

# HEALTHY EATING FOR YOUNG PEOPLE IN EUROPE

A school-based nutrition education guide

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## EUROPEAN HEALTH21 TARGET 14

### MULTISECTORAL RESPONSIBILITY FOR HEALTH

By the year 2020, all sectors should have recognized and accepted their responsibility for health

*(Adopted by the WHO Regional Committee for Europe at its forty-eighth session, Copenhagen, September 1998)*

### ABSTRACT

The guide intends to encourage the further development of nutrition education in European schools. It intends to do this by placing nutrition education within the idea of the health-promoting school and by providing a framework for nutrition education in the health-promoting school. The framework provides objectives for nutrition education for four age groups from 4 to 16 years old under seven topic headings. There are also objectives for the whole school and for work with families and the community.

This guide also provides case studies from various countries outlining innovative and interesting ways of doing nutrition education. Ways of evaluating nutrition education in the health-promoting school are suggested and active methods recommended. In addition, supporting material is provided that describes what is happening in Europe in the school systems of various countries and in food and eating styles.

The guide is divided into four sections: getting started, a description of and guidelines about young people eating and drinking in the European Union, a curriculum framework and putting this into practice.

**Getting started.** This chapter sets the scene; it explains who the guide is for and what its aims are. It also gives an overview of the concept of the health-promoting school, the links between nutrition and health and the main concepts of nutrition education.

**Eating and drinking among young people in Europe.** This includes an overview of the school systems of European countries in relation to providing nutrition education, catering in schools, school hours and other information.

**The curriculum framework.** This is the heart of the guide. It comprises three parts:

- the framework for the taught curriculum;
- ideas for nutrition education in the whole school; and
- ideas for the family and community links.

The framework is provided in two formats – posters that can be put up on a wall and also as text within the guide. The framework is also explained in the text.

**Putting it into practice.** This chapter suggests evaluation and teaching methods and also describes case studies from a variety of countries. Tips for national and local implementation are included.

The annexes provide supporting material, including tables and posters that can be freely photocopied and distributed.

### Keywords

CHILD NUTRITION  
 ADOLESCENT NUTRITION  
 HEALTH EDUCATION  
 HEALTH PROMOTION  
 SCHOOLS  
 CURRICULUM  
 GUIDELINES  
 EUROPE

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## **Preface**

The guide is the result of a fairly lengthy process of participation by and collaboration between people across Europe. There are several key milestones in its development. The First Summer School on Nutrition Education in the Health Promoting School, was held in Sankelmark, Germany in 1991 and the Second Summer School in Lagonissi, Greece in 1992. In 1994, a Workshop on Nutrition Education in the Health Promoting School was held in Spa, Belgium.

A working group comprising the authors was then formed to develop the nutrition guide. The elements of the spiral curriculum (which means repeating and extending the work on a topic in a dialectical fashion as children develop) were developed in conjunction with teachers in the Netherlands during 1994. We have thus taken steps to ensure that key interested parties have been involved in each part of the process of development. The first draft was then produced in February 1995 and then circulated, including being subjected to peer review within countries. In August 1997, the European Commission approved funds for the development of the final draft.

A workshop was held in Oberursel, Germany in February 1998 to discuss feedback with participants from the European Union countries plus Iceland and Norway on the rewriting of the guide. The redrafting was completed in early 1999. The dissemination of the guide is mainly expected to be facilitated by the European Network of Health Promoting Schools.





# 1. GETTING STARTED

## 1.1 INTRODUCTION

### For whom was this guide prepared?

This guide is intended for:

- curriculum designers and developers;
- policy-makers in education, nutrition or health;
- teacher trainers;
- health educators and promoters;
- educational administrators;
- school advisers;
- national coordinators of the European Network of Health Promoting Schools; and
- anyone else who can influence nutrition education in schools.

It is primarily aimed at people who work at the school level or the policy-making level, so as to influence both. This guide is intended to help the reader influence what goes on in schools (teachers, pupils and parents) and what happens at the policy level (senior politicians, policy-makers, civil servants and academics).

The guide should help you to:

- influence people in power – those who can make decisions that affect what is taught in schools; and
- influence people involved in the educational process in schools – the teachers, other staff, parents and pupils.

### Aims

The guide intends to encourage the further development of nutrition education in European schools. It intends to do this by placing nutrition education within the idea of the health-promoting school and by providing a framework for nutrition education in the health-promoting school. The framework provides objectives for nutrition education for four age groups from 4 to 16 years old under seven topic headings. There are also objectives for the whole school and for work with families and the community.

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## How to use the guide

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**Getting started.** This chapter sets the scene; it explains who the guide is for and what its aims are. It also gives an overview of the concept of the health-promoting school, the links between nutrition and health and the main concepts of nutrition education.

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## Promoting action using the guide

The guide can be used to spur action.

- Use the framework as a means of comparison with what is currently taught in your schools – to map what you already do and what you would like to do in the future.
- Select objectives from the framework (it is unlikely that you can use them all, although this would be ideal) to support existing work or to develop new areas of work in schools and select objectives for the whole school and family and community work.
- Use the case studies to encourage similar projects or to stimulate local discussion on local adaptation.
- Consider whether you currently evaluate projects and how this could be done.
- Circulate copies of the guidelines for policy-makers (Annex 4) to those whom you wish to influence.

## 1.2 NUTRITION EDUCATION IN THE HEALTH-PROMOTING SCHOOL

### What is nutrition education and why is it important?

Nutrition – what people eat – is known to be one of the key factors influencing health. If people eat healthily, they can avoid many preventable diseases and can live longer lives more free of illness. Many European countries have attempted to introduce campaigns for healthier eating, and concern is widespread about the move towards a fast-food culture in which traditional styles of eating and cooking are declining.

Whereas health professionals can see clearly the relationship between diet and health, most people's diet and food preferences are determined more by social, economic, climatic, geographical factors and by religion and customs than by a concern for health. Any attempts to encourage people to eat healthily must take into account Europe's rich cultural diversity, that food and eating are powerful expressions of cultural and social identity and that some Europeans already have a reasonably healthy diet. In addition, many people born outside Europe now have their home here and have brought other food traditions with them. Many people within Europe do not have enough money to provide themselves and their families with a healthy diet, given the numbers of people in poverty. Nutrition education, therefore, needs to consider all these issues.

For education about nutrition to be effective, it must (1):

- be personally relevant
- be clearly understandable
- use foods rather than nutrients as a basis
- be consistent in its dietary messages
- take into account people's perception of relative risks
- emphasize the benefits of change
- address the barriers to making dietary changes.

### Nutrition and health for young people

People can follow a balanced diet in many different social and cultural contexts, even though they may eat very different foods. A healthy diet means that the amount and variety of foods is adequate to provide the body with all the nutrients required in adequate proportions. No single nutrient is inherently good or bad, but the proportion in which it is provided by the diet is important. In other words, no single food is enough – except for breastmilk for newborns – and a variety of foods are needed in the diet. The frequency with which they are part of the diet is what makes the diet healthy or unhealthy. Nutrition is important; the enjoyment of food is essential. Food and eating are important and powerful expressions of cultural and social identity.

Nutrition is a major environmental influence in physical and mental growth and development in early life. Food provides the nutrients needed to form and maintain body tissues (protein, iron and calcium), energy for physical activity and metabolism (fat and carbohydrate) and nutrients for regulating body processes (vitamins and minerals). Studies support the theory that good nutrition contributes to improving the wellbeing of children and their potential learning ability, therefore contributing to better school performance (2).

Good nutrition enables adequate growth and prevents deficiency disorders. During recent decades, improvement in the general conditions of life, including diet, has led to increased growth among children. The increase in adult height has been most remarkable in the countries in southern Europe, where short stature was common (3).

Iron deficiency anaemia is the most common deficiency disorder, especially among children and young girls, even in affluent societies (4). Iodine deficiency and vitamin A deficiency are also frequent in some regions. Malnutrition impairs growth and mental development. School-based intervention can contribute to improving this situation by ensuring that children get enough food and by empowering children and their families in choosing a healthy diet.

The promotion of a healthy diet and physical activity during childhood not only contributes to better mental, social and physical health during this stage of life, providing increased capacity to perform daily activities, but also sets the basis for better health throughout the life course and therefore contributes to a longer life with a better quality. Young age is a unique opportunity to develop dense, strong bones, thus decreasing the risk of osteoporosis by means of an adequate diet, especially a diet rich in calcium, and physical activity. In contrast, a diet rich in protein and salt increases the chances of losing bone density in later life (5,6). Osteoporosis is an important cause of disability in older age. Europeans are living longer. Since 1970 life expectancy has increased in all European Union countries, with longer life expectancy for women than for men (7). Ensuring that this longer life expectancy is healthy and free of disability should be strongly emphasized.

A healthy diet contributes to reducing the risk factors for the major health problems. According to a report from the European Commission, the main health problems of children in the European Union are dental health, infectious diseases, accidents, cancer and mental health (7). A well balanced diet, the use of fluoride and good dental hygiene practices will help young people to develop and maintain good oral health.

The main health problems for adults in the European Union are obesity, cardiovascular diseases and cancer. Cardiovascular diseases and cancer are the leading causes of adult death (7). Diet and inadequate physical activity are related to the development of these chronic diseases. Various studies show that the risk factors for these processes, such as overweight or high levels of serum cholesterol, start in early youth (8)). Obese children and adolescents tend to become obese adults (9,10). A healthy diet and physical fitness from early life will probably positively affect health in adulthood by potentially reducing chronic disease.

### **Obesity**

The prevalence of obesity in adults is 10–25% in most countries in western Europe, but up to 40% in some countries in the eastern part of the WHO European Region (11). Obesity rates are rising in many countries. Obesity is related to a higher risk for the development of chronic disorders such as cardiovascular diseases, high blood pressure, diabetes and some forms of cancer. Reducing caloric intake and increasing physical activity contributes to reducing the risk of obesity (12).

### **Cardiovascular disease**

A low-fat diet (especially low in animal fat) that is rich in vegetables and fibre together with physical exercise can decrease the risk of cardiovascular disease (6,13).

### **Cancer**

The global effect of diet on cancer rates is evident. In industrialized countries, cancer accounts for 25% of total mortality. It has been suggested that 30–40% of tumours among males and 60% among females are attributable to diet (13). As suggested by the European Code against Cancer (14), eating plenty of fruit and vegetables can significantly reduce the risk of cancer and probably also cardiovascular disease. Physical activity contributes to avoiding overweight.

### **Eating disorders**

Achieving and maintaining desired body weight and shape can be very important for young people. Unsafe weight-loss methods have been reported among girls as young as 9 years. Young people involved in certain competitive sports and dancing are especially at risk for harmful weight-control

practices. Eating disorders are behavioural disorders characterized by severe disturbances in eating behaviour. These practices may lead to nutritional disorders and health problems and even to death. Enabling children to develop personal skills, a positive body image and increased self-esteem can help to prevent eating disorders.

School nutrition education plays an important role in promoting healthy eating and drinking practices among children and young people. Food-based dietary guidelines (15) in each country will provide a sound basis for formulating nutrition messages.

### **The setting of the school**

The settings approach has become popular within health promotion. This approach recognizes that there is a valuable opportunity to influence health through policy measures and education within specific settings such as schools, workplaces, hospitals or cities. Schoolchildren and the staff who work in schools may eat one of their main daily meals within the school. The taught curriculum provides an opportunity to teach about food and healthy lifestyles. Young people need to be able to be nutritionally literate consumers given today's confusing information about food (16). Young people are also interested in wider issues associated with food, such as vegetarianism, famine, farming practices and the politics of food distribution and production, and they need to be provided with the opportunities to engage in these issues. Research also shows that some young people face problematic eating; disorders such as anorexia nervosa are increasing, as is a preoccupation with being overweight and with body image (17,18). If children can be encouraged to eat healthily in their early life, then they are more likely to avoid obesity and diet-related disease in later life.

### **The health-promoting school**

Addressing nutrition in the school setting clearly makes sense. The development of the concept of the health-promoting school has made this easier. The health-promoting school aims to coordinate effort to promote healthy lifestyles for everyone who studies in, works in or uses the school. The health-promoting school can be related to the principles of health promotion enshrined in the Ottawa Charter for Health Promotion (19).

#### **The health-promoting school stresses the equal importance of:**

- the taught curriculum: what happens inside the classroom;
- the whole school ethos; what takes place within the rest of the school; and
- the family and community: to value the importance of the children's family and home life and to appreciate the role of the wider community.

The aim is to minimize confusing messages – for example, what children learn in the classroom about healthy eating needs to be reinforced by what they see in the school canteen. This holistic approach is central to the health-promoting school concept.

Two other key ideas are being child-centred and developing a planned and sequential curriculum. Being child-centred means starting with what children and young people know and how they see the world. It means listening to young people and trying to understand their concerns. It implies active and participatory teaching methods. It can be contrasted with a teacher-centred approach, which starts with what teachers think children ought to be taught.

A planned and sequential curriculum means that what is offered to children, either within the classroom or as part of the whole school experience, needs to be planned, coordinated and appropriate to their developmental stage. This is a sound educational principle, but health education

and nutrition education are often not coordinated across the school. This idea has become known as a spiral curriculum (although this term has also caused some confusion). It involves repeating and extending the work on a topic in a dialectical fashion as children develop, and this thinking can be seen in the framework presented in Chapter 3. The curriculum means the sum total of the pupil's experience and not just the taught curriculum.

A health-promoting school concerned with nutrition education would be expected to:

- have nutrition teaching that is provided adequate resources;
- develop a statement of policy about nutrition education;
- focus on the enjoyment of food;
- promote training for staff – teachers, caterers and cleaners – in healthy eating;
- provide comfortable surroundings in which children and staff can enjoy eating;
- enable healthy choices if food is provided at the school;
- involve parents and the wider community;
- be explicitly concerned that no child is hungry while at school and that poor nutrition does not affect learning;
- coordinate all aspects of nutrition education to ensure efficient use of resources and to minimize contradictory messages; and
- ensure that all staff are committed to the goals of the health-promoting school and be explicitly concerned about the health and wellbeing of both pupils and staff.

## **2. EATING AND DRINKING AMONG YOUNG PEOPLE IN EUROPE**

### **2.1. PATTERNS OF EATING AND DRINKING ACROSS EUROPE**

#### **What is the meaning of eating?**

The primitive function of food is to provide the body with all the nutrients and elements needed to grow, develop, survive and perform vital functions, but eating habits are much more than that. Food habits express who we are and how we are feeling, provide a way of relating to other people, sharing with the people we live and also with the environment and surroundings. Food habits are part of culture, traditions and personal history. Modifying such structured habits is difficult.

#### **Why do people eat the way they do?**

People usually eat what is available and accessible in the nearest food shop, restaurant or canteen at work or at school. Diet depends on many different factors, including climate, infrastructure and development of the region, agriculture, political and economical aspects and transport. Changes in the structure of the food-processing industry have potentially important implications for the availability of foods, with a growing number of processed and unprocessed food products marketed on a European scale.

People's food choices are influenced by: psychological factors; food preferences and dislikes; uses and traditions; culture, social values, food symbolism, beliefs and religion; education; economic factors; aesthetic factors; age; physiology; mass communication and advertising; and family and friends (20,21). Increased international travel and exchange is breaking down national barriers in food choices. According to a pan-European survey (22), the main influences on food choices for consumers in the European Union aged 15 years and over are food quality (including food safety), price, taste, awareness about healthy eating and the family.

The family plays a major role in modelling children's food habits during the first years of life (23). Most very young children cannot make their own food choices. Their parents decide for them and prepare their food. When children start school, they spend many hours at school with friends and peers and often have a meal there. At this stage, school becomes a major factor influencing children's eating behaviour. But young people also spend a lot of time watching television, films and commercial spots, which often send out messages related to food and nutrition or what an ideal body shape should be. Friends and peers become very important for adolescents when they are looking for their own personal identity and independence from the family. The young adolescent needs to be accepted by the group (24).

#### **What is known about the eating patterns of children and young people in Europe?**

Food habits in most European countries have changed rapidly in recent decades. Industrialization and other socioeconomic factors have played a major role in changing the geographical distribution of the population, with densely populated cities and depopulation in rural areas. These factors have affected food habits differently across Europe, producing a varied picture according to varying political, social and economic situations.

The diet in most countries in western Europe is characterized by high consumption of animal products and processed foods and low consumption of plant foods. These changes have led to a high proportion of calories from fat (especially saturated fat) and sugar. In addition, living conditions and lifestyles have changed and physical activity has decreased (5).

Different studies show that even girls as young as 9 years old in western European countries are dissatisfied with their body image. An increasing percentage of young girls (mostly girls, but it also applies to boys) are concerned about their body weight and body shape, thus restricting their food intake. Social pressures on girls to conform to an ideal body shape combined, to a certain extent, with the health movement, play a role in this (18).

### **Distribution pattern of daily food intake**

Eating schedules are not the same in every European country, but there is a common trend towards an increasing proportion of food being eaten outside of formal meals, especially among children and adolescents (23). Surveys on the eating habits of children and young people report snacking behaviour as extremely common and possibly increasing (25). The 1992 national consumption food survey in the Netherlands (26) reports that foods eaten between meals supply an important proportion of total daily caloric intake, and this proportion peaks in boys and girls aged 13 to 16 years. Data from the United Kingdom suggest a proportion similar to that in the Netherlands, whereas the proportion is not that high among children in Spain, where the midday meal (early afternoon) is the main meal of the day and is often provided by the school or eaten at home.

In countries in northern and central Europe, breakfast is traditionally an important meal of the day, whereas in southern Europe it does not get the same attention, and many people eat very little for breakfast, if any at all. In Italy, 19% of the children do not eat breakfast; in some regions in France, about 10% of the population skips breakfast (27). According to a survey in several European countries (28), 9% of the children in the United Kingdom and 1% in Germany do not usually have breakfast. A survey on the lifestyles of adolescents in French-speaking Belgium (29) showed that high proportions of boys (22%) and girls (30%) in the sample never had breakfast. In Spain, the proportion of children skipping breakfast has been decreasing in recent years (30). Consumption of breakfast has been positively associated with health and school performance (31). Skipping breakfast is most frequent among young adults.

### **Eating outside the home**

Expenditure on eating outside the home has increased considerably in recent decades. Most outside eating activity is concentrated on the commercial sector, with the biggest rise concentrated on the fast-food or take-away industry, especially in the United Kingdom and France (32,33). Migration in Europe has also influenced the catering sector. Many immigrant people coming from very diverse countries have opened their own restaurants, offering typical foods and cookery of their countries of origin. Increasing consciousness about health and the environment have drawn new types of consumers, with a greater demand for vegetarian and healthy food.

### **Fruits and vegetables**

The 1993–1994 WHO Health Behaviour of School-Aged Children (HBSC) Study (34) reported wide variation between countries in the proportion of respondents who ate fruit every day, ranging from 31% for 11-year-old boys in Greenland to 91% in 13-year-old girls in the Czech Republic. In many countries fewer 15-year-olds than 11-year-olds said they ate fruit at least once every day. In general, less than half of the pupils ate raw vegetables daily, and slightly more girls than boys.

### **Whole-grain bread**

According to HBSC data, countries differ substantially in the proportions of young people who reported eating whole-grain bread daily. This is caused in part by cultural factors and the types of bread available. In Denmark and Finland, large proportions of pupils (about 70–80%) said they usually eat this kind of bread, whereas in such countries as Austria, Spain, Sweden or Wales it was considerably lower (about 15–35%).



**Hamburgers and hot dogs**

Daily consumption of hamburgers and hot dogs may contribute to increasing fat intake above the recommended level. HBSC data showed that a low proportion of young people ate such products every day. In almost all countries, boys ate more fatty food than girls.

**Sweets and soft drinks**

Pupils from Scotland and Northern Ireland (about 70%) who took part in the HBSC survey reported eating candy or chocolate bars most frequently, whereas fewer pupils in the Nordic countries reported doing so (about 10–40%). Soft drinks were consumed more frequently on a daily basis in Belgium (60%), Scotland (52%) and Wales (44%), versus northern countries (10%) or Spain (26%). According to the national food consumption survey in the Netherlands (26), younger children usually have milk, soft drinks, fruit, cakes and sweets between meals. Older children have soft drinks, sweets and nuts during the day more often than do younger children.

**Alcohol**

A European survey on the lifestyles of adolescents in 1990–1991 (35) showed that alcohol drinking (at least once per month) was more common among young people in Belgium (70%) and Wales (74%) than in northern European countries such as Finland (38%) or Norway (34%).

**Access to and availability of food**

The proportion of the population in the European Union living in urban areas is 80%; this figure is 66% in the countries of central and eastern Europe and is increasing. Low socioeconomic status is associated with low intake of vegetables and fruit, especially among people living in western European cities. This may be affected by low income, pricing, fewer local shops and lack of mobility. Lack of access to food because of poverty is increasing in both western and eastern Europe. Increased local food production can enhance access to food for vulnerable groups (36).

**With whom do children eat and who prepares their food?**

According to a European Food Information Council survey carried out in four European countries (France, Germany, Italy and the United Kingdom), children significantly influence the choice of what they eat for breakfast, both on weekdays and weekends (28). For lunch and dinner, the mother usually decides what to eat and prepares the food. This survey suggests that few fathers in these countries play a part in selecting food for their children.

The European Food Information Council survey shows that dinner is the meal eaten most frequently with the family. Lunch is often eaten with one or both parents, especially on weekends. During the week, eating habits for lunch vary according to differing school schedules. Thus, a high percentage of children in France, Italy and Germany (41–77%) have lunch with their families, compared with only 4% in the United Kingdom. About 50% of the children usually have breakfast with one or both parents on weekdays and a higher percentage on weekends in all four countries.

**2.2. GUIDELINES FOR HEALTHY EATING**

Healthy nutrition should be an integral part of daily life that contributes to the physiological, mental and social wellbeing of individuals (37). The nutritional value of food is not the major influence on people's food choices. Cost, availability, culture, social reality and personal preferences play an important role.

Diet has an important role in maintaining health and in preventing disease. Various national and international institutions as well as scientific organizations have formulated sets of recommendations for a healthy diet, based on sound evidence.

Reference nutrient intakes (RNI), recommended dietary allowances (RDA) and dietary reference values (DRVs) are qualitative estimates of human requirements for essential nutrients considered to be adequate to meet the known nutrient needs of practically all healthy people. These sets of recommendations are not intended to be used rigidly as a guide to an individual's diet. They are intended as a reference point in population nutritional surveys, in planning food supplies and in large-scale catering operations in institutions and as a tool in assessing the adequacy of an individual's intake. Many countries have publications that include this kind of recommendations (38–45).

Dietary guidelines are sets of advisory statements that give dietary advice for the population to promote overall nutritional wellbeing and refer to all diet-related conditions. They are formulated as food recommendations and include changes in the amounts of specific foods and food groups eaten. This kind of report is often summarized in a variety of attractive figures: pyramid, circles or pies. Dietary and nutritional targets are intended for public health workers in developing and monitoring diet and nutrition policy.

Many countries have formulated their own recommendations specifically tailored for the prevailing food pattern in each of them. Some of these dietary guidelines in European countries are summarized in Table 3 in Annex 3.

## **3. THE CURRICULUM FRAMEWORK**

### **3.1. INTRODUCTION**

The whole subject matter of food and nutrition cannot be selected for nutrition education activities in primary and secondary schools. Nutrition is a complex field that deals with many issues in food, nutrition and eating. It changes in different contexts and settings and over time. It also includes several levels, from the personal to the collective. The content selected must be limited and should:

- address the needs and interests of the learner, the teacher and school;
- relate to the goals and objectives that will be chosen;
- have a desirable effect on the culture, economy and environment;
- take into account what children already know and can do (46);
- be addressed in a way children can understand; and
- teach the skills needed to improve or strengthen healthy eating habits.

#### **The curriculum**

The actual teaching in school is only one aspect of the whole curriculum. All opportunities for learning provided by a school are part of the curriculum. Many terms are used in connection with curricula. England's Department of Education and Science (47) provides some definitions:

- the “formal” curriculum refers to what is taught in the classroom;
- the “hidden” curriculum includes all non-formal curricular activities – including the “ethos of the school”; and
- the “parallel” curriculum describes all out-of-school activities – such as home, neighbourhood norms and mass media effects.

These terms are entirely in accordance with the definition of the health-promoting school curriculum, with its three levels: the classroom or taught curriculum, issues relevant to the whole school and involvement of the family and community (48). This section therefore uses the terms related to the health-promoting school.

#### **A framework for curriculum content**

This section is the heart of the guide. It provides a framework for nutrition education activities in primary and secondary schools and an overview of possible topics and objectives or learning outcomes. It can be used as a resource for planning appropriate nutrition education activities.

The framework comprises three parts:

- topics and objectives for the taught curriculum (also included poster)
- ideas for issues and strategies for nutrition education in the whole school
- ideas for issues and strategies for family and community links.

## 3.2 THE CURRICULUM FRAMEWORK

The framework can help clarify and guide the choice among possible topics for teaching in the classroom. It provides nutritional as well as educational objectives for specific levels of development and age groups. It comprises:

- a set of nutrition topics, divided into subtopics on the horizontal axis;
- a set of questions and themes on the vertical axis, which spirals upward in age (4–16 years) and level of development and moves from the subjective to the collective level expressed in the form of children’s questions; and
- a set of objectives or learning outcomes specified according to:
  - the topics
  - the levels of development of the age groups.

The curriculum focuses on a set of seven broad nutrition topics stretching across the whole area of nutrition, food and eating. These broad categories are derived from discussions with nutritionists, health educators and teachers from various countries in Europe and the United States.

The basic questions are expressed in terms of the levels of development and progression of children in the various age groups. They are described in the form of children’s questions and themes for pupils to understand and absorb at particular ages according to their stage of cognitive development (49). They start at a very personal level of “what do I eat and like to eat”, move through “what influences, motivates or restrains my choice” and then broaden into more global issues such as the implications of food production and trade on the environment and food availability in the world.

The objectives or learning outcomes include facts (knowledge), feelings and beliefs (attitudes), practical skills for choosing, preparing and eating food and life skills for making decisions, solving problems and coping with constraints and behaviour.

These types of objectives are mixed under the seven topic areas and need to be combined with a mixture of experiential, active and participatory learning approaches, which are addressed in Chapter 4.

The objectives for the taught curriculum are expressed in the form of objectives or learning outcomes linked to pupils in four age groups from 4–16 years old and their levels of progression. The objectives progressively spiral upwards, building on previous learning, expanding and developing knowledge, attitudes, skills and hopefully, behaviour, from the youngest to the oldest pupils.

The ideas and strategies for the whole school and the family and community are not written in the form of learning outcomes. They are more generally oriented towards teachers and staff. The framework is provided in two formats: text within this guide and a set of three posters, which give an easier overview and can be put up on a wall.

Annex 2 addresses the taught curriculum. The seven broad nutrition topics are depicted on the horizontal axis, with the subtopics underneath. A further differentiation specifies four age groups on the vertical axis (4–7 years, 8–10 years, 11–13 years and 13–16 years). These age groups reflect Piaget’s stages of cognitive development, which describe the process of thinking and reasoning about experiences in children (pre-operational thoughts until 6–7 years; concrete operational thought at 7–11 years and formal thought from 11 years on). The division also includes the way preschool, primary and secondary school are organized into age groups in most European countries.

The framework is very comprehensive. Each school can tailor topics and objectives to its own needs, using its own situation and a child-centred approach as the basis for priorities. However, research shows that only a well planned and defined programme is effective. The programme must cover the whole of primary and secondary school and spend sufficient time in nutrition education (50 hours per year) to actually change eating behaviour. Picking and choosing a few of the topics or objectives or skipping levels of progression will not be effective (16).

This section only provides a framework for planning. Ideas for implementation at the national and school level, suggestions for methods and practical activities and information about evaluation are given. Some practical examples from various countries are included in the case studies (section 4.3).

### **3.3. OVERVIEW OF THE FRAMEWORK**

#### **The taught curriculum**

This part of the curriculum is normally formalized in lesson plans. The seven broad categories of nutrition, food and eating are:

- food and emotional development
- eating habits and sociocultural influences
- nutrition and personal health
- food production, processing and distribution
- consumer aspects of foods
- food preservation and storage
- food preparation.

See Annex 2 for further detail.

#### **4–7 years old**

The dominant themes are sensory awareness; eating and drinking together; and preferences. Typical children's questions the curriculum aims to encourage include:

- What do I eat and drink?
- What do I like to eat?
- What do I feel about my eating and drinking?
- What do others in my family eat?
- How and when do I eat?
- Where does my food come from?

#### **8–10 years old**

The dominant themes include eating habits; food and food quality; eating and drinking at home and at school; and how food is produced. Typical children's questions the curriculum aims to encourage include:

- What do I eat and why?
- Where do I eat what?
- Do I use a variety of foods?
- Do I like the food I choose?

**11–13 years old**

The dominant themes include nutrition, nutrients and consequences for health; influences on eating habits; sociocultural context; settings and consequences for health; and the environmental effects of food choice. Typical children's questions the curriculum aims to encourage include:

- What influences my eating habits?
- How are my eating habits influenced by my surroundings?
- How are my eating habits related to health?
- How are my eating habits related to the environment?

**13–16 years old**

The dominant themes include value clarification; responsibility for oneself and others; the responsibilities of producers, industry and government; and global issues of the production, distribution and availability of food. Typical children's questions the curriculum aims to encourage include:

- What are my key values about food, eating and health?
- How can I make food choices that are right for me?
- How do my food choices affect my surroundings?
- How do my food choices affect the global food system?

**Issues and strategies concerning the whole school**

The part of the curriculum related to the whole school is less formal. It is often a hidden curriculum. In a health-promoting schools approach towards nutrition education, this hidden agenda needs to be clarified and, if necessary, formalized in written policy statements.

The approach covers the whole day and the whole school and has implications for all those who work in, for and with the school. Policies for the whole school include the school philosophy and aims, the school's nutrition policy and rules and norms. The school management has overall responsibility for these policies and a role to play in implementing these policies in all spheres of school life. An active school board or governor is required to assist in implementation.

The physical, social and mental environment of the school is a key factor in producing health in schools. The optimum environment includes a pleasant physical milieu, a caring ethos, a social setting conducive to learning, success and eating, a hygienic environment and a spirit in which pupils and staff take responsibility for the school environment and also its effects on the outdoor environment.

Eating in the school setting is an important part of promoting health. The staff and pupils should be aware of the situation and contribute to comprehensive analysis of the situation. The messages disseminated should be consistent and should promote a willingness to change. Monitoring and evaluating should be emphasized as well as healthy food.

Adult and peer role models are crucial in changing attitudes in school. Awareness should be raised and positive modelling and supportive attitudes encouraged. Support should be generated across the curriculum for focusing on nutrition, food and health issues. Class teachers as well as subject teachers have important roles and should cooperate.

A school-related network should be built to support health including all levels of management, participation by the pupils and involvement by families and the community.

## **Strategies involving families and the community**

The level related to families and the community is sometimes referred to as the “parallel curriculum”. It comprises all out-of-school activities that involve families and the community. Active school management involves all aspects of a school and relations with families and the community. This includes support systems and an active network that promotes projects and activities.

Families should be encouraged to become involved. Possible means include family outreach activities, a parent-teacher association, in-school family activities and take-home exercises. Involvement of the community should be promoted. This includes community services, community nutritionists and community health services, nongovernmental organizations, companies and coordinated action for health.





## 4. PUTTING IT INTO PRACTICE

### 4.1. METHODS

#### Introduction

All aspects and ideas related to the concept of health-promoting schools, the educational philosophy, eating patterns in Europe and, above all, the curriculum framework for nutrition education in schools of this guide now need to be based on the question of how to implement them. This cannot happen on its own. Some aids are necessary, such as different processes that can increase interest, stimulate ideas, promote discussion, encourage the exchange of opinions and set action in motion.

Different types of enabling processes used in this context are described as methods. Whether and to what extent they help depends on and is influenced by:

- the people who experience them (the group);
- the people who plan and implement lessons and other activities in schools (leadership);
- which aims are to be fulfilled;
- the content of the work carried out jointly;
- internal and external factors that affect the activities (school characteristics);
- the set-up and its organizers who are responsible in a broader sense (administrative framework);
- how teachers have been trained (teacher training); and
- the concept of evaluation.

These methods are not only to be used with children. In the first place there are key people in the field of nutrition education, teacher trainers and teachers themselves. Methods that help people to develop a better understanding of their own eating habits and everyday life eating patterns should be a matter of concern to everybody in the process of learning.

Where teachers have undertaken this work for themselves, their support for young people in making healthy decisions on food choices is more authentic.

#### What methods should be used?

The variety of methods used in organizing educational processes cannot be covered in this subsection. Nevertheless, methods are summarized that make the processes of nutrition education in health-promoting schools easier, in which active learning methods regard the learner as the focal point (child- or student-centred learning). The following brief ideas about methods refer especially to Barkholz et al. (50), Combes et al. (51), Hameyer (52), Homfeldt (53), Knoll (54) and Ryder & Campbell (55), which are recommended for further reading.

#### Methods for making the start of group work in schools easier

When a group gets together for the first time, there is a certain tension. Curiosity and interest, but also reserve, caution and resistance to the new situation mean uncertainty in the initial phase. The individuals may be enabled to start work as a group by promoting contacts between the participants, providing confidence at the beginning by offering a clear structure as well as finding initial access to the subject or task. Everybody should be encouraged to participate.

Examples include discussions in a circle; partner interviews and introductions; dances or games to memorize names; introduction with emphasis on content; and an inventory of expectations: What do I expect? What do I want to happen here? What am I willing to offer?

### **Methods for helping children to participate and to form relationships**

The special challenge in everyday school life is that pupils get access not only to content – in this case, the connection between nutrition and health – but also to cooperative learning. The group is constantly presented with new opportunities to learn with, and from, each other.

Examples include formation of groups (pupil or teacher directed: random or selected groups); growing groups (twos, fours, eights, etc.); and inspection of the current group situation (relationships with group members and the content).

Communicative methods to promote interactive learning include active listening; discussions or talks in a circle and other options.

### **Methods for helping to understand and reflect on personal experience**

Personal experiences, paths of learning and comprehending information about nutrition and health, are important aspects of nutrition education. The work should be mainly done in smaller groups because here trust in the group grows, inhibitions to express oneself are reduced and openness and honesty are encouraged.

Methods of relaxation or concentration are helpful when people begin to work together but are also necessary in preparing, for example, guided fantasies. Examples include progressive muscle relaxation and elements of autogenous training, including ways to relax mentally.

Eating and nutritional habits reflect, above all, values, attitudes and personal views. The psychosocially influenced understanding goes far beyond the cognitive level. Creative aids present suitable forms of expression. Examples of creative methods include working with photographs or pictures (drawings or collages); working with colours; creative writing; and using creativity in preparing and cooking food.

The psychosocial aspects of eating and drinking can be explored using direct involvement, such as performance. Examples of methods involving performance include role play; miming; group sculpture; and simulation games.

Eating and nutritional habits can only be understood in a biographical context of sociopsychological and cultural factors. Such questions as “Where does my present behaviour stem from? How can I understand and explain it?” are important in remembering forgotten events and connecting them with current behaviour and changes in the future. Examples of methods of biographical reflection include methods of remembering – keeping a record or diary of food and nutrition habits; guided fantasies; and methods of evaluation.

### **Methods for improving skills in sensory awareness and in preparing food**

Exercises can help to develop sensory perception, including flavour, smell and touch. Pupils can also learn how to prepare, cook and store food and learn how to use recipes and creatively change them.

### **Methods for improving knowledge**

Methods for improving nutritional knowledge should be closely linked to the personal, social and cultural experience of food consumption. Examples include daily food intake and the effect of nutrients on circadian rhythms; using information to make healthy food choices; and critically analysing food advertisements and influences on food consumption.

### **Material-oriented methods for acquiring facts**

Examples of material-oriented methods include individual work; text work; brainstorming; improvisation of situations with questions; and case studies. Methods for introducing and presenting facts include talks or lectures; panel discussions; and comprehension questions.

### **Methods of securing and imparting the results of group work**

Participatory group work should facilitate conclusions, provide insight into facts and open fresh perspectives. Group work should be oriented towards results. The facilitator and the group members have the task of clarifying, again and again, the aims and of working towards them. Examples include collecting results on a pin board; presenting posters; and exchanging results in mixed groups.

### **Methods for evaluation and thinking about moving on**

In the concluding phase of every event or term of a course, everyone is on a threshold, a period or era comes to an end: the course, the class, the school year, the time at school. Ahead of them is: an interval, a new beginning, the new school year or a new class. On the inside: the school, the class. On the outside: everyday life. The more intensive and satisfying the work and human contacts have been, the more distinctly the gap is felt. The separation and conclusion involved in this threshold situation can be as difficult for the individual and the whole group as the beginning phase was. Ways must be found of managing this. Examples include taking stock of the joint work; weighing the results; developing steps from the joint group work into private or professional everyday life; and writing a letter to oneself and sending it several weeks later.

## 4.2. EVALUATION

There is increasing pressure to demonstrate that nutrition education activities are effective and actually improve health. This is a major challenge for teachers as practitioners, and they need both the knowledge and expertise to ensure that high-quality evaluation is undertaken, effectively and efficiently. This chapter explores the theory and practice of evaluation. *Planning and evaluating nutrition education in schools – guide (56)* describes in detail appropriate evaluation methods at the school level that are relevant to the underlying complexity of school nutrition education in trying to promote health. Some ideas from this guide may help in successfully evaluating nutrition education projects.

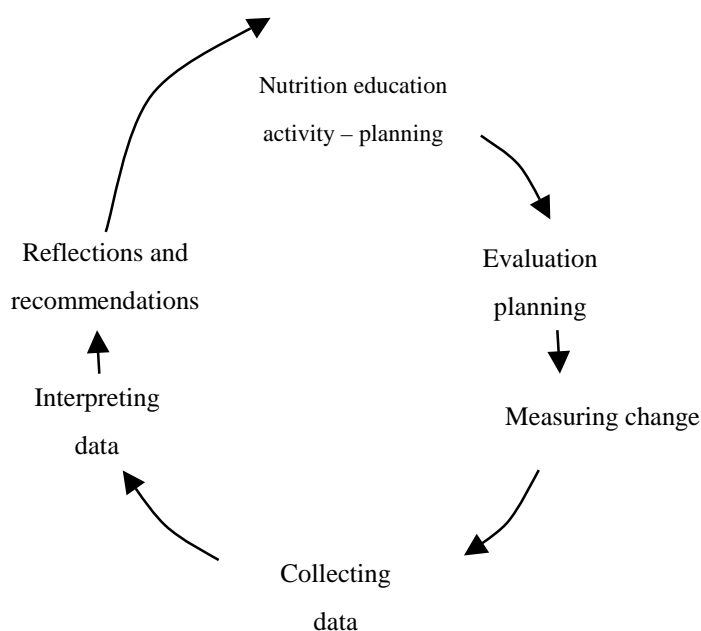
A commonly held view is that external experts should evaluate at the end of an activity. Teachers as internal evaluators may consider asking:

- What am I trying to achieve?
- What am I going to do?
- How will I know if it has been a success?

Evaluation assesses what has been achieved compared with what was intended and helps to explain why this has happened so that lessons can be learned for the future.

Nutrition education projects need to be evaluated to determine what is effective and to be able to choose the best means of improving the situation. For example: what is the best way to improve the range of food children bring to school in their lunch boxes? We might try sending letters to inform parents, performing a lunch box survey or discussing healthy lunches in lessons. We need to know what children ate at the beginning of this activity and then to assess this when the activities have taken place, perhaps some weeks later. Evaluation, using the model of a spiral (Fig. 1), therefore includes data collection of various kinds on the diagnosis before a project starts, the process of the activity, the impact on the people involved and the outcomes.

Fig.1. The evaluation spiral.



Source: Springett (57), p. 19

## **Diagnostic evaluation**

Evaluation questions need to be asked before any project or proposed change is undertaken. What do pupils, staff and other key groups need in terms of nutrition education? What are the characteristics of the school? Questions should review the curriculum, the situation of the staff (such as pre-service and in-service training) and links between the school and the community.

## **Process evaluation**

Process evaluation focuses on the process of nutrition education. Did pupils, teachers, parents and the other people involved enjoy the activities? What resources were required? Did it proceed according to plan? What went well? What could have been done better? How can the process be improved next time? It should measure input in terms of time, staff, money and other factors. It should include a means of self-evaluation as well as feedback from others.

## **Impact evaluation**

Impact evaluation measures the impact on the target group. How many people took part? Did they change their knowledge, attitudes or behaviour? Did the project meet its objectives?

## **Outcome evaluation**

Outcome evaluation measures change over the longer term. Is there any evidence of changes for example in eating habits, consumption pattern, knowledge or food choices? Is there a change in the school ethos or in the curriculum?

Table 1 provides an overview and relates the four stages of evaluation (diagnosis, process, impact and outcomes) to the three dimensions of the health-promoting school (the classroom or school, family and community).

In summary, the planning of evaluation requires eight steps (57):

- describing the proposed nutrition education programme or initiative;
- identifying issues and questions of concern;
- designing the process for obtaining the required information;
- collecting the data;
- analysing and interpreting the data;
- making recommendations;
- disseminating findings; and
- applying what has been learned and taking action.

Table 1. Evaluation of nutrition education activities

Diagnosis	Process or impact			Outcomes
	Strategy	Training and networking	Implementation	
<b>Classroom</b> <ul style="list-style-type: none"> <li>▪ Characteristics of the group</li> <li>▪ Values and beliefs</li> <li>▪ Main issues</li> <li>▪ Curriculum</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define objectives</li> <li>▪ Allocate resources</li> <li>▪ Plan schedule</li> <li>▪ Plan activities</li> <li>▪ Select materials</li> <li>▪ Choose indicators</li> </ul>	<ul style="list-style-type: none"> <li>▪ Teachers</li> <li>▪ Management</li> <li>▪ Other groups involved (such as catering personnel)</li> <li>▪ School health staff</li> </ul>	<ul style="list-style-type: none"> <li>▪ Classroom activities</li> <li>▪ Activities outside the classroom</li> </ul>	Degree of achievement <ul style="list-style-type: none"> <li>▪ objectives for the classroom (knowledge, attitudes, skills and behaviour)</li> </ul>
<b>School</b> <ul style="list-style-type: none"> <li>▪ Infrastructure</li> <li>▪ School policy and dynamics</li> <li>▪ Level of interest and willingness</li> <li>▪ School meals</li> </ul>			<ul style="list-style-type: none"> <li>▪ School policy</li> <li>▪ School meals</li> <li>▪ School environment</li> <li>▪ Involvement of teachers, management and others</li> </ul>	Degree of achievement <ul style="list-style-type: none"> <li>▪ objectives for the school: changes in school policy, school meals and the school environment</li> </ul>
<b>Family and community</b> <ul style="list-style-type: none"> <li>▪ Values and beliefs</li> <li>▪ Situation analysis</li> <li>▪ Desire for involvement</li> </ul>		<ul style="list-style-type: none"> <li>▪ Health professionals</li> <li>▪ Parents</li> <li>▪ Catering</li> <li>▪ Other groups</li> </ul>	<b>Involvement of parents:</b> <ul style="list-style-type: none"> <li>▪ activities in school</li> <li>▪ home activities</li> </ul> <b>Involvement of other groups:</b> <ul style="list-style-type: none"> <li>▪ activities in school</li> <li>▪ activities outside school</li> </ul>	Degree of achievement <ul style="list-style-type: none"> <li>▪ objectives for the family and community</li> </ul>

### 4.3. CASE STUDIES

The idea of presenting examples of projects in European countries aims to provide useful suggestions to be adapted to each context. These case studies are good examples of nutrition education in health-promoting schools. They illustrate the principles and guidelines discussed in the preceding chapters. Nevertheless, they are not examples of how to implement this guide. The collection of examples is not exhaustive: Belgium, Germany, the Netherlands, Portugal, Spain and the United Kingdom are included, although other countries would also be able to provide good examples. A lot of good work has already been carried out in different settings.

#### Checklist: ten points for good practice

The following are ten points developed to promote good practice in choosing projects.

1. **Philosophy.** Does the project philosophy fit into a health-promoting school approach? Is it person centred? Is the project based on a clear understanding of health promotion theory and of educational processes?
2. **Target group and participants.** Is the target group clearly defined and well selected? Have they been consulted and involved from the beginning? Has there been a proper process of participation?
3. **Evaluation.** Has evaluation been planned right from the beginning? Are appropriate methods of evaluation being used?
4. **Formulation of aims.** Are the aims formulated clearly? Are they feasible and achievable? Is the project well grounded such that it is plausible and convincing for all concerned?
5. **Management.** Have key people been identified and briefed? Are those leading the project equipped with the skills to do so? Are the management roles clearly outlined? Are those with management roles given enough time and resources to successfully implement the programme?
6. **Content of the project.** Is the content appropriate and manageable?
7. **Methods of working.** Are the methods active and participatory and appropriate to the aims?
8. **Materials.** Does the project have adequate and appropriate materials and other aids? Does the project have enough resources?
9. **Planning.** Has there been careful preparation and a process of planning? Is the schedule realistic? Have all ethical issues been considered? Are issues handled sensitively and flexibly, including areas of potential conflict? Is there good communication between all parties?
10. **Follow-up.** Is the project well documented so that its successes and failures can be disseminated and learned from? Is it sustainable? Will it become part of the life of the school? Can the project be implemented in other schools or at other levels?

## 4.4 EXAMPLES FROM COUNTRIES

### Belgium (French-speaking community)

Je mange bien à l'école (I eat well at school)

#### Contact person

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#### Target group

Pupils from 3 to 18 years of age

#### Programme aims

The programme aims to create a broad movement for improving the nutritional environment in school by developing projects adapted to the specific situation in schools. These projects should:

- actually improve the eating habits of schoolchildren;
- change the school nutritional environment, including its dietary, material, organizational and educational components; and
- involve the various participants of the teaching community in maintaining the quality of the nutritional environment in the long term.

#### Organizations and people involved

During a pilot phase in 1990 and 1991, the schools were supervised by advisers belonging to university departments attached to the School of Public Health of the University of Liège (C.E.R.E.S and A.P.E.S.) and departments specialized in nutritional education (I.C.A.N. and S.E.S. of Huy). Afterwards the programme became more widespread, and school health officials now support its implementation in schools.

#### Methods

The programme Je mange bien à l'école encourages schools to develop projects that combine educational activities (the formal curriculum) with changes in the living environment that affect its dietary, material, organizational and psychosocial components (the hidden curriculum). The basis of the projects is neither educational equipment nor a syllabus but rather an analysis of the required living environment for children in relation to food. Teaching activities are one of the seven dimensions of that environment.

#### Strategies and aids

The aids include basic documents: a self-assessment questionnaire, suggested action plans and suggested assessment plans. Methodological support is provided by specially trained advisers.

#### Evaluation

Short-term assessment concerns changes in the nutritional environment and the extent of mobilization of educational teams between the beginning and the end of the phase of adviser involvement (1 year) in the schools.



Medium-term assessment has analysed the progress of the actions of schools during the 2 years following the phase of adviser involvement. Assessment criteria have been drawn up to be used as a basis for a qualitative assessment of the projects carried out by schools, either internally or externally.

**Lessons learned**

This project encourages multiagency and intersectoral collaboration. It empowers schools to develop their own projects suited to their needs.

**England**

School nutrition action groups

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**Target group**

Secondary school (11–16 years old)

**Programme aims**

The school nutrition action group initiative seeks to:

- empower pupils to make wise decisions on food choice;
- develop healthy alliances within schools between caterers, teachers, pupils and school managers;
- establish school nutrition action groups within schools to develop and implement changes within their school; and
- ensure consistent relationships between school nutrition education and the food provided within secondary schools.

**Strategies used**

The objective of school nutrition action groups is to enable pupils to influence the food provided in their school. This requires a partnership between the pupils, caterers, teachers and school managers. What is also needed is knowledge of how the pupils in each school want to change the food and drink provided. A questionnaire was used in each school to make sure that the changes in each school were relevant. The minimum requirement was for two classes of year 7 (11–12 years old) and two classes of year 10 (14–15 years old) to complete the questionnaire.

**Evaluation**

The questionnaire was used to highlight two main areas: the changes pupils would like to make to the food provided and pupils' attitudes towards health, food and weight. The changes that pupils wanted to make to the food and drink provided were ascertained by using an open-ended question. Attitudes towards food and health and towards the food in the dining room were ascertained by using a five-point Likert scale. The sales data from each school were collected over the two school years (1995/1996 and 1996/1997) from September to July. A report will concentrate on customer numbers and the food categories: the meal of the day for pupils; main meals; rolls or sandwiches; snacks; potatoes, vegetables or side salad; chips; and drinks. It is assumed that all food bought was eaten so that food sales equals food consumption.

**Results**

Setting up a school nutrition action group means that there is a mechanism for pupils to change the food and drink provided at the school. If this is done in a structured way using internal publicity channels, then many pupils in the school will recognize that changes have been made.

Setting up a school nutrition action group enhances the pupils' attitudes towards the dining room. There is a general feeling that the quality of food improves, that it is healthier, that the queues are slightly shorter and that the pupils enjoy eating in the dining room more.

Setting up a school nutrition action group has a limited effect on general attitudes to health. This is reasonable, as the focus of the groups was to enable pupils to take a more active role in determining the food and drink provided within their school. If this also leads to a change in their attitudes to health it would be welcomed, but this is probably beyond the scope of this initiative.

The results show that implementing changes through school nutrition action groups and thereby increasing the provision of healthier food items does not lead to a fall in customer numbers and sales of food but in fact to a small rise.

**Lessons learned and improvements**

Each school needs to determine its own solution, but each needs substantial support in the beginning. It would have been useful to give schools a framework towards which they could work. This has now been developed in the form of a user-friendly pack for schools available from the contact person.

**Spain**

Community nutrition and the school as a medium for nutrition education in low-income urban areas

**Contact people**

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**Target group**

Children 8 to 12 years old living in deprived areas

**Programme aims**

The main objectives of this programme are to promote healthy eating habits and to develop skills and self-empowerment. The objectives consider knowledge, attitudes and skills related to food and nutrition, hygiene, cookery, consumer issues and social behaviour.

**Organizations and people involved**

Teachers, the school council, one cook, one social worker, the school health team and one community nutritionist have been involved in developing and implementing the project.

**Methods**

A community nutrition assessment of schoolchildren in Bilbao in 1988 identified differing health status in different parts of the city. The dissemination of the results increased the awareness of the school directors, teachers, social workers and school health professionals in less favoured districts and increased their willingness to take part in an action plan. The nutrition education programme was developed within the framework of social learning theory and self-empowerment, emphasizing the dynamic interaction between personal factors, environment and behaviour. The project curriculum considered objectives for the classroom, the school environment and the families.

**Strategies and aids**

The first part of the project consisted of training sessions in nutrition education for the teachers and personnel involved. The intervention strategy comprised three simultaneous methods of action: the classroom, a practical workshop and the school lunchroom, together with a specific plan addressed to the families. Curriculum objectives considered all three settings. Various teaching methods were used in the classroom, including short talks, games, drama and puppet shows, drawing or crafts and food exhibitions. Learning objectives were integrated into different subjects, such as mathematics, science, language and social skills. These classroom activities were complemented by a food preparation workshop. During this workshop, the children could try new dishes and learn how to share a meal at the table with others or how to use a knife and fork. Menu planning was developed for the school lunchroom.

**Evaluation**

The project was evaluated after 2 years using quantitative and qualitative methods. The quantitative method was a semistructured interview with the children. Favourable results included the fact that knowledge about food had increased and that the children had prepared new dishes in their homes. The project was evaluated qualitatively by means of ethnographic observational methods, looking at acceptance and involvement in the project; group building and sociability; changes in practices; and acceptance of new dishes offered in the menu.

After 2 years of implementation, evaluation of the results showed that knowledge and skills improved. The children were willing to try a greater variety of fruit, vegetables and pulses in the school lunchroom. There were positive changes in personal hygiene habits but poor results in dental hygiene practices. Three fifths of the children cooked some of the suggested recipes at home.

**Lessons learned**

Interdisciplinary work is important for school nutrition education. This interdisciplinary group should involve nutritionists, school health professionals, teachers, non-teaching staff and parents. School meals should be part of the educational programme. The project has now been running since 1988, introducing innovations according to new situations.

## Portugal

Development of an integrated curriculum on nutrition education in the official school programme

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### Aims

Adopting a philosophy of empowerment (58) and applying the state of the art in nutrition education research (16), a project was initiated for developing supportive materials – a manual of health education in nutrition – to improve nutrition education in the first years of school in Portugal. The project took place in three schools in the city of Lisbon and lasted for 3 years.

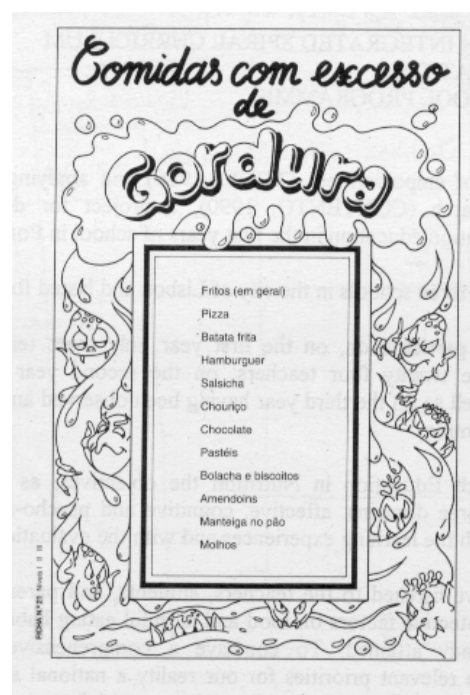
### People involved and methods

Based on voluntary participation, in the first year only 3 of 24 teachers worked in the programme; in the second year, all the teachers got voluntarily involved. In the third year, their compliance with the programme improved.

In this manual the learning activities embody the three domains: affective, cognitive and psychomotor. The educational objectives are related to the learning experiences and to the evaluation.

To select the content, we listened to teachers, pupils and parents and integrated the knowledge about the protective factors related to food and the harmful factors related to poor eating habits that research in the nutritional sciences has already attained. Starting a comprehensive nutrition education programme with the relevant priorities for our reality required a national and local assessment of nutrition-related disease, including mortality and morbidity. Dietary guidelines were also used. We tried to incorporate in the curriculum the individual and societal interests we identified (59).

The main starting-point was to address the needs and interests of those who would be involved in the process of education: pupils, teachers and parents. The structure and content of the current and previous curricula of the official school programmes were analysed to understand the past and present nutrition education in schools. Some characteristics of the teachers, such as their representations about their institution, the importance they attribute to nutrition education and how they usually do it, the most common materials used in class as well as their suggestions were taken into account in the development of the new material. The materials were conceived and pre-tested according to the development of the research. Several strategies to reach the parents were tested and the conclusions used to produce the manual. Homework to be done with parents, written messages, were often suggestions to establish the link between school and home.



An example of an activity is as follows.

Discuss at home the fat content of some ordinary foods. Bring home this worksheet, after painting it. Discuss it with your mother or someone else who usually cooks the types of food you normally consume that have high fat content and of which you and your family can reduce consumption.

### Results

Three booklets were developed with the main issues that society and the parents surveyed demonstrated to be the most relevant. It includes questions to be completed with children.

To support the development of the activities, there are supportive texts and other bibliographical references. This material was conceived taking into consideration the needs for teacher training identified during the project.

The learning experiences are organized into three dimensions: the vertical one (continuity), the spiral one (sequence) and the horizontal one (integration).

The programme proposed in the manual is not organized according to the class schedule or as a total number of hours. Nutrition education should always be introduced when it makes sense, be included in the development of several disciplines and be used to reach some of their objectives.

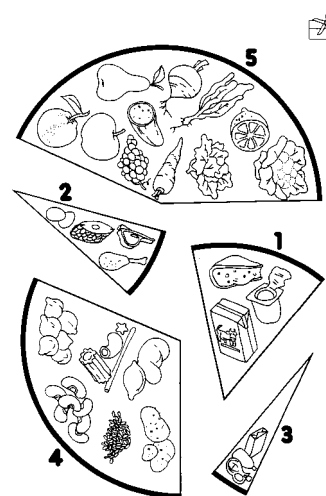
The basis of a nutrition education programme should be the real situation, and assessment is thus required. Several activities enable the teacher to know the individual and group situation. But self-evaluation is also an effective strategy for change.

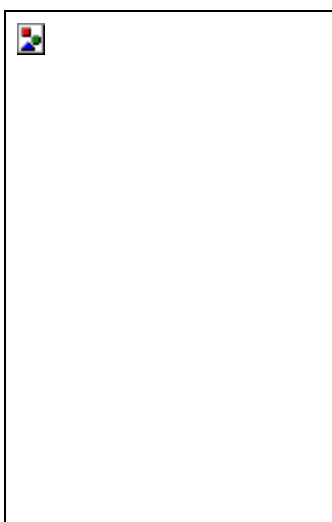
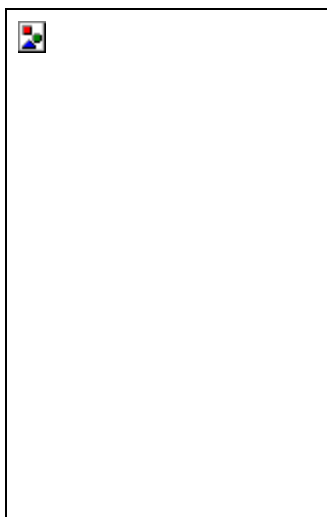
An example of learning objectives could be that the pupils:

- can identify the changes in eating practices required for proper nutrition (a general objective);
- can identify the main characteristics of their own eating pattern (a specific objective);
- can analyse and criticize various eating and drinking practices (a specific objective); and
- show interest in adopting healthy eating and drinking practices (a specific objective).

The annual plan of the school, the concerns of the teachers, the problems identified and the opportunities are factors to be considered in deciding about when and how to start and how to proceed.

Nevertheless, the selection and sequence of the activities has to comply with some prerequisites. The activities should be conceived for different development levels of the children. In addition, the sequence to be adopted has to respect the prerequisites necessary for spiral curriculum development: the activities are progressively more elaborated and the content deeper than previously, some requiring that other prerequisites are already developed to support their carrying them out, as the pictures illustrate.





The accomplishment of specific projects, such as monitoring the canteen or the quality of the school meals, can be linked to the learning activities, to contribute to the continuity and interdisciplinarity of the programme and to facilitate the interaction among the different actors and agents in the process of nutrition education in health-promoting schools.

The manual was published by a prestigious nongovernmental organization, and the municipalities got involved in printing the materials oriented towards the parents of the pupils. Now it has been implemented through in-service training for teachers and disseminated throughout Portugal.

## **The Netherlands**

Shopping for health: food for thought in the health-promoting primary school

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### **Target group**

Primary schools in the Netherlands

### **Project aims**

This project aims:

- to set up a network of regional health education officers who will promote and guide healthy eating projects in primary schools by using the food shop in their regions;
- to stimulate teachers to include more social, behavioural and practical skills in education about healthy eating;
- to enable teachers to teach nutrition in a cross-curricular, project-oriented way by means of this food shop project; and

- to encourage teachers to involve the three dimensions of the health-promoting schools in their nutrition education: the classroom curriculum, the whole school environment and the dimension of family and community.

This programme is ongoing and was evaluated some years ago.

### **Organizations and people involved**

The regional health services, the Netherlands Nutrition Centre and health promotion and education officers are involved. The project (19 food shops in 1998) rotates among several regions in the country. On average 200 schools borrow the food shop for 2–4 weeks a year.

### **Methods**

The health promotion officers are made responsible for activities in their regions: promoting the food shops in their regions, organizing schedules for transport, supporting school teams in setting up nutrition projects for the whole school and monitoring results. The Netherlands Nutrition Centre supports the regions financially in transporting, maintaining and renewing products. The Centre organizes annual workshops for training the health promotion officers.

### **Strategies and aids**

The project includes several products that were developed or adapted in cooperation with health education officers and school teams from their regions.

The food shop itself is the size of a regular classroom. It consists of display cases, supermarket shelves, freezer compartments, a counter, a cash register, shopping baskets, shopping carts, play money and a supply of 300 real food products.

A teacher handbook includes objectives for the classroom from age 4–12 years, the school environment and families. Cross-curricular activities, lesson suggestions, parent-teacher activities and suggestions for involving local shops, food producers and the wider community are given, as well as worksheets for pupils.

A video film showing the implementation of a food shop project will be used by school health promotion officers for school teams.

A planning guide for the health promotion officers includes examples of how to interest schools, an example booklet that describes the project, letters for school teams and the school newspaper, a sample contract, sample evaluation forms, instructions for the content of a nutrition education kit and a collection of additional materials to be used.

### **Evaluation**

In 1991, a process evaluation was carried out among school teams and responsible regional health promotion officers. Written questionnaires were used for a user group of 132 schools and a non-user group of 106 schools. The 16 responsible health promotion officers were contacted using written questionnaires. The results showed that the food shop project was considered to have many advantages.

### **Lessons learned**

This is an example of how a national organization uses a long-term strategy to promote healthy eating habits in primary schools by a consumer project with food shops. This practical teaching medium also stimulates health promotion in a cross-curricular, interactive way involving children, the classroom curriculum, teachers, the school environment, parents, local shops and retailers and regional health promotion officers. Regional health services have institutionalized their educational and organizing activities and have taken total financial responsibility for transport, maintenance and

organization in the regions. The Netherlands Nutrition Centre only supports the regions financially by providing an annual supply of packages and wrappings free of charge, on demand. Over the years, the supply of food products has been adapted to provide a more multicultural mixture.

The Nutrition Centre submitted a proposal for funding to extend the number of food shops in the Netherlands. One food shop project in each of the 66 regions is the Centre's long-term aim. The teacher guide with worksheets will be completely revised and adapted to combine with the Centre's new spiral curriculum for nutrition education in primary schools. This consumer education part of the spiral curriculum will be developed together with the National Consumer Organization. The planning guide for the regions will be updated, and workshops for intermediaries will be held more regularly.

## **Germany**

Having breakfast together in the classroom during breaks

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### **Target group**

Pupils 6–12 years old, teachers and parents

### **Background**

During the last two decades, more and more teachers have been complaining that their pupils do not eat breakfast at all at home or at school or eat inappropriately – mainly sweets – for breakfast. The impairment of physical and intellectual abilities (notably the ability to concentrate) is closely linked to the nutritional status of young people. Schools in Germany have started to take on responsibility and have developed ways of making the classroom breakfast part of everyday school life.

### **Programme aims**

The programme aims to establish a framework in which both pupils and teachers can have something to eat and drink in the morning. This is designed to improve eating and drinking habits and behaviour, including healthy food choices and a variety of food, examples that can be used for a classroom breakfast. In addition, experiencing breakfast together in the classroom improves calmness while eating and drinking and opens opportunities for talking to one another on a more personal level, which improves social behaviour.

### **Organization**

Many schools introduced 10 to 15 minutes of breakfast time during morning sessions on a daily basis for all pupils and teachers. All groups involved should be fully informed about the idea, the organization, advantages etc. so that enough time is provided for the decision-making process: discussion between teachers and pupils, letters to inform parents, etc. Different opportunities to organize a shared breakfast emerged in everyday school life.

- Parents and pupils prepared lunch boxes with bread, vegetables and fruit.
- Teachers, pupils or parents developed suitable recipes to try out at school, once a week or once a month. On those days more than 10 to 15 minutes were needed for preparation and eating together.



**Strategies and aids used**

Winning the parents' support for this school project is essential, as their fears that the school is interfering with the families' eating and drinking habits have to be avoided. Sometimes it has proved helpful to involve nutrition organizations from outside the school to provide information about a healthy breakfast. A remarkable advantage of this project was the practicality in everyday school life:

- little time was needed after a period of introduction;
- there was no question of expertise, as every teacher could do it; and
- pupils' participation led to their enthusiastic support.

**Evaluation**

Questionnaires monitored the development of the project in Schleswig-Holstein (northern Germany) over a decade.

**Lessons learned and improvements**

After 10 to 15 years of experience at many primary schools in Schleswig-Holstein of having breakfast together at school, pupils, teachers and parents have fully accepted this change. Nevertheless, this project must be supported in everyday school life regularly by lessons about nutrition and eating and drinking habits, to develop and facilitate healthy food choices.

One reason for the success of this school project is that it was introduced among children 6–10 years old. As most of the young people in Germany change schools at the age of 10 to 12, there is, however, an advantage in continuing the classroom breakfast over this period. Having breakfast together supports the process of getting to know each other better in a new class. After this time, beyond the age of 12, evaluation results show that most of pupils prefer to eat and drink somewhere outside the classroom (where they are not observed by teachers), mainly to meet friends and mates from other classes.

**Main conclusions and recommendations**

The classroom breakfast provides a different social context for having a meal together outside the pupils' families. More openness to the variety of food, even to unknown food, seems to arise from these daily opportunities.



## 5. REFERENCES

1. Stockley, L. *The promotion of healthier eating: a basis for action*. London, Health Education Authority, 1993.
2. Pollit, E. *Malnutrition and infection in the classroom*. Paris, UNESCO, 1990.
3. Ferro-Luzzi, A. & James, W.P.T. Diet and health: brief summary of our present knowledge and description of the present European situation in terms of diet, health and their relationship. In: Trichopoulou, A., ed. *Nutrition in Europe. Nutrition policy and public health in the European Community and models for European eating habits on the threshold of the 21st century*. Luxembourg, European Parliament, Directorate-General for Research, 1997 (STOA, 2-38).
4. Howson, C.P. et al., ed. *Prevention of micronutrient deficiencies. Tools for policymakers and public health workers*. Washington, DC, National Academy Press, 1998.
5. James, W.P.T. et al. *Healthy nutrition: preventing nutrition-related diseases in Europe*. Copenhagen, WHO Regional Office for Europe, 1988 (WHO Regional Publications, European Series, No. 24).
6. *Diet, nutrition and the prevention of chronic diseases: report of a WHO study group*. Geneva, World Health Organization, 1990 (Technical Report Series, No. 797).
7. European Commission. *The state of health in the European Community*. Luxembourg, Office for Official Publications of the European Communities, 1996.
8. Nicklas, T.A. et al. Secular trends in dietary intakes and cardiovascular risk factors of 10-year-old children: the Bogalusa Heart Study (1973–1988). *American journal of clinical nutrition*, **57**: 930–937 (1993).
9. Guo, S.S. et al. The predictive value of childhood body mass index values for overweight at age 35 years. *American journal of clinical nutrition*, **59**: 810–819 (1994).
10. Dietz, W.H. Periods of risk in childhood for the development of adult obesity. *Journal of nutrition*, **127**: 1884–1889 (1997).
11. *Obesity. Preventing and managing the global epidemic. Report of a WHO Consultation on Obesity, Geneva, 3–5 June 1997*. Geneva, World Health Organization, 1998 (document WHO/NUT/NCD/98.1).
12. Durant, R.H. et al. The relationship among television watching, physical activity and body composition of young children. *Pediatrics*, **94**: 449–455 (1994).
13. National Research Council, Committee on Diet and Health, Food and Nutrition Board, Commission on Life Sciences. *Diet and health. Implications for reducing chronic disease risk*. Washington, DC, National Academy Press, 1989.
14. European Commission, Directorate General for Employment, Industrial Relations and Social Affairs. *Public health in Europe*. Luxembourg, Office for Official Publications of the European Communities, 1997.
15. *Preparation and use of food-based dietary guidelines. Report of a joint FAO/WHO consultation*. Geneva, World Health Organization, 1998 (Technical Report Series, No. 880).
16. Contento, I. The effectiveness of nutrition education and implications for nutrition education policy, programs, and research: a review of research. *Journal of nutrition education*, **27**: 277–422 (1995).
17. Hill, A.J. et al. A weight on children's minds: body shapes dissatisfaction at 9 years old. *International journal of obesity*, **18**: 383–389 (1994).
18. Dixey, R. Healthy eating in schools, overweight and “eating disorders”: are they connected? *Educational review*, **50**: 29–35 (1998).
19. Ottawa Charter for Health Promotion. *Health promotion international*, **1**(4): iii–v (1986) and *Canadian journal of public health*, **77**(6): 425–430 (1986).
20. Fieldhouse, P. *Food and nutrition: customs and culture*. 2nd ed. Kent, Croom Helm, 1995.

21. Tuorila, H. The role of attitudes and preferences in food choice. *In: Somogyi, J.C. & Koskinen, E.H., ed. Nutritional adaptation to new life-styles.* Basel, Karger, 1990, pp. 108–116 (Biblioteca Nutritio et Dieta Series, No. 45).
22. *Influences on food choice and sources of information on healthy eating. A pan-EU survey on consumer attitudes to food, nutrition and health.* Dublin, Institute of European Food Studies, 1996 (Report No. 2).
23. Lucas, B. Normal nutrition from infancy through adolescence. *In: Queen, P.M. & Lang, C.E., ed. Handbook of pediatric nutrition.* Gaithersburg, MD, Aspen Publishers, 1993, pp. 145–170.
24. Contento, I. et al. Food choice among adolescents: population segmentation by motivations. *Journal of nutrition education*, **20**: 289–298 (1988).
25. Gatenby, S.J. Eating frequency: methodological and dietary aspects. *British journal of nutrition*, **77**(suppl 1): S7–S20 (1997).
26. Zo eet Nederland, 1992. *Resultaten van Voedselconsumptiepeiling 1992* [Dutch national food consumption survey, 1992]. The Hague, Netherlands Bureau for Nutrition Education, 1993.
27. Preziosi, P. et al. La consommation du petit déjeuner dans l'étude du Val-de-Marne. 1. Type, fréquence et ration moyenne des principaux aliments consommés. *Cahier nutrition et diététique*, **31**(suppl 1): 2–8 (1996).
28. Children's Research Unit. *Children's views on food and nutrition: a pan-European survey.* Paris, European Food Information Council, 1995.
29. Prévost, M. et al. *Les comportements alimentaires des jeunes en Communauté française de Belgique.* ULB, Santé Pluriel, 1991 (work document series no. 4).
30. Aranceta, J. & Pérez, C. Evolución de la ingesta dietética aportada con la ración del desayuno en los escolares de Bilbao (1984–1994). *Nutrición clínica*, **17**: 25–32 (1997).
31. Ruxton, C.H.S. et al. Breakfast habits in children. *Nutrition food science*, **4**: 17–20 (1993).
32. Glew, G. European trends in conviviality and eating out. *In: Somogyi, J.C. & Koskinen, E.H., ed. Nutritional adaptation to new life-styles.* Basel, Karger, 1990, pp. 92–103 (Biblioteca Nutritio et Dieta Series, No. 45).
33. Geissler, C. & Traill, B. Determinants of consumer food choice. *In: Trichopoulou, A., ed. Nutrition in Europe. Nutrition policy and public health in the European Community and models for European eating habits on the threshold of the 21st century.* Luxembourg, European Parliament, Directorate-General for Research, 1997 (STOA, 39-51).
34. King, A. et al. *The health of youth: a cross-national survey.* Copenhagen, WHO Regional Office for Europe, 1996 (WHO Regional Publications, European Series, No. 69).
35. Nutbeam, D. et al. The lifestyle concept and health education with young people. *World health statistics quarterly*, **44**: 55–61 (1991).
36. *Draft urban food and nutrition action plan. Elements for local action or local production for local consumption.* Copenhagen, WHO Regional Office for Europe, 1998 (unit document LVNG 030102, Programme for Nutrition Policy, Infant Feeding and Food Security).
37. Food and Agriculture Organization of the United Nations and World Health Organization. *Nutrition and development – a global assessment.* Geneva, World Health Organization, 1992 (document ICN/92/INF/5).
38. Department of Health. *Dietary reference values for food energy and nutrients for the United Kingdom. Report of the Panel on Dietary Reference Values of the Committee on Medical Aspects of Food Policy (COMA).* London, H.M. Stationery Office, 1991 (Report on Health and Social Subjects 41).
39. Dupin, H. et al. *Apports nutritionnelles conseillés pour la population française.* Paris, TEC-DOC, 1992.
40. ILSI-Europe. Recommended daily amounts of vitamins and minerals in Europe. *Nutrition abstracts review* (Series A), **60**: 827–842 (1990).
41. National Research Council. *Recommended dietary allowances.* 10th ed. Washington, DC, National Academy Press, 1989.
42. Report of the Scientific Committee for Food. *Nutrient and energy intakes for the European Community.* Luxembourg, Office for Official Publications of the European Communities, 1993.

43. Trichopoulou, A., ed. Recommended dietary intakes in the EEC: scientific evidence and public health considerations. A workshop. *European journal of clinical nutrition*, **44**(suppl 2) (1990).
44. Varela, G. et al. *Tabla de ingestas recomendadas en energía y nutrientes para la población española* [Table of recommended daily intake of energy and nutrients for the population of Spain]. Madrid, Universidad Complutense, 1994.
45. Yates, A.A. et al. Dietary reference intakes: the new basis for recommendations for calcium and related nutrients, B vitamins and choline. *Journal of the American Dietetic Association*, **98**: 699–706 (1998).
46. Contento, I. & Morin, K. *Manual for developing a nutrition education curriculum*. Paris, UNESCO, 1988 (ED 88/WS-42).
47. Department of Education and Science. *A view of the curriculum*. London, H.M. Stationery Office, 1980.
48. Tones, K. et al. Developing and evaluating the curriculum of the health promoting schools. Section V. Part B. Process indicators at the local level. In: *Towards an evaluation of the European Network of Health Promoting Schools – the EVA project*. Copenhagen, International Planning Committee of the European Network of Health Promoting Schools, 1995.
49. Kohnstamm, R. *Ontwikkelingspsychologie 2. De Schoolleeftijd* [Developmental psychology 2. The school age.] Deventer, the Netherlands, Van Loghum Slaterus, 1990, pp. 32, 38, 58.
50. Barkholz, U. et al. *Gesundheitsförderung in der Schule – Ein Handbuch für Lehrerinnen und Lehrer aller Schulformen*. Bönen, DruckVerlag Kettler GmbH, 1998.
51. Combes, S. & Craft, A. *Special health: a professional development in health education for teachers of pupils with mild or moderate learning difficulties*. London, Health Education Authority, 1989.
52. Hameyer, U. *Pädagogische Ideenliste*. Stuttgart, Körner Verlag, 1994.
53. Homfeldt, H.G., ed. *Anleitungsbuch zur Gesundheitsbildung. Ernährung, Bewegung, Naturerleben, Kleidung*. Munich, Schneider Verlag, 1994.
54. Knoll, J. *Kurs- und Seminarmethoden*. Weinheim, Beltz Verlag, 1993.
55. Ryder, J. & Campbell, L. *Balancing acts in personal, social and health education*. London, Routledge, 1990.
56. Andrien, M. et al. *Planning and evaluating nutrition education in schools – guide*. Liège, University of Liège, 1998.
57. Springett, J. *Practical guidance on evaluating health promotion*. Copenhagen, WHO Regional Office for Europe, 1998 (unit document, Integrated Health Development).
58. Tones, B.K. Health education and the ideology of health promotion: a review of alternative approaches. *Health education research, theory and practice*, **1**(1) (1986).
59. Tanner, D. & Tanner, L.N. *Curriculum development. Theory into practice*. New York, Macmillan Publishing, 1980.
60. Scottish Office. *The Scottish diet*. Edinburgh, H.M. Stationery Office, 1993.



## 6. BIBLIOGRAPHY

- Andrien, M. *Social communication in nutrition: a methodology for intervention*. Rome, Food and Agriculture Organization of the United Nations, 1994.
- Aranceta, J. & Pérez Rodrigo, C. *Consumo de alimentos y estado nutricional de la población escolar de Bilbao. Guías alimentarias para la población escolar*. Bilbao, Ayuntamiento de Bilbao, 1996.
- Baudier, F. L'Alimentation des adolescents français. Entre tradition et innovation. *TDC (Textes et Documents pour la Classe)*, no. 681: 20–23 (1994).
- Coles, A. & Turner, S. *Catering for healthy eating in schools*. London, Health Education Authority, 1993.
- Contento, I. Children's thinking about food and eating – a Piagetian-based study. *Journal of nutrition education*, **13**(1): 86–90 (1981).
- Department of Health. *Nutritional aspects of cardiovascular disease*. Report of the Cardiovascular Review Group of the Committee on Medical Aspects of Food Policy (COMA). London, H.M. Stationery Office, 1994 (Report on Health and Social Subjects 45).
- Deutsche Gesellschaft für Ernährung e.V., Bundesministerium für Gesundheit, Bundesministerium für Ernährung, Land- und Forstwirtschaft. *Ernährungsbericht 1996*. Frankfurt, Deutsche Gesellschaft für Ernährung e.V., 1996.
- Documento de consenso. Guías alimentarias para la población española*. Barcelona, SG Editores-Sociedad Española de Nutrición Comunitaria, 1995.
- European Commission, Directorate-General for Employment, Industrial Relations and Social Affairs. *Multilingual European thesaurus on health promotion. Deutsch-English-Français, Nederlands*. Luxembourg, Office for Official Publications of the European Communities, 1998.
- European Commission, Directorate-General for Employment, Industrial Relations and Social Affairs. *The state of women's health in the European Community*. Luxembourg, Office for Official Publications of the European Communities, 1997.
- Fats and oils in human nutrition*. Report of a joint Expert Consultation. Rome, Food and Agriculture Organization of the United Nations, 1994 (FAO Food and Nutrition Paper 57).
- Food, a fact of life*. London, British Nutrition Foundation, 1991, sections 3, 4.
- Get the best from your food*. Rome, Food and Agriculture Organization of the United Nations, 1996.
- Healthy nutrition: an essential element of a health-promoting school*. Geneva, World Health Organization, 1998 (WHO Information Series on School Health, No. 4; document WHO/SCHOOL/98.4 or WHO/HPR/HEP/98.3)
- Houterman, K. *Guide for implementing core objectives for promotion of healthy behaviour in primary schools*. Enschede, the Netherlands, Dutch National Institute for Curriculum Development, 1993 (No. 13).
- King, A. et al. *The health of youth: a cross-national survey*. Copenhagen, WHO Regional Office for Europe, 1996 (WHO Regional Publications, European Series, No. 69).
- Lüchinger, M. & Baan, M. *Know your food – software package for secondary schools in the Netherlands*. 2nd ed. The Hague, Netherlands Nutrition Centre, 1998.
- Lytle, L.A. et al. Children's interpretation of nutrition messages. *Journal of nutrition education*, **29**: 128–135 (1997).
- National Curriculum for UK. *National curriculum*. York, National Curriculum Council, 1988.
- National Research Council. *Recommended dietary allowances*. 10th ed. Washington, DC, National Academy Press, 1989.
- Nutrition education for the public*. Discussion papers of the FAO Expert Consultation. Rome, Food and Agriculture Organization of the United Nations, 1997 (FAO Food and Nutrition Paper 62).

- Objectives. Report of the 1st European Summer School in Sankelmark, Germany on Nutrition Education in Health Promoting Schools.* Ministerium für Bildung, Wissenschaft, Jugend und Kultur des Landes Schleswig-Holstein, 1991.
- Objectives. Report of the 2nd European Summer School in Lagonissi, Greece.* Athens, Department of Nutrition and Biochemistry, Athens School of Public Health, 1992.
- Piette, D. (1991). *Les compartements alimentaires des jeunes de la communauté française de Belgique.* Brussels, Université Libre de Bruxelles, Ecole de Santé Publique (Document de travail Santé Pluriel, No. 4).
- Plan Nacional sobre Drogas. Los escolares y la salud. Avance de los resultados del segundo estudio español sobre conductas de los escolares relacionadas con la salud.* Madrid, Ministry of Health and Consumer Affairs, Spain, 1990.
- Preparation and use of food-based dietary guidelines.* Report of a joint FAO/WHO consultation. Geneva, World Health Organization, 1998 (Technical Report Series, No. 880).
- Roos, J.P. Life-style studies in sociology: from typologies to fields and trajectories. In: Somogyi, J.C. & Koskinen, E.H., ed. *Nutritional adaptation to new life-styles.* Basel, Karger, 1990, pp. 1–16 (Biblioteca Nutritio et Dieta Series, No. 45).
- Sharp, I. *Nutritional guidelines for school meals: report of an expert working group.* London, The Caroline Walker Trust, 1992.
- Singleton, J.C. et al. Role of food and nutrition in the health perceptions of young children. *Journal of the American Dietetic Association*, **92**: 67–70 (1992).
- Snel, J. et al. *Food, the best basis for school – primary schools pack for nutrition education.* The Hague, Netherlands Nutrition Centre, 1997.
- Snel, J. et al. *Know your food – software and video lessons for secondary schools.* The Hague, Netherlands Bureau for Food and Nutrition Education, 1993.
- The balance of good health.* London, Health Education Authority, 1994.
- Trichopoulou, A., ed. *Nutrition in Europe. Nutrition policy and public health in the European Community and models for European eating habits on the threshold of the 21st century.* Luxembourg, European Parliament, Directorate-General for Research, 1997.
- van Hest, J. & Linthorst, M. *The trees and the wood – working at a health promoting school, brochure for primary and secondary education.* Utrecht, the Netherlands, Dutch Centre for Health Promotion and Health Education, 1995, pp. 24–25.
- Voeding, de beste basis voor school [Food: the best basis for school].* A nutrition education teaching pack for primary schools (4–12 years old): lesson suggestions and activities for teachers, background information about nutrition for teachers and worksheets for students. The Hague, Netherlands Nutrition Centre, 1997.
- Weet wat je eet [Know your food].* Nutrition education software package for 12- to 16-year-olds in secondary schools plus a workbook. The Hague, Netherlands Nutrition Centre, 1999.
- Wetton, N. Promoting the health of primary school children in Europe – a planning guide. In: *Cancer education in a health promoting primary school.* Report of Brussels Seminar for Primary Schools. Brussels, Université Libre de Bruxelles, Ecole de Santé Publique, 1994 (Europe against Cancer (CEE/DGV F.1/ULB/05.03.94)).
- Willemse, G. *School health promotion and cancer prevention. A review of international effect research on nutrition education.* Woerden, Netherlands Institute for Health Promotion and Disease Prevention (NIGZ), University Maastricht, the Netherlands, 1997.
- Williams, T. et al. *Promoting the health of young people in Europe: health education in schools. A training manual for teachers and others working with young children.* Edinburgh, Health Education Board for Scotland, 1994.
- Verzorging. Health education and home economics in the New Core Curriculum for lower secondary education in the Netherlands.* The Hague, National Institute for Curriculum Development, 1994.



**ANNEX 1. NUTRITION EDUCATION IN SCHOOLS IN WESTERN EUROPE**

This annex presents information about the educational systems of the 15 countries of the European Union except for Sweden plus Norway and Iceland. This should provide an overview of nutrition education in all dimensions of the schools. School hours, the ages at which children start school and other relevant details about the organization of the school system influence the nutrition curriculum. This information shows the great differences between countries. Each country has its specific school system and is responsible for its own school policies. This broad overview should provide ideas on implementing the spiral curriculum (which means repeating and extending the work on a topic in a dialectical fashion as children develop) and enable comparison between countries.

A questionnaire was distributed to key people in each country to collect information. Each question is presented with a summary of the answers.

**Questionnaire 1: Nutrition education in schools**

1. What are the basic principles in your country regarding 1) curriculum and 2) recommendations for nutrition education at the national or regional level?

<b>Country</b>	
<b>Austria</b>	<u>Interdisciplinary framework</u> : health education <u>Primary</u> : hygiene, promotion of healthy behaviour, purpose of nutrition, how to choose healthy food? <u>Secondary</u> : nutrition and household, biology, chemistry
<b>Belgium</b>	Scientifically and medically oriented <u>Primary</u> : hygiene <u>Secondary</u> : nutrition as a part of the digestive system; metabolism; dietary habits
<b>Denmark</b>	<u>Primary and lower secondary</u> : school nutrition policy is formulated in the official curricula within home economics, health, sex and family education, biology for all pupils <u>Upper secondary</u> : optional nutrition education (75% choose this topic) New curricula in 1995 with aims and central knowledge and proficiency areas and new guidelines
<b>Finland</b>	Framework curriculum: to understand the purpose of nutritional recommendations and to choose healthy food and methods of preparing it
<b>France</b>	<u>Secondary</u> : national policy (Plan Nationale); recommendations on scientific content (digestion, metabolism); local initiatives to provide health programmes
<b>Germany</b>	<u>States' policy</u> : curricula, nutrition education integrated in health education <u>Primary</u> : science orientation <u>Secondary</u> : home economics, biology, chemistry
<b>Greece</b>	School curricula offers useful information on nutrition
<b>Iceland</b>	<u>Primary and secondary</u> : cumulative official curriculum, recommendations based on national food and nutritional policy. Improvements: the curriculum is under revision. A new one is expected for the 1999/2000 school year.
<b>Ireland</b>	No overall national policy. Regional health authorities are working with schools on general programmes of health education; nutrition is one of the themes. Schools have the option to use these programmes. Health education is not a compulsory subject. The objectives are: to encourage students to develop good eating habits; to understand the need for varied choice of food; and to consider, discuss and learn facts about nutrition and its influence on health.
<b>Italy</b>	There are no formal principles. Nutrition education depends on individual commitment. The official curriculum has recommendations on hygiene, sciences and nutrition. Any initiative is optional and usually developed as crisis management (such as anorexia)
<b>Luxembourg</b>	<u>Kindergarten, primary and secondary</u> : spiral curriculum; recommendation of projects and actions
<b>Netherlands</b>	<u>Primary</u> : primary education act. Attainment targets: nature education, promotion of social skills, promotion of healthy behaviour. Nutrition in the curriculum within healthy behaviour <u>Secondary</u> : secondary education act. Attainment targets: combination of health education and home economics; "care" (10–12 hours), some nutrition in biology (later secondary)
<b>Norway</b>	Compulsory in grades 6 and 9, nutritional theory and cooking classes, spiral curriculum

<b>Portugal</b>	Nutrition issues are included in the official curriculum; some health centres have common projects with schools on nutrition education; the content includes the nutrient composition of foods and their role in the body; recommendation: and the relative amount of foods from each food group to be consumed daily
<b>Spain</b>	<u>Primary</u> : manuals and lessons for healthy eating <u>Secondary</u> : rules for healthy eating, dental caries and consumer aspects are included in the curriculum
<b>United Kingdom</b>	England <u>Primary</u> : basic knowledge of sources of food, production methods, socioeconomic factors, food hygiene, food choice and practical food preparation <u>Secondary</u> : diet and health dietary requirements, current recommendations, food production and processing and food choice  Scotland Relationship between diet and healthy lifestyle Knowledge about the nutritional content of food Encouraging healthy food choices and eating habits Food and food safety Shopping for food – labelling, law and consumer issues Preparing and cooking food Social, cultural and financial influences

2. In which subjects is nutrition education taught? Is nutrition education a cross-curricular theme?

<b>Country</b>	
<b>Austria</b>	<u>Primary</u> : subject: science, voluntary subject: healthy nutrition <u>Secondary</u> : subjects: nutrition and household, biology, chemistry <u>Upper secondary</u> : chemistry, biology (nutrition, nutrition and catering, food science, food technology, health care at a higher professional school level)
<b>Belgium</b>	<u>Primary</u> : subjects: science (orientation) <u>Secondary</u> : subjects: biology, home economics
<b>Denmark</b>	<u>Primary and lower secondary</u> : subjects: health education is not given lessons of its own; the class teacher is responsible for attending to the health, sex and family education curriculum; Danish, home economics, biology (can be a minor subject in physical training, nature and technology); cross-curricular <u>Upper secondary</u> : subjects: biology Project work in grades 8–10 can be on health nutrition education
<b>Finland</b>	<u>Primary</u> : subjects: environmental and natural studies; cross-curricular; health education <u>Secondary</u> : subjects: home economics, biology Cross-curricular: compulsory (114 periods of 45 minutes) and optional
<b>France</b>	<u>Secondary</u> : subjects: science, (social and family) economics
<b>Germany</b>	<u>Primary</u> : subjects: science orientation; cross-curricular <u>Secondary</u> : subjects: home economics, biology, chemistry
<b>Greece</b>	<u>Primary and secondary</u> : subjects: home economics, civic education, Greek, geography, anthropology and physics; cross-curricular

<b>Iceland</b>	<p><u>Primary</u>: mainly in home economics, but also in biology</p> <p><u>Secondary</u>: mainly in home economics, but also in home economics and sports.</p> <p>Cross-curricular theme: this is an open possibility that depends on improvements to the school: the answer depends on the curriculum. We do not know what the current status is, but soon a new project will start in Iceland aiming to analyse the current status of nutrition education</p>
<b>Ireland</b>	<p><u>Primary</u>: subjects: environmental studies, geography, English, history, maths; cross-curricular; nutrition education is a part of the health education programme</p> <p><u>Secondary</u>: subjects: home economics, biology; not cross-curricular; subjects are optional</p>
<b>Italy</b>	<p><u>Primary</u>: not included in subjects; taken into consideration in sciences (biology)</p> <p><u>Secondary</u>: biology and sciences</p>
<b>Luxembourg</b>	<p><u>Primary</u>: subjects: science (orientation) (Eveil aux Sciences)</p> <p><u>Secondary</u>: subjects: biology, geography, economics, literature; recommendation of cross-curricular action</p>
<b>Netherlands</b>	<p><u>Primary</u>: subjects: healthy behaviour</p> <p><u>Secondary</u>: subjects: care (combination of home economics and health education), biology</p>
<b>Norway</b>	<u>Primary and secondary</u> : home economics, social science, biology, science
<b>Portugal</b>	<p><u>Primary</u>: optional, depends on the teacher</p> <p>It is taught mainly in the subject “study of the environment”; depending on the teacher, it may be a cross-curricular theme (nutrition education).</p> <p><u>Secondary</u>: subjects: biology; cross-curricular theme: this is an open possibility; when the topic nutrition is chosen, it can become an interdisciplinary subject; depends on the school</p> <p>The subject of health was abolished. Nutrition education is treated in the subject biology, and it may be a cross-curricular theme if the students choose it as a focus at the beginning of the school year.</p>
<b>Spain</b>	<p><u>Primary</u>: subjects: geography, science, biology, social themes, workshop activities (Basque country: children grow their own garden); cross-curricular</p> <p><u>Secondary</u>: subjects: topics related to consumer aspects of food; not a high priority; cross-curricular</p> <p>In secondary schools in science, nutrition education is included as a cross-curricular theme in health education.</p>
<b>United Kingdom</b>	<p>England</p> <p><u>Primary</u>: science, health education and design and technology. Personal and social education may be taught. Usually cross-curricular; topic-based approach; might be taught in discrete modules</p> <p><u>Secondary</u>: design and technology, home economics, health education, science, personal and social education may be taught</p> <p>Scotland</p> <p><u>Primary</u>: environmental studies, health education, home economics, cross-curricular possibilities in sciences, physical education and design technology</p> <p><u>Secondary</u>: home economics primarily, health education, sciences, physical education, health and food choices short course</p>

3. Are there any additional nutritional education activities in the schools, such as provision of breakfast, project weeks, excursions or school trips, collaboration with health professionals, counsellors, commercial partners, public health service, school trips, etc.?

Country	
<b>Austria</b>	<u>Primary</u> : breakfast, medical sciences, project weeks, voluntary: healthy nutrition <u>Secondary</u> : all activities mentioned in the question take place
<b>Belgium</b>	Depends on schools, teachers and projects
<b>Denmark</b>	Different projects of different duration (a day, a week or all year); some involve one or more classes, subjects and teachers
<b>Finland</b>	<u>Secondary</u> : depends on local initiatives
<b>France</b>	<u>Primary</u> : project weeks <u>Secondary</u> : all activities mentioned in the question take place
<b>Germany</b>	<u>Primary</u> : breakfasts; medical services; health insurance; excursions; school trips with self-catering <u>Secondary</u> : same as primary; project weeks annually Health insurance companies no longer have school activities because of the new health policies in Germany
<b>Greece</b>	<u>Primary</u> : several of the events mentioned are routine in schools. Provision of healthy breakfast is not usually organized <u>Secondary</u> : same as primary; particularly for 12–15 years old pupils
<b>Iceland</b>	<u>Primary and secondary</u> : depends on the school. Some schools have project weeks, and some classes have a excursion and visit some food-processing plants, such as a dairy
<b>Ireland</b>	Individual schools have introduced such activities; some national agencies organize annual events, and schools are invited to participate; commercial bodies have produced materials and organize competitions for schools
<b>Italy</b>	Optional activities in collaboration with health professionals (dieticians)
<b>Luxembourg</b>	Depends on the interest of school management and key people
<b>Netherlands</b>	<u>Primary and secondary</u> : excursions; festive meals; project weeks; school trips; breakfasts; collaboration with the health services and community
<b>Norway</b>	Depends on the school and key people as well as available material or strategies offered (nationally and regionally)
<b>Portugal</b>	Collaboration with health professionals is common and different activities are provided. Nutrition education depends very much on the teachers. Nutritionists (a few) are also collaborating in nutritional education activities as well as oral hygienists (even fewer)
<b>Spain</b>	<u>Primary</u> : milk distribution project; trips to visit farms; children spend a week visiting so-called farming schools; close relationship between the school health teams and schools <u>Secondary</u> : Basque country: the main chain of food shops is active in consumer education activities; schools are sometimes invited to take part. There are project weeks, school trips, collaboration with health staff, commercial partners, public health service and counsellors

<b>United Kingdom</b>	<p>England</p> <p><u>Primary</u>: breakfast; healthy eating promotion in some areas; school health service includes dental checks; commercial organizations offer materials and promotion, food in schools project</p> <p><u>Secondary</u>: same as primary; projects with health professionals, school trips, food awareness and competitions</p> <p>Scotland</p> <p>The Grampian Breakfast Bar – a nutrition education initiative – has visited over 60 schools in the local authority</p> <p>Fife Healthy Tuck Shop project – a project in this local authority</p> <p>Many local authorities have working groups, schools have health fairs, health weeks, school trips, competitions, etc.</p> <p>Active local health promotion departments support school initiatives, such as the Grampian Heart Beat Campaign</p>
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4. Who carries out nutrition education: all teachers or some of them? Other health professionals? Which others?

<b>Country</b>	
<b>Austria</b>	<p><u>Primary</u>: all teachers, teachers for nutrition and home economics, teachers in the voluntary subject: healthy nutrition</p> <p><u>Secondary</u>: biology teachers, teachers for nutrition and home economics, teachers for physical education</p>
<b>Belgium</b>	<p><u>Primary</u>: all teachers</p> <p><u>Secondary</u>: biology teachers, home economics teachers; school nurses</p>
<b>Denmark</b>	<p><u>Primary and lower secondary</u>: class teachers; home economics teachers; biology teachers</p> <p><u>Secondary</u>: biology teachers</p>
<b>Finland</b>	<p><u>Secondary</u>: biology teachers, health professionals</p>
<b>France</b>	<p><u>Primary</u>: class teachers, school nurses, dental nurses (school nurses, but also other teachers, other subjects, biology etc.)</p> <p><u>Secondary</u>: mainly the home economics teachers</p>
<b>Germany</b>	<p><u>Primary</u>: science orientation; main teacher of class</p> <p><u>Secondary</u>: home economics teachers, biology teachers, chemistry teachers, sports teachers, teacher work groups</p>
<b>Greece</b>	<p><u>Primary</u>: class teacher, sports teachers</p> <p><u>Secondary</u>: home economics teachers, sports teachers</p>
<b>Iceland</b>	<p><u>Primary</u>: mainly home economics teachers but also biology teachers, class teachers, nurses and professional from the schools' dental services</p> <p><u>Secondary</u>: mainly home economics teachers but also biology teachers, sports teachers, class teachers, nurses and professional from the schools' dental services</p>
<b>Ireland</b>	<p><u>Primary</u>: class teachers; no specialist teachers; supported by the schools' dental services and the public health nurses, who visit schools regularly</p> <p><u>Secondary</u>: home economics teachers; some work is done by the science teachers, including biology</p>
<b>Italy</b>	<p>Science teachers</p>
<b>Luxembourg</b>	<p><u>Primary</u>: all teachers; other professionals may join</p> <p><u>Secondary</u>: biology teachers; other teachers and professionals may join</p>

<b>Netherlands</b>	<u>Primary</u> : all teachers; teachers may invite experts <u>Secondary</u> : teachers need to be qualified in care; home economics teachers; biology teachers if they took part in a training programme
<b>Norway</b>	<u>Primary</u> : class teachers, home economics teachers, nurses <u>Secondary</u> : home economics teachers, nurses
<b>Portugal</b>	<u>Primary</u> : health professionals do more than supportive work; they usually try to substitute for teachers All teachers carry out nutrition education as included in the formal curriculum. They often request support from health professionals, nutritionists and oral hygienists and prefer them to substitute, perhaps because they feel insecure about technical details (lack of training) <u>Secondary</u> : only teachers; sometimes parents and other partners See above
<b>Spain</b>	<u>Primary</u> : teachers who like to do it, who are interested; doctors and nurses from school health programmes <u>Secondary</u> : science teachers
<b>United Kingdom</b>	England <u>Primary</u> : all teachers; health professionals <u>Secondary</u> : specialists in specific subjects: home economics, health education, science, design and technology and personal and social education  Scotland <u>Primary</u> : class teachers, home economics specialists may be available; school nurses, dentists and dieticians may be available <u>Secondary</u> : home economics teachers, a dietician may be available, school nurses, dentists and some science teachers

## 5. In what form is nutrition education included in initial teacher training?

<b>Country</b>	
<b>Austria</b>	<u>Primary</u> : as a part of the science module <u>Secondary</u> : as a part of home economics or biology, physics and chemistry subject training Not generally. There is one subject in teacher training called <i>Schulhygiene</i> . All teachers are supposed to be trained in general questions of health education, with the main topic nutrition
<b>Belgium</b>	<u>Primary</u> : as part of the science module <u>Secondary</u> : as part of their subject training
<b>Denmark</b>	<u>Primary and lower secondary</u> : home economics teachers (in health education as part of teacher education for the primary and lower secondary school)
<b>Finland</b>	<u>Primary</u> : in some universities, teachers take a (very short) course in health education; biology teachers <u>Secondary</u> : only home economics teachers
<b>France</b>	<u>Secondary</u> : only biology teachers
<b>Germany</b>	<u>Primary</u> : as part of their subject training in science orientation <u>Secondary</u> : as part of their subject training: home economics; biology; chemistry
<b>Greece</b>	<u>Primary</u> : some teacher training colleges provide courses <u>Secondary</u> : as part of their subject training: home economics; sports teachers
<b>Iceland</b>	<u>Primary and secondary</u> : nutrition education is a considerable part of the training of home economics teachers but a smaller part of the training of sports teachers. Some teachers take a very short course in health education

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<b>Ireland</b>	<u>Primary</u> : incidentally; teachers are encouraged to view nutrition education as a topic for cross-curricular work <u>Secondary</u> : only for teachers of home economics; teachers are trained in the use of innovative methods
<b>Italy</b>	Not included
<b>Netherlands</b>	<u>Primary</u> : teacher training in health education (includes nutrition and is elective) <u>Secondary</u> : teacher training in “care”
<b>Norway</b>	<u>Primary</u> : teacher training in home economics – first semester <u>Secondary</u> : teacher training in home economics – first semester
<b>Portugal</b>	<u>Primary</u> : almost nothing <u>Secondary</u> : as a biology subject
<b>Spain</b>	<u>Primary</u> : no formal training; one university offers optional training courses in health education that includes nutrition education <u>Secondary</u> : no formal training; some short teacher training courses on drug prevention (abuse) and on nutrition
<b>United Kingdom</b>	England <u>Primary</u> : as part of initial teacher training, with greater detail for science and design and technology specialists <u>Secondary</u> : part of training for science and design and technology (food) specialists  Scotland <u>Primary</u> : as part of health education and environmental studies <u>Secondary</u> : as part of their subject training – mainly home economics; some sciences

## 6. What kind of in-service training in nutrition education is provided for teachers?

<b>Country</b>	
<b>Austria</b>	<u>Primary</u> : occasional courses in nutrition for teachers in a voluntary course, general broad information by local school authorities <u>Secondary</u> : occasional courses in nutrition for biology and teachers for nutrition and home economics
<b>Belgium</b>	<u>Primary</u> : application of materials developed by the University of Gent <u>Secondary</u> : variety; recently focused on self-image of youngsters and self-competence
<b>Denmark</b>	There are some documents (such as new curricula); no handbooks Courses for teachers involved in that kinds of subject
<b>Finland</b>	<u>Secondary</u> : occasional courses in nutrition for home economics teachers organized by universities or teachers’ associations
<b>France</b>	<u>Primary and secondary</u> : no
<b>Germany</b>	No systematically organized in-service education but partly during courses in institutes for continuing education for teachers (teacher training centre)
<b>Greece</b>	<u>Primary and secondary</u> : usually nothing
<b>Iceland</b>	<u>Primary and secondary</u> : occasional courses in nutrition for home economics teachers, organized by a university college of education or teachers’ association
<b>Ireland</b>	<u>Primary</u> : teachers may voluntarily attend the courses are offered by the regional health authorities <u>Secondary</u> : the Department of Education offers in-service training to home economics teachers; regional health authorities offer in-service training to other teachers
<b>Italy</b>	Can be included; optional
<b>Luxembourg</b>	<u>Primary and secondary</u> : conferences; seminars



<b>Netherlands</b>	Not organized on a regular basis; teacher training colleges and other institutions organize in-service courses. Mandatory in-service courses exist for biology and other teachers for the new subject “care”
<b>Norway</b>	Teacher training colleges often in-service training
<b>Portugal</b>	Depends on local projects. Not formally or universally planned.
<b>Spain</b>	No formal training; general broad information about cross-curricular areas
<b>United Kingdom</b>	<p>England</p> <p>Varies according to region. Some local education authorities run courses. The British Nutrition Foundation runs national conferences and local in-service training sessions. Experimentation groups run courses.</p> <p>Scotland</p> <p>National conferences on nutrition and health in the 1990s (May 1993, May 1994, Northern College)</p> <p>Family 2000 video package on nutrition education (February 1995)</p> <p>Nutrition education for primary teachers (March 1995)</p> <p>Local authority in-service training programmes through home economics advisory service</p>

## 7. Is nutrition education provided for each age group?

<b>Country</b>	
<b>Austria</b>	<u>Primary</u> : depending on teachers’ motivation <u>Secondary</u> : comprehensive school: nutrition is compulsory
<b>Belgium</b>	<u>Primary</u> : depends on the teachers’ interest <u>Secondary</u> : 12 to 14–15 years
<b>Denmark</b>	<u>Primary</u> : more or less <u>Secondary</u> : home economics is compulsory during the upper stage of the school; usually grade 7; optional home economics in grades 8 and 9
<b>Finland</b>	<u>Primary</u> : more or less <u>Secondary</u> : home economics is compulsory during the upper stage of the school; usually grade 7; optional home economics in grades 8 and 9 and also extra short courses are available
<b>France</b>	<u>Primary and secondary</u> : no
<b>Germany</b>	<u>Primary</u> : 8–10 years <u>Secondary</u> : 10–15 years
<b>Greece</b>	<u>Primary and secondary</u> : yes, for the older pupils in less detail
<b>Iceland</b>	<u>Primary and secondary</u> : according to the curriculum, nutrition education should be provided for each age group. But some schools do not conform to the curriculum. Improvements: the answer depends on the curriculum. We do not know what the current status is, but soon a new project will start in Iceland aiming to analyse the current status of nutrition education.
<b>Ireland</b>	<u>Primary</u> : varies from school to school and region to region; health authority programmes exist for all levels within primary school system, specific nutrition education programmes exist for senior classes (children from 10 to 12 years) <u>Secondary</u> : nutrition education is available as a topic of work in optional subjects (home economics, science and biology)
<b>Italy</b>	No
<b>Luxembourg</b>	<u>Primary</u> : 5, 7, 9, 11 years <u>Secondary</u> : 13, 15, 16 years

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<b>Netherlands</b>	Nutrition is mentioned in the curricula of the primary as well as for secondary school but this does not guarantee nutrition education in each age group; it depends on the distribution of the 10–12 hours of nutrition education
<b>Norway</b>	<u>Primary</u> : home economics: 10 years old, social science all ages <u>Secondary</u> home economics 14 years old, biology and science, all ages
<b>Portugal</b>	<u>Primary</u> : grade 3 <u>Secondary</u> : grades 6 and 8 and grade 10 if biology is chosen In Portugal kindergarten schools are attended (voluntarily) by children from 3 to 5–6 years old. Some (most) educators try to provide nutrition education, sometimes with the help of health professionals, including nurses, nutritionists and oral hygienists
<b>Spain</b>	<u>Primary</u> : depends on the teachers <u>Secondary</u> : in compulsory general education (12–16 years old)
<b>United Kingdom</b>	England <u>Primary</u> : 5–11 years: yes, statutory science <u>Secondary</u> : 11–16 years: yes, but not statutory  Scotland <u>Primary</u> : all children will receive nutrition education as part of the environmental studies curriculum for pupils 5–14 years old. Some schools may have expert home economics specialists available <u>Secondary</u> : all pupils receive nutrition education as part of the core home economics curriculum for 12- to 14-year-olds. Others may opt for standard grade and revised higher home economics from 14 to 18 years

8. What kind of materials do are used for nutrition education? Are they used systematically or occasionally?

<b>Country</b>	
<b>Austria</b>	<u>Primary</u> : training materials for nutrition, games, pictures, foods, overhead transparencies <u>Secondary</u> : school books, games, pictures, computer programs, training materials for nutrition
<b>Belgium</b>	<u>Primary</u> : maps developed by the University of Gent; materials produced by province authorities or industry <u>Secondary</u> : training materials developed by the University of Gent and several nongovernmental organizations
<b>Denmark</b>	Some school projects; all kinds of materials depending on teacher, pupils and subjects
<b>Finland</b>	<u>Primary</u> : books, pictures, overhead transparencies; foodstuffs; used occasionally <u>Secondary</u> : books; overhead transparencies; foodstuffs; used systematically in home economics
<b>France</b>	<u>Secondary</u> : nothing special
<b>Germany</b>	Germany Society of Nutrition; Federal Centre for Health Education; Conference of the German Ministers of Culture; systematically, occasionally, regional nongovernmental organizations in health promotion or health education
<b>Greece</b>	It depends on the teachers' ideas and the schools
<b>Iceland</b>	<u>Primary and secondary</u> : books, booklets, overhead transparencies, pictures, videos, worksheets and foodstuffs. It is used systematically in home economics

<b>Ireland</b>	<u>Primary</u> : in some regions materials from the health authority programmes are used systematically; in other regions commercially produced materials are used occasionally <u>Secondary</u> : national home economics syllabus for junior and senior cycle exists; commercially produced texts
<b>Italy</b>	There are brochures and information from health services and nutrition institutions
<b>Luxembourg</b>	<u>Primary</u> : complete health education material with didactic support materials <u>Secondary</u> : school manual; teacher training manual from European Network of Health Promoting Schools
<b>Netherlands</b>	Textbooks, leaflets and computer programs
<b>Norway</b>	Planning material, videos, handbook, worksheets and multimedia programmes
<b>Portugal</b>	Depends on the teachers and the school; textbooks; puzzle; games; foods; some materials of the General Health Directorate; integrated nutrition curriculum in the official programme is available for primary schools from a nongovernmental organization
<b>Spain</b>	Some lesson manuals are available; new material; slides and pamphlets from the Ministry of Health and regional or local government
<b>United Kingdom</b>	England No statutory materials, schools decide on their own, the health education authority produces resources. The British Nutrition Foundation has an comprehensive programme for schools, Food – a Fact of Life. Teachers use a range of commercially produced resources and produce their own materials  Scotland Schools produce their own materials and use commercially produced materials or those freely available from local health promotion departments or the Health Education Board for Scotland. National food guide <i>Titled Plate</i> model currently being promoted

9. Please describe the role of commercial organizations and sponsors, health education authorities, nongovernmental organizations and other bodies in nutrition education in schools.

<b>Country</b>	
<b>Austria</b>	Health education authorities and nongovernmental organizations produce materials, brochures and booklets; commercial organizations provide schools with teaching materials. Sponsorship is rather undeveloped at the moment
<b>Belgium</b>	The different educational bodies play a central role in deciding which materials are used; commercial organizations and sponsors are welcome as long as publicity is banned. Nongovernmental organizations are welcome
<b>Denmark</b>	They offer materials of different kinds
<b>Finland</b>	Commercial organizations provide schools with teaching materials, brochures and products
<b>France</b>	Some sponsors (Kellogg's) to promote breakfast
<b>Germany</b>	Commercial sponsors: support of project weeks, nongovernmental organizations, health-promoting network, coordination, cooperation with the education authorities, materials and media for nutrition education and health promotion (audio, video and print), implementation of projects in schools
<b>Greece</b>	Specialized health-promoting associations, dental and milk enterprises. The rest is rather negative (chocolate, etc.)

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<b>Iceland</b>	Nutrition education is part of the Ministry of Education. The health authorities publish materials, promote programmes and advise schools. Nongovernmental organizations and some commercial organizations are welcome as far as publicity is banned
<b>Ireland</b>	Commercial organizations produce materials and sponsor school-based competitions; Some health societies support schools in their work
<b>Italy</b>	Pasta industries, local health services
<b>Luxembourg</b>	Health education is part of Ministry of Education; others limited
<b>Netherlands</b>	Health education authorities advise schools on health curricula, projects and materials but do not teach; Commercial organizations may fund some projects; some nongovernmental organizations are organized and meet regularly
<b>Norway</b>	No commercial sponsors except in collaboration with public authorities (such as fruit on fruit days). Material from nongovernmental organizations and health education authorities
<b>Portugal</b>	Commercial organizations are mainly related to products of oral health. Sponsors are diverse; health education authorities and nongovernmental organizations publish materials and promote programmes on nutrition education
<b>Spain</b>	Financial and technical support by nongovernmental organizations is possible
<b>United Kingdom</b>	<p>England</p> <p>Many organizations produce resources for schools – including the Health Education Authority and the British Nutrition Foundation, professional teaching associations and companies</p> <p>Scotland</p> <p>Commercial organizations produce materials – schools have the choice or decision as to whether to use them or not. The Health Education Board for Scotland and local health promotion departments provide advice, support, training and resources. Colleges of education may offer in-service training in nutrition education</p>

**Questionnaire 2: Catering in schools**

1. Do schools provide breakfast or any food before school starts? What kind of food? Is there any attempt to provide a nutritionally sound breakfast?

<b>Country</b>	
<b>Austria</b>	A few municipalities provide lunch for students and teachers for social reasons – but not based on a healthy background
<b>Belgium</b>	Some schools have tried it
<b>Denmark</b>	<u>Primary and lower secondary</u> : a few municipalities provide lunch for selected pupils for health or social reasons; food is provided on a commercial basis; foods: milk, bread and fruit
<b>Finland</b>	No breakfast
<b>France</b>	<u>Primary</u> : no <u>Secondary</u> : no, except some local experiences
<b>Germany</b>	Some schools provide breakfast; food available on a commercial basis; parents and other professions are involved; in some of the states ( <i>Länder</i> ) the kind of food to be sold is based on edicts of the governments; in other states only recommendations for schools
<b>Greece</b>	No breakfasts
<b>Iceland</b>	<u>Primary</u> : breakfasts occasionally as part of the nutrition education programme <u>Secondary</u> : it is not customary
<b>Ireland</b>	<u>Primary and secondary</u> : Very few schools provide breakfast. Only schools where children have to travel far from home to school
<b>Netherlands</b>	<u>Primary</u> : do not provide breakfast and lunch; in some schools children who stay in school at lunch time are offered drinks; parents assist <u>Secondary</u> : do not provide breakfast and lunch; most secondary schools have a school restaurant and tuck shops (coffee, tea, soft drink, milk, chocolate milk, juice, candy bars, cookies, chocolates, sandwiches, soup or fruit)
<b>Norway</b>	Some schools or classes do; not nationally organized
<b>Portugal</b>	Never, unless there is a specific project in the subject. Most secondary schools (if not all) have cafeterias where breakfast can be provided on a commercial basis, some foods (such as milk) being subsidized. They also sell sandwiches, canned fruit juice, cakes and chocolates. Some administrative staff have shown concern and try to provide a nutritionally sound breakfast, especially when the school runs its own cafeteria
<b>Spain</b>	<u>Primary</u> : usually no breakfast in schools; children and parents are encouraged to have breakfast at home; milk is provided for younger children <u>Secondary</u> : children and parents are encouraged to have breakfast at home

<b>United Kingdom</b>	<p>England</p> <p><u>Primary</u>: Each local education authority has its own catering specification; there is a move to develop whole-school approaches; lunch and breakfast are provided on a commercial basis; a number of schools serve breakfasts (school nutrition action groups)</p> <p><u>Secondary</u>: more widespread commercially provided food more widespread; many schools provide breakfasts. Now nutrition standards are to be introduced for school meals</p> <p>Scotland</p> <p>Schools may offer a breakfast if there is sufficient demand. Some areas have pilot projects in operation. Typical foods might be cereal, milk, fruit juice, toast, sandwiches and hot chocolate. Not all children have breakfast at home – many children live in rural areas and leave early for the school bus</p>
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2. Please comment on whether most schools provide an opportunity for children to eat something during school breaks. Do schools have a shop, cafeteria or vending machine where snacks are sold? What kind of snacks and drinks are provided? Is there any attempt to provide “healthy” foods? Does the school provide or subsidize any special food (such as milk or sandwiches)?

<b>Country</b>	
<b>Austria</b>	Depends on parents’ initiative
<b>Belgium</b>	<u>Primary</u> : no attempt to provide healthy food; milk, chocolate milk; vending machine <u>Secondary</u> : rare; depends on a local initiative
<b>Denmark</b>	Possibility to eat lunch brought from home; lunch consists commonly of a cold meal (sandwich) brought from home or bought at the tuck shop; few schools have different possibilities (hot meal)
<b>Finland</b>	<u>Primary and secondary</u> : some schools have tuck shops or vending machines; sweets, soft drinks; no information collected about healthy food; school meals provide healthy snacks for pupils who need a special diet
<b>France</b>	<u>Secondary</u> : some schools have shops or vending machines; most sold food: sweets, cakes, cola and lemonade; exceptionally: milk or healthy foods
<b>Germany</b>	Some schools provide shops and cafeteria or vending machines (sweets and cola drinks). Some schools provide healthy foods or healthy snacks in kiosk or in cafeteria
<b>Greece</b>	<u>Primary and secondary</u> : most schools have canteens, milk is provided for health reasons, other drinks (lemonade or cola) and snacks are provided, but they are not always healthy. School administration and parents cannot intervene easily, because school canteens are organized by private enterprises
<b>Iceland</b>	<u>Primary</u> : most schools provide the opportunity to eat lunch brought from home and buy some drinks (milk, chocolate milk, juice), yoghurt and fruits at school. The lunch consists commonly of a sandwich and a drink <u>Secondary</u> : some schools have shops. Most food sold is sandwiches and drinks (milk, chocolate milk and juice). Milk is subsidized and therefore much cheaper than other drinks

<b>Ireland</b>	<p><u>Primary</u>: few schools have a shop, cafeteria or vending machine; children bring snacks from home; daily milk delivery; schools have their own rules, regulations and policies as to what children bring for snacks and how to encourage them to eat healthier</p> <p><u>Secondary</u>: many schools have a tuck shop, cafeteria or vending machine; schools attempt to provide healthier alternatives to sweets; access to tuck shop or vending machine during breaks; cafeteria opens only for lunch</p>
<b>Italy</b>	<p><u>Primary</u>: pupils are offered subsidized meals; most schools do not have cafeterias; in kindergarten drinks are offered during breaks (milk or fruit juice)</p> <p><u>Secondary</u>: most schools do not have cafeterias, snacks are usually sold by janitors and vending machines (cola and other soft drinks, beer, chocolate, tea, coffee), some schools have shops; in cafeterias providers are usually under contract: mostly they are self-service</p>
<b>Luxembourg</b>	<p><u>Primary</u>: few schools offer a vending machine or snack stand; no cafeteria; sandwiches, water and lemonade; dark bread sandwiches and müsli are offered; attempts to reintroduce milk</p> <p><u>Secondary</u>: snack stands in every school; drinks (water or lemonade) by vending machine; 5 of 23 schools have a cafeteria; dark bread sandwiches offered; attempts to reintroduce milk</p>
<b>Norway</b>	<p>Most schools offer milk and yoghurt. Many secondary schools have canteens – mostly healthy food is served. No snack or lemonade is available</p>
<b>Portugal</b>	<p><u>Primary</u>: usually a meal in the middle of the morning and afternoon; there is no control over the school tuck shops; most schools do not have a cafeteria; bread, fruit and dairy products are emphasized; mostly milk is served, and the teachers try to influence families as to the food children bring to eat during school breaks</p> <p><u>Secondary</u>: no control over the school tuck shops; it is up to each school. The administrative staff of some secondary schools try to control the type of food sold in the school cafeteria and the pricing of milk (for instance), which is often subsidized</p>
<b>Spain</b>	<p><u>Primary</u>: no shops or cafeterias at school; usually no vending machine; children take a sandwich to school; water is available at school; some teachers encourage children to bring healthy snacks</p> <p><u>Secondary</u>: most schools have a canteen, where pupils can get snacks, sweets and drinks. The food provided in the canteen includes a wide range of goods: snacks, pies, cakes, sweets, drinks, fruit, omelette and sausages. There are no food subsidies</p>
<b>United Kingdom</b>	<p>England</p> <p><u>Primary</u>: no statutory control; many schools sell snacks; the provision of free school milk is under review for primary schools</p> <p><u>Secondary</u>: almost all schools sell snacks and have cafeterias and vending machines; snacks are often high in fat or sugar; there are efforts to encourage schools to develop a policy on selling food</p> <p>Scotland</p> <p>Children are allowed to eat food at school interval and lunch time. Many schools have social areas or canteens. All schools have tuck shop facilities and may have vending machines. Ice cream vans may be permitted on the premises. Breakfast may be available. Local attempts to provide “healthy” food may be in operation. Many children bring their own snacks to school</p>

3. Do schools provide lunch? Please give an estimate of how many schools provide lunch. Please state what kind of food is provided. Also state whether children can bring a lunch box from home and whether a place is provided to eat it.

Country	
<b>Austria</b>	<u>Primary</u> : some schools provide hot meals <u>Secondary</u> : many lower secondary schools provide warm dishes
<b>Belgium</b>	The chance that warm meals are served is higher if the primary schools are attached to the secondary schools; children can always bring a lunch box and a place to eat is provided
<b>Denmark</b>	Some schools provide hot meals
<b>Finland</b>	Statutorily obliged to provide daily school meal: meals are served in every school; cooked and warm; bread, butter or margarine, milk and salad are additionally served; no need to bring lunch boxes
<b>France</b>	<u>Secondary</u> : most secondary schools provide hot meals for lunch; the food provided has to be healthy and balanced; hygiene is strict and controlled; children usually cannot bring lunch boxes
<b>Germany</b>	Most schools have no classes in the afternoon; otherwise prepared frozen food is offered <u>Secondary</u> : some schools provide lunch through catering services. Most schools have afternoon lessons. Organized by pupils and teachers (or sometimes through the parents)
<b>Greece</b>	<u>Primary and secondary</u> : public schools do not provide lunch, no rooms are provided, few private schools provide restaurant facilities
<b>Iceland</b>	<u>Primary</u> : schools do not have the facilities to provide lunch; most children bring a lunch box; children eat in the classroom; the number of children returning home for lunch declines each year; in large urban areas disadvantaged children are provided with a sandwich financed by the local council <u>Secondary</u> : more modern schools have canteen facilities; many students bring a lunch box from home and buy something in the tuck shop; catering firms (usually selling burgers and chips) tender for contract; in urban settings, many of the students eat in fast-food outlets
<b>Ireland</b>	Few schools provide hot or cold lunch; the ones that do are especially those where children have to travel a long way from home to the school. The school day is getting longer in Ireland, and the situation is therefore changing and more schools will soon start providing lunch. Children can always bring a lunch box from home, but in many schools the classroom is the only place to eat it
<b>Italy</b>	<u>Primary</u> : there are specific caterers who provide food; children can bring lunch boxes and there is a dining room <u>Secondary</u> : cooked food is offered as self-service or is pre-cooked at home, brought along and heated
<b>Luxembourg</b>	<u>Primary</u> : few schools provide lunch; the ones that do provide a warm meal; this is a responsibility of the local authorities and not the national government; it is recommended that a room be provided for eating lunch <u>Secondary</u> : most schools provide lunch, a cooked warm meal, and a snack shop; facility for eating home-made lunches but often in poor condition
<b>Netherlands</b>	Some schools have canteens, but even here most children bring lunch
<b>Norway</b>	Preparation and distribution depends on schools; sometimes people from outside the school run the canteen or shop



<b>Portugal</b>	<p><u>Primary</u>: no canteen; children can bring something from home; no special place About 2% of schools have a canteen usually operated by the local authority. They often ask nutritionists to help in planning meals (hot meals), and parents' associations sometimes are consulted too</p> <p><u>Secondary</u>: canteens usually serve warm meals; pupils often prefer the cold food, which they buy in shops outside the school</p>
<b>Spain</b>	<p>75% of the schools provide lunch; usually a warm meal; children do not take their meals from home; kitchen and cook; increasing importance of catering companies delivering meals; schools have a dining room</p> <p><u>Secondary</u>: schools do not provide lunch; only boarding schools do</p>
<b>United Kingdom</b>	<p>England</p> <p><u>Primary</u>: all schools provided lunch, but now some local education authorities have ceased hot food provision and provide only packed food; income support: free lunch for disadvantaged children; children are allowed to bring lunch boxes and a place is provided; most local education authorities provide a hot midday meal; sandwiches</p> <p><u>Secondary</u>: as above, but the services are unsubsidized cafeterias</p> <p>Scotland</p> <p>All schools provide hot meals, choice is offered, buffet-style or canteen-style available in many areas. Vegetarian alternative often on menu. Children can bring own packed lunch as alternative. A room is provided, not always the canteen, to eat a packed lunch. Some pupils buy food outside the school from local bakeries and supermarkets etc.</p>

4. Are there any regulations that determine what type of food and what quality of food is provided?

Country	
<b>Austria</b>	If food is delivered by a catering company or food is prepared in a canteen, laws and regulations concerning hygienic aspects and food safety are controlled by regular inspections
<b>Belgium</b>	Regulations by the Department of Health
<b>Denmark</b>	For the schools that offer hot meals there are no dietary regulations but hygienic; there are rules on institutional diet but this does not concern schools
<b>Finland</b>	The law states that school meals have to be adequate and free for pupils; no specification of nutritional or other quality
<b>France</b>	<u>Secondary</u> : no, but local groups (pupils, parents, cooks and physicians) are organized to prepare the menus
<b>Germany</b>	The governments of some states ( <i>Länder</i> ) have issued edicts or recommendations for providing healthy snacks
<b>Greece</b>	<u>Primary and secondary</u> : the Ministry of Education issued regulations about the food to be provided in 1994, but they are not followed
<b>Iceland</b>	The national food and nutrition policy states that the food should be nutritious, but there are no rules or regulations for school canteens. There are rules for hygiene
<b>Ireland</b>	<u>Primary</u> : no regional regulations exist, food is provided from home; the Department of Health has issued lunch box guidelines for parents <u>Secondary</u> : no regulations
<b>Italy</b>	There are agreements on the kind of menus according to dieticians
<b>Luxembourg</b>	Under the supervision of the catering services of the Ministry
<b>Netherlands</b>	Snacks abandoned in canteens at day time, otherwise general knowledge on healthy food is used

<b>Norway</b>	No official rules and regulations for school canteens or restaurants; schools decide this; the Netherlands Bureau for Nutrition Education provides suggestions and guidelines
<b>Portugal</b>	<u>Primary</u> : the breaks are in the middle of the morning and afternoon; bread, dairy products, fruit; sometimes families and nutritionists are consulted about it. <u>Secondary</u> : general regulation for public canteens
<b>Spain</b>	There are laws and regulations concerning food safety, and regular inspections take place; attempt to regulate the kind of food that should be offered; recommendation of the Ministry of Education; in Basque Country: working group consisting of parents, public health professionals, nutrition experts and lawyers will develop a proposal about meals, that will be debated in Parliament; in Bilbao: recommendations about menu planning in public schools; advice of catering companies or school kitchen and cooking personnel <u>Secondary</u> : in some schools, the diet provided in the canteen is regulated by a committee of the school board in which some members of the health group take part
<b>United Kingdom</b>	England Each local education authority made catering contracts for 4 years that include detailed specifications; new regulations for national nutritional standards for school meals to be in place by 2002  Scotland No official regulations, but government has recently produced <i>The Scottish diet report (60)</i> providing summary recommendations useful for any organization that can influence the quality of food on offer. The Health Education Board for Scotland has issued a booklet <i>Towards healthier snacks</i> for all schools

## 5. Who is responsible:

- for deciding what kind of food is provided?
- for catering, if any, in schools (breakfast, lunch or snacks)?

<b>Country</b>	
<b>Austria</b>	Canteen manager or owner, school canteens in urban areas are community enterprises and managed by the head of the school. Parents' associations decide what is sold in these shops
<b>Belgium</b>	Headmaster or head of the kitchen
<b>Denmark</b>	70% of the primary and lower secondary schools provide a complement offer
<b>Finland</b>	Municipalities (by law): provision of school meals; decision about the allocation of government subsidy. In urban areas there is a person who is responsible for all the school meals in the city. Teachers (home economics) may supervise the provision of school meals in the municipality; otherwise schools are fully responsible for keeping within the limit of their budget
<b>France</b>	Headmasters
<b>Germany</b>	Breakfasts and sales are regulated by the Ministries of Education of the states
<b>Greece</b>	Canteen manger or owner; school canteens are small private enterprises usually managed by the school supervisor
<b>Iceland</b>	Headmaster or head of the kitchen
<b>Ireland</b>	This decision is taken at the local level by schools; vocational education committees govern schools in this sector; decision on type and quality of food is made by the catering firm; schools decide what is sold in the tuck shop
<b>Italy</b>	Municipal authorities

## HEALTHY EATING FOR YOUNG PEOPLE IN EUROPE

<b>Luxembourg</b>	The catering services of the Ministry of Education decide the kind of food to be provided; catering services or private catering provide the food under government supervision
<b>Netherlands</b>	Some input is given to responsible people from the headmaster or school. Probably most reactions are to food that is considered undesirable
<b>Norway</b>	<u>Primary</u> : in cooperation with parents <u>Secondary</u> : schools or catering service
<b>Portugal</b>	Depends on each school system; some have committees that supervise what is provided, most do not have this control; canteen and shops are rented to private organizations
<b>Spain</b>	Usually teachers or teachers who are responsible for the lunchroom prepare the menu or cooking personnel <u>Secondary</u> : the principal, the school board committee and the boarding school teachers who are members of the health group
<b>United Kingdom</b>	England The midday meal is provided by a caterer to the specification and is often subsidized to keep down costs; all other provision is on a commercial basis by agreement of caterer and school management  Scotland The decision is taken at local level by schools; school meals are provided in all schools by a private contractor employed by the local authority; schools can influence this to a certain extent; in some areas, schools decide what is sold in the tuck shop or social areas

## **Information about education systems in western Europe**

### **Compulsory education**

In most countries of the European Union, the starting age for compulsory education is 5 or 6 years. In Northern Ireland and the Netherlands, compulsory primary education now starts at age 4, and in Luxembourg it has recently been made compulsory for 4-year-olds to attend nursery school. At the other extreme, in Denmark, as in some other Scandinavian countries, compulsory education does not start until age 7.

In general, compulsory education lasts 9 or 11 years. It is shortest (8) years) in Italy and Spain. It lasts 12 years in Northern Ireland and in Belgium, taking into account the years of compulsory part-time education in the latter country. In Germany, compulsory education usually also lasts 12 years, comprising 9 or 10 years of full-time schooling in general education schools and, if pupils do not attend school full-time after these 9 or 10 years, 3 years of part-time schooling in vocational schools. The Netherlands provides the longest compulsory education, between the ages of 4 and 16–18 years, including again the years of part-time education.

### **The school year**

The educational systems in the European Union differ in the distribution of school time and holidays over the year, the point of time at which pupils start a new school year and whether the central government determines the holiday periods.

The annual number of days of teaching officially prescribed varies from 175 in Greece to 240 in the Netherlands. This figure is not, however, very meaningful, as it can include both whole days and half days. In this respect, comparison of the number of half-day sessions, as defined in England and Wales (380) and in France (316 to 350), appears more relevant.

Similarly, calculation of the annual number of hours of teaching gives more strictly comparable information about the time pupils spend in school in the European Union. In primary education, the annual time pupils are instructed in one country can be up to twice that in another. Some countries have a shorter day for the youngest pupils at the start of their schooling. This is true in Denmark, Germany, Greece, Ireland, the Netherlands and the United Kingdom, where the number of class periods varies according to the age of the pupils. In Germany, where the school day is shorter in the first years, 6-year-old pupils are in class about 564 hours per year (average teaching time, with a range from 479 to 648 hours, varying between the federal states (Länder)) versus 1080 hours in Italy. There is considerable variation between these two extremes. Nevertheless, the range narrows during the course of primary education.

After the summer holidays, schools reopen over a period of 6 weeks, running from the beginning of August (in certain of Germany's federal states and Denmark) to late September (in Spain, Italy and Portugal). Moreover, in some countries (such as Denmark, Greece, Ireland and Luxembourg), all pupils return to school on the same day, whereas in the others the date can vary within the same country.

The summer holidays vary between about 6 weeks (in Germany, the Netherlands, England, Wales and Scotland) and 12 or 13 weeks (in Greece, Spain and Ireland). In Spain, Ireland and the Netherlands, the summer holidays are longer at the secondary level.

Pupils in all countries have about 2 weeks of holiday at Christmas. In most of them, the long first term is broken by a week of holiday in the autumn, towards the end of October or the beginning of November, except in the southern countries in which school starts later in the autumn.

The picture is more varied in the second term of the school year. Schools in Greece, Ireland, Italy and Scotland have varying holiday periods within the country in this term. The other countries have a holiday in February or March. This may, moreover, be very short (1 to 3 days) or longer (1 to 2 weeks).

There is traditionally a longer holiday near Easter, except in the Netherlands and France, where this holiday does not necessarily coincide with the moveable date of Easter. This is a recent change based on a desire to give children a more balanced distribution of periods of instruction and holidays over the year.

In Germany, Luxembourg, England and Wales, the third term is also broken by a week (from 1 to 12 days in the various federal states in Germany) at Whitsun.

### **The school week**

In all countries of the European Union, Sunday is free of lessons. The most common pattern of the school week is 5 days, except in Luxembourg, where it is still 6 days. In some countries, schools may choose between 5 days and 6 days, depending on the local situation and after consultation with parents. Where the 5-day week operates, children generally attend school from Monday to Friday, except in France, in the primary school, where pupils are off all day on Wednesday and attend school on Saturday morning.

There are several methods of determining the weekly number of hours of teaching in primary schools. Either a set or minimum of class periods is prescribed, or regulations stipulate the overall total teaching time each day. The length of the teaching period is left to the teachers' discretion or varies from 40 to 60 minutes, depending on the country.

In contrast, at the secondary school level, school time is generally more structured and is divided into a weekly average of about 30 periods of from 40 to 50 or 55 minutes, depending on the country. Italy has lessons 60 minutes long. Ireland and the United Kingdom have the shortest lessons (35 to 40 minutes) but the greatest number of them. In upper secondary education, the maximum number of periods a week varies depending on the group of subjects being studied and is generally higher in the technical and vocational branches.

### **The school day**

The pupils' school day varies greatly among the countries. There are basically two quite different patterns, both of which may be found in the same country. Some countries have chosen half-day schooling, with all lessons given in one half of the day. This is typical of Germany, Portugal, Greece and some regions of Italy. Here, classes are usually held in the morning. Greece and Portugal instruct different groups of pupils in the morning and in the afternoon, on a shift basis, as there is a shortage of accommodation. Whole-day schooling with a break in the middle of the day is found mainly in Belgium, Spain, France, Ireland, Luxembourg and the United Kingdom. The length of the lunch break is another respect in which the systems differ; it may be quite short or last several hours. Depending on the country, the two-session pattern applies either on all 5 days of the school week (Spain, Ireland and the United Kingdom) or on 4 days of 5, with one day reduced to a morning. In Luxembourg, the week is organized on the basis of alternating whole days and mornings.

Another distinguishing feature of the school systems is the time at which pupils start their day. In effect, while classes start between 8.15 a.m. and 9.00 a.m. in several countries, in some of Germany's federal states, they may start earlier (such as between 7.30 a.m. and 8.00 a.m. determined by the school), whereas in Portugal the school's education council can set the starting time for classes between 9.00 a.m. and 10.00 a.m.

**Care and activities for pupils outside school hours**

The number of families in which both parents work is increasing, and primary schools are therefore increasingly called upon to care for and supervise children outside school hours. Analysis of the opening hours of schools and child-minding services indicates that the countries have chosen considerable diversity in organization in this area. Few regulations have been introduced, and where services are organized, they are often left to the initiative of the schools. For this reason, various types of services may be found within the same country. In most cases, schools open a short time before classes begin. In four countries (Belgium, Denmark, Germany and Greece), younger children can be looked after in the school for more than half an hour before classes begin. In Ireland and Scotland, there are no such arrangements in the morning. In several Member States, especially in Belgium, Denmark and France, children can remain after school for either homework classes or some form of care and supervision in their own school. Such arrangements are exceptional in Ireland, Spain, Luxembourg and Scotland.

## **ANNEX 2. THE CURRICULUM FRAMEWORK: DETAILED OBJECTIVES OR LEARNING OUTCOMES OF THE TAUGHT CURRICULUM<sup>1</sup>**

### **A. Food and emotional development**

Sensory awareness; food preferences; trying out new foods; feelings about eating drinking and wellbeing; body-image; self-esteem; the social significance of food and eating; children's own responsibilities

#### **4–7 years**

##### **Sensory perception and enjoyment of foods**

- To be able to identify the taste, look, touch, sound and smell of a variety of foods and recognize them on this basis

##### **Food preferences**

- To know their own food preferences and to be aware of those of others
- To be prepared to try different foods

##### **Body image**

- To appreciate that different people have different body shapes and sizes

##### **Social significance of eating, preparing the food and the setting**

- To be able to share a meal with others
- To participate in the work involved in preparing food

##### **Own responsibility**

- To be able to make decisions when offered simple choices
- To be able to feed themselves independently

#### **8–10 years**

##### **Sensory perception and enjoyment of foods**

- To be able to distinguish the flavour of particular foods (salty, sweet, sour, bitter) and to value a variety of flavours

##### **Food preferences**

- To be prepared to broaden the range of acceptable foods

##### **Body image**

- To recognize different rates of physical development
- To respect different body shapes and sizes

##### **Feelings**

- To be able to discuss their own feelings about eating and drinking

##### **Own responsibility**

- To be aware of how they and other children spend pocket money on food

#### **11–13 years**

##### **Sensory perception**

- To realize that perceptions of flavour differ and influence food choice

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<sup>1</sup> This text is also found in the form of a poster (see insert in the back of this guide) .

**Food preferences**

- To understand that it is possible to modify or adapt one's own sense of taste and thus to change preferences

**Body image**

- To consciously identify the links between body image, self-confidence, self-esteem, wellbeing and eating patterns

**Feelings and enjoyment**

- To be aware of the atmosphere in which food is eaten and its relationship to enjoyment of food

**Own responsibility**

- To be aware of their own responsibility in food choice and personal limitations
- To identify links between their own food choice and the implications for the environment

**14–16 years****Sensory perception**

- To be aware of their own changing perceptions of flavour

**Body image**

- To feel comfortable with their own body image and to respect the body images of other people
- To become aware of the processes of physical, emotional and social change

**Feelings and self-confidence**

- To identify the emotional cues for eating
- To identify the need for change (self-evaluation of eating pattern)
- To feel confident in managing change (what, why, how and when)
- To have pupils identify incentives and reinforcement for their current eating behaviour

**Social setting and significance**

- To take responsibility for others into consideration

**Own responsibility**

- To develop self-management skills (decision-making and combating social pressure)
- To take responsibility for their own food choices

**B. Eating habits and sociocultural influences**

Own eating habits and values; eating habits of other people; factors influencing food choice (individual, psychological, environmental and sociocultural); variation in food habits (regional, cultural and religious); history of food and eating; meal patterns (trends, snacking and grazing); settings for food consumption; norms and etiquette for eating behaviour

**4–7 years****Own eating habits**

- To describe which foods and drinks they eat themselves

**Eating habits of others**

- To identify what other family members at home or friends are eating and drinking



**Eating times**

- To identify when other people eat during the day

**Social settings**

- To appreciate that different social settings call for different behaviour

**Meals and snacks**

- To recognize the difference between meals and snacks
- To know the difference between everyday foods and special foods

**Special occasions**

- To be aware of the link between special foods and special festive occasions

**8–10 years****Eating habits**

- To be aware of differences in the eating habits of other people compared with their own

**Personal factors**

- To become aware of some of the personal factors influencing their food choice

**Regional factors**

- To be able to identify eating habits in different regions in the country

**Historical changes**

- To be aware of the eating habits of their grandparents compared with their own

**Social settings**

- To identify the different social settings for food consumption in their own surroundings

**Daily food pattern**

- To recognize how many times a day they eat and whether these are meals or snacks

**11–13 years****Personal factors**

- To identify their own personal influence on their food choices

**External factors**

- To recognize the influence of peer pressure on their eating habits
- To recognize the influence of advertising on their food choices
- To be aware of the influence of availability of products
- To be aware of economic considerations in food choice

**Historical factors**

- To be aware of the change in food choices and way food was prepared in previous generations

**Variation in food and eating habits**

- To be able to identify the food habits of different cultural, religious, ethnic and regional groups

**Food for festive occasions**

- To recognize the significance of food for celebration

## **14–16 years**

### **Own eating habits**

- To enhance the ability to make their own food choices
- To relate their food habits to food in history
- To identify the links between eating habits and the global food system

### **External factors**

- To identify the links between eating habits and role patterns
- To understand and constructively manage peer pressure
- To develop skills for overcoming barriers in the environment, including responding to the mass media and social pressure

### **Food trends**

- To recognize food trends

### **Cultural beliefs**

- To identify what is nutritionally correct in lay beliefs about food and eating

## **C. Nutrition and personal health**

Relationship between eating and health; growth and eating; eating and activity; nutrients and their functions; nutritional value of basic food groups: staples, legumes, roots and tubers, cereals, vegetables, fruit, milk and milk products, meat, fish and fat; nutritional value of extra foods: snacks and sweets; drinks; guidelines for healthy eating (recommended daily allowances of foods, food guides, balanced meals); positive health (weight balance); food- or diet-related problems: overweight or underweight; eating disorders; dental caries; cardiovascular disease; cancer; allergies and foods; diseases of malnutrition; diets related to metabolic disorders

### **4–7 years**

#### **Eating and personal health**

- To be aware of the need for food for growth, health and activity
- To identify foods important to their growth and health (basic foods)

#### **Foods**

- To recognize and classify different types of foods and drinks

#### **Digestion**

- To know that they have to cut food into small pieces and chew well for better digestion

#### **Positive health and prevention**

- To relate the frequency of food intake each day to dental caries
- To realize the importance of dental hygiene for oral health
- To accept the importance of breakfast as a good start for the day

### **8–10 years**

#### **Eating, individual need and personal health**

- To realize that each individual has his or her specific need for food
- To relate eating and drinking to individual need (height, weight, age and activity)

#### **Nutrients and energy**

- To know that foods contain nutrients and provide the energy needed for growth and activity

### **Foods**

- To understand why certain foods are important to health
- To identify extra foods (snacks and sweets) and their function
- To identify different types of drinks

### **Digestion**

- To know from experience that the stomach and intestines are part of the digestive system

### **Recommendations**

- To recognize that a variety of food is needed for health
- To experience the need for energy intake related to physical activity

### **Positive health and prevention**

- To be able to explain the health effects of eating too much or too little

## **11–13 years**

### **Nutrition and personal health**

- To realize the importance of nutrition in preserving their good health
- To recognize that nutrition is only one factor that influences health

### **Nutrients and energy**

- To be able to name and relate nutrients and fibre to their functions in the body
- To understand that proteins, fat and carbohydrates provide a source of energy
- To understand the relationship between energy intake by foods and energy expenditure by activities

### **Foods and nutritional value**

- To be able to classify foods into groups according to the nutrient content
- To be able to vary intake within and between food groups
- To undergo experiences that enhance self-efficacy, such as using all food groups in planning a menu

### **Digestion**

- To be able to describe the function of the different parts of the digestive system

### **Recommendations**

- To know recommendations for healthy eating and drinking

### **Apply guidelines to personal food choice**

- To identify their personal need for foods, based on nutritional needs according to age, weight and activity pattern
- To adapt the daily intake of food to the changing requirements of the developmental stage of the body

### **Positive health and prevention**

- To know that an imbalance between energy intake and energy expenditure affects weight
- To identify the link between too much fat in the diet and the effect on health
- To understand the reasons people drink alcohol
- To understand the connection between emotional problems and eating disorders, such as compulsive eating and compulsive dieting

## **14–16 years**

### **Eating and personal health**

- To make connections between food and present as well as future health

### **Nutrients**

- To identify the constituents of a varied diet: protein, fat, carbohydrate, fibre, vitamins, minerals, energy and water

### **Foods**

- To understand that no single food contains all the essential nutrients and that no food can be solely “healthy” or “unhealthy”
- To recognize the importance of a balanced diet
- To assess diets at a food and nutrient level

### **Recommendations**

- To understand the implications of recommended daily food intakes
- To reflect on the use of recommendations for personal needs

### **Apply guidelines**

- To be able to take care of their own meals and snacks
- To make informed choices concerning their nutrition
- To be able to apply the principles of balance and moderation to their daily food intake

### **Digestion**

- To understand how the body processes food and makes nutrients and energy available

### **Positive health and prevention**

- To look critically at their habits of alcohol intake and its effects
- To relate meal patterns to dieting and slimming
- To recognize signs of eating disorders
- To focus on the relationship between eating habits, health-related diseases and disease prevention (specifically fat, sugar, fibre and energy)

## **D. Food production, processing and distribution**

The food chain; production of plant and animal foods; the food industry; factors influencing food production; food manufacturing and processing (novel foods, product design and biotechnology); distribution of food in the world; the politics of food; food policies; the environmental implications

## **4–7 years**

### **Food production**

- To understand that all foods originate from plants and animals

### **Food industry**

- To understand that some foods are made or changed in factories

### **Food manufacturing and processing**

- To understand that some foods need to be prepared in order to eat them
- To know that foods start from raw material, such as flour in bread

### **Food distribution**

- To realize that food is produced in one place and transported to the shops

## **8–10 years**

### **Food production**

- To be able to identify the origin of certain plant and animal foods
- To be able to describe which foods are produced by farming or fishing in their own country

### **Food industry**

- To identify which products are produced in factories

### **Food processing**

- To be able to explain the stages of processing: wheat to flour and flour to bread
- To realize that certain products are difficult to link with their original raw ingredients

### **Food distribution and inequity**

- To realize that food is not equally distributed in the world and understand the reasons why

### **Environmental aspects**

- To be able to identify simple environmental effects of food packaging

## **11–13 years**

### **Food chain**

- To understand that plants are the basis of the food chain

### **Food production**

- To identify food production techniques in their country: dairy farming, livestock farming, vegetable growing, hothouses, grains and cereals

### **Food industry**

- To recognize the various stages that original raw materials or products undergo in the factories and the difference between ingredients and the end products

### **Factors influencing food production**

- To understand the influence of climate on food production in their country
- To understand the ecological principles of food production

### **Food processing**

- To relate the processing of certain foods in their country to the products in the shop, such as milk, cheese, meat and bread
- To understand that foods are processed to make them edible or more palatable, to improve keeping qualities or for convenience and to make profit

### **Food distribution**

- To realize that world and national trade determines the distribution of food worldwide and at the retail level
- To recognize the impact of the influence of increasingly large food corporations or conglomerates on food prices, the types of food available, national food policies and food producers

## **14–16 years**

### **Food processing**

- To realize that processing of foods may affect nutritional value
- To be aware that only one quarter of most people's food in Europe is not processed

**Food production and industry**

- To be aware of traditional biotechnology in food production, such as yoghurt and cheese
- To be aware of new technologies such as genetic modification in food production as well as novel foods
- To be able to recount the arguments for and against these technologies
- To understand the difference between food production methods in developing countries and European countries and the effect on food security
- To be aware of sustainable methods of food production

**Food chain**

- To understand how personal food choice affects the global food system

**Food distribution**

- To be aware that food is unequally distributed in the world
- To understand that the link between the politics and economics of global and national trade influence the availability of food and food prices (European Union subsidies and national government subsidies)

**Food policies**

- To be able to identify food laws and regulations on food production and processing in their country

**Environmental aspects**

- To recognize the environmental aspects of food production practices: climate, transport, packaging and waste
- To recognize the ecological impact of food production practices such as the use of pesticides, fertilizer and biotechnology

**E. Consumer aspects of foods**

Food quality; shopping and buying; the interests of the buyer and seller; planned or impulse buying; handling a budget; the influence of advertising and marketing; the function of packaging; food labels (misleading labels and regulations); supply in food shops; markets and supermarkets; the environmental implications of consumption patterns

**4–7 years****Food supply in shops**

- To be able to recognize certain stores such as the baker or butcher

**8–10 years****Shopping and buying skills**

- To know how to perform an errand and handle the money required for it

**Food shops**

- To identify the different types of shop where food is sold

**Environmental aspects**

- To know the environmental impact of packaging

**Food labels**

- To recognize basic information on food labels such as the best before or expiry date

**Influence of advertising**

- To be able to recognize an advertisement as a method of selling products

**11–13 years****Influence of advertising**

- To understand why and how advertisers influence people

**Shopping and buying skills**

- To be able to handle a shopping assignment (money and the right product)
- To be able to identify the same food item in different packages and wrappings

**Supply in food shops**

- To be aware of the different supply of food products in different shops

**Food labels**

- To understand the information on storage included on the label
- To be able to read ingredient lists on labels

**14–16 years****Shopping and buying**

- To be able to prepare a shopping list
- To be able to establish a food budget for a given period of time
- To be able to buy according to their actual need
- To be able to compare prices and quality

**Food labels**

- To know how to read the information on food labels (nutrient value, ingredients, use of additives and expiry date)

**Quality of food**

- To understand how to determine the quality of food: for example, freshness, colour and smell

**Influence of advertising**

- To be able to understand the advertising techniques used in supermarkets, markets and other shops and in the mass media
- To be able to be critical of the messages given by advertising

**F. Food preservation and storage**

- Life cycle of foods; food storage; hygiene; food poisoning; food preservation: additives; food irradiation; national or European Union rules and regulations

**4–7 years****Life cycle of foods**

- To realize that foods have a natural life cycle that ends in decay unless they are preserved or stored well

**8–10 years****Hygiene**

- To understand the basic rules of hygiene in food storage

**Food storage**

- To know how to store different types of food

**Food packaging**

- To understand that packaging can be used to preserve food

**11–13 years****Food storage**

- To understand the use of cold storage, such as a refrigerator or freezer
- To understand the concept of the shelf life of a product

**Food preservation**

- To recognize the different methods of preserving nutritional value and of reducing spoilage

**Food spoilage**

- To recognize when food is spoiled

**14–16 years****Food preservation**

- To know different methods for preservation such as cooking, sterilization, freezing, canning and drying
- To know that preservation techniques affect nutritional value
- To understand why industry uses additives

**Food spoilage**

- To explain how food spoilage can be prevented by inactivating microorganisms

**Food storage**

- To know how to store different foods and for how long
- To be able to read labels for storage instructions, additives used and production techniques used

**Rules and regulations**

- To be able to look up national or European Union rules and regulations
- To know about new technology such as food irradiation

**G. Food preparation**

- Food and personal hygiene; cooking techniques; planning the process; serving food; eating as a social event or celebration; safety

**4–7 years****Hygiene**

- To understand that hands should be washed before eating or touching foods
- To understand that fresh fruits and vegetables should be washed and/or peeled before eating

**Setting the table**

- To be able to help setting the table

**Food preparation**

- To learn how to enjoy simple tasks in food preparation

**Safety**

- To understand that caution is needed in the kitchen because sharp utensils are used in preparing food



**8–10 years****Food preparation**

- To be able to prepare sandwiches and simple snacks

**Cooking techniques**

- To know simple techniques for preparing food

**Reading recipes**

- To be able to follow simple recipes

**Hygiene**

- To understand that hands, utensils and dish towels need to be clean before food preparation is started

**Safety**

- To be able to behave safely in simple food preparation activities

**11–13 years****Food preparation techniques**

- To be able to experiment with different food preparation techniques

**Recipes**

- To know how to use recipes
- To be able to measure ingredients for cooking

**Hygiene**

- To be able to apply the principles of food hygiene to real-life situations

**Safety**

- To learn how to use sharp utensils safely in food preparation

**14–16 years****Meal preparation**

- To prepare (simple) meals or dishes for themselves
- To prepare a simple meal at home, taking others' wishes into account

**Techniques**

- To apply different cooking techniques, the use of appropriate equipment and other skills for food preparation

**Hygiene**

- To be able to recognize and avoid crucial points of possible contamination

**Planning process**

- To know how to plan the process of cooking and preparing food

**Serving food**

- To arrange food attractively when serving it
- To recognize that food preparation and eating is a social event

**Safety**

- To be able to use a range of kitchen equipment safely, confidently and independently
- To be able to respond appropriately in emergency situations



**ANNEX 3. TABLES**

Table 1: Nutrition problems that affect preschool children and schoolchildren in the European Region

<b>Condition</b>	<b>Characteristics</b>	<b>Effects on schoolchildren</b>
<b>Overnutrition (overweight or obesity)</b>	More food energy is consumed than expended, resulting in excess body fat	Elevated blood cholesterol and high blood pressure, associated with increased adult mortality
<b>Iodine deficiency</b>	The body is low or depleted of iodine, which is vital for cell differentiation and synthesis of thyroid hormone	Can affect brain development, learning disabilities and, when severe, grossly impair mental development; impairs reproductive capacity
<b>Iron-deficiency anaemia</b>	The body is depleted of iron stores (reduced red blood cell count), hampering the body's ability to produce haemoglobin, which is needed to carry oxygen in the blood; most common in girls	Increased fatigue, shortened attention span, decreased physical and intellectual work capacity, reduced resistance to infections and impaired intellectual performance
<b>Eating disorders</b>	Severe disturbances in eating behaviour, resulting in extreme thinness or overweight	Reduced self-esteem, feeling of inadequacy, anxiety, social dysfunction, depression, moodiness
<b>Anorexia nervosa</b>	Intense fear of becoming obese and refusal to eat, leading to significant weight loss	Mainly adolescence
<b>Bulimia nervosa</b>	Compulsion to binge eat and then purge the body by self-induced vomiting or use of laxatives	Mainly adolescence

Table 2: Trends in eating and drinking and the effects among children and young people in the European Region

<b>Daily food intake</b> Distribution pattern	<ul style="list-style-type: none"> <li>▪ Skipping meals, mainly breakfast</li> <li>▪ Eat more often (snacking), apart from formal meals</li> </ul>
<b>Fruits and vegetables</b>	<ul style="list-style-type: none"> <li>▪ In many countries a high proportion of young people eat less than desirable</li> </ul>
<b>Hamburgers, hot dogs and other fatty products</b>	<ul style="list-style-type: none"> <li>▪ High consumption increases fat intake</li> </ul>
<b>Drinks</b>	<ul style="list-style-type: none"> <li>▪ Alcohol: consumption may be a problem among adolescents</li> <li>▪ Soft drinks: high consumption increases sugar intake</li> </ul>
<b>Availability and access to food</b>	<ul style="list-style-type: none"> <li>▪ In deprived areas in large cities as well as in some part of countries in the eastern part of the European Region, the amount and variety of food available and accessible may not be adequate, especially vegetables and fruit</li> </ul>

**Table 3: Examples of dietary guidelines and food guides for the general public in selected countries****Denmark**

Madpyramiden (food pyramid):

Meat, fish, egg

Vegetables, fruit

Bread, grains and potatoes

Milk and cheese



Danish food pyramid

**Food and Agriculture Organization of the United Nations**

Get the best from your food

Enjoy a variety of food

Eat to meet your needs

Protect the quality and safety of your food

Keep active and stay fit

**Finland**

Vegetables and fruit

Cereal foods

Milk, cheese and yoghurt

Meat, poultry, fish, eggs, nuts

Potatoes

Oil and fat



Finnish food circle

**France**

Have regular meals, eat a variety of foods

Fruit and vegetables should be a priority in the diet

Do not abuse fats

If you drink alcohol, drink moderately

Be active

Weigh yourself every month

**Germany**

Seven food groups:

Cereals and potatoes

Vegetables, legumes and nuts

Fruits

Drinks

Milk and dairy

Meat, sausages, fish, eggs

Fats and oils



German food circle

**Hungary**

Reduce sugary snacks

Drink 1/2 litre of low fat milk per day

Eat fresh fruits, vegetables and salads more often

Always have whole grain bread on the table; choose potatoes over rice

Quench thirst with water

**Netherlands**

Bread, cereal products and potatoes

Vegetables and fruit

Meat, fish, poultry, egg, cheese, milk, soy-products

Oil, margarine, fats

A stream of water with a glass: fluids



Dutch food model

**Norway**

The joy of eating is healthy – be friends with your food.

Use soft, vegetable margarine or oil instead of hard margarine or butter.

Replace whole milk by low-fat or skimmed milk, and choose other dairy products with less fat on weekdays.

Use white or brown sauces where they are suitable, instead of melted butter or mayonnaise.

Eat more fish of all types, both on sandwiches and for dinner. Eat both fatty fish, such as mackerel and herring, and lean fish, such as cod and coalfish, should be eaten more often.



Norwegian food model

**Slovak Republic**

It is not appropriate to increase intake of meat, but it is necessary to improve the pattern of meat intake (less pork, more poultry)

Increase intake of fish

Increase intake of milk and milk products and, at the same time, improve their pattern (more fermented and low-fat dairy products)

Decrease consumption of eggs

Increase intake of legumes

Increase intake of potatoes

Increase intake of vegetables

Increase intake of fruits

**Spain**

Food pyramid:

Bread, rice, pasta, other cereals and potatoes

Vegetables and fruit (4 or more servings)

Milk, yoghurt, cheese (3 servings) and olive oil

Fish, poultry, eggs, dry legumes (2 servings)

Meat, butchery, fats, sweets: use sparingly

Practice some physical exercise regularly

Water



Portuguese food pyramid



**Sweden**

Matpyramid (food pyramid)

Bread and other cereals, potatoes,

Milk, cheese, table fat

Vegetables, fruit, fruit juice, dry legumes

Meat and fish

**United Kingdom**

Food plate:

Fruit and vegetables (including canned and frozen)

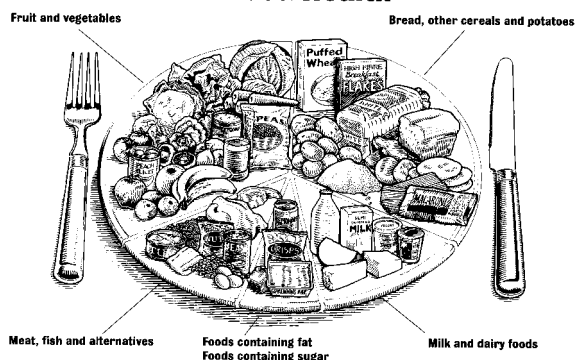
Bread, other cereals and potatoes (choose high fibre)

Meat, fish, dry legumes, nuts, eggs

Milk, yoghurts, cheeses

Fatty and sugary foods

**The Balance of Good Health**



United Kingdom food plate



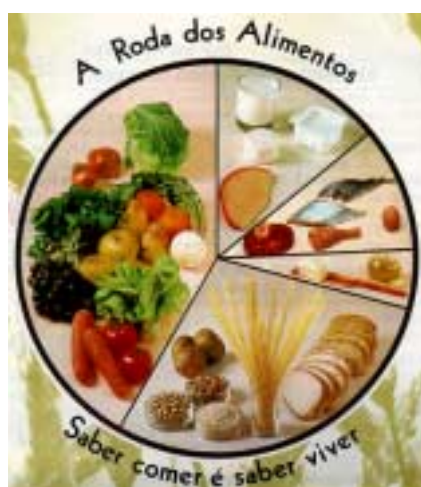
Czech food pyramid



WHO food pyramid



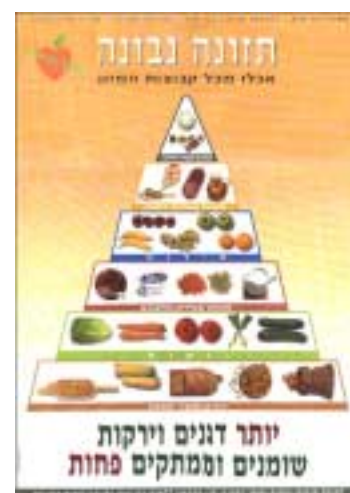
Belgian (Flemish) food pyramid



Portuguese food circle



Greek food pyramid



Israeli food pyramid

## ANNEX 4. GUIDELINES FOR POLICY-MAKERS

These notes summarize **Healthy eating for young people in Europe**, the school-based nutrition education guide of the European Network of Health Promoting Schools. The notes explain what the guide is aiming to do and how it can be used to improve nutrition education in your country's schools.

The guide has been produced after lengthy consultation with key experts in the countries of the European Union and has been funded by the European Commission.

The guide is aimed at curriculum designers, teacher trainers, schools advisers, health promoters and anyone else who directly influences nutrition education within the school.

The aim of these notes is to inform you, and we hope that they can enable you to give your support and backing to the ideas contained in the guide.

### **Why is nutrition education in the school important?**

Concern is increasing about the diet of young people, which is poor in many countries. Much is known about the links between poor nutrition and disease in later life; obesity is on the increase throughout Europe, more fast food is being consumed, and the social practice of families sitting down to eat together appears to be declining. Recent research has shown that more children know how to play a videocassette than to boil an egg. Children need basic life skills, not just in cooking but also skills as consumers, in solving problems and in making decisions. Many countries have started campaigns to promote healthy eating, and since good nutritional habits are laid down in early life, the school is an obvious place to emphasize healthy eating. The guide provides a framework to do this.

### **The health-promoting school**

The European Network of Health Promoting Schools was set up in 1991 as a joint project of the WHO Regional Office for Europe, the European Commission and the Council of Europe. Forty countries in the European Region of WHO are involved in the Network. The Network has done a great deal to make schools healthier places in which to study and work. Some countries also have their own health-promoting school initiatives, such as developing healthy school awards. Although schools may have always been concerned with children's health and wellbeing historically, this has been given added impetus over the last decade, and many exciting and innovative projects are underway.

### **A health-promoting school concerned with nutrition education would be expected to:**

- have nutrition teaching that is provided adequate resources;
- develop a statement of policy about nutrition education;
- focus on the enjoyment of food;
- promote training for staff – teachers, caterers and cleaners – in healthy eating;
- provide comfortable surroundings in which children and staff can enjoy eating;
- enable healthy choices if food is provided at the school;
- involve parents and the wider community;
- be explicitly concerned that no child is hungry while at school and that poor nutrition does not affect learning;
- coordinate all aspects of nutrition education to ensure efficient use of resources and to minimize contradictory messages; and
- ensure that all staff are committed to the goals of the health-promoting school and be explicitly concerned about the health and wellbeing of both pupils and staff.

**What is happening in other European countries?****Much is happening already. Here are a few examples:**

<p><b>In Belgium,</b> a curriculum development project has encouraged multi-agency working. <i>Je mange bien a l'école</i> has produced changes in both the formal curriculum and also the school environment.</p>	<p><b>In England,</b> school nutrition action groups have been set up to help children make wise decisions about food and to develop healthy alliances between caterers, managers and schools.</p>
<p><b>In the Netherlands,</b> health promotion officers initiated the Food Shop, where real products are taken around to over 250 schools and children can learn about consumer choices and healthy eating.</p>	<p><b>In Spain,</b> low-income neighbourhoods have been the target for work with parents and 8- to 12-year-old children. Again, healthy alliances have been developed, and social workers, community workers, parents, teachers and children are working together.</p>

The guide intends to encourage the further development of nutrition education in European schools by providing a framework for nutrition education objectives for four age groups from 4 to 16 years old. It offers practical guidance on how to structure the curriculum, in the three areas of:

- the taught curriculum – in the classroom;
- the whole school ethos – what happens in the rest of the school; and
- family and community links – valuing the contribution of parents and the wider community.

The guide includes case studies from a range of European countries. We know that a lot is already happening in our schools. So we do not want to impose ideas from above – it is important that European countries keep their distinctive cultures and customs, particularly about food and eating – but we want to offer support and specific ideas for strengthening how we enable young people in Europe to learn about food and healthy eating.



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