, but that this was in response to wider public health issues in the areas concerned. Similarly, a school in another part of Wales allowed its facilities to be used by a local college as part of its outreach work. Teaching staff were not involved in delivering the programme and it had no direct link with the school curriculum. Moreover, although schools could contribute in such ways, there was a strong feeling on the part of staff that their roles should not be exaggerated. A representative comment was: '*We can reinforce messages and reach the pupils, but there's no way schools on their own are going to be able to reach the parents and the wider community.'*

Key findings

- LAs and schools felt that in general their work on food education was raising awareness among pupils although it was unclear to what extent those messages were being heeded, especially in terms of pupils' food choices.
- Stakeholders believed that the messages about health and nutrition conveyed by schools were having an indirect impact on wider communities, although the limits of what schools could achieve in this respect should be recognised.

8. Developing food and nutrition in schools

8.1 School development plans

The need to reach pupils at a young age was emphasised. This view was summarised by one teacher who commented: *'I certainly think in early years and KS1 it is crucial, because in that point of their life they tend to believe everything the teacher says and it greatly influences them.'*

Most schools said that their immediate plans in the area of food education were to increase their involvement in the WNHSS.

In terms of longer-term directions, schools wanted curricular changes that would enable more time to be devoted to food education and in particular to the practical aspects of the subject. This, they maintained, would involve a move away from the approach adopted in food technology.

Some schools were also keen to increase the use of IT in teaching about food education as few of them did so at present.

Some schools and LAs were also keen to develop much closer community links. These were often regarded as part of schools' efforts to develop a stronger community focus. For example, it was noted that a range of initiatives had been developed, including work in Communities First areas which sought to engage LHBs, community organisations and other agencies in promoting messages about health and nutrition and practical food skills. Although schools were identified as having a potential to assist with such programmes, especially in terms of providing venues, there was a strong view that their role was not that of an adult learning provider.

8.2 Extra-curricular linkage

School facilities were also seen as appropriate to deliver some extra-curricular activities with a focus on food, especially the development of cooking skills.

However, there were strong messages from both teaching staff and school senior managers that such activities would need to be supervised and managed by the schools themselves. Moreover, the provision of such extra-curricular opportunities should only be seen as enrichment activities and did not remove the need for appropriate opportunities to learn as part of the school curriculum.

9. Conclusions

Subjects in which pupils learn about food, nutrition and cookery.

The main vehicles in primary and secondary school for providing information on food and nutrition and learning cooking skills are the subject areas of design and technology, science, PE and PSE. In the secondary phase food technology becomes the main vehicle for teaching practical skills. The research also revealed good examples where these issues were dealt with in other subjects such as English and history in primary schools.

The proportion of teaching time varied in different subjects and across the key stages.

Pupils had opportunities to undertake practical work in both primary and secondary schools. However, issues concerning facilities and the ease with which such opportunities could be made available, affected the extent to which primary schools could do so.

Inter-relationships and overlap.

Primary schools sought to deliver key messages about food education across the curriculum. This reflected the general cross-curricular approach to teaching and learning used in the primary phase. This meant that key messages were continually being reinforced.

In secondary schools, there was a greater tendency to separate messages; food education appeared in subjects such as food technology and PSE, and through work undertaken through the WNHSS but there was less evidence that an integrated approach was taken than in primary schools. The extent to which food technology was used as a medium to deliver such messages was a matter of concern a) because of the limited amount of time devoted to it and b) because of the nature of the syllabus and c) because there was no guarantee that pupils would study it in KS4.

Whole-class approaches, similar to those used in primary schools, worked best to deliver messages about food education because all pupils could be included.

The small number of children and young people involved in extra-curricular activities meant that they could not be relied upon as a means of delivering food education. However, there were more opportunities for practical work in extra-curricular activities delivered in schools.

Schools' policies on the teaching of food and nutrition and their participation in the WNHSS.

Many primary schools had developed policies on food and nutrition which sought to integrate food education across the curriculum in order to reinforce the key messages. The way that the curriculum was delivered in primary schools meant that a cross-curricular approach could be taken; this led to some good practice in the teaching of food education in primary schools.

Secondary schools had also developed policies to address these issues within teaching and learning, mainly within PSE and design and technology. There was less evidence that the teaching of food and nutrition was addressed outside those subjects to the same extent as in primary schools.

There was a need to ensure that attention was given to food education on the curriculum and that its importance was recognised and acted upon by all staff. For this to happen, syllabuses should be examined to maximise opportunities to deliver food education. For this to be done effectively the importance of the work should be emphasised by senior managers.

Both primary and secondary schools emphasised the importance of indirect methods whereby children and young people were influenced about food education. These included restricting certain choices in school canteens and vending machines, rewarding healthy choices, and also developing awareness through the use of promotional materials and PSE.

However, it was recognised that more work needed to be done to develop such themes and that PSE was already an overloaded element of the curriculum. Expanding the amount of time devoted to food education within PSE was not considered a viable option.

Participation in the WNHSS had resulted in a number of changes to the way schools approached food education as a whole-school theme. However, most

of the changes made to date focused mainly on what occurred outside the classroom, for example the development of fruit tuck shops and measures to support young people to choose healthier meals.

In-service training accessed as part of schools' participation in the WNHSS had contributed to their capacity to deliver food education.

The way food is taught in the curriculum e.g. practical, theory, the proportion of each, and perceptions as to what was most effective

A mix of practical and theory work was undertaken in both primary and secondary schools. Pupils valued the practical side more than the more theoretical aspects and believed that they had greater relevance for their lives and possible career opportunities. This view was shared by most teachers and LA personnel.

Facilities restricted the amount of practical work that could be undertaken in primary schools and staff often had to overcome significant challenges to provide such opportunities.

Practical work accounted for around two-fifths or less of the time devoted to food technology in most secondary schools. This reflected the demands of the food technology syllabus, especially in KS3. The time allowed for practical work was less than many teachers and pupils wished. Both pupils and teachers held strong opinions that practical work was an essential part of food education and should be increased. Given the limited amount of time available for such practical work, there were suggestions that additional, compulsory opportunities should be provided to enable pupils to learn and develop cooking skills.

Staff members and support

The amount of technical support provided for secondary school teachers when teaching food technology or other subjects involving practical cookery varied and depended on issues such as the extent to which the subject was valued by school senior managers. In general, secondary schools considered their facilities to be adequate in terms of delivering the current curriculum.

However, the number of dedicated teaching rooms was often fewer than in the past.

Primary schools reported greater logistical challenges, for example to meet the requirement that two adults were present when practical work was being undertaken. In many primary schools the resources for practical work were not considered adequate. However, these did not prevent staff from overcoming obstacles to enable practical opportunities to be provided.

LA support

The ability of LAs to provide advisory support focusing on food education was limited. Most LAs had no specific adviser for food technology. It was considered that the WNHSS provided excellent support for many schools. This emphasised the importance of the work undertaken by healthy schools co-ordinators and the potential that their work had to support schools to deliver food education. Valuable links had been developed between local authorities, LHBs, and other practitioners in order to deliver food education.

Teaching and learning resources

Teachers used a range of resources which included materials produced by LAs, the FSA, LHBs and commercial providers. Most teachers considered that the resources to assist with the teaching of healthy lifestyles and cooking skills were adequate. There was, however, a need for more materials linked to the curriculum in Wales.

Proportion of pupils receiving education in food and nutrition, including by gender and age.

All pupils learned about food and nutrition through PSE and through food technology to the end of KS3. Option choices in KS4 meant that only around a quarter of all pupils continued to study food technology. There were no major differences by gender. Several respondents questioned whether pupils had adequate opportunities through PSE or food technology to learn practical cookery.

Training in food and nutrition

There was concern about the extent to which the initial training of staff as design and technology teachers enabled them to teach practical cookery skills effectively. In general, schools and LAs considered that in-service training opportunities were at least adequate.

Perceptions of learning about nutrition/healthy eating cooking skills

Pupils generally recognised the importance of learning about nutrition and regarded the ability to cook both as an important life skill and also a potentially rewarding career. There was little difference in the views expressed by boys compared with girls.

10. Case studies of good practice

This chapter presents case studies of good practice identified during the qualitative research.

10.1 Case study 1

Background

This secondary school was a senior Special School situated in South-West Wales. The school had 77 pupils with a variety of Special Educational Needs and one dedicated food technology teacher. The school was part of the WNHSS.

Whole-school initiatives

The school had a healthy eating policy and healthy eating was taught on a cross-curricular basis by form tutors. The school tried to influence parents by banning unhealthy snacks in school and by encouraging healthy lunch-boxes.

A local chef also volunteered at the school and provided pupils with cooking demonstrations and helped to plan and teach some of the lessons with the food technology teacher. Through the school the chef had completed all the relevant CRB checks so that he could help on a regular basis. The pupils thoroughly enjoyed the opportunities this provided.

Learning about food and nutrition

Pupils were mainly taught about food and nutrition in science, health education and food technology classes. The form tutors are responsible for the teaching of food and nutrition in the core curriculum subjects. All pupils attended food technology classes on a regular basis. Year 7, 8, 10 and 11 pupils received one half-day session a fortnight and Y9 received one whole-morning session a week.

Post-16 students at the school followed a Home Management course which focused on teaching them essential life skills such as cooking, shopping and

cleaning. As part of the course, students completed two days' cookery and shopping once every three weeks. Students learnt about the different places where they could shop for food and had visited a variety of outlets such as supermarkets, farmers' markets, greengrocers and butchers. Post-16 students were largely responsible for directing the cooking classes. In groups they were responsible for choosing the recipes they wanted to cook from cookery books. They were then supported by the food technology teacher to cook the recipes they chose.

Due to pupils' Special Educational Needs, 80 per cent of the food technology classes were practical and 20 per cent theoretical. Pupils learnt how to cook and prepare a variety of foods, and an emphasis was placed on healthy eating, using fresh ingredients and thinking about sources of food. There had been a particular focus on increasing the range of foods the pupils could identify and were willing to eat. Pupils thoroughly enjoyed cooking new things and readily admitted that they were more willing to try healthier foods since taking food technology classes!

Theoretical work completed by students focused on the sources of food and on tasting and discussion of different types of food but was limited by a lack of availability of appropriate resources.

Resources

In general the school was well-resourced and had a large well-equipped cookery classroom, part of which had been newly refurbished. This was in large part due to the importance placed on this area by the headteacher and Governors who saw learning about food as a key life-skill.

While practical resources at the school were good, theoretical teaching about food and nutrition was limited by the lack of availability of appropriate resources. The food technology teacher had developed most of the resources in-house and found it extremely difficult to locate interesting resources appropriate to pupils' ability level. The food technology class had an interactive white board and good access to the internet which the food technology teachers used as much as possible. Pupils were also given the opportunity to watch videos about food and cookery programmes. Pupils found watching videos of cookery shows interesting and enjoyable.

Staffing and training

Due to the size of the school, there was only one dedicated food technology teacher who was supported by the form tutors during classes. The local LA had not offered any training and had no advisory teacher for food technology. Consequently the food technology teacher had received little support to develop new courses/ resources or to ensure that the teaching of food and nutrition advanced within the school. There was an identified demand within the school for the local education authority to support or provide training on healthy eating and nutrition.

Impact

Food and nutrition education in the school had a considerable impact on most pupils. Pupils possessed a good range of cookery skills and could identify a variety of healthy foods, particularly fruit and vegetables. Pupils were enthusiastic about the opportunities they had to cook and prepare food and were excited about new things they might learn about in the future.

In general, due to the commitment of the school to the subject, pupils possessed a strong sense of the importance of healthy eating and recognised cooking and learning about food as something important to their future.

10.2 Case study 2

Background

This primary school, with 225 pupils on roll, was situated in mid-Wales in a Communities First area with a high proportion of Welsh speakers, although Welsh was not the first language of many children who attend the school. Pupils were taught either in a Welsh or English-medium stream.

Whole-school initiatives

The school had been a part of the WNHSS since 2001. As a result of participating in the scheme, the school had installed a drinking water fountain and introduced a healthy breakfast club. Annual food fairs were held, and visits from Sustain and fair trade organisations had been arranged, as well as a competition to design a healthy lunchbox. Although the school did not have an official healthy eating policy, children were only allowed to consume healthy snacks during breaktimes. Prior to the introduction of free breaktime milk for younger children the school had encouraged parents to provide fruit as a snack, but this was no longer considered necessary.

The school canteen had won several awards for healthy eating and take-up of school meals was high. Staff felt that curriculum messages about nutrition and healthy eating were reinforced by the high standard of the meals provided for children. In conjunction with the canteen, the school had arranged a food week where a meal from a different country was served each day and pupils were encouraged to try new foods. Pupils also had an opportunity to come to school dressed in different national costumes at the end of the week.

The school was considering introducing a fruit tuckshop as staff felt that some pupils had little opportunity at home to taste a variety of fruit. If such a scheme was introduced the school would hope to allow pupils to run the tuck shop themselves in order to encourage active participation in decisions about making healthy food choices.

Learning about food and nutrition

The children of all ages learned about food and nutrition in science and design and technology lessons and healthy food was also one of the areas of learning in PSE. Most of the curriculum work was theoretical, but the school aimed to provide at least one practical session for children each half term. Circle time

also offered opportunities for discussions on nutrition and healthy food choices.

Resources

Each learning area had its own cooking facilities, including a cooker and chopping boards, which enabled planned opportunities for practical cooking. On special occasions, for example St David's Day, demand for equipment was great, but the school aimed to ensure that children of all ages had a variety of cooking experiences e.g. preparing cawl or welshcakes.

No specific teaching and learning resources were provided by the local authority, but staff could access adequate material from Health Promotion Wales and the media. Resources were mostly paper-based and staff felt that children would benefit from opportunities to learn about nutrition and healthy eating through ICT.

Staffing and training

One member of staff had responsibility for coordinating the teaching of nutrition, food education and healthy eating across the curriculum. No members of the teaching staff had received any specific training on these matters from the local authority. However, training in procedures such as hand-washing had been introduced as a result of recent food-hygiene problems within the county.

Impact

Parents were kept informed of healthy eating initiatives via the regular school newsletter which included information about activities arranged at the school. Staff felt that teaching about nutrition and healthy eating did have some impact on children although the influence of the home was thought to be greater. Staff felt that many parents lacked cooking skills and so were unable to pass these on to their children. The local authority WNHSS coordinator had hoped to offer cookery lessons at the school for parents who wished to improve their skills, but insufficient interest had been generated.

Children themselves showed a keen interest in acquiring cooking skills and all those interviewed enjoyed cooking at school and some with parents or grandparents at home. Children were aware that the school was part of the WNHSS and remarked on the certificates that it had received as well as some

of the activities in which they had participated. They showed considerable knowledge and awareness of where food comes from and also the concept of healthy eating. They were able to correctly identify foods which should be eaten regularly and those which should only be eaten in moderation. They all emphasised the benefits and importance of making healthy choices, but admitted that they did not always do so. Some children also reported that their parents did restrict the intake of unhealthy foods and that nutrition and healthy eating were discussed at home as well as at school.