



OSH in the school curriculum: requirements and activities in the EU Member States



European Agency for Safety and Health at Work

WORKING ENVIRONMENT INFORMATION



OSH in the school curriculum: requirements and activities in the EU Member States



European Agency
for Safety and Health
at Work

Based on a report prepared by Katalin Sas, Finnish Institute of Occupational Health, for the European Agency for Safety and Health at Work, 2006

Editor and Project Manager Sarah Copsey, European Agency for Safety and Health at Work, 2007

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FOREWORD



The importance of taking a twin-track approach to the safety of young workers — through the classroom and in the workplace — is now well recognised in the field of occupational safety and health (OSH) and it has held a prominent position in the European Community health and safety strategy since 2002.

In support of the Community strategy goals on mainstreaming OSH into education, the European Agency for Safety and Health at Work has been gathering and analysing individual examples of good practice in the area. One finding of its previous work is the importance of formally including OSH and risk education in the education curriculum in order to ensure that it finds its way into the classroom in a systematic, consistent and enduring way. Therefore, the aim of this report is to present a review of the extent to which the Member States are taking the 'curriculum' approach, and the form it is taking.

This overview is timely, as reforms to the education curriculum are rapidly being implemented in the Member States, partly as a result of the European cooperation strategies on education that have been agreed by the Member States. In view of this, the report finds that there is both a convergence of the actions being taken to include risk education in the curriculum and a diversity in approach due to the differing national contexts and differing situations at the various levels of education.

The report provides both an overview of national situations and also suggestions for the way forward. As this is a rapidly developing area it is hoped that the report will come at a timely moment to assist all those working in the area, including OSH, education and curriculum authorities, and also those closer to and within the classroom who are seeking to promote risk education in schools, colleges and universities.

Jukka Takala
Director
European Agency for Safety and Health at Work
July 2009



EXECUTIVE SUMMARY

OSH in education curricula — Member State activities

To underpin occupational safety and health (OSH) education in schools and colleges it is necessary to formalise it in curriculum requirements. This report reviews how the Member States are including OSH and risk education in their national curricula. The report shows that there is considerable progress and activity in this respect at both primary and secondary education levels in terms of both implemented and planned actions in the Member States. Actions to include OSH in education at the curriculum level include:

- statutory requirements;
- voluntary curricula;
- guidelines and resources to support the statutory requirements and voluntary curricula;
- formal recommendations;
- national guidance and resources in cases where no curricula have been set;
- promotional campaigns to support the above.

Cooperation on education at the European level is resulting in a convergence in the core subjects and learning objectives in schools across the Member States. Risk education and OSH are generally not treated as a stand-alone subject; instead opportunities are being taken to incorporate them into the learning objectives of other relevant subjects in school curricula, such as science, physical education, health education and citizenship. It is therefore important to develop risk education and OSH learning objectives for the core curriculum subjects for different age levels.

In introducing OSH and risk education into the curriculum a strong partnership approach is often taken involving bodies such as OSH authorities, education ministries and curriculum authorities. As national curricula change and develop, OSH authorities also need to be able to influence this process at the proposal stage.

Many innovative resources have been produced at national and regional level in the Member States to support teaching. Resources and classroom teaching plans that are linked to the curriculum will be most useful.

In some Member States, such as Sweden, integrated approaches are taken whereby the teaching of risk education is linked to a safe learning environment for teachers and pupils and also the health of the pupil at school. Some initiatives are supporting the promotion of risk education in schools while at the same time providing support to schools to improve safety in school buildings. Pupils may be actively involved in school safety issues, for example through the designation of pupil safety representatives — which is a legal requirement in some Member States — and pupil involvement in hazard spotting in schools.

While there are some excellent resources available for teachers, much less attention has been paid to the preparation of teachers themselves. It is recognised that teachers need training in how to deliver risk education, and if they do not have such training — and risk education is just one option on the curriculum to choose from — they may be reluctant to attempt to teach it and opt for a topic that they feel more comfortable with, even if they have been provided with good resources. Therefore, training programmes are needed for existing teachers, and OSH and risk education teaching needs to be included in the curriculum of teacher training courses for future teachers.



Teachers at all levels of education need this preparation. However, formally embedding risk education into the teacher training curriculum is likely to be a challenging task for the OSH community.

The greatest challenge is to mainstream OSH into university education in order to reach future engineers, architects, medical professionals, business professionals, managers, etc. The mainstreaming of OSH into university-level courses is the least well developed area for various reasons, which include the lack of direct national government control over university teaching. Actions to include OSH in relevant courses such as engineering or business studies are therefore ad hoc, and often dependent on the interest of individual professors or particular advocates within professional bodies. Professors need convincing of the need to include OSH in courses. They also need relevant materials. Nevertheless, there are some examples of good practices, for example in the area of engineering.

Examples of pupil competences set for curriculum subjects that can relate to risk education

Examples of personal and social competences

- to acquire and demonstrate safety skills
- to take responsibility
- to be able to ask for help
- to develop the confidence to give advice
- to deal with unhelpful stereotypes and pressures
- to recognise risk and make safer choices

Examples of health competences

- to be able to apply first aid
- to promote a healthy lifestyle

Examples of citizenship skills

- to understand the need for rules
- to take part in making and changing rules
- to research and discuss local and topical issues
- to consider social and moral dilemmas
- to participate in decision-making

Examples of career-related learning

- to meet and talk with people with a range of work roles and skills
- to identify their own skills and achievements
- to think about ways to develop these skills further

Examples of risk education-specific competences, e.g. as part of practical curriculum subjects

- to know about hazards, risk and risk control
- to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others
- to use information to assess the immediate and cumulative risks
- to manage their environment to ensure the health and safety of themselves and others
- to explain the steps they take to control risks



Some success factors for mainstreaming OSH into education curricula

- Make a clear commitment and provide adequate resources.
- Set objectives for mainstreaming OSH into education in the national OSH strategy.
- Base activities on research into what is taking place in reality, what can be realistically achieved, what works best, etc.
- Develop close cooperation with education authorities and especially with curriculum-setting bodies.
- Identify opportunities in the education curriculum and seek to influence the curriculum as it changes and develops.
- Tailor proposals and initiatives to the core curriculum and current teaching policy and methods, including the integration of risk education across the compulsory and non-compulsory curriculum. Key areas for integration include the frameworks for personal, health and social education and citizenship. Risk education should also be incorporated into health promoting schools ('healthy schools') programmes.
- Develop learning objectives for OSH and risk education for the relevant subjects in the curriculum framework matched to the age and ability of children and young people. Focus learning objectives on developing an understanding of risk, including hazard recognition, risk assessment and developing informed safer behaviour.
- Provide OSH/risk education resources appropriate to the various curriculum subjects and age levels.
- Provide professional development in risk education for teachers and trainers. Training is needed for teachers at all levels, both as part of the professional development of (existing) in-service teachers and in trainee teacher programmes. Consider the needs of others involved in education such as those involved in the management of schools, and parents too.
- Develop partnerships with key promoters of risk education to achieve a consistent approach and avoid duplication.
- Pilot initiatives, monitor and review progress.
- Exchange experiences and network.
- Place learning about risk within a whole-school approach to safety and risk. The approach should cover both a safe learning environment for pupils and staff health and safety. Link this in turn to 'healthy school' initiatives.



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INTRODUCTION

Background

Pre-work health and safety education and training are part of preparing young people for work, and part of the lifelong learning agenda. Young workers in Europe suffer a higher than average rate of non-fatal accidents at work, and are especially likely to have an accident in the first few weeks of starting a new job. To improve the safety and health of young workers as they start work it is necessary to provide them with safe and healthy workplaces, suitable jobs and appropriate training and supervision. Because many young people enter the labour market with little or no knowledge of workplace risks and preventive measures, it is also important to include risk education as part of their schooling. This will prepare them as much as possible for this aspect of their future work and to promote a prevention culture in future generations. The European campaign on safety and health at work 2006, 'Safe start', therefore aimed both to raise awareness and promote the safety and health of young people in the workplace, and to promote the inclusion of risk education in education. A report into workplace accidents and ill health among young people (*Young workers, facts and figures*) by the Agency's Risk Observatory also supports this twin approach.

Around 430 workers in Europe under the age of 25 are killed at work each year (2002 figures for the EU-15 from European Statistics on Accidents at Work (ESAW), Eurostat).

Every year, Europe's workers aged 18–24 suffer around 714 000 accidents at work that are serious enough for them to lose three working days or more (this represents about 16 % of the total of non-fatal accidents at work based on 2002 data for the EU-15 from ESAW, Eurostat). The report *Young workers, facts and figures* by the Agency's Risk Observatory provides a comprehensive review of the situation.

The European Agency for Safety and Health at Work started its activities on mainstreaming occupational safety and health (OSH) into education with a seminar for experts and stakeholders in 2002, followed by a report of case studies in 2004. One of the conclusions from the 2002 seminar was that OSH teaching should be integrated into the school curriculum. The 2004 report supported this conclusion and included some examples of activities to this end, demonstrating that Member States were indeed taking action in this area. The 2004 report reinforced the importance of taking a 'curriculum approach'. This report takes this work a step further by providing a more detailed overview of Member State actions to include occupational safety and health and risk education in education curricula. This is a developing area and previous Agency work has found that despite cultural and legal differences there is considerable potential for sharing experience on initiatives on integrating OSH into education across the Member States (see appendices for more details of the conclusions of these reports). Integrating safety and health into the educational curriculum is a major task, which means that sharing of information and experience in this area is especially important.

Objectives

The aims of this report are to:

- provide an overview of the extent to which teaching of OSH and risk education are covered in education curricula in the Member States, either as a teaching requirement or on a voluntary basis;



- provide information about how Member States include OSH in their education curricula and the types of support available to schools, colleges and teachers;
- support the sharing and exchange of information in this area.

What is mainstreaming?

Mainstreaming or integrating safety and health into education and training means:

- teaching safety and health attitudes and behaviour to children and younger people and developing their knowledge about risks and risk prevention;
- ensuring the safety and health of staff and students in educational establishments and promoting a prevention culture.

Mainstreaming in relation to health and safety is about making risk management principles and 'OSH thinking' an intrinsic part of the way decisions are made and actions are taken in the workplace, so that health and safety is not just an 'add-on'. It is part of developing a good OSH culture. It is easier to achieve this if workers and employers already come to the workplace with a good understanding of OSH, and a developed culture of 'risk prevention'. This is of even greater importance at a time when the world of work is changing rapidly. There are new forms of work organisation, new technologies and new contractual relationships leading to ever more complex working environments, which all have implications for risk management.

Integrating or mainstreaming OSH into education forms a key part of developing a prevention culture by teaching children and young adults to live and work safely. Risk education should be systematically included in education at all levels, in order to make young people aware of the problem, provide them with an understanding of the issues, and change the attitudes of future generations. Mainstreaming OSH into education is necessary to ensure that young people really are informed about core principles of risk awareness and prevention before they enter the world of work. Education at all stages, from the nursery level through to university education, can play a key role in boosting the prevention culture. But it should not stop there. Health and safety education should be a part of the life-long learning process, from pre-school onwards.

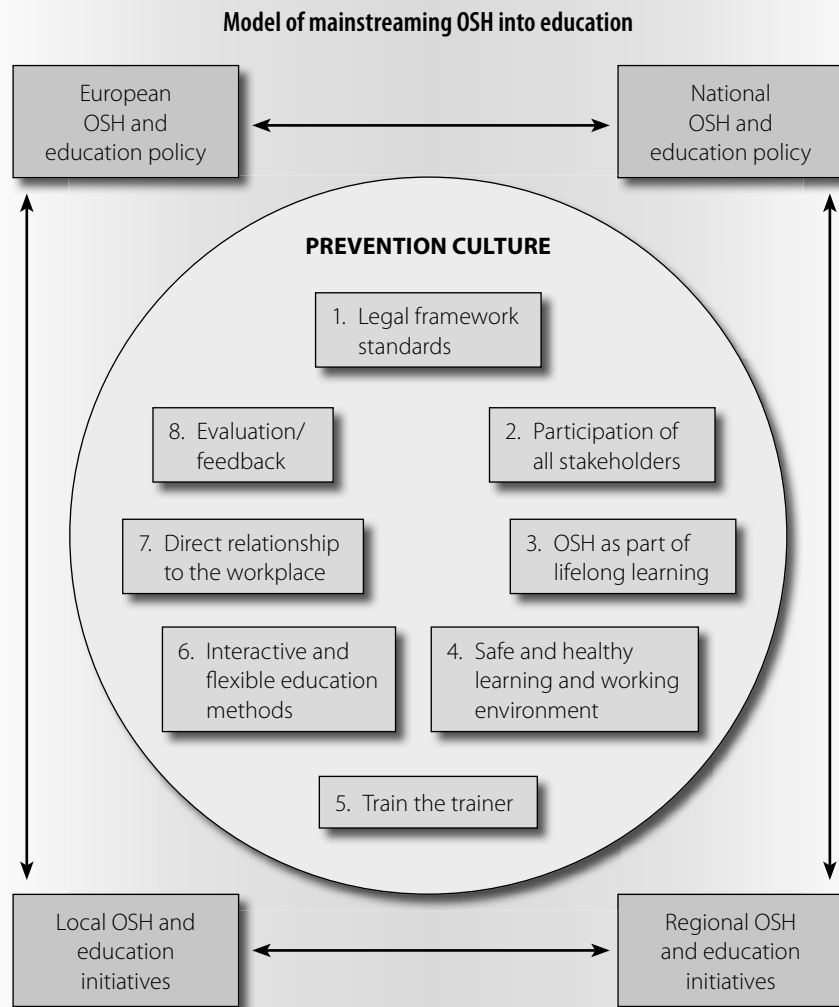
Mainstreaming OSH into education means integrating one policy area — occupational safety and health, into another policy area — education. This means that different systems, with different institutions and different thinking, have to communicate with one another and to take joint action.

Figure 1, taken from the Agency's mainstreaming report of 2004, shows some of the factors involved.

Risk education should first make children aware of what is dangerous in their environment (at home, at school and at play) and what they should do to help make themselves and those around them safer. As a child grows up, their knowledge of risk assessment and management should develop. As young people make career choices their risk education should become more specialised to cover OSH issues, including links to their chosen future profession. It is important to bear in mind that risk education is not about isolating children and young people from all potential hazards, but about equipping them to deal with situations safely.



Figure 1: Model of mainstreaming OSH into education



Source: Mainstreaming occupational safety and health into education — Good practice in school and vocational education, p. 8, Report TE-59-04-104-ENC.

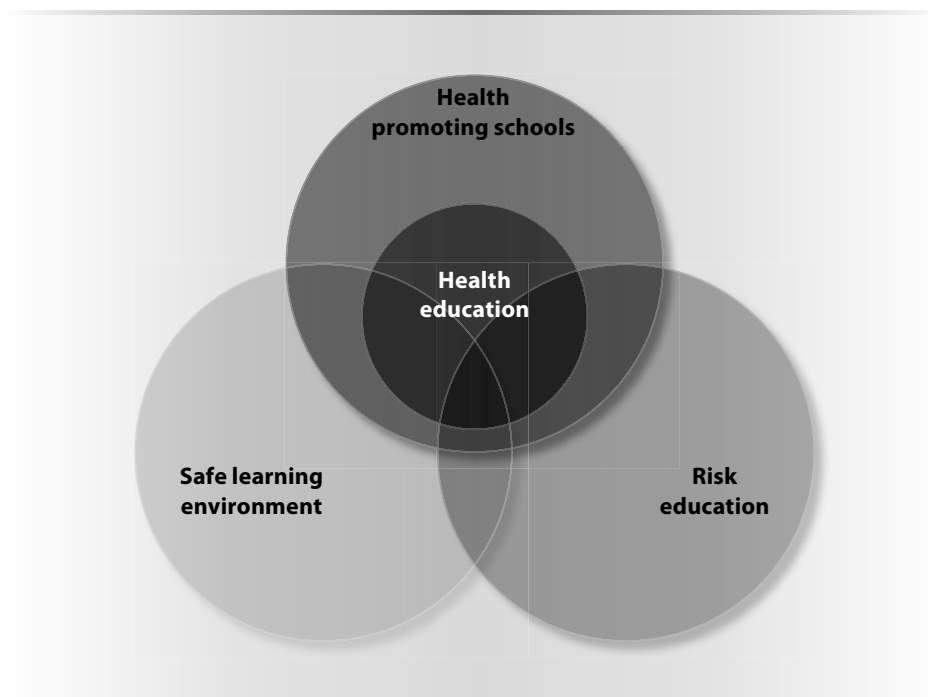
Health promotion and safe learning environments — part of a global mainstreaming approach

Public health is also being mainstreamed into education in many Member States, for example through the explicit inclusion of ‘healthy lifestyle’ issues in school curricula and the broader initiative of health-promoting schools. There is an obvious crossover with teaching risk education here, and the two initiatives should be complementary and work together. See also the section on EU networks/European Network for Health Promoting Schools.

Safe learning environments: Schools and colleges also have a duty to provide a safe workplace for their staff and it is increasingly recognised that the creation of a safe and healthy learning environment can be used to support risk education of pupils.

For examples, see ‘hot topic No 2 — Safe schools’, on the ENETOSH website http://www.enetosh.net/webcom/show_article.php/_c-29/_nr-56/_p-1/i.html Ideally, an integrated approach should be taken where all three areas (health promotion, risk education and a safe school environment) are combined as illustrated in Figure 2:



Figure 2: An integrated approach

The importance of including OSH in educational curricula

One of the conclusions of the Agency seminar in 2002 was the importance of formally including OSH in educational curricula, backed up by resources and training for teachers. The importance of integrating OSH into core school subjects and not only having it as a separate stand-alone subject was also highlighted. The Agency's mainstreaming OSH into education report of 2004 found that legislation can be an incentive and a reason to set up an OSH and education project. Furthermore, the report concluded that mainstreaming OSH into education and training in a systematic and sustained manner requires the integration of health and safety issues as a cross-cutting subject into the national core curricula at all levels of education, and an holistic approach to health and safety issues.

As mentioned, the 2002 seminar identified the integration of OSH into the curriculum as one of a number of key success factors in national projects. Having OSH integrated can also support the other key success factors, such as making it a priority, engaging intermediaries, promoting partnerships, promoting collaboration between ministries and institutions, establishing it as a crucial element of education and training, making available resources and training for teachers, using appropriate teaching methods, integrating OSH into all stages of education and across subjects, and having a sustained approach across time.

Having OSH requirements as part of education curricula:

- enables the teaching of OSH to become systematic and a sustained part of the whole school educational process and not just dependent on the enthusiasm of individual teachers;
- sets the context for actions, partnership development, etc.;
- promotes the development of resources (training materials and training for teachers);



- puts it on the agenda and helps to make it a priority, and provides motivation for action;
- can provide funding for development, implementation and evaluation of activities;
- stimulates action by interested, non-governmental partners;
- provides the context for setting standards for risk education.

The 2002 seminar found that most Member States had OSH modules included in the curriculum at most stages of education, in varying stages of development. Also noted was the amount of innovation in tackling OSH in education, and the impressiveness of some partnerships and national programmes. The 2004 report noted the move towards including OSH in a cross-curricular manner across many different school topics, and also the development of the specification of key competences in OSH for pupils, students and teachers. This report takes a more systematic look at the current situation.

Findings related to taking a 'curriculum approach' from previous Agency activities

Conclusions from the 2002 seminar

- OSH should be integrated into the curriculum with an appropriate balance of theory and practice. OSH elements should be integrated into core subjects and not only comprise a stand-alone subject.
- Teachers and trainers need to be trained in risk education and OSH. It is not enough to simply create tools and hand them over to the teachers.
- Teachers need resources and skills to pass on knowledge on OSH. The methods and resources should motivate pupils.

'General situation in the Member States' reported at the 2002 seminar

An overview of the general situation in the Member States was presented. This set a baseline for the current status on the topic of mainstreaming OSH into education.

- In most Member States there are OSH modules included in the curricula at most stages of education — these are at varying stages of development.
- Similarly, in nearly all Member States there is some OSH legislation or guidance on training and education; some is at quite a general level, for example setting requirements for training on OSH, whereas in other cases pupils actually have similar protection to workers.
- Most Member States have had campaigns to introduce OSH issues into education; some have been national or regional initiatives while others have been locally led.
- Finally, there is some real innovation in tackling this issue, for example schools having student OSH representatives and giving them training and powers; impressive partnerships between different ministries, social partners and other organisations; and national programmes to mainstream OSH into all levels of education.

Conclusions from the 2002 seminar related to taking a 'curriculum approach'

- Safety and health have to be an inherent part of lifelong learning from pre-school education until post-retirement.



- Integrating safety and health into the school curriculum and especially in vocational education curricula is a major task.
- The way this task is carried out has changed over the last 20 years. The curriculum approach today is mainly based on two concepts:
 - integrating OSH as a **cross-curricular** topic in different subjects as a part of lifelong learning. OSH is no longer a topic primarily in scientific classes, but is also included in teaching languages and literature, for example;
 - developing key competences in OSH for pupils/students and teachers. The focus has moved from 'teaching' OSH knowledge in a 'one-way-system' to **experience-oriented learning based on a dialogue** between pupils/students, teachers and OSH professionals.
- The projects prove that legislation can be an incentive and a reason to set up an OSH and education project:
 - certain projects were born out of OSH regulations; for example, the 'School environment round' (Sweden), the Armi project (Denmark), Synergie (France) and 'Check it out' (England);
 - others found their origins in standards imposed by the educational authorities, and/or in the curricula: 'National healthy school standard' (England), 'The safe school' (the Netherlands), Splaat (England), 'OSH integrated in curricular standards' (Italy).
- Cooperation should be initiated with and among the authorities in education, employment and health.
- Specifically, the 'National healthy school standard' reveals the necessity for strong back-up, guidance and close cooperation from above, and works at national, regional and local level.
- It is clear that good communication is necessary between OSH, public health and education authorities. Both at and between international and national levels, there is a need for enhanced dialogue.

Conclusions from the 2002 Agency seminar on mainstreaming OSH into university courses

- It is very difficult to persuade higher education authorities to include OSH in degree and professional courses; possible reasons for this are that 'risk' is not seen as an academic concept and that there is a lack of competence to teach it.
- Successful integration may rely on persuading sympathetic professionals and academics to assist.
- Professionals are responsible for the safety of other people as well as themselves; therefore they are a key target group.

Key success factors in the national projects identified at the 2002 Agency seminar

- Risk education and OSH need to be seen as high priorities by stakeholders.
- Teaching these issues should start at the beginning of a child's education.
- There has to be collaboration with education and employment ministries and labour inspectorates and institutions, although this can be difficult owing to varied organisational structures and local circumstances.
- Health and safety professionals need to work in partnership with education professionals.
- It is important to engage all possible intermediaries as part of learning OSH as a lifetime skill: local teachers, employers, workers and their representatives, parents, pupils and experts should all provide support.



- OSH should be integrated into the curriculum with an appropriate balance between theory and practice. OSH elements should be integrated into core subjects and not just as a separate stand-alone subject.
- OSH should be viewed as a crucial element of training for specific employment, not simply an add-on or a one-off campaign; OSH must be presented as a key part of 'doing the job right'.
- Teachers and trainers need to be trained in risk education and OSH. It is not enough to simply create tools and hand them over to the teachers.
- Teachers need resources and skills to pass on knowledge on OSH. The methods and resources should motivate pupils.

What is health and safety in the curriculum?

In the Member States teaching and learning objectives or outcomes are being set in curricula in terms of: attitudes and dispositions or behaviour; knowledge and understanding; and skills or competences (or in terms of what the learner does, is able to do and knows and understands). The National Council for Curriculum and Assessment in Ireland suggests that regarding health and safety in the curriculum, the ideal outcome would be 'engendering certain dispositions around and attitudes towards' health and safety matters such as accident prevention, risk assessment and awareness of hazards. In order to be able to act on these dispositions and attitudes for the learner, certain skills and competences needed to be healthy and safe are also essential. And to exercise the dispositions and attitudes and apply the skills and competences, learners require certain information, knowledge and understanding. According to the NCCA, health and safety in the curriculum is concerned with:

- fostering a 'prevention culture' in young people and an appreciation of the centrality of human behaviour to accident prevention;
- fostering an understanding of and sensible approach towards risk assessment;
- generating awareness of hazards;
- enabling the identification and use of controls to prevent accidents;
- understanding key concepts and terminology in relation to health and safety;
- basic knowledge of health and safety legislation;
- knowledge of where to source and access relevant information;
- particular aspects of subjects and educational programmes such as manual handling, ergonomics, chemical safety etc.;
- embedding engagement with health and safety issues in educational activities related to work experience, preparation for the world of work and transition to working life.

(NCCA, Mapping Health and Safety in the Curriculum, Ireland, 2007)

Member State education systems

As will be explained in the section on European policies, Member State education systems vary widely. They have also been undergoing considerable revision. More details can be found at the following websites:

- EuroEducation.net (The European Education Directory): <http://www.euroeducation.net/>
- Eurydice (the information network on education in Europe): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice>



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**EUROPEAN POLICIES,
PROGRAMMES AND ACTIVITIES**

European policies set the context for national policies. Mainstreaming OSH into education is relevant to various policy areas, not only to health and safety at work — which is part of the employment policy area. It is also a matter for education and training policy and for public health. Within the public health policy area there is a link to child and adolescent accident prevention, for example, and to health promotion within schools. This section of the report takes a look at which parts of these various policy areas could be relevant to mainstreaming OSH into education.

OSH STRATEGIES AND ACTIVITIES

European Community health and safety strategy

Every five years the European Commission draws up a Community strategy on health and safety at work in the European Union. The most recent strategies have set the framework within which OSH education and training can be developed in the Member States, within the wider context of promoting a prevention culture.

The previous strategy, covering 2002–06, emphasised the importance of education and training to achieve a prevention culture and recognised that such education does not start with entry into work, but should be part and parcel of the school curriculum. It promoted both awareness-raising about risk prevention and OSH as a vocational subject in its own right. The strategy covering 2007–12 reinforces and builds upon the previous strategy in this area. Promoting a prevention culture continues to be an important area of action and, within this, the promotion of risk education at all levels of education.

Under the heading ‘Promoting changes in behaviour’ the Community health and safety strategy 2007–12 states:

‘Legislation can bring about changes in behavioural patterns. A strategy aimed at promoting a preventive culture must address all parts of society and go beyond the workplace and the working population. It should help create a general culture that values health and risk prevention.’

6.1. Integrating health and safety into education and training programmes

The experience gained at national, regional and local levels while implementing the strategy for 2002–06 shows how important it is to develop a risk prevention culture in training programmes at all levels of education and in all fields, including vocational training and university education. Primary education plays an important role, since basic preventive reflexes are developed during childhood.

Special attention should also be paid to the training of young entrepreneurs in occupational health and safety management and to training for workers to make them aware of the risks in the company and how to prevent and combat them. This is particularly important for SMEs and migrant workers.’

The 2007–12 strategy also says that the Commission will consider making a proposal for an EU recommendation on vocational and occupational training, on the basis of information from the European Agency for Safety and Health at Work and the opinion of the Commission’s Advisory Group on Safety, Hygiene and Health. It calls upon Member States to make use of the European Social Fund and other Community funding programmes to develop training projects in this area.

Both the 2007–12 and the 2002–06 strategies recognised the vulnerability of young workers and therefore the need to pay attention to their health and safety needs.



Elements of the European Community health and safety strategy 2007–12 related to OSH and education:

- fostering and promotion of a common preventative safety and health culture;
- addressing all parts of society and going beyond the workplace and working population;
- integrating health and safety into education and training programmes at all levels and in all fields;
- calling on Member States to use EU funding programmes to develop training projects;
- considering a Community instrument (recommendation) on education and training;
- meeting the needs of young workers.

Improving quality and productivity at work: Community strategy 2007–12 on health and safety at work: http://ec.europa.eu/employment_social/health_safety/strategies_en.htm

Advisory working group on OSH in education and training

The European Commission has an Advisory Committee on Safety and Health at Work (ACSH), made up of representatives from government, employers and trade unions in each Member State. A temporary working group of the Advisory Committee has been set up on education and training to support the Community strategy 2002–06 and now the strategy 2007–12.

Rome declaration on mainstreaming OSH into education and training

The Italian Presidency seminar on 'Mainstreaming OSH into education — the workers of tomorrow' took place at the international conference on occupational safety and health in SMEs held in Rome on 1 to 3 October 2003. The health and safety experts present discussed the key ingredients for a coherent strategy to mainstream occupational safety and health into education and training at European level. The outcome was the Rome declaration on mainstreaming OSH into education and training, which was presented at the close of the meeting.

The declaration proposed that the European Social Affairs Council, the European Parliament and the European Commission should: consider action to include health and safety issues in European employment guidelines; develop an action plan to mainstream OSH in education and training at the European level and carry out regular activities in cooperation with the European social partners in order to promote it; and support the development of European networks for vocational safety and health training in various sectors.

Furthermore, the declaration proposed that the EU Member States and Accession States and their social partners should consider, among other things, setting national goals and developing coherent strategies for preparing children and young people for working life by means of education and training and setting goals for improvement of the working environment in schools and other educational establishments.

Further information: See 'Rome declaration' (http://osha.europa.eu/good_practice/sector/osheducation/rome.stm).



European directives on safety and health at work

The general European directives on preventing occupational health and safety risks to employees apply to schools and other educational establishments as employers. Risks to workers should be assessed and the necessary preventive measures put in place. The Member States transpose the minimum requirements in the directives into their national legal system. Risks to health and safety in education may affect not only employees, but also pupils, students and visitors. In some Member State legislation employers also have duties under workplace health and safety legislation to prevent risks to non-workers, such as pupils, who could be exposed to hazards generated by the employers' activities. Some Member States' initiatives on risk education are combined with objectives and activities aimed at providing a safe school environment. And some Member States treat pupils as if they were employees in their legislation, for example by requiring schools to have pupil health and safety representatives.

See Council Directive 89/391/EEC of 12 June 1989, on the introduction of measures to encourage improvements in the safety and health of workers at work (sometimes referred to as the 'framework directive') at: http://ec.europa.eu/employment_social/health_safety/legislation2_en.htm

Approaches to health and safety in schools as workplaces in the Member States include:

- employees in schools covered by workplace health and safety requirements (all Member States);
- OSH legislation extended to include risks to non-employees who could be affected by the operations of the undertaking, such as pupils;
- initiatives on OSH in education combined with campaigns to improve health and safety in the school environment;
- pupils treated as 'workers' under OSH legislation; for example, they can participate in the school's safety planning and elect pupil safety representatives.

EDUCATION AND TRAINING STRATEGIES AND ACTIVITIES

'The Union must become the most competitive and dynamic knowledge-based economy in the world — capable of sustainable economic growth with more and better jobs and greater social cohesion' (European Council, Lisbon, March 2000).

'By 2010, Europe should be the world leader in terms of the quality of its education and training systems' (European Council, Barcelona, 2002).

Member State subsidiarity for education

With regard to education, under the principle of subsidiarity every Member State of the European Union retains full responsibility for the content of teaching and the organisation of its own education system action (Articles 149 and 150 of the European



Treaty). The European Union therefore does not devise or implement a 'common policy' on education. The Community's role is to contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action. The Community has specific ways of promoting cooperation in this field through action at European level.

Education and Training 2010 and the cooperation process

On the other hand, the European Union has a strategy for sustained economic growth and jobs. Set by the Council of Ministers in Lisbon in 2000, the strategy aims not only to create jobs but to create better jobs. The Lisbon strategy is relevant to OSH as good health and safety is part of quality employment. Education and training in general are crucial to achieving the objectives of the Lisbon strategy concerning economic growth and quality jobs. The European Council has therefore approved shared objectives for the Member States on education and training to be achieved by 2010, as well as setting up a work programme, 'Education and training 2010'. One of its goals is to improve the quality and effectiveness of EU education and training systems. There are objectives covering formal, non-formal and informal levels of education and training, and including vocational education, aimed at making lifelong learning a reality. The aim is to improve systems in all areas, including teacher training; basic skills; integration of information and communication technologies (ICTs); efficiency of investments; language learning; lifelong guidance; flexibility of the systems to make learning accessible to all, mobility, citizenship education, etc.

Common framework of key competences

A working group on basic skills, established in 2001, has developed a framework of key competences needed in a knowledge society and prepared a number of recommendations to ensure that all citizens can acquire them. The resultant recommendation presents a European reference tool for key competences and suggests how these competences could be better integrated into curricula, maintained and learned through life. Key competences are defined as a combination of knowledge, skills and attitudes which individuals need for personal fulfilment and development, active citizenship, social inclusion and employment.

Occupational safety and health is not mentioned explicitly in the recommendation, but implicitly it is included in the framework of the key competences.

For example, for science and technology, essential knowledge related to competences includes an understanding of the risks of applications and technology. Attitudes related to basic competences in science and technology include respect both for safety and sustainability.

Furthermore, interpersonal, intercultural and social competences 'cover all forms of behaviour that equip individuals to participate in an effective and constructive way in social and working life'.

'Personal and social wellbeing requires an understanding of how individuals can ensure optimum physical and mental health, including as a resource for oneself and one's family, and knowledge of how a healthy lifestyle can contribute to this. For successful interpersonal and social participation it is essential to understand the codes of conduct and manners generally accepted in different societies and environments (e.g. at work), and to be aware of basic concepts relating to individuals, groups, work organisations, gender equality, society and culture.'



Commission Communication sets out teacher training proposals

Relevant teacher training is crucial for achieving educational goals; this is also true of teaching risk education. Recognising that teacher training is a prerequisite for achieving the goals of 'Education and training 2010', the European Commission, under its cooperation process on education with the Member States, has set out proposals to improve the quality of teacher training. If adopted by Member States, the proposals issued in August 2007 will help promote a more systematic and targeted approach to teacher training.

At present, according to analysis by the European Commission, current systems for teacher training and education in the Member States are often failing to give teachers the training they need. In some Member States there is little systematic coordination between different elements of teacher education, which leads to a lack of coherence and continuity, especially between teachers' initial professional education and their subsequent induction, in-service training and professional development. Further, the Commission's analysis reveals that investment in continuous training and development of the teaching workforce is low. For example:

- in-service training is compulsory in only 11 Member States;
- where in-service training exists, training generally amounts to less than 20 hours per year, and is never more than five days per year;
- only half of the countries in Europe offer new teachers any systematic kind of support (e.g. induction, training, mentoring) in their first years of teaching.

The Commission Communication outlines a common framework for policies to improve the quality of teacher education. The document responds to a request, expressed in the 2004 Council and Commission *Joint report on progress towards the Lisbon objectives in the fields of education and training*, that a set of common European principles be developed to improve the competences and qualifications of teachers and trainers alike.

The Communication provides Member States with a number of broad orientations for developing policies and practices. These include:

- ensuring that all teachers have access to the knowledge, attitudes and pedagogic skills that they require in order to be effective;
- ensuring that provision for teachers' education and professional development is coordinated, coherent and adequately resourced;
- promoting a culture of reflective practice and research among teachers;
- promoting the status and recognition of the teaching profession; and
- supporting the professionalisation of teaching.

The objectives of the Communication are necessarily very broad. They do not explore in detail all the specific topics that could be covered as part of teacher training, which means that subject matter as specific as risk education is not mentioned. However, if the proposals are adopted by the Member States, they should promote review and discussion of teacher training, and this should provide an opportunity for looking at teacher training on risk education alongside other elements and issues.

Funding opportunities

To support the realisation of Europe's objectives on education and training, funding is available for projects through the European 'Leonardo da Vinci' programme and the European Social Fund (ESF).

The 'Leonardo da Vinci' programme is part of the European Commission's new 'Lifelong learning' programme and is designed to build a skilled workforce through European partnerships. The 'Leonardo da Vinci' programme funds overseas work placements



and the development of training materials with the objective of improving the provision of Vocational Education and Training (VET) across Europe. It focuses on raising the quality and relevance of VET, and provides an opportunity for organisations involved in VET to build European partnerships, exchange best practice, increase the expertise of their staff and develop the skills of learners.

The ESF supports:

- the design and introduction of reforms in education and training systems (reforms that make people more employable, that make initial and vocational training more relevant to employers' needs, and that update the skills of the educators and trainers to take account of the need for innovation in the knowledge based economy);
- networking between higher education institutions, research and technology centres and companies.

In the less developed EU regions, the ESF is funding additional types of activity as outlined below:

- reforms in education and training systems in ways that raise people's awareness of the importance of the needs of the knowledge-based society, and in particular the need for lifelong learning;
- increasing participation in lifelong learning by reducing early school leaving, reducing gender disparities in some subjects, and improving access to quality education;
- developing more researchers and innovators by supporting postgraduate studies and the training of researchers.

Project proposals on OSH in education can and have been funded by these programmes. One such example is the ENETOSH project (see section on European networks). Another example is the Edforsa project, whose reports on the coverage of OSH in education in various Member States are referred to in this report.

Further information:

'Leonardo da Vinci' programme (<http://www.leonardo.org.uk>)

European Social Fund — http://ec.europa.eu/employment_social/esf/fields/education_en.htm

Education and training 2010 — diverse systems, shared goals

A summary of EU education and training strategy in relation to the Lisbon strategy on growth and jobs

To achieve Europe's goals on growth and jobs, Heads of States or Government asked for 'not only a radical transformation of the European economy, but also a challenging programme for the modernisation of social welfare and education systems'. In 2002, they went on to say that by 2010 Europe should be the world leader in terms of the quality of its education and training systems.

Making this happen will mean a fundamental transformation of education and training throughout Europe. This process of change will be carried out in each country according to national contexts and traditions and will be driven forward by cooperation between Member States at European level, through the sharing of experience, working towards common goals and learning from what works best elsewhere (the 'open method of coordination') (see http://ec.europa.eu/education/policies/pol/policy_en.html#metode).



To ensure their contribution to the Lisbon strategy, Ministers of Education adopted in 2001 a report on the future objectives of education and training systems (see http://ec.europa.eu/education/policies/2010/doc/rep_fut_obj_en.pdf) agreeing for the first time on shared objectives to be achieved by 2010. A year later, the Education Council and the Commission endorsed a 10-year work programme to be implemented through the open method of coordination. Approved by the European Council, these agreements constitute the new and coherent Community strategic framework of cooperation in the fields of education and training. Ministers of Education agreed on three major goals to be achieved by 2010 for the benefit of the citizens of the EU as a whole:

- to improve the quality and effectiveness of EU education and training systems;
- to ensure that they are accessible to all; and
- to open up education and training to the wider world.

To achieve these ambitious but realistic goals, they agreed on 13 specific objectives covering the various types and levels of education and training (formal, non-formal and informal) aimed at making lifelong learning a reality. Systems have to improve on all fronts: teacher training; basic skills; integration of information and communication technologies (ICTs); efficiency of investments; language learning; lifelong guidance; flexibility of the systems to make learning accessible to all, mobility, citizenship education, etc.

Working groups (see http://ec.europa.eu/education/policies/2010/objectives_en.html) have each been working on one or more objectives of the work programme. Gathering experts from 31 European countries as well as stakeholders and interested EU and international organisations, their role is to support the implementation of the objectives for education and training systems at national level through exchanges of 'good practice', study visits, peer reviews, etc. With the support of the Standing Group on Indicators and Benchmarks set up by the Commission in 2002, indicators and benchmarks are being developed to monitor progress (see http://ec.europa.eu/education/policies/2010/objectives_en.html#measuring).

'Education and training 2010' integrates all actions in the fields of education and training at European level, including enhanced cooperation in vocational education and training (the 'Copenhagen process') (see http://ec.europa.eu/education/policies/2010/vocational_en.html). The Bologna process, initiated in 1999, is also crucial in the development of the European higher education area in which students can choose from a wide range of high-quality courses and benefit from smooth recognition procedures (see http://ec.europa.eu/education/policies/educ/bologna/bologna_en.html). Both processes contribute actively to the Lisbon objectives and are therefore closely linked to the 'Education and training 2010' work programme.

On 11 November 2003 the European Commission adopted a Communication presenting an interim evaluation of the implementation of the 'Education & training 2010' programme since Lisbon (see http://ec.europa.eu/education/policies/2010/doc/com_2003_65.a1_23013_en.pdf). This Communication calls for accelerated reforms in the years to come and a stronger political commitment to achieve the Lisbon goals. It constitutes the Commission's contribution to the joint report which the Education Council and the Commission submitted to the 2004 Spring European Council (see http://ec.europa.eu/education/policies/2010/doc/jir_council_final.pdf).



A key priority for the Commission is the European Qualifications Framework (EQF), which the Commission formally published as a staff working document on 8 July 2005. The objective of the EQF is to facilitate the transfer and recognition of qualifications held by individual citizens, by linking qualifications systems at the national and sectoral levels and enabling them to be related to one another. The EQF will therefore act as a translation device and will be one of the principal European mechanisms to facilitate citizen mobility for work and study, alongside for example, Erasmus, the European Credit Transfer System and Europass (see http://ec.europa.eu/education/policies/educ/eqf/index_en.html).

Based on the European Commission webpage: http://ec.europa.eu/education/policies/2010/et_2010_en.html

Vocational training agency

Cedefop, the European Centre for the Development of Vocational Training, helps promote and develop vocational education and training in the European Union (EU). It has cooperated with the EU-OSH Agency on OSH and education, for example through involvement in EU-OSHA events (see <http://www.cedefop.europa.eu>).

Further information

- Lisbon European Council 23 and 24 March 2000, Presidency Conclusions
http://www.europarl.europa.eu/summits/lis1_en.htm
- Implementation of education and training 2010 work programme — Working Group B 'Key competences', 'Key competences for lifelong learning — A European reference framework', November 2004
<http://ec.europa.eu/education/policies/2010/doc/basicframe.pdf>
- Education and training 2010: The success of the Lisbon strategy hinges on urgent reforms, Joint interim report of the Council and the Commission on the implementation of the detailed work programme on the follow-up of the objectives of education and training systems in Europe:
http://ec.europa.eu/education/policies/2010/doc/jir_council_final.pdf
- Proposal for a Recommendation of the European Parliament and of the Council on key competences for lifelong learning:
http://ec.europa.eu/education/policies/2010/doc/keyrec_en.pdf
- Proposal for a Recommendation of the European Parliament and of the Council on the establishment of the European Qualifications Framework for lifelong learning:
http://ec.europa.eu/education/policies/educ/eqf/com_2006_0479_en.pdf
- 'Teachers need good education too! The Commission proposes to improve the quality of teacher education in the European Union':
<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1210&format=HTML&aged=0&language=EN&guiLanguage=en>
- Communication from the Commission to the Council and the European Parliament: Improving the quality of teacher education, European Commission, COM(2007) 392 final, Brussels, 3.8.2007: http://ec.europa.eu/education/com392_en.pdf



HEALTH STRATEGY AND ACTIVITIES

Public health

As in the field of education, Member States have autonomy in the area of health, although the EU seeks to complement the work of the Member States in certain areas and promote a coherent and coordinated approach to public health.

The European Community health strategy has been undergoing development over the past few years. The European Commission adapted a new health strategy in 2007. Building on current work, this strategy aims to provide an overarching strategic framework spanning core issues in health, and to incorporate health in all policies. Thus the European health strategy recognises the importance of working with other policy areas. It is also very much concerned with health promotion and the importance of education and training.

Within the context of the health strategy the Commission runs a public health programme. One of the priorities of the Community action programme on public health 2003–08 has been improving health information and knowledge at all levels of society. The Communication from the Commission on the programme states that ‘In order to achieve (a high level of health and health equality) the programme should take into account the importance of education, training and networking.’

The recognition of the need to work with other policy areas and the importance of education and training in health promotion provide the basis for synergies not only between public health and occupational health and safety activities but also more specifically for synergies between health promotion in schools and risk education in schools.

Accident prevention

Another area where risk education in schools and public health can meet is activities aimed at accident prevention among children and adolescents. The 2006 EC Communication ‘Actions for a safer Europe’ defines injury and accident prevention as a priority for the public health programme, and the European Commission is co-funding projects such as Adrisk (Community action on adolescents and injury risk), a project initiated by EuroSafe, the European Association for Injury Prevention and Safety Promotion. One of the objectives of this project is to advocate for consistency in policies and educational programmes used throughout Europe that impact on the safety of young people aged 15–24. The intention is to mediate among all the relevant interest groups in society.

Further information

- Overview of European health policy, European Commission website:
http://ec.europa.eu/health/ph_overview/strategy/health_strategy_en.htm
- Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions on the health strategy of the European Community, COM/2000/0285 final:
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52000DC0285:EN:HTML>
- Community action in the field of public health (2003–08):
http://europa.eu.int/eur-lex/pri/en/oj/dat/2002/l_271/l_27120021009en00010011.pdf
- Adrisk (Community action on adolescents and injury risk):
www.adrisk.eu.com



European Agency for Safety and Health at Work

WORKING ENVIRONMENT INFORMATION



**INCLUSION OF HEALTH AND
SAFETY IN MEMBER STATE
EDUCATION CURRICULA**

In recognition that the safety and health of tomorrow's workforce depends partly on the mainstreaming of occupational safety and health into education today, more and more countries are starting to integrate OSH into school curricula as well as vocational and university courses. This part of the report provides examples of how health and safety issues are integrated into formal educational curricula and syllabuses at different levels of education in the Member States. It aims to provide a snapshot of a rapidly developing area, based largely on information gathered during 2006 with the assistance of the Agency's focal points (usually the national health and safety authorities) in the Member States. The Member States incorporate objectives and actions within their national OSH strategies to implement the Community OSH strategy. The activities described in this section have mainly been taken prior to or under the 2002–06 Community strategy. Further activities are taking place in all Member States to implement the 2007–12 strategy, but full information concerning these latest activities was not available at the time of writing this report.

In the European Union every Member State has full responsibility for the content of teaching and the organisation of its own educational system, under the principle of subsidiarity. As a consequence, the Member States' educational systems vary considerably and are not directly comparable.

AUSTRIA

Legislation

Education

The Schulorganisationsgesetz (School Organisation Act) covers compulsory education.

Safety legislation — training of apprentices

The Austrian OSH regulation on the protection of children and young people at work includes temporary restrictions regarding the use of dangerous machines by young workers. It specifies dangerous machines that a young person may not use until they have served 18 months of apprenticeship. If the young person receives special theoretical and practical training on the use of these machines the time restriction may be reduced to 12 months. A minimum of 24 hours of training is required, which must be undertaken in vocational schools for apprentices. The training must follow the so-called 'guidelines for OSH instruction' which are set and published by the Austrian Workers' Compensation Board (Allgemeine Unfallversicherungsanstalt).

Curriculum

Pre-school

Austria's central education ministry sets only very general regulations concerning health and safety education in the pre-schools. The local authorities are responsible for the content of such education. While they are obliged to educate on road safety and dangers in the home, each kindergarten can decide on how to do this; for example they can invite policemen to the school to talk to the children.



Basic school — Grundschule

The curriculum for the Grundschule is decreed by the Federal Minister for Education, Science and Culture on the basis of the 'Schulorganisationsgesetz' (School Organisation Act) and must be implemented by schools.

The curriculum for the Grundschule is framed in broad terms. It defines in general terms the educational objectives and the content to be taught in the various curriculum subjects. Within this broad framework teachers have freedom to choose their teaching methods, and under the provisions of Schulautonomie (school autonomy), schools also enjoy a certain amount of latitude in curriculum design.

Road safety is a compulsory subject in primary school that is subject to school autonomy. The subject deals with accident prevention and first aid, using teaching materials issued by the Red Cross Youth organisation. Topics include sporting accidents, mosquito bites, accidents in the kitchen and accidents in the workshop. There are stories, comics, riddles and games for each topic in this subject. At the age of 10 pupils can get a 'bicycle driving licence' that allows them to ride a bicycle alone in the street.

Lower secondary school (Hauptschule)

In lower secondary schools (Hauptschule), health and safety issues are included in the subject of domestic science and nutrition. The subject comprises four themes:

- nutrition and health
- home economics and society
- consumer education and health
- lifestyle and health.

Issues covered that relate to health and safety include basic rules of hygiene and safety management, awareness of ergonomic aspects of work, the relationship between nutrition and health, taking responsibility for one's own health, physical and mental resources, etc. Domestic science and nutrition is taught during the four years of Hauptschule, with between two and six hours devoted to the subject per week.

The subject of vocational orientation aims at familiarising the pupils with the world of work and includes issues related to OSH such as working conditions, work and health, health protection, etc.

Upper secondary school

The general cross-curricular objectives of upper secondary education are defined in five educational areas. Health and safety aspects are included in the areas of 'man and society', 'nature and technology' and 'health and physical education'. Most of the subjects dealing with accident prevention, safety etc., come under the schools' autonomy.

Initial vocational education

Austria places heavy emphasis on high quality vocational and technical education and training (VTE) oriented towards practical and economic requirements. The fact that more than 80 % of young Austrians want to undertake initial vocational training at secondary level shows its high acceptance among the population. VTE has a long tradition in Austria, not only as far as the training of apprentices is concerned, but also for full-time VTE schools, with the introduction of the first vocational and technical



college at the end of the 18th century. The Austrian VTE syllabuses generally cover occupational safety and health (OSH). The Labour Inspectorate and the Austrian Workers Compensation Board cooperate closely with VTE schools, for example by giving lectures and conducting projects such as risk evaluations of school premises.

Dangerous machines and the integration of OSH in initial vocational education

The integration of OSH prevention training into VTE requires cooperation between educational institutions and OSH institutions. Some aspects of this cooperation are governed by law. For example, Austrian OSH law does not allow young workers starting a job to use dangerous machines for up to 18 months. The time period may be reduced by undertaking specific training, which must be delivered by the vocational schools using materials developed by the AUVA (Austrian Social Insurance for Occupational Risks). The regulation also offers the possibility of adapting the education programmes on a voluntary basis.

The decree gave OSH experts the chance to influence education programmes and to provide schools with new resources for VTE, tuned to the abilities and knowledge of apprentices. In addition, the chambers of commerce pressurised schools to adapt their education programmes according to the AUVA guidelines for OSH instruction, because they wanted to ensure that all apprentices received a good grounding in OSH and training in using dangerous machines. However, there were also doubts about the competence of teachers after the occurrence of occupational accidents that blocked the delivery of entire programmes.

The AUVA developed guidelines for OSH instruction for all occupations concerned based on the dangerous machines listed in the law and their specific use at work within these professions. The various procedures for training on the different machines are outlined. The guidelines were developed along with representatives of the social partners and introduced to vocational schools for apprentices during a series of seminars. Within a year almost every vocational school for apprentices had sent teachers to these seminars, where every participant received a media package for theoretical teaching based on brochures and a CD-ROM called the 'L-Program' with various presentations in PowerPoint format. On completion of their VTE instruction the apprentice receives a certificate from the school to be submitted to the employer.

The Austrian Health and Safety Licence — a first step to the European OSH Passport

VTE is considered to be not just about obtaining a profession-specific qualification but also a part of lifelong learning that imparts general skills and experience for coping with working life. For example, there is a need for qualified personnel who have experience in information technologies, qualifications in business and also knowledge about OSH. For this reason, Austria wanted to improve the integration of OSH into VTE. Based on the precedents of the European Computer Driving Licence (ECDL) and the European Business Driving Licence (EBDL), Austria developed the idea of an Occupational Health and Safety Licence.

From the outset there was a positive response to the proposal to implement the Occupational Health and Safety Licence in Austria, despite the fact that the legal situation still varies within the European Union. Nowadays the target for vocational schools is to provide additional competences such as OSH that are linked to the practical working situation. To support the achievement of this target, teachers



participate in special training seminars to gain the knowledge and teaching skills for these new qualifications.

A series of OSH seminars has been offered since 2004 for teachers in vocational schools and higher technical colleges. The duration is 72 hours in total, 48 hours being set by the Federal Institute for Pedagogic Education and 24 hours are options that are chosen according to the specific trade branch. The participants are trained as tutors and the seminars cover the following items: basic laws and technical standards; organisation of OSH in practice; workplace safety; ergonomics; chemical substances; evaluation of hazards; and cost-benefit analysis. With this additional knowledge teachers will be able to include OSH facts in the teaching programmes of their schools. Finally their students will obtain a certificate, the above-mentioned Occupational Health and Safety Licence.

Austria is working within the European network project ENETOSH (see the section on European networks). This group has set up a working group to propose common criteria for a teachers' OSH licence and a student certificate for OSH that could be considered for use at the European level. Licences for trainers or teachers, licences for schools or institutes, examination of students by institutes, supervision by external experts and the costs of the education are just some of the questions to be discussed by the organisations involved.

Universities

In many university courses OSH is included as a cross-curricular topic. For example, at the technical university courses are offered for blasting, which cover all the chemical and environmental aspects including OSH issues.

The universities also offer some non-compulsory OSH modules in certain disciplines, as follows.

Technical university

There is a non-compulsory subject dealing with OSH issues in businesses. OSH issues are included in the instructions for all workshop activities.

Construction

There is a non-compulsory subject dealing with OSH and environment issues.

Medical faculties

In the past few years there have been an increasing number of courses, training modules, etc., dealing with OSH issues. There is also a faculty for industrial medicine.

Supporting activities, programmes and projects

Kids project

'Kids project' was launched by the labour inspectorate in 2004, to support the EU Community strategy on health and safety at work from 2002 to 2006 concerning the need for 'awareness raising and education from an early stage on'. 'Kids project' started as a one-year project and has become a permanent working group. The goals of this initiative are to: promote the teaching of OSH in education and training; prepare young



people for working life; and promote a preventive health and safety culture among young workers and their employers, as well as within schools, professional training institutions and employment centres. The inspectors deliver health and safety training on vocational and professional training courses to prepare young people for the challenge of their future working life regarding occupational safety and health. Interactive quizzes are just one example of the resources developed to support this initiative.

Further information

- Eurydice website (Austria): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=AT>
- BMUKK — Bundesministerium für Unterricht, Kunst und Kultur (Austrian Federal Ministry for Education, Art and Culture): <http://www.bmukk.gv.at>
- Bundesministerium für Wirtschaft und Arbeit: <http://www.bmwa.gv.at>
- Arbeits Inspektion: <http://www.arbeitsinspektion.gv.at>
- Allgemeine Unfallversicherungsanstalt (AUVA): <http://www.auva.at>
- The ENETOSH website has various examples of projects in Austria: http://www.enetosh.net/webcom/show_websiteprog.php/_c-57/_lkm-7/i.html

BELGIUM

Devolution to the communities

Education in Belgium comes under the authority of the different communities (Flemish-, French- and German-speaking), with the Federal Government setting common rules stipulating the age group in which school attendance is compulsory and establishing the minimum conditions for granting diplomas. Because each community has its own education system, several players are involved in setting up and carrying out educational policy. In practice, however, similar approaches are taken in all regions; the example of how OSH is integrated into the Flemish system is given in detail here.

Flemish community curriculum

The Flemish education system sets developmental objectives (eindtermen) and attainment targets or final objectives (ontwikkelingsdoelen) for all areas of its curriculum. Health and safety can be integrated into education through its inclusion in these objectives.

Attainment targets are minimum objectives with regard to knowledge, insight, skills and attitudes, which the educational authorities regard as necessary and attainable for a specific population of pupils. Developmental objectives are minimum objectives that the authorities regard as desirable for a specific population of pupils (Decree 4, February 2003). The attainment targets and developmental objectives will be clearly seen in the curricula, the school work plans and the course books used by the schools. Pre-school education is non-compulsory education. Not all pre-schoolers start school at the same age. They each develop at their own pace. Therefore there are no attainment targets in pre-school education, only developmental objectives.

While the developmental objectives and attainment targets define what the pupils have to be taught, they do not stipulate how this has to be done. The schools are free



to decide the method, which leads to different approaches and allows for differentiation. This is reflected in the diversity of curricula which are used in Flemish schools.

The curriculum is developed by the educational networks (community or state schools, grant-aided official schools, and grant-aided free schools such as schools linked to a religion), evaluated by the educational inspectorate who check that it corresponds with attainment targets and developmental objectives and then approved by the Minister for Education. The schools belonging to a network usually adopt the approved curricula. The networks also develop the more detailed programmes of study to implement the curriculum and the related developmental objectives.

An overview of the attainment targets and developmental objectives related to health and safety, and of the subjects where a clear link can be made with safety and health, follows. It is self-evident that general competences (e.g. being able to ask goal-directed questions, being able to ask others for help, etc.) are also important for the development of an attitude of safety awareness. However, the list below is limited to competences that are clearly linked to health and safety.

Kindergarten

Relevant developmental objectives at kindergarten level include:

- child develops ability to lift material in a safe way (posture, ergonomics);
- child develops ability to understand and react to auditory, visual and tactile signals (alert, pictograms);
- child develops correct body posture;
- child develops good personal hygiene habits;
- child develops recognition of acts that can affect their own health or the health of somebody else;
- child develops ability to use classroom material in a responsible and safe way;
- child develops ability to distinguish between safe and unsafe areas for play;
- child develops realisation that there are risks associated with road traffic.

Primary education

Relevant final objectives at primary level include:

- pupil is able to observe safety rules and procedures;
- pupil is aware of dangers and risks in situations involving movement, and able to spot and assess them;
- pupil is willing to work in a safe and secure way.

Relevant final objectives in special primary education include:

- pupil recognises behaviour that can be damaging or beneficial to their health;
- pupil displays good habits regarding daily hygiene;
- pupil recognises common pictograms concerning health and safety and acts accordingly;
- pupil knows that he/she can become ill from the ingestion of certain products and plants;
- pupil is able to apply first aid in the case of minor grazes and scolds;
- pupil follows evacuation rules if the alarm sounds;
- pupil takes steps to prevent accidents;
- pupil understands security measures and acts accordingly;
- pupil acts appropriately in dangerous situations.



Secondary education

Relevant final objectives at 1st grade (12–13 years) include:

- pupil is able to apply basic principles of good posture and care of the back;
- pupil is able to follow safety regulations and rules;
- pupil observes safety rules when using materials, equipment;
- pupil can read pictograms.

Relevant final objectives at 2nd grade (14–15 years) include:

- pupil is able to indicate natural and human causes of environmental problems;
- pupil is able to explain the importance of safety rules and procedures;
- pupil is able to recognise unsafe situations and act appropriately;
- pupil is able to apply spontaneously principles of good posture and care of the back;
- pupil conducts experiments in a safe and secure way;
- pupil applies basic hygienic principles without prompting.

Relevant final objectives at 3rd grade include:

- pupil takes responsibility in new situations by applying safety rules that have been established unanimously;
- pupil gives first aid in the event of accidents.

Cross-curricular final objectives

Cross-curricular final objectives are minimum goals that are not specific to a certain educational subject, but are applicable whatever the subjects taught. Although risk education is not a cross-curricular subject, there are various cross-curricular final objectives that relate to it. Examples of the cross-curricular final objectives of health education are presented below. More indirectly related objectives include those set for environmental education, social skills and sense of public responsibility.

1st grade — relevant final objectives include:

- pupil is able to demonstrate the importance of hygiene for themselves and their environment;
- pupil realises that their behaviour has an influence on their own health and the health of others;
- pupil is able to identify safe and unsafe situations in their environment and give examples of preventive measures;
- pupil is able to demonstrate a good posture for standing up, sitting and lifting and give examples of possible complaints that can arise from poor posture and movements.

2nd grade — relevant final objectives include:

- pupil observes good hygiene;
- pupil follows the instructions for good and healthy ways of eating;
- pupil applies safety regulations in workshops, labs and other situations;
- pupil recognises an emergency situation and acts appropriately;
- pupil is aware of the importance of ergonomics.

3rd grade — relevant final objectives include:

- pupil is able to help others by using first aid;
- pupil participates in the safety and health policy at school and in their environment.



Example of the inclusion of OSH in the final objectives for physical education in primary schools**1. Moving responsibly and safely**

The pupils:

- 1.1. are able to observe safety rules and procedures;
- 1.2. are aware of the dangers and risks of situations involving movement and are able to assess and indicate these.

2. Physical education — healthy and safe lifestyle

The pupils:

- 2.1. have knowledge of their own body and develop a correct body posture;
- 2.2. develop stamina, strength, agility, speed and muscular strength to achieve the motor skills;
- 2.3. feel a sense of satisfaction from physical effort and are also familiar with its long-term effects;
- 2.4. are aware of the importance of warming up before physical activity and resting afterwards;
- 2.5. are familiar with the different types of rolling and/or sliding apparatus and know how to use them safely.

French community

The education system in Belgium's French community works with 'basic competences' and 'final competences'. The basic competences should be acquired during the first eight years of compulsory education (i.e. by the end of the second year of secondary education) and at the end of each stage of that period. The final competences relate to the following four years, namely until the end of secondary education. Each school sets up its own study programme using the frame of reference of the competences applying to the grade of education it offers. The documents defining the basic competences and final competences are the result of collaboration between all the educational networks. They are approved by the government and are adopted by the Parliament of the French Community. Some examples of competences that relate to health and safety are given below.

Primary education

Competences related to health and safety include pupils being able to:

- carry out physical activities safely, using appropriate techniques, procedures and assistance;
- take care of the resources at their disposal.

Secondary education

Competences related to health and safety include pupils being able to:

- observe the principles of ergonomics while performing an activity;
- make movements in a safe way (in physical education);



- explain why and how to integrate the rules of safety and/or hygiene in daily activities;
- evaluate the impact of daily activities on the environment;
- identify the risks that our behaviour has on the environment;
- use scientific models and techniques to prevent accidents.

Supporting activities, programmes and projects

Pilot project on final objectives for vocational education

A project has commenced to develop specific final safety objectives for technical and vocational educational establishments. OSH and environmental objectives will be covered.

Good practice — OSH in the technical project test

Pupils in the last grade of technical (secondary) education have to do an 'integrated test' in which they must demonstrate that they have achieved the final competences. In several schools a technical project has been set up as the obligatory 'final test'. An example of this is the case study 'Students make machines safe' (available at http://osha.europa.eu/good_practice/sector/proceedings/ii_01_makemachinessafe.ppt).

Safe Start website

A website on OSH for young workers. Target groups: young people, schools and companies. In Dutch and French (see <http://www.safestart.be>).

Further information

- Eurydice website (Belgium):
 - Flemish Community — <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=BN>
 - French Community — <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=BF>
 - German-speaking Community — <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=BD>
- Ministerie van de Vlaamse Gemeenschap: Departement onderwijs (Ministry of the Flemish Community: Department of Education): <http://www.ond.vlaanderen.be>
- Communauté française de Belgique (French Community of Belgium): <http://www.cfwb.be>
- MDG — Ministerium der Deutschsprachigen Gemeinschaft Belgiens (Ministry of the German-speaking Community of Belgium): http://www.dglive.be/DesktopDefault.aspx/tabid-219/753_read-968
- Prevent: <http://www.prevent.be>
- Belgian Federal Public Service Employment, Labour and Social Dialogue: <http://www.meta.fgov.be>
- 'How to integrate OSH into the school curriculum: a legal approach from Belgium', Henk Goorden, 2003, (PowerPoint presentation): http://osha.eu.int/topics/osheducation/fullproceedings.stm/document_view



CYPRUS

Curriculum

The curriculum and the timetable for primary and general lower secondary education are set by the Council of Ministers following suggestions given by the Ministry of Education and Culture. It is applicable to all schools at the same level, but the time allocated to each subject varies depending on the school type. In the comprehensive upper secondary school and technical schools, the general compulsory subjects are the same. In vocational education, the subjects vary according to the specialisation.

Cyprus is in the process of mainstreaming OSH into the education curriculum. The Department of Labour Inspection, in collaboration with the Ministry of Education and Culture, will base this work on the recommendations of a study commissioned by the Department. The study, carried out to support the implementation of the Community OSH strategy in this area, reviewed the external and internal environment and prepared 80 thematic examples of mainstreaming OSH into the Cyprus Educational System for students aged from 5 to 17 years (five thematic examples for each school year, including three years of technical education).

See also 'Cyprus: Mainstreaming OSH into education'. AIIT Forum 2005 (Newsletter of the International Association of Labour Inspection), p. 8:

http://www.iali-aiit.org/iali/download/IALIForum_2005_en.pdf

Supporting activities, programmes and projects

Poster competition

The Department of Labour Inspection of the Ministry of Labour and Social Insurance, in collaboration with the Ministry of Education and Culture, have run an annual poster competition since 2003. The awards are presented to the winners during the opening ceremony of the European Week for Safety and Health at Work in Cyprus by the Director of the Department of Labour Inspection. Two thousand A3-sized copies of the winning poster are printed and used for awareness-raising purposes by the Department of Labour Inspection.

Awareness-raising in public schools

Since 2006, the Department of Labour Inspection, through the Ministry of Education and Culture, has been encouraging the management of public schools to increase the awareness of students about OSH issues. In particular, at the beginning of each school year (September and October) the Agency's NAPO cartoon character DVD is projected during film shows at schools.

Additional programmes and projects

In addition to the specific activities related to integrating health and safety into the school curricula, the Ministry of Education and Culture has implemented the following parallel actions.

- Road safety education: pre-school, elementary and secondary pupils are instructed in road safety at a special Road Safety Education Park at Nicosia, which is operated with the assistance of the Police Department. The activities of the programme



include, among others, lectures at schools, seminars for teachers and training visits to the Road Safety Education Park.

- European Network of Health Promoting Schools: Cyprus is participating in this pan-European programme to promote a healthy way of life within the school environment.
- Mentor: a programme which, with the assistance of mobile units, helps students acquire skills to develop decision-making abilities for healthy living.
- Anti-drug education seminars: aimed at creating 'resistance nuclei' among students.
- 'Standing on my own two feet': a programme which, in cooperation with the programme 'KENΘEA', aims to develop attitudes of self-esteem and self-respect and promote resistance skills to the temptations of modern society.
- 'EY ZHN' (wellbeing): a programme implemented on the basis of an agreement between the governments of Greece and Cyprus. Links are created between individual schools in the two countries to study issues related to health.
- Addictive substances prevention programme: a pilot programme run by the Educational Psychology Department of the Ministry of Education and Culture. Students, teachers and parents are involved in helping prevent children become addicted.

Further information

- Eurydice website (Cyprus): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=CY>
- ΥΠΠ — Υπουργείο Παιδείας και Πολιτισμού (MOEC — Ministry of Education and Culture): <http://www.moec.gov.cy>
- Department of Labour Inspection: http://www.mlsi.gov.cy/mlsi/dli/dli.nsf/dmlindex_en/dmlindex_en?OpenDocument

CZECH REPUBLIC

Legislation

Act 29 (Schools Act) and OSH education

The Czech Republic does not have specific legislation requiring the teaching of OSH in its schools (elementary school, vocational training institutes, secondary vocational training institutes, grammar schools, secondary vocational schools and higher vocational schools). However, the Czech Republic has adopted ILO convention 155 which says that measures should be taken to include OSH in education (see chapter on global policies, strategies and initiatives). This is complied with through general regulations (e.g. in Act No 29/1984 of the Collection of Laws, on System of Elementary Schools, Secondary Schools and Higher Vocational Schools (the School Act), as amended by subsequent regulations).



Incorporation of OSH into education under the Schools Act (Act 29)

Creation of conditions for safety and health protection of pupils.	Getting acquainted with principles of safe behaviour (during laboratory lessons, working in workshops, horticultural studies on school grounds, sports activities, etc.) and with rules of hygiene.	Getting acquainted with principles of safe behaviour during working, e.g. in laboratory lessons, sports activities, etc.	Getting acquainted with principles of safe behaviour during working in laboratories, workshops, external work, with principles of safe work at centres of practical training, in production and plant premises of enterprises, health and other facilities.	Getting acquainted with principles of safe behaviour in enterprises, during vocational training, and with principles of safe work at specific workplaces.	Getting acquainted with principles of occupational safety and work hygiene: in chemistry, electrical and other laboratories; during vocational training of medical workers, rescue workers, fire fighters and other high-risk occupations.
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Safety in schools

Obligations relating to the health and safety of school employees and pupils during educational activities are covered by the Working Regulations for Employees of Schools and School Establishments (ref. No 14 269/2001-26, Bulletin of Ministry of Education, Youth and Sports 5/2001) and in the Methodological Guideline for Ensuring Health and Safety of Children and Pupils in Schools and School Establishments (ref. No 29 159/2001-26, Bulletin of Ministry of Education, Youth and Sports 12/2001).

Curriculum reforms

The Czech national education curriculum has been undergoing reform, which has provided a good opportunity for increased attention to be paid to risk education and OSH learning. The Ministry of Education, Youth and Sports determines the content of education. It develops the National Education Programme as a political document which is discussed by the Government and approved by the Parliament. The Ministry approves framework educational programmes (FEPs), which are the basis for the development of school educational programmes, and approves educational programmes for tertiary professional schools and for higher education institutions.

The curriculum reform process

- National educational programme approved in 2006.
- Framework educational programmes (FEPs) set at national level define educational goals and key competences as well as the educational content necessary for their achievement. The FEPs are in various phases of development.



- On the basis of the FEPs schools prepare their own educational programmes. Manuals are prepared and basic schools are scheduled to start teaching according to the FEP from the 2007/08 school year.
- The FEP for upper secondary general education was tested in 16 schools from 2004 to 2006.
- The FEP for upper secondary technical and vocational education: the first FEPs for eight branches were prepared and trialled at chosen schools (September 2002 — June 2003). FEPs for 29 branches covering 60% of pupils were prepared for verification in 2004.

Elementary and general secondary schools

The principles of occupational health and safety are increasingly being covered in teaching plans, and practical training of pupils at secondary schools and vocational training institutes is gaining pace.

Under the educational reforms, the framework educational programme for elementary education does not contain a detailed curriculum. Instead it sets out a general educational plan with the proposed number of lessons in nine educational areas: language and language communication, mathematics and its application, information and communication technologies, the individual and their world, the individual and nature, art and culture, the individual and their health, the individual and society, the individual and the world of work. There is also a general schedule which clearly stipulates what pupils should know at the end of their elementary education.

From the point of view of OSH, the desired outcome is for pupils to develop a positive attitude to their physical and mental health and to actively develop and protect it. The fulfilment of this target presumes that pupils are beginning to understand the importance of individual elements of a healthy lifestyle (healthy diet, sufficient exercise, rest, work, good hygiene, satisfactory personal relations, personal safety, etc.) and are able to actively apply them in practice. They learn to consider education as well as life activities from the point of view of health benefits and the consistent prevention of damage to health. They learn to understand that adolescent behaviour can involve risk, and why this is so.

The implementation of FEP in elementary schools is scheduled to commence in the school year of 2007–08, when the general educational programme will be binding for all schools. Educational programmes for secondary general education will follow after the completion of programmes for elementary schools. Some educational areas will be similar to those for elementary schools.

Secondary technical and vocational education

At secondary vocational schools (including secondary vocational training institutes) occupational health and safety is not taught as a separate subject. In the early 1990s the Ministry of Education, Youth and Sports included the principles of occupational health and safety in teaching plans and the curriculum of vocational schools with technical specialisation (secondary vocational schools and secondary vocational training institutes). This concerned branches of study such as electrical engineering, mechanical engineering, technologies and automation, and workshop and plant practice. In some branches of study, knowledge of OSH issues is also required in final examinations. A similar requirement, in view of the risks associated with nursing (handling hazardous agents, materials, carrying ill persons, etc.), should also exist in medical schools.



To comply with Section 49 of the School Act, secondary vocational schools must draft and put in place safety rules and include operational procedures for workshops, etc. Likewise, safety measures that take account of the increased attention that must be paid to the safety of pupils should be in place in businesses, medical and other facilities where pupils carry out vocational training work placements.

In 2000 the Institute of Occupational Safety Education in Brno began assessing the curricula of secondary vocational schools and secondary vocational training institutes regarding the integration of OSH requirements. As a result of the assessment and subsequent cooperation with the National Institute for Vocational Education (Research Institute of Vocational School System — RIVSS) framework educational programmes were developed for secondary technical and vocational education. These FEPs include, among other things, the competence of school-leavers regarding occupational health and safety. The requirements for occupational safety are defined in basic guidelines for the implementation of each particular educational programme, taking into account the risk ratio associated with the vocational orientation, practical training during school years attended by pupils and finally the performance of the occupation itself.

One issue impinging on successful implementation is that teachers, trainers and lecturers do not always have the necessary theoretical knowledge and practical skills in OSH issues and at present teacher training does not include systematic education on OSH issues. One positive step is that vocational training institutes are introducing the position of Safety Officer, whose duties include training pupils in OSH issues at the beginning of a school year. This training is documented for each pupil, including a declaration that they have received and understood the training.

Universities

Generally, occupational health and safety education in Czech universities can be divided into three main areas:

- practical examples of occupation health and safety in laboratory work and practical experience;
- OSH as an integral part of management and work processes, for example at technical universities where basic OSH information is provided as a part of education in topics such as construction, engineering, etc.;
- specialised education in occupational health and safety, i.e. curricula directly oriented toward OSH education.

Basic information concerning safety in work is an integral part of chemical, physical and biological laboratory training, as well as training in industrial laboratories. Each student has to be trained in laboratory safety rules, including the identification of risks and safety principles, before the commencement of laboratory work. Only basic information is covered as the typical extent of such instruction is about half an hour for each subject.

Most of the technical universities incorporate some aspects of OSH education in taught subjects such as general management and legislation, or as a part of preparation for jobs in areas such as construction, mechanics, electrical engineering, nuclear engineering, etc. At medical schools occupational hygiene is taught as part of medical studies; in some cases ergonomics and topics such as toxicology are also covered. In environmental protection oriented studies the working environment is often part of the studies.



Safety engineering can be studied at the technical universities of VSB (Technical University Ostrava) and VUT Brno (Brno University of Technology).

Summaries of various further education OSH courses in the Czech Republic can be found in the ENETOSH website toolbox:

http://www.enetosh.net/webcom/show_websiteprog.php/_c-57/_lkm-7/i.html

Supporting activities, programmes and projects

Examples of activities include:

Bezpečná Komunita ('Safe community'), an example of a school taking part in the international Safe Schools project. Further information is available on the ENETOSH website at:

http://www.enetosh.net/webcom/e_wcsearch.php?suchbereichid=16&wc_prog=57&wc_search=Czech Republic&colid=17&rootid=172&details=1

Further information

- The above information is based on the Edforsa project report: *Introductory analysis of the existing occupational health and safety education activities in the Czech Republic*, National Report, 2004 (NB the Czech Republic was the lead organisation in this 'Leonardo da Vinci'-funded project to investigate and promote OSH in education):
 - http://edforsa.vubp.cz/files/vysledky/konecna_CR.doc
 - http://edforsa.vubp.cz/products_vysledky.php
- Eurydice website (Czech Republic): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=CZ>
- MŠMT — Ministerstvo školství, mládeže a tělovýchovy (Ministry of Education, Youth and Sports): <http://www.msmt.cz>

DENMARK

Legislation

Curriculum teaching of health and safety is covered in legislation; for the majority of educational institutions their teaching is based upon clearly laid-down executive orders which, on a decentralised level, are converted to a concrete training plan. There are also conditions relating to OSH education in some executive orders from the Ministry of Education.

Teaching of OSH

In Denmark health and safety education at primary school level is stipulated in legislation. The Primary School Act gives a high priority to the teaching of health and safety. It is incorporated into a number of curriculum subjects, and health and safety training is compulsory for all school levels. In secondary schools teaching health and safety is compulsory only at some levels.

Safe school environment and pupil involvement in the safety process

The requirement to learn in healthy and safe schools is covered by the Act on the Educational Environment of Pupils and Students, which states that 'pupils, students



and other participants in public and private education shall be entitled to a good educational environment where education takes place in a safe and sound manner'. The act stipulates that regarding participation in OSH matters students should be treated as if they were workers at the educational establishment:

'Pupils, students and other participants shall be entitled to elect educational environment representatives to protect their interests as to the management of the educational establishment.

The management of the educational establishment shall allow that the pupils, students and others gain a more comprehensive influence on the educational environment of the educational establishment. Pupils and others may choose two representatives for each safety group set up at the educational establishment. The educational environment representatives participate in the safety and health work of the educational establishment when matters are discussed which are of importance to the pupils' and students' educational environment.'

The act also stipulates the requirements for assessing the safety and health situation of schools, and the participation of student representatives in those assessments and their follow-up.

Excerpts from the Act on the Educational Environment of Pupils and Students

Part 3: Participation in the safety work of educational establishments

4(1) Pupils, students and other participants shall be entitled to elect environment representatives to protect their interests as to the management of the educational establishment with regard to the fulfilment of the resolutions in 1(1). The management of the educational establishment shall allow that the pupils, students and others gain a more comprehensive influence on the educational environment of the educational establishment. (2) Pupils and others may choose two representatives for each safety group set up at the educational establishment pursuant to the Danish Act on working environment who will deal with matters of importance to the educational environment. (3) Pupils and others shall handle the election and the nomination of representatives themselves. The Minister for Education may set up detailed rules to this effect and may lay down that the educational environment representatives can be appointed by the pupils' and students' council wherever they exist.

5.5. The educational environment representatives participate in the safety and health work of the educational establishment when matters are discussed which are of importance to the pupils' and students' educational environment.

Part 4: Assessment of the educational environment

6(1) The management of the educational establishment shall ensure that a written educational environment assessment of the safety and health situation, including matters relating to the physical and aesthetic environment at the educational establishment, is prepared.

(2) The assessment of the educational environment shall be available for the pupils, students and other interested parties of the educational establishment.



(3) The assessment of the educational environment has to be revised whenever changes which are important to the educational environment occur; however, this shall take place at least every third year.

7(1) The assessment of the educational environment shall as a minimum include the following elements:

1. mapping out the physical, psychological and aesthetic educational environment of the educational establishment;
2. a description and assessment of any problems relating to the educational environment;
3. preparation of an action plan which sets the priorities as a time-frame for solving problems; and
4. proposals to guidelines for follow-up of the action plan.

(2) The management of the educational establishment shall involve the representatives of the educational environment in the planning, preparation, realisation and the follow-up of the educational environment assessment.

Curriculum

The Ministry of Education lays down general curricular aims and optional guidelines. The curriculum includes three subject blocks: the humanities, practical/art subjects, and science.

The Ministry of Education's Department of General Upper Secondary Education issues curriculum regulations for teaching in the upper secondary schools, but teachers decide on textbooks and teaching methods. Curricula for basic vocational education and training are determined by schools and trade committees, and include basic core subjects, optional subjects and specialisation subjects.

Primary and lower secondary education (Folkeskole)

The Folkeskole are required to teach all age groups the following obligatory topics relevant to health and safety, which do not appear as separate subjects but are cross-curricular themes: traffic safety, health and sex education, and vocational and labour market orientation. The latter theme includes such activities as information and discussions on career options, study visits and short work placements in firms, presentations by representatives of the world of work, visits to training centres, etc. These activities are carried out in close cooperation with the local community.

Higher education

The Danish Working Environment Authority has taken initiatives to promote the inclusion of OSH in relevant courses.

In 2003/04 the authority completed development projects at four relevant institutions. The aim was to integrate the awareness of prevention of working accidents into the existing courses so that young people who will later become engineers, designers, supervisors and managers and planners know all about accident risks before they start working. The aim was not to initiate independent courses, but to integrate health and safety information into teaching, where relevant.



The four projects were carried out at the following institutions.

- Denmark's Technical University, Institute for Production and Leadership, three courses:
 - 'Product development — from idea to product'
 - 'Design and planning of production systems' and
 - 'Design and the working environment'.
- Denmark's Technical University, Institute for Building and Construction, three courses:
 - 'Safety with erection of concrete slabs'
 - 'Construction: Planning and implementation 1 and 2'
 - 'Technology and working conditions in the construction sector'.
- Business school in Herning, two courses:
 - courses for Production engineers and
 - courses for HA-students.
- Selandia in Slagelse, a technical business school, two courses:
 - courses for Metalworkers and
 - courses for Construction workers.

For all the four projects teaching material and a teaching plan were prepared and the courses were carried out and evaluated. In all the teaching institutions involved support and awareness raising about OSH took place which resulted in OSH being included in their curriculum. The challenge is to sustain the teaching when it ceases to be an exciting pilot project despite the lack of other incentives such as exam material and a definite aim.

Supporting programmes, projects and initiatives

Since 1990 the Danish Labour Inspectorate has been making a concerted effort to target the health and safety of young workers, and this has included educational activities. This includes the initiative with universities mentioned above. Extensive media coverage of accidents among young workers and awareness-raising of the issues among parents, young people, employers and schools has led to greater understanding among those with responsibility and influence and has helped promote and underpin action in this area.

Clean working environment, including education in the OSH strategy

In 1995 Denmark explicitly included education in its OSH strategy and embarked on a series of supporting actions: in 1995, the Danish Parliament drew up a plan of action for the next 10 years, for a clean work environment. There were seven main goals, one of which was to reduce the numbers of young people being injured in connection with their work. This was achieved in the following ways, among others, by:

- cooperating with traditional OSH and labour market players as well as other interested parties, e.g. trainee and parent organisations;
- initiating special activities to prevent occupational injuries among 18 to 24-year-olds, as this age group is often inexperienced;
- emphasising that legislative requirements concerning the working environment also apply to training and practical experience periods, especially as it is important for young people to learn good work practices early on.



The programme also recommended that basic attitudes and knowledge in relation to safety and health should be taught in schools, to ensure that pupils make a positive contribution to their own health and safety and that of their classmates.

In 1996, a fund of over EUR 400 000 was set up for targeted projects in the following areas to support the objectives on young workers and OSH education:

- projects involving trainees and students in safety work in schools and training institutions;
- projects regarding health and safety conditions in schools and training institutions;
- projects covering OSH education and educational materials in (in all, eight projects were given financial support);
- initiatives aimed at young people in agriculture, with financial support of over EUR 1.3 million aimed at improving the safety conditions and working practices of farmers who employ agricultural trainees; and
- a special financial fund of over EUR 160 000 to focus on the work environment and introduction to work of those aged between 18 and 25.

A special information campaign was organised in 1995 by the social partners and the Danish Working Environment Service on 15 to 18-year-olds' spare time work, and special information campaigns were organised by several county councils.

The government also appointed an inter-ministerial working group on occupational health and safety of schoolchildren and students. According to its mandate, the group completed its work at the beginning of 1996 and it suggested a number of recommendations.

The government regards it as important to strengthen still further the broad backing for occupational health and safety work. In that connection the government stresses the need for higher priority to be given to occupational health and safety training at institutes of higher education — especially the technical universities. The Danish Working Environment Authority believes that it is now necessary to make an assessment of the extent and increase in risk education in schools.

Further information:

Kirsten Jørgensen, Danish Working Environment Authority, 2006, 'The Danish contribution to the health and safety of children and young people', in *Agency Magazine*, No 9 — *Safe start!*, pp. 15–17: <http://osha.europa.eu/publications/magazine/9>

Risikomomenter

This project was led by the Working Environment Council of the Danish Research and Education Sector. Its aim was to provide in-depth knowledge on how to avoid accidents, to ensure a safe working environment in the library by using a computer or when using chemicals and to provide specific safety measures. The key elements were the following.

- An extensive guide of nine different subjects for teachers involved in high risk activities at secondary school level. It is equally useful for safety organisations, principals and other professionals working with safety in the classroom.
- A chapter pinpointing the laws and responsibilities of all the parties involved, providing useful tools for everyone involved in safety at the school.
- A website has been evaluated by both users and professionals to ensure a very user-friendly design. Furthermore, Arbejdstilsynet, the Danish Working Environment Authority, has approved it as being consistent with their recommendations.

For further information see: <http://www.risikomomenter.dk>



Danish Centre for the Educational Environment

The Danish Centre for the Educational Environment (Dansk Center for Undervisningsmiljø (DCUM)) is an independent, public knowledge centre which seeks to ensure that the requirements of the Danish Educational Environment Act are met. It gathers, systematises and issues information about the educational environment. Further information at: <http://www.dcum.dk/>

The ARMI Project: 'Ar and Mi at School' and 'New kids on the job'

'Ar and Mi at School' is a project for primary schools. 'New kids on the job' is a follow-up project for 15 to 19-year-olds. The project was conducted against the backdrop of the government programme 'Clean working environment' and a broad range of partners were involved. The education materials are targeted at the relevant age group concerned and the teaching approach aims to get pupils actively involved.

'Ar and Mi' is aimed at raising awareness of safety and health from an early age. Schools should provide basic attitudes and knowledge in relation to safety and health and pupils must be able to make a positive contribution to their own health and safety and to that of their colleagues. There are a variety of teaching resources, including a troll house, and the system provides opportunities for pupils to develop and present their own work.

The goals of the 'New kids on the job' project are to develop an understanding of the psychosocial work environment and how it can affect safety and health, and to learn how to respond to challenges in a positive, flexible way. This is adapted for different occupational sectors, for example a farm, a bar, a shipyard, a building site, a transport firm, a hairdresser's, a hospital and a consultancy firm. The project aimed not only to provide education material for pupils, but also to train the teachers. Resources include four DVD films, TV programmes, teaching support and an extensive website. Materials were developed in collaboration with the safety councils of the relevant occupational sectors.

This project is described in greater detail in the Agency report on 'Mainstreaming occupational safety and health into education' available at: http://osha.europa.eu/publications/reports/313/mainstreaming_osh_en.pdf

See also the project websites: <http://www.armi.dk/> and <http://www.dr.dk/nyijob>

Other relevant initiatives include:

- Employment and training policies for young people with disabilities
<http://www.ilo.org/public/english/employment/strat/publ/etp21.htm#den>
- Denmark: The role of social partners (regarding training)
<http://www.ilo.org/public/english/employment/skills/training/publ/denmark.htm>

Further information

- Eurydice website (Denmark): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=DK>
- UVM — Undervisningsministeriet (Ministry of Education): <http://www.uvm.dk>
- ARMI: <http://www.armi.dk>



ESTONIA

Basic education and general secondary education

The standards for basic education (põhiharidus) and general secondary education are established on the basis of the national curriculum for basic schools (põhikool) and upper secondary schools (gümnaasium) by stages of study. The national curriculum is approved by the government. The new amended national curriculum came into effect on 1 September 2002. The national curriculum for basic schools and upper secondary schools includes a general part (basic principles, goals etc.), subject syllabuses and topics that should be addressed in all subjects. The general part of the national curriculum presents lists of compulsory subjects and study time (number of lessons per week) for each subject by stages of study.

Themes that should be addressed in all subjects touch on important fields of life that affect students' personal and social development but are not treated as separate subjects. The national curriculum presents teaching goals for these themes and competences to be acquired in the stages of study. One of the themes that should be addressed in all subjects is safety (traffic safety, prevention of fires, drug abuse, etc.).

Vocational education

A reform of vocational education is in progress. National curricula will be prepared on the basis of vocational standards.

Further information

- Eurydice website (Estonia): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=EE>
- Haridus- ja Teadusministeerium (Ministry of Education and Science): <http://www.hm.ee>

FINLAND

Curriculum

The national core curricula are drawn up by the Finnish National Board of Education. The national core curriculum for basic education and the national core curriculum for general upper secondary education specify the objectives, assessment criteria and core contents of cross-curricular themes, subjects and subject groups in basic education intended for pupils receiving compulsory education and in general upper secondary education respectively. The national core curricula also specify the central principles of student welfare services and school-home cooperation, as well as the objectives of student welfare services. The National Board of Education also decides on the objectives and core contents of the subjects and study modules for vocational upper secondary education and training. Based on the relevant national core curriculum, each education provider then prepares a local curriculum, taking into account the local context.



Pre-school education

Core curriculum

With regard to the learning environment, the core curriculum states that a 'good learning environment shall be healthy and shall diversely support children's safety and security'. The issue of safety and health is included in the core subject fields of health and physical and motor development:

Health

- Pre-school education shall promote the physical, psychological and social health, growth and development of children. Children's capabilities to understand and take responsibility for their own health and safety shall be promoted in natural everyday situations. Children shall be guided to move safely in and around their immediate environment.
- Children shall be guided to take care of their health and daily hygiene. Children's healthy eating habits shall be supported. Through activities and teaching of manners, children shall be guided towards good personal relationships and emotional health and avoid the use of violence. Children's growth and development shall be supported by ensuring the correct balance between work, rest and recreation.

Physical and motor development

- Varied daily physical exercise is essential for the balanced growth, development and health of children. Children shall be guided to understand the significance of physical exercise to human health and wellbeing.

Basic education

Basic education has nine grades and covers 7 to 16-year-olds. Health and safety is included in various ways at all levels of basic education.

Core curriculum

The national core curriculum for basic education 2004 includes:

- requirements for a safe learning environment;
- requirements for the physical, psychological, and social wellbeing of the pupils;
- health education both as a cross-curricular and a stand-alone subject;
- road safety as a cross-curricular theme that is implemented in various subjects using methods suitable for the pupils' developmental phase.

These elements are described in more detail below:

Learning environment

The term 'learning environment' refers to the entirety of the learning-related physical environment, psychological factors and social relationships. In this setting, study and learning take place. The learning environment must be physically, psychologically and socially safe, and must support the pupil's health.

Pupil welfare services

Pupil welfare services have an important role in creating a healthy and safe learning environment. Pupil welfare includes attending to the child's or young person's basic



learning requirements and his or her physical, psychological, and social wellbeing. Pupil welfare services consist of both communal and individual support. The objectives are to create a healthy, safe learning and school environment, protect mental health, prevent social exclusion, and advance the wellbeing of the school community.

For the curriculum, a plan has to be drafted that sets out the objectives and key principles of pupil welfare, and includes:

- activities to promote health, wellbeing, security, social responsibility, and interaction in the school community;
- measures and allocation of duties aimed at the prevention, observation, or handling of the following problem and crisis situations:
 - monitoring of absences
 - bullying, violence and harassment
 - mental health issues
 - smoking, alcohol, and drug abuse, and the use of other intoxicating substances
 - various accidents, misfortunes and death;
- implementation of objectives established for general safety in transport to and from school;
- objectives for health and nutritional education.

Integration and cross-curricular themes

Cross-curricular themes are themes which are given central emphasis in educational and teaching work. Their objectives and contents are incorporated into several subjects and they are implemented from the perspectives of the specific subjects, taking into account the pupils' developmental phase.

Safety and traffic cross-curricular theme

The goals of the broad 'Safety and traffic' cross-curricular theme are to help the pupils understand the physical, psychological and social dimensions of safety, and to guide them towards responsible behaviour. Basic education must develop in pupils age-appropriate abilities to act safely and promote safety in a variety of environments and situations.

The objectives for the 'safety and traffic' cross-curricular theme are that pupils will learn to:

- recognise safety and health risks, anticipate and avoid dangerous situations, and act in a way that promotes health and safety;
- foster non-violence and act constructively when bullying occurs;
- act appropriately in accident and crisis situations;
- behave safely and responsibly in traffic;
- have an impact on the safety of the school environment, including the traffic environment;
- know about the welfare services in society.

Core contents of the 'safety and traffic' cross-curricular theme are:

- protecting oneself from accidents, intoxicants, and crime in one's everyday environment;
- environmental and occupational safety;
- action models that promote health, safety, non-violence and peace;
- dimensions of violence in the immediate community and wider society;
- key traffic regulations and various traffic environments;



- considerate traffic behaviour, safety of the traffic environment, and safety equipment;
- mapping of dangerous places in the immediate environment and improving safety;
- services that promote safety;
- home-school cooperation in promoting safety.

Health education

Health education is based on a multidisciplinary foundation of knowledge. The aim of health education is to promote the pupils' competence regarding health, wellbeing and safety. Health education teaching develops knowledge and skills regarding health, lifestyles, healthy habits, and diseases, as well as fostering a readiness to take responsibility and behave in a way that promotes one's own health and the health of others. The teaching also covers safety issues and promotes the critical consideration of values associated with health and wellbeing.

Health education is included at all levels of the basic education. In the first to fourth grades, it takes place as part of the environmental and natural sciences subject group, in the fifth and sixth grades as part of the biology/geography, physics and chemistry, and in the seventh to ninth grades as a stand-alone subject. Instruction in health education, as well as in biology, geography, physics, chemistry, home economics, physical education and social studies, must be planned cooperatively. The pupil welfare personnel are involved in the lesson planning.

Health education in grades 1 to 4

In grades 1 to 4 health education is included in the integrated subject group of environmental and natural studies. The learning objectives related to health and safety are that pupils will:

- learn to act safely, so as to protect themselves in their environment, and to follow instructions at school, in the immediate environment and on the road;
- learn concepts, vocabulary and procedures relevant to health, disease, and the promotion of health, and learn to make choices that promote health.

Core contents of health education related to health and safety are:

- For the individual and health:
 - everyday health habits and caring for one's own health;
 - being ill, the most common children's diseases; action in emergencies and simple first aid measures.
- For safety:
 - preventing bullying and violence, respecting physical inviolability, safety in school, behaviour in traffic and avoiding dangerous situations, accidents at home and at play.

The aims of health and safety learning outcomes for the end of fourth grade are:

- With respect to health, at the end of fourth grade pupils' knowledge will include day-to-day practices and habits that promote health — a daily routine, adequate sleep and rest, nutrition, regular meals, daily exercise, proper working positions at school and home, posture, oral health, hygiene and dressing; they will know the basic rules of using medicines, they will know simple first-aid skills and how to raise an alarm and seek help when needed.
- With respect to safety, pupils will know how to describe various characteristics of bullying and violence, they will know how to get help when needed and who will help at school and in the local community; they will know and recognise factors that



threaten safety in the immediate environment, and when moving in traffic, in water or on ice; as pedestrians and cyclists they will know the main traffic regulations and understand why the agreed-upon instructions and regulations must be followed.

Crafts

Health and safety issues are also included in the teaching of crafts. The objectives related to OSH are for pupils to adopt a positive attitude towards occupational safety; learn the safe use of tools, machines and equipment; and learn how to work comfortably.

Core contents related to OSH in crafts:

- safety factors related to work and work space;
- work appropriately under guidance, giving consideration to occupational safety.

Health and safety education as a cross-curricular subject, grades 5 to 9

In grades 5 to 9 health and safety issues are included in particular subjects and in the final assessment for some of these subjects at grades 7 to 9. In addition, in grades 7 to 9, health education is a stand-alone subject.

Following are some examples of how health and safety issues are included in different subjects in grades 5 to 9.

- *Biology and geography, grades 5 to 6*

The learning objective at this level is that pupils will come to understand their personal growth and development as a physical, psychological, and social process, and as an interaction between themselves and their environment.

- *Physics and chemistry, grades 5 to 6*

The objectives are that pupils will learn to work and move about safely, protecting themselves and their environment and following the directions given. The instruction must help pupils consider the importance of a good and safe environment, and teach them to take care of their environment and act responsibly in it. Health education, which includes safety and health, forms part of the teaching and pupil assessment.

- *Physics, grades 7 to 9*

The health and safety objectives are that pupils will learn to work and investigate natural phenomena safely.

The final assessment criteria for health and safety in physics are that pupils will:

- know how to work safely, following instructions, alone and with others;
- understand the physical basis of rules concerning traffic safety;
- understand the importance of protection from noise;
- understand the importance of protection from heat;
- know the principles of using electrical and heat-producing devices safely.

- *Chemistry, grades 7 to 9*

The objectives regarding health and safety for chemistry grades 7 to 9 are that pupils will: learn to work safely, following instructions.

The final assessment criteria related to OSH in chemistry are that pupils will:

- know how to work safely, individually and in a group, according to the instructions given;
- know about substances that affect the environment; their sources, methods of spreading, and effects on the wellbeing of people and nature.



- *Crafts, grades 5 to 9*

Core contents of crafts related to OSH are:

- crafts' tools and machines needed in technical work, and their skilled and safe use;
- traditional and modern tools and machinery for textile work; their maintenance, operating principles and safe usage.

The final assessment criteria related to OSH in crafts are that pupils will:

- work appropriately and carefully, observing work safety instructions, and working in comfort.

- *Physical education*

The goals of physical education are to have a positive impact on pupils' physical, psychological, and social abilities and wellbeing.

Health education as a stand-alone subject, grades 7 to 9

As mentioned above, while health and safety is taught as a cross-curricular subject in grades 5 to 9, health education is a stand-alone subject in grades 7 to 9. Among the objectives of health education at grades 7 to 9 are that pupils will:

- understand values and viewpoints related to health, disability and disease;
- learn to describe and evaluate the main factors that promote health or cause diseases; and
- identify and weigh choices related to health and safety;
- take care of themselves and their environment, recognise the need for prevention and support, and act appropriately in situations relevant to health, disease and safety;
- assess the importance of the environment and their way of life from the perspective of safety and health, etc.

Core contents of health education at grades 7 to 9 include:

- physical growth and development, daily routine, sleep, rest and stress, health-enhancing physical activity, nutrition and health;
- smoking, alcohol and drug abuse, and the use of other intoxicating substances;
- traffic safety and behaviour in traffic, dangerous situations and mishaps/accidents, and first aid;
- health, work skills and functional abilities as a resource;
- environment and health, on-the-job welfare;
- rights of children and young people, the legislation regarding limitations on activities and consequences, etc.

Upper secondary schools

Health and safety education features in various ways at upper secondary level:

Student welfare services

Student welfare services involve care for the physical, mental and social wellbeing of students. The aim is to create a safe and healthy study and working environment and to prevent social exclusion. Student welfare services focus on the promotion of wellbeing within the study environment and on early identification of and intervention in learning difficulties and other problems. Students' inclusion in the promotion of wellbeing in their own working community must be supported. This part of the curriculum is drawn up in cooperation with the municipal authorities responsible for the social and healthcare services.



General objectives of education related to health and safety

Upper secondary school must endeavour to ensure that students develop the disposition and ability to function responsibly in a democratic society, with due consideration for their own wellbeing and that of others.

Safety and wellbeing cross-curricular theme

Cross-curricular themes are educational challenges with social significance. At the same time, they are current statements on values. In practical terms, cross-curricular themes are policies that structure the upper secondary school's operational culture and priority areas that cross subject boundaries and integrate education. They deal with issues concerning the way of life as a whole.

The objectives uniting all cross-curricular themes are, among others, for student to be able to:

- assess their own lifestyle and prevailing trends from a future perspective;
- make choices and take action for the future that they consider as being desirable.

Safety and wellbeing is one of the cross-curricular themes (the others are active citizenship and entrepreneurship, sustainable development, cultural identity and knowledge of cultures, technology and society, communication and media competence). Safety and wellbeing is understood in a broad sense: as social as well as physical and mental wellbeing. The objective of the cross-curricular safety and wellbeing theme is for students to understand the basic prerequisites for their own wellbeing and that of their community. It encourages students to act for the safety and wellbeing of their family and the local community and as members of society and to develop the skills to do this.

Health education stand-alone subject

In the upper secondary schools health education is a stand-alone subject which aims to promote competence in support of health, safety and wellbeing. Health competence involves the ability to assume responsibility for the promotion of one's own health and that of other people. Some of the objectives of health education are, for students to understand the significance of working and functional abilities, safety, prevention of diseases and health promotion. Health is understood in a broad sense as social as well as physical and mental wellbeing.

Health education at upper secondary schools examines health, illness, health promotion and prevention from the perspectives of individuals, families and society. It covers values in relation to health.

Health and safety in other curriculum subjects

Health and safety aspects are also included in other subjects, for example:

- *Physical education*

The role of physical education is to promote a healthy and active lifestyle and guide students to understand the importance of physical exercise. Through physical training and the monitoring of their physical condition, students will be guided to understand the significance of fitness to mental and physical health working abilities and to social wellbeing.

- *Physics*

The curriculum mentions as one of the objectives of instruction in physics for students to contribute actively and responsibly to the creation of a safe and healthy



environment. The health and safety aspect is also included in the core content of specific courses where relevant; for example, the health effects of noise and protection against loud noise, electrical safety, radiation safety, etc.

- *Chemistry*

One of the objectives is to learn how to plan and carry out experiments taking safety considerations into account. The students will also learn to use their chemical knowledge as consumers in order to promote health and sustainable development and in discussions and decision-making processes concerning nature, the environment and technology. The assessment in chemistry also includes safe use of equipment and reagents.

- *Geography*

In geography, there is a specialisation course: 'A world of hazards'.

Vocational education and training

Vocational education and training start at upper secondary level in the Finnish education system. Upper secondary vocational studies are mostly completed at vocational institutions, with some workplace learning. All qualifications include at least six months' training in the workplace. In addition, it is also possible to take upper secondary vocational qualifications in the form of competence-based qualifications that are designed specifically for adults with previous work experience. The vocational skills requirements are the same regardless of the method of completion. As a specific form of vocational education and training, apprenticeship training is an alternative and practical way of obtaining an upper secondary vocational qualification.

The national core curricula for vocational education are drawn up by the National Board of Education in cooperation with employers' organisations, trade unions, the education trade union and student unions. There are tripartite committees for each vocational field. Local tripartite bodies with input from other relevant parties draw up local curricula which must be in line with the relevant national core curriculum as must students' individual study plans.

Management of occupational safety and health in the national core curricula

The national core curricula determine common provisions for all qualifications, which are cross-curricular themes included in all areas of instruction. One of these common provisions is management of occupational safety and health: education and training is intended to provide students with the capability to manage occupational safety and health. The learning objectives are:

- to be conversant with and comply with the occupational safety regulations and instructions in their field;
- to appreciate the advantages of a safe, healthy and comfortable working environment and strive to develop it;
- to be able to recognise dangers and health hazards at work and in the working environment, as well as to protect themselves against them and prevent them;
- to be able to design an ergonomically healthy working environment for themselves;
- to know how to look after their own health and 'work ability'.

The safety and health aspect is included in the general objectives of each vocational qualification and integrated into objectives and core contents of different subjects. As an example of this the relevant parts of the core curriculum for vocational qualification in metalwork and machinery are presented below.



An example: Vocational qualification in metalwork and machinery*General objective related to OSH*

- Students shall attend to occupational safety and personal protection as well as to waste treatment and environmental protection and they shall keep their workplace tidy and in good order.

Physics objectives and core content related to OSH

- Objectives: students shall know how to use the electrical appliances they need in a safe and economical manner. They shall be able to work ergonomically, which requires them to be conversant with physics related to ergonomics.
- The core content comprises mastering physics required to achieve vocational skills and to maintain work ability.

Chemistry objectives and core content related to OSH

- Objectives: students shall know how to properly store and use substances needed in the metalwork and machinery field as well as how to dispose of them appropriately. They shall be able to take account of the special properties of substances in their work, so as not to jeopardise their own safety, that of other people or the environment. Students shall be able to recognise and interpret the specifications of the substances and materials used in the metalwork and machinery field as well as those of products in the metalwork and machinery field to determine the factors related to health and safety and how to act according to the requirements of the situation.
- The core content comprises knowledge of the chemical phenomena central to the metalwork and machinery field and how to take account of them in their own work, as well as appropriate use, storage and disposal of the substances used in the field.

Plate work and welding, objectives and core content related to OSH

- Objectives: the students shall take account of OSH in all work tasks and use protective equipment. Students shall know how to use lifting equipment and clamps properly and safely to transfer, handle and suspend plates and sheets. They shall be able to perform daily operational servicing tasks for common machinery. Students shall keep their workplace tidy and handle remnants from plate and sheet metal work and other residuals correctly and shall be able to apply safe waste management measures.
- The core content comprises occupational safety, lifting techniques, servicing of machinery, order and tidiness at the workplace and waste treatment.

Supporting activities, programmes and projects***Passport to health and safety skills***

When Skills Finland hosted the WorldSkills competition for vocational training they integrated OSH into the competition. Alongside this, an educational package — ‘Passport to health and safety skills’ — was developed:

- Skills Finland: <http://www.skillsfinland.com>
- *A Safe Start for Young Workers in Practice*, Case 10
<http://osha.europa.eu/publications/reports/GPB06>

Further information

- Eurydice website (Finland): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=FI>
- OPM — Opetusministeriö (Ministry of Education) <http://www.minedu.fi>
- TYVE — <http://turva50.me.tut.fi/>



FRANCE

The French educational system has adopted a holistic approach to safety education and it is taught in a cross-cutting and interdisciplinary manner.

Curriculum

The French educational system is evolving as a result of European harmonisation.

The education ministry determines the school curricula and the educational learning objectives. Teachers choose their own teaching methods and textbooks. The elementary school curriculum concentrates on the basic skills of reading, writing and arithmetic, as well as on physical education (normal motor skills, etc.) and enhancing awareness and sensitivity. The lower secondary curriculum consists of eight or nine compulsory subjects depending on the year of study, and becomes increasingly diversified with the inclusion of optional subjects.

In upper secondary education onwards, curriculum content is determined by the State. Basic subjects in the first year of the lycées généraux et technologiques are French, mathematics, physics/chemistry, life and earth sciences, foreign language 1, history/geography, physical education and sport, supplemented by two further subjects that must be chosen by pupils. The vocational lycées offer both general education and theoretical and practical vocational training, including work placements with companies. The reference system for vocational qualifications awarded by the education ministry (see below) is always worked out in partnership with the economic sector concerned, within consultative vocational committees (*commissions professionnelles consultatives*, or CPC).

Primary education

The obligation to teach safety at school in primary school and the *collèges* includes three significant areas (according to the Decree 83-896 of 4 October 1983):

- road safety;
- safety at home;
- major natural and technological risks.

The French educational system has adopted a holistic approach to safety education and it is taught in a cross-cutting and interdisciplinary manner. At the kindergarten and primary levels school safety education should lead to the development of good attitudes and behaviour. The rules taught are linked with different situations in school and family life. It is not taught as a separate discipline but integrated in all areas of education. However, the areas most suitable for this are physical education, discovery of the environment and content subjects such as biology, physics or technology.

The Decree lists several types of frequent accidents (for example wounds, fractures, intoxication, burns, electrical accidents). This list serves as the starting point for teachers to introduce safety rules in the form and at the time they consider to be most suitable.

Colleges

Creating and reinforcing safety awareness at this level is through the acquisition of knowledge and abilities on the causes of accidents, their human and social



consequences and ways of handling them. This educational goal can be realised in citizenship and physical education, experimental sciences, technical and manual education and technological options. In the latter disciplines in particular, the description, explanation and analysis of mechanical and physical phenomena should accompany the information on risks and prevention measures.

Examples mentioned in the Decree are:

- in experimental sciences: natural phenomena, fires, compressed air, combustion, electricity, radiation, dangerous substances;
- in manual and technical education, and technological options: use and functioning of machines, tools, elevators;
- in physical education: safe movement, safety in the water.

By introducing the principles of safety in this way it is hoped that students will achieve the following learning objectives: develop safety awareness; act appropriately in a dangerous situation; intervene effectively to stop an accident getting worse; help victims; and, if they are the victim, to act in such a way that they do not worsen the consequences of the accident.

Technical education

The key points of OSH policy and knowledge about the relevant safety regulations have been introduced into the training programmes for the various sectors: construction, the chemical sector, etc.

CERP (a consultative body on teaching OSH) has been established. It is a partnership between the national health insurance fund for workers (CNAMTS, Caisse nationale de l'assurance maladie des travailleurs salariés) and the Ministry of Education. The partnership aims to reinforce the relationship between schools and companies. In the training college workshops students cannot fully experience workplace conditions and are therefore not well prepared for working life. Projects are being carried out with several industrial sectors to achieve closer collaboration between companies and schools.

Another major focus is the inclusion of the service sector in the programme, in addition to the production sector. Service sector jobs are becoming increasingly important and it is believed that students preparing for a career in the service sector should also receive OSH education.

The partnership also targets teaching staff; for example, it supports projects that produce innovative teaching materials and tools, and training of teachers in OSH, etc.

Universities and 'grandes écoles'

France currently has a variety of teaching programmes in the field of health and safety at the further education level covering subjects such as industrial health, ergonomics, legislation, etc.

Particular attention is given to OSH within courses for careers that include occupational health and safety responsibilities. Several professional job categories require instruction on safety and health at work; for example some schools of engineering include a module on OSH risk assessment and identifying solutions to remove the risks.



Supporting activities, programmes and projects

Teaching resources

Teaching material is regularly renewed and updated. Some of this material is accessible through the Internet, for example:

- <http://www.educnet.education.fr/securite/indsecud.htm>
- <http://www.education.gouv.fr/syst/secutravail/default.htm>
- <http://eduscol.education.fr/D0159/>
- <http://www.educnet.education.fr/securite/indrmaj.htm>
- <http://www.education.gouv.fr/>

Further information

- Edforsa project French national report: http://edforsa.vubp.cz/products_vysledky.php
- Eurydice website (France): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=FR>
- Ministère de l'Éducation Nationale, de l'Enseignement supérieur et de la Recherche (Ministry of Education, Higher Education and Research): <http://www.education.gouv.fr>
- Éducation.fr — Le portail de référence sur l'éducation (the French education portal): <http://www.education.fr>

GERMANY

While there are regional variations because of the federal nature of Germany, OSH is not an explicit part of the German school curriculum. Its inclusion is dependent upon individual teachers and the subject being taught. However, environment and health issues are increasingly being included in the curriculum and educational requirements are changing all the time. Below are examples of some developments that have taken place.

Legislation on school safety

There are various norms and technical standards that have to be met for the safety of pupils; for example, the Prevention of Accidents Regulation for Schools (Communal Accident Insurance Gemeindeunfallversicherung GUV V S1 (2001)).

Curriculum

According to Germany's Basic Law (Grundgesetz), educational legislation and administration are primarily the responsibility of the regional states or *Länder* (in a system comprising the Land Ministries of Education, Cultural Affairs and Science, the regional authorities (Bezirksregierung/Oberschulamt) and the lower-level school supervisory authorities (Schulamt)). The Basic Law also provides for particular forms of cooperation between the Federation and the *Länder* concerning educational planning and the promotion of research.

The *Länder* ministries determine the curriculum, recommend teaching methods and approve textbooks. Core subjects in primary education generally include reading, writing, arithmetic, Sachunterricht (general studies) as an introduction to natural and social sciences, art, music, sport and religious education. Secondary curricula vary in accordance with the type of upper secondary education and training, but usually continue primary



core subjects. Pupils in the gymnasiale Oberstufe must study subjects from three groups: languages/literature/the arts; social sciences; and mathematics/natural sciences/technology. Vocational programmes in Berufsfachschulen (trade schools) include German, social studies, mathematics, natural sciences, a foreign language and sport, as well as vocational subjects. The vocational training in the Duales System is organised for 350 professions following nationally coordinated training rules (the workplace element) and curricula established by the *Länder* (school-based activity) in all economic fields.

Primary and lower secondary education

Curricula and syllabuses for the primary school are the responsibility of the Ministries of Education and Cultural Affairs in the *Länder*. The syllabuses specify not only the course content, but also the course objectives and teaching methods. They are binding on the teachers.

In the Grundschule, environment and health issues (treating nature and one's own body in a responsible way), are increasingly being included as themes in the syllabus.

An agreement reached in December 1993, as amended in September 1996, by the Standing Conference of the Ministers for Education and Cultural Affairs of the *Länder*, lays down a framework schedule for grades 5 to 9/10, requiring certain core subjects in every type of school and course of education. An introduction to the professional and working world is a compulsory component of every course of education and is provided either in a special subject such as Arbeitslehre (pre-vocational studies) or as part of the material covered in other subjects.

Health and safety education

General health education takes place in primary and secondary schools. That means the pupils learn the basics of health and hygiene and about acting in an environmentally friendly way. Following briefings contained in special 'teacher letters', teachers have the opportunity to introduce OSH topics that are related to their subject. Several subjects, such as chemistry and physical education, have specific safety instructions that have to be given by the teachers before the pupils start to take part in activities. In primary schools there is also a focus on traffic safety.

While OSH is not a specific part of the general curriculum, various Federal States have OSH-related educational programmes and projects. It is, however, up to the individual school and its teachers whether they participate in these activities.

In addition, in grammar schools OSH-related learning can be included in the subjects social studies and politics.

Vocational education

The Ministers for Education and Cultural Affairs of the *Länder* are responsible for drawing up the curricula. The Rahmenlehrpläne (framework curricula) for vocational instruction at Berufsschulen, on the other hand, are worked out jointly by federal and Land authorities with the agreement of the employers and unions on the basis of the Ausbildungsordnungen (training regulations) for on-the-job training.

The basic foundation of incorporating OSH at the start of working life of young Germans is found in laws regulating the work situation of people under the age of 18. The German apprenticeship system is tightly regulated by the government.



An employer has to make sure that the young person to be employed is physically and mentally fit for the job. 'Ausbildungsordnung' (apprenticeship regulations) exist for every profession and deal with specific safety and health protection measures for young workers. A physical check-up prior to starting the apprenticeship is mandatory.

The nature of Germany's three tier school system, in which only the top tier leads to higher education, means that OSH related subjects are mainly taught in the Berufsschulen (trade schools). The German apprenticeship system is a dual system in which companies are responsible for the practical part of the job training while state-run schools teach the theoretical part plus common subjects such as German, maths and English, for example. The Berufsschulen differ from other state schools in that control rests not with the local and regional school authorities, but with the federal government, industry and the trade unions. They may develop the actual programmes to include OSH in the trade school teaching.

Universities

There is no coherent curriculum for OSH education in German universities and colleges. It varies from university to university and the federal states have no influence on the subjects taught. Very often OSH education is a part of the following branches of study: traffic and transportation, mechanical engineering, logistics, business management and economics, management of technology and process engineering.

Supporting activities, programmes and projects

Berufsgenossenschaften

The Berufsgenossenschaften or institutions for statutory accident insurance and prevention assume liability for the consequences of occupational accidents, commuting accidents and occupational diseases. At present there are 26 Berufsgenossenschaften divided according to the branch of industry they deal with. The law states that their prime responsibility is to prevent occupational accidents and diseases, to eliminate work-related health hazards, and, should an insured event occur, to compensate the injured person, the relatives or the surviving dependants. They provide OSH programmes for young workers.

An example of a long-running mainstreaming campaign initiated by the Berufsgenossenschaften targeting young workers in vocational schools

In 1972 the project 'Youth wants to live safely' was introduced in an attempt to mainstream OSH into education using suitable materials for the target group: young people in a classroom environment. It is financed by the Arbeitskreise for occupational safety, of which the federations (Landesverbände) of the Employer's Liability Insurance Association are members (Berufsgenossenschaft). The Arbeitskreise includes those parties involved in occupational safety: trade unions, employers' organisations, federations and public accident insurers (Unfallversicherungsträger der öffentlichen Hand), social and cultural authorities, occupational safety engineers, etc.



The goal of the project is to integrate OSH content into the curriculum of vocational schools. A small number of annually changing subject areas are regularly presented. By using a competition format with attractive prizes and by presenting the material in an entertaining way the initiators try to reach the target group as effectively as possible.

Since the introduction of the 'Jugend will sich-er-leben' project in 1972, over six million young people have taken part in the competition, and every year the 'Arbeitskreise' addresses some 800 000 students in vocational schools.

Among the materials the schools receive is a fact sheet in which the subject is presented in an interesting and entertaining way. Part of the sheet is a questionnaire, which can be filled in by the students at the end of the class in order to take part in the competition. All answers are collected in the school and sent to the nearest regional office. A winner is drawn at random from all correct entries. There are 1 800 prizes for students, worth EUR 80 000. There is also a prize for the school with the highest proportion of participating students. Each year, the competition focuses on a different subject.

INQA Lernwelt

INQA (the Initiative for New Quality of Work; a confederation of companies, social partners, social insurance funds, foundations, Federal Government and Federal States) has a 'lifelong learning' network. See: <http://www.inqa.de/Inqa/Navigation/Themen/Lebenslanges-Lernen/wissen,did=210762.html?view=renderPrint>

Supporting activities, programmes and projects

The ENETOSH project toolbox contains various examples of activities from Germany. See http://www.enetosh.net/webcom/show_websiteprog.php/_c-57/_lkm-7/i.html

Further information

- German national report of the Edforsa project: http://edforsa.vubp.cz/products_vysledky.php
- Eurydice website (Germany): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=DE>
- BMBF — Bundesministerium für Bildung und Forschung (Federal Ministry of Education and Research): <http://www.bmbf.de>

GREECE

Legislation on safe schools

The School Act includes the requirement for a healthy and safe school environment: it emphasises that schools should provide safety and health protection for pupils during school activities.

Schools are expected to follow Act PD 16/1–6 on minimum health and safety specifications for work areas.



Curriculum

The curricula for primary and secondary education are drawn up by the Pedagogical Institute and approved by the Ministry of Education. Compulsory subjects at primary level are religion, Greek language, mathematics, history, environmental studies, geography, physics, social and civics, music and arts, a foreign language and physical education. These subjects (except environmental and arts studies) are compulsory throughout junior high school. Additional compulsory subjects at secondary education include ancient Greek, a second foreign language, chemistry, home economics, computer science, technology and school vocational guidance. The Pedagogical Institute also sets the curriculum for all upper secondary institutions, including upper secondary general and vocational education. The general curriculum includes religion, modern and ancient Greek language and literature, history, mathematics, sciences, a foreign language, physical education, citizenship, art, music and vocational guidance. Specialist and vocational subjects vary depending on the course followed.

The Single Curriculum Framework (SCF) and the New Curricula, which adopt an interdisciplinary approach to learning, were drawn up for compulsory education in 2003. A new curriculum and school books written on the basis of the SCF began to be introduced in school year 2006/2007. Teachers are obliged to follow the curriculum, but they may choose their own teaching methods to achieve the required learning objectives. At the beginning of the school year, special directions are dispatched to teachers of all specialisations by the Pedagogical Institute regarding the goals of the subjects they teach.

Inter-thematic Unified Framework Educational Programme — primary and secondary education

This was defined by the Hellenic Government in March 2003 and covers topics as varied as music, foreign languages, home economics, computer science, school occupational orientation, technology, physical sciences (chemistry, physics, biology, geology, geography, exploration of the physical world), and physical education. The aim is to develop a framework for the integration of the above topics in order to promote a more holistic and comprehensive approach to teaching and learning.

Primary and secondary schools

Prior to 2002 there was no systematic attempt to include OSH elements in school education, although activities on road safety, drug abuse and environmental protection took place, and no specific practical guidance has been issued on how to introduce them into primary and secondary education in Greece. However, there are relevant learning opportunities for health and safety within home economics and within the subjects 'health education' and 'environmental education'.

Home economics is part of the framework programme and has the general aim of the development of the individual in the home environment, the family and the community. The topic provides the knowledge for the development of a physical, social, economic, cultural and aesthetic environment for the family and the individual, with the ultimate aim of improving the quality of life and the welfare of individuals, families and society.

The themes relating to health and safety that are included in home economics within the inter-thematic approach are:

- accident prevention, with the general aim (knowledge, abilities, beliefs and values):



- to acquire specific scientific knowledge essential for the avoidance, prevention and management of accidents which may happen at home, in play areas, work areas, on the road and elsewhere;
- to learn how to behave in traffic and to learn how to avoid violence;
- first aid, with the general aim (knowledge, abilities, beliefs and values):
 - to acquire essential knowledge relating to medicine;
 - to acquire the knowledge and the ability for the initial handling of accidents and the delivery of first aid.

The teaching requirement for home economics is four hours per week and it is delivered in the first year of primary school (age 6 years). Relevant classroom activities include:

- holding activities in the classroom and recording of hygiene habits of pupils; discussion and conclusions (Greek language, mathematics, health education, computer science);
- creating advertising images or messages to discourage smoking and alcohol consumption (aesthetic education, computer science, health education).

Health and environmental education

The optional topics of health and environmental education have now been introduced at primary school level (see below).

Pupil/student protection while learning

Aquainting pupils with the principles of safe behaviour while working in laboratory lessons, sports activities and with hygiene rules forms part of creating safe learning conditions for pupils at primary and secondary level.

Secondary schools and secondary vocational schools

Optional OSH courses were introduced to secondary schools and secondary vocational schools in 1992 by Ministry Act G2/4867/1992, which supplements the School Act N. 1892/1990.

'Health education' and 'environmental education' are subjects offered to secondary school students on an optional basis for two hours per week. Teachers who deliver these two courses undergo a training seminar of 40 hours to acquire the necessary qualifications. The Ministry of Education and Religious Affairs (MERA) has appointed two officers in the local directorates of secondary education in each major city in Greece to keep school teachers informed about health education and environmental education. These representatives organise training seminars for teachers, exhibitions and presentations on health and environmental education, and inform teachers about projects financed by MERA in this area. In particular, several projects on health and environmental education for secondary schools have been sponsored by MERA's 'Operational Programme for Education and Initial Vocational Training' (EPEAEK).

The courses in health and environmental education have focused on a variety of OSH issues including: traffic safety and road accidents, helmets and seat belts, driving bikes safely, health and environment, toxic substances in foods, eating habits and obesity, AIDS prevention, heart diseases, responding to natural disasters, fire prevention and so on. Many teachers at secondary schools have been active in running projects on health and environmental education and asking students to collect material and make presentations on one of these topics. The projects are



financed by the Ministry's 'Operational Programme for Education and Initial Vocational Training' (EPEAEK).

OSH in secondary vocational school curricula

Although the teaching of OSH principles in secondary schools remains optional, some secondary vocational schools have taken active steps to include OSH in their curriculum. This includes the disciplines of mechanical engineering, vehicle technology, and automation, which may involve exposure to the machine hazards in laboratories and workshops. However, only a few secondary vocational schools have written exams in the principles of OSH.

As part of creating a safe learning environment students should become acquainted with the principles of safe behaviour in workshops, training centres and company workshops and factories. In higher vocational schools, becoming acquainted with principles of safe behaviour in enterprises where vocational training is performed and in specific workplaces should be covered.

At the Higher (post-secondary) Vocational Schools (IEK) level OSH principles have appeared as separate courses in three disciplines, namely: refrigeration and air conditioning technology, automobile technology, and civil and structural engineering. Students of these disciplines are required to take a specialised course in occupational health and safety for approximately three hours per week, which includes written examinations.

OSH education in universities and colleges

The first attempt to incorporate occupational safety into the curricula of universities and colleges was made at the National Technical University of Athens (NTUA) in the early 1980s. The Department of Mechanical Engineering (NTUA) introduced a three-hour course in ergonomics to familiarise engineers with aspects of ergonomic product design and occupational safety. In the late 1980s, the Department of Mechanical Engineering (University of Patras) introduced a three-hour course in man-machine interaction emphasising aspects of industrial sociology and including elements of occupational safety. The most systematic effort to teach occupational health and safety was in the early 1990s by the Department of Production Engineering and Management (Technical University of Crete), which introduced courses in ergonomics and ergonomic work analysis and a postgraduate course in managing safety at work. In the late 1990s, the Department of Industrial Management and Technology (University of Piraeus) introduced a three-hour course in ergonomics on establishing a management system for occupational health and safety. These four university departments had appointed lecturers and professors qualified in ergonomics and OSH. Other engineering departments — e.g. the departments of mechanical engineering at Aristotelio University of Thessaloniki and the University of Thessaly — teach ergonomics and OSH occasionally, depending on the availability of external specialised teachers.

OSH education in Technological Educational Institutes (TEI) has received increasing recognition in recent years. Most departments of mechanical engineering have at least one course in occupational safety and environmental protection. The courses are usually introductory and do not include practical exercises or measurement of environment variables (e.g. noise, high temperature). While there is currently a lack of specialised staff in OSH in Technological Educational Institutes, these problems may be overcome in the near future.



With increasing awareness of environmental pollution, some new departments in environmental engineering were established in Greece. A few of them have introduced specialised subjects of OSH (e.g. noise control and measurement) in three-hour courses on environmental protection.

Finally, some elements of safety awareness have been introduced into university courses on traffic safety (three-hour courses) in civil engineering departments.

Ongoing initiatives, programmes, projects

Psychico — pilot education programme on occupational health in general secondary schools

This is an ongoing pilot multi-stage education programme to increase awareness of occupational health among general secondary school students in the Athens municipality of Psychico. It was launched in 2002 as a five-year pilot with the participation of the Committee of Health and Welfare and in collaboration with the administration of seven general secondary schools in the municipality.

The aim of the programme is to contribute to the national planning of the integration of education in OSH in general secondary schools and to the preparation of appropriate educational material, and also to increase awareness of OSH among students.

The first stage of the project focused on a study of the attitude of students (aged 17–18) towards OSH and knowledge about OSH, and on school presentations by an OSH expert. A survey was also conducted to gauge the opinions of general secondary school teachers about OSH education in schools. Students in six secondary schools were surveyed, prior to leaving school. The resultant information on (a) causes of unwillingness to learn about occupational health, (b) various misconceptions about occupational diseases, and (c) relevant essential knowledge gaps identified by the survey, which correspond to omissions in the current national school curriculum, could be utilised in the preparation of appropriate occupational health school educational material. Two-thirds of students lacked knowledge or had erroneous perceptions about OSH while 85 % wished that they had been taught about OSH. In the same schools, 114 teachers were surveyed about their views of the usefulness and the manner in which occupational health should be integrated into the curriculum of general secondary schools in Greece. Of these, 43 % recommended that occupational health tuition be predominantly included in the biology course and 54 % that it be apportioned horizontally across a wide range of unit courses.

The second stage commenced in 2004. It was a student essay competition, with the aim of increasing the awareness of young people about occupational health. The municipality of Psychico ran the essay competition on the subject 'Protection of health at work: The case of construction and building industries'. The competition took place during the 2004 European week for safety and health at work (18–22 October 2004) in seven schools in the municipality. One month in advance the municipality distributed educational material on occupational health, to be used by teachers and students. Teachers guided the students to appropriate sources of information and references a few days before the competition and they also introduced them to the subject on the day of the competition at the beginning of the essay-writing session within the framework of the Modern Greek language unit course. Students were also given lessons by appropriately trained teachers, there was publicity in the mass media and a public municipal event, including presentations by experts and dignitaries.



The third stage in 2005 included the publication by the municipality of a book entitled *Health protection at work — a subject for education of general secondary school students*, and school lectures by OSH experts. The book contains the 10 best essays, the keynote addresses of the award ceremony and the results of the aforementioned study of attitudes and knowledge of students on OSH. The book has been distributed free to the students and teachers in the seven schools which participated in the programme. It has also been offered to schools nationwide on request, to officials in the Ministries of Health and Social Solidarity, Employment and Social Protection, National Education and Religions, employers' and employees' associations, and to public libraries. The main authors of this book are the students themselves, who will be acting as the educators of other adolescents, contributing effectively to the increase of their awareness of health and safety matters.

Further information:

- Bazas, T., *Protection of health at work — a subject for secondary school education*.
- GOHNET Newsletter, No 9, pp.8 — 9, summer 2005, http://www.who.int/occupational_health/publications/newsletter/Gohnet9eng.pdf

FAOS project

'FAOS — Building awareness for a lifetime' is an example of a regional project carried out in partnership with the regional education office. It is an accident prevention and awareness-building programme combined with a school repairs programme across both primary and secondary schools in the Achaia region. The partnership involved the Directorate of Secondary Education of the Prefecture of Achaia, the Ministry of Labour's Centre for the Prevention of Accidents at Work, the private sector through TITAN Cement Company and the Vice Chairman of EKAB (Greek Emergency Services Organisation).

A variety of activities were implemented:

- identification of safety problems;
- safety audits and assessment of school buildings;
- implementation of a recording system of accidents and potential accidents at schools;
- awareness seminars for teachers and students;
- safety training for teachers;
- open conferences for the local communities;
- interactive workshops;
- creation of educational material;
- education programmes at schools;
- cooperation with specialised government authorities and NGOs;
- contacts with local businesses, unions and individuals for promotion and sponsorship purposes.

The FAOS project has been an important learning experience for developing ways of working between some very different organisations. It has now been transferred to other parts of Greece.

For further information see: *A safe start for young workers in practice*: <http://osha.europa.eu/publications/reports/GPB06>

Further information

- Edforsa project report — 'An introduction to the existing occupational health and safety activities in Greece: national report, 2004': http://edforsa.vubp.cz/products_vysledky.php



- Eurydice website (Greece): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=EL>
- ΥΠΕΠΘ — Υπουργείο Παιδείας και Θρησκευμάτων (ΥΠΕΠΘ — Ministry of Education and Religious Affairs): <http://www.ypepth.gr>
- Information about the health curriculum from the Ministry of Education (in Greek) available at:
 - http://www.ypepth.gr/el_ec_page73.htm (primary education)
 - http://www.ypepth.gr/el_ec_page413.htm

HUNGARY

Legislation

In Hungary, occupational safety and health education in schools, as well as in vocational training, is governed by the Act on Labour Safety (LSA) of 1993:

Section 14

- (1) Within the framework of labour safety administration, the State shall attend to the following duties:
 - (d) establishment of a curriculum related to general personal safety and to occupational safety and health regulations, for the purposes of general education and vocational training.

Section 52

- (1) Within the framework of school education, pupils and students shall be educated regarding the basic rules of general personal safety and occupational safety and health standards.
- (2) As part of vocational training, students shall be educated regarding the health and safety requirements pertaining to the profession of their training. The minister competent for training shall determine the curriculum necessary therefore, in agreement with the Minister for Labour and the Minister for Public Welfare.

Curriculum

A three-level structure comprising the national core curriculum (NCC,1995), the framework curricula (2000) and local curricula (institutional level) provide a regulatory framework for teachers to develop syllabuses. On the basis of a central definition of each discipline, the schools and the local teaching staff can define and adopt local curricula and syllabuses for each class and each subject. The national core curriculum is currently under revision to incorporate learning based on the development of competences and skills.

In Hungarian educational policy, the national core curriculum is the highest level regulatory document concerning the content of curricula. Its main function is to lay down the principles and conceptual basis of public education and, at the same time,



provide for the autonomy of schools in selecting educational content. The NCC lays down the national objectives of public education, identifies the main areas of knowledge to be transmitted, provides guidelines on how to spread this content over the various phases of public education, and defines the key development tasks (i.e. the cross-curricular fields) in the various phases. By providing a summary of the fundamental knowledge and skills to be acquired at school, the NCC ensures the consistency and coherence of public education.

At the second level, educational content is regulated by framework curricula, developed in the spirit of the NCC, to provide more detailed guidelines. Together with the NCC, these framework curricula serve as a guide for the authors and editors of textbooks, the developers of resource materials, examination requirements and national assessment and evaluation tools, and first and foremost for the teaching staff of schools who are responsible for developing local curricula.

At the third level, educational content is regulated by the local curricula of the schools. To receive authorisation local curricula must comply with the NCC requirements.

The core curriculum topics are:

- hungarian language and literature
- modern foreign languages
- mathematics
- man and society
- man and nature
- our earth and environment
- arts
- information technology
- physical education and sports
- life management and practical studies.

See www.okm.gov.hu/ for details

Health and safety related curriculum development objectives

The NCC defines cross-curricular fields or key development objectives that should be mainstreamed through all aspects of school education. They are conducive to the strengthening of links between subjects, a coherent view of teaching/learning and the personal development of pupils. Key development objectives include, among others:

- physical and mental health
- preparing for the roles of adult life.

In the core curriculum areas or cultural domains, health and safety learning can be underpinned through the learning and development objectives of various core areas, among others:

- man and society
- man and nature
- physical education and sports
- life management and practical studies.

The ways in which health and safety can fit into these different fields is described below.



Physical and mental health

Schools have a major responsibility for educating young people to adopt a healthy lifestyle. All school activities should serve the pupils' sound physical, mental and social development. The human and physical environment of the school should be conducive to the development of positive attitudes, behavioural patterns and habits that can improve the health of children or young adults.

Education for a healthy lifestyle not only teaches how to prevent illnesses, but also to experience health and happiness, and to aspire to a well-balanced life. Teachers must prepare children and young adults for making the right decisions about their lifestyle, living a healthy life and resolving conflicts when they are grown up. Development efforts strengthen an accommodating and helpful attitude towards their fellow citizens suffering from illness, impairment or disability.

Teachers should show pupils the common factors in their environment (with emphasis on the household, school, traffic and hazardous substances) that may damage human health or the human body. Pupils should be prepared for preventing and tackling hazardous situations, on both the individual and public levels. School must also prepare pupils for using public transport or moving around on foot independently, and teach them how to prevent traffic accidents. Attention must be given to the appropriate handling of hazardous substances and the main rules relating to them (how to identify and store hazardous substances). Children and especially adolescents should be given support to avoid substances causing addiction (e.g. smoking, alcohol and drug addiction, unhealthy food). The habits that constitute the foundations of a healthy, well-balanced lifestyle can only be developed with pupils' active involvement. It is essential that the school environment also promotes a healthy physical, mental and social development.

Preparing for the roles of adult life

Preparing for the roles of adult life includes career orientation, with a special emphasis on flexibility, cooperation and the ability to handle change on the level of both the individual and society. Confident consumer behaviour and fitness for work are covered within sections on teaching on developing social competences and citizenship skills.

Life management and practical studies

Health and safety issues are included among the core subject matter of life management and practical studies as follows:

- health — healthy lifestyle, modern diet, daily exercise, clothes, prevention of accidents, ergonomics, occupational hazards, addictions, mental health;
- safety and security — identifying threats to individual and public life, individual responsibility in emerging/created emergency situations, disaster mitigation (fire protection and civil defence, planning, prevention, intervention, evaluation).

Man and Society

For example, a key development area is responsibility for the environment.

Man and nature

In grades 7 to 12 chemistry, pupils learn the most important properties, reactions and handling of the most frequently used natural and artificial substances. Special attention is given to the proper handling of hazardous substances.



Physical education

One of the teaching outcomes of physical education and sports is the development of a healthy lifestyle and physical culture. In this context, in addition to establishing a culture of exercise and sports, the pupils' level of physical fitness is also raised.

Further information:

Hungarian Ministry of Education: <http://www.okm.gov.hu/main.php?folderID=137&articleID=6994&ctag=articlelist&iid=1>

Ongoing reforms**Basic education**

Revising the national core curriculum and strengthening basic skills and cross-curricular education is one of the objectives of the educational policy regarding basic education.

Vocational training

In June 2003 a modified Act on Vocational training was passed by Parliament. Current policy measures and objectives include, among other things, modernisation of vocational curricula and the training of teaching staff.

Universities**Parliamentary resolution: OSH education in higher education**

The annex to Resolution No 20/2001 (March 30) of Parliament on the National Programme of Occupational Safety and Health states in the section 'The National Programme of Occupational Safety and Health' the following.

'5.5. Measures should be taken to improve the system of occupational safety and health education and training. There is a need, in particular:

(a) to review the implementation of education in occupational safety and health in the everyday practice of higher education, and to take the necessary measures to give proper emphasis to occupational safety and health ...'

Further information

- Eurydice website, Hungary: <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=HU>
- OM — Oktatási Minisztérium (Ministry of Education): <http://www.om.hu/>

IRELAND

Ireland has been revising and developing its national teaching curricula in recent years. In addition, the national Health and Safety Authority (HSA) has been exploring ways of including OSH in the curriculum and has set its own strategic goals for OSH in education.



Legislation

Education Act and the National Council for Curriculum and Assessment (NCCA)

The provision of education is covered by the Education Act (1998). The National Council for Curriculum and Assessment (NCCA) was established in 2001 as a statutory body. Its role, which is set out in the Education Act (1998), is to advise the Minister for Education and Science on matters relating to 'the curriculum for early childhood education, primary and post-primary schools and the assessment procedures employed in schools and examinations on subjects which are part of the curriculum'. (41.1 a, b)

The Health and Safety Authority (HSA) has been working with the NCCA regarding ways to include OSH in the curriculum. This has included commissioning the NCCA to carry out a 'curriculum probe on health and safety in the curriculum' which was published in September 2007 (see below).

Safety in schools: Safety, Health and Welfare at Work Act, 2005

Health and safety in schools is covered by the Safety, Health and Welfare at Work Act, 2005. As well as employees, employers have general duties to ensure that individuals at the place of work other than employees are not exposed to risks. For education employers this includes pupils.

Developing a system to support schools in creating a safe environment is part of the HSA's strategy to mainstream OSH into education (see below). The HSA is currently working with the Department of Education and Science, the State Claims Agency and the School Development Planning Initiative on designing a health and safety management system for secondary schools. This will be a practical and comprehensive aid to schools in preparing their safety policies, carrying out risk assessments and implementing control measures and safety management procedures. Initially the guideline will be a template for the operation of a manual system, which will be piloted with eight schools (starting 2007/08) and assessed before being made available to more schools. A software-based system will be designed when the manual system has been fully evaluated. Then, following assessment of the template, a software-based option will be developed.

Curriculum

Since the introduction of the Education Act and the establishment of the NCCA the education curriculum has been undergoing considerable development. OSH is not taught as a separate subject, but there are a number of existing educational programmes and curriculum areas in which OSH is relevant.

Primary and secondary level

Business studies

Business studies is taken by almost all students in the junior cycle of post-primary education. Business, economics and accounting are subjects offered at the senior cycle as part of the leaving certificate. Teaching and learning related to the Safety, Health and Welfare at Work Act 2005 is covered in both the junior and senior cycle.



Home economics

Throughout the home economics syllabuses at both junior and senior cycle, there are opportunities to teach and promote good health and safety practices and to familiarise students with the language associated with health and safety. It is covered in food technology and textile and craft studies. Students learn how to:

- care for their health and safety and the health and safety of others;
- organise and manage their learning and working areas to create a healthy and safe environment;
- identify hazards, act on them and avoid the consequences that may arise;
- handle materials and equipment in a safe and hygienic way;
- live safer, healthier lives.

As health and safety concerns are part of the syllabus, questions relating to them appear in the terminal written assessment, as well as being examined in the food and culinary skills practical examination at junior cycle.

The sciences

Health and safety is explicit in each of the science curricula. One of the roles of the science teacher is to enable pupils to learn science in a safe and supportive environment. The primary curriculum states that at each stage of their science investigations children should be aware of and encouraged to adopt safe practices. They should observe safety procedures in designing and making tasks, particularly when they are using tools and materials.

In junior certificate science, the syllabus objectives state that students should know and understand the ways in which a code of safety can be applied in scientific and technological investigations and activities. It states that students should develop skills associated with manipulation of equipment and manual dexterity, with due regard to issues of health and safety, and that students should develop a sense of safety in the laboratory, at home, in the workplace, and in the wider environment, in addition to an awareness of health issues. At the end of the junior cycle, students submit coursework for external assessment. A section of the assessment pro-forma asks about their planning in relation to safety. As health and safety measures are part of the syllabus, questions relating to them also appear in the terminal examination.

All the science syllabuses at senior cycle state that safety should be a major concern when carrying out practical work and cite specific examples where particular attention should be paid to health and safety. Teacher guidelines produced by the NCCA offer details of resources and fittings that need to be in place to ensure the health and safety of students and teachers. In leaving certificate agricultural science students develop an understanding of OSH and of environmental issues. Within the science technology and society (STS) section of the senior cycle syllabuses, reference is made to health and safety issues where appropriate. For example, hearing protection in industry is specified in the STS section on sound, and the hazards of methane production in slurry pits, coal-mines and refuse dumps are specified under fuels and heat reactions in chemistry.

To accompany the science syllabuses, the Department of Education and Science has produced a number of documents: 'Safety in school science' (1996, updated 2001); 'Safety in the school laboratory: Disposal of chemicals' (1996, updated 2001); Circular M24/04 'Aspects of safety in science laboratories in second level schools' (March 2004).



Social, Personal and Health Education (SPHE)

Social, Personal and Health Education (SPHE) is part of the curriculum for all students in primary school and junior cycle post-primary education. The SPHE curriculum takes a broad approach to the understanding of health and wellbeing while also emphasising individual and collective responsibility for health and wellbeing, and so the syllabus helps to underpin students' understanding of health and safety. For example, in the primary curriculum the strand 'myself' includes the unit 'safety and protection' (personal issues/safety issues) where opportunities are provided to explore: when and how to seek help; the need for rules and regulations; taking lifts from strangers; and being asked to keep a difficult secret.

In junior cycle post-primary education, the SPHE curriculum is designed around 10 modules: belonging and integrating; self-management; communication skills; physical health; friendship; relationships and sex education; emotional health; influences and decisions; substance use; and personal safety. Each of these modules provides students with opportunities to consider their attitudes and values, their decision-making and the subsequent impact of these decisions on their health, wellbeing and, in many instances, their safety.

The curriculum framework for SPHE in senior cycle is currently being developed by the NCCA. The draft curriculum framework is built around five areas of learning: mental health, gender studies, substance use, relationships and sex education (RSE) and physical activity and nutrition, and emphasises the importance of encouraging students to take responsibility for health and wellbeing. Learning outcomes cover three strands: emotional and social health and wellbeing; physical health and wellbeing; personal/group health and wellbeing. While each area of learning has the potential to contribute to students' understanding of health and safety, mental health, substance use and RSE have a particular contribution to make. The SPHE curricula in primary education, junior cycle and senior cycle post-primary education are designed as enabling curricula, so those aspects of the SPHE curriculum related particularly to students' understanding of health and safety may or may not be included by teachers.

The technologies

The technology subjects at both junior and senior cycle place a strong emphasis on practical learning activities that integrate knowledge and skills in developing solutions to technological problems, thus preparing students to be creative participants in a technological world. The syllabuses emphasise the need to have due regard for health and safety issues in all activities, in particular when working with materials and equipment but also in terms of the generation and evaluation of design ideas and solutions.

A particular objective of technology education is that students should know and adhere to the health and safety requirements associated with planning and conducting practical work and, furthermore, how these requirements may impose limitations or constraints on the design of artefacts and systems. Health and safety issues and considerations permeate all appropriate topics in the syllabuses and are addressed in context rather than as a stand-alone unit of study. Thus, students develop awareness of health and safety issues and understanding of their relevance and importance through the application of safe practices in a wide range of circumstances and activities. The NCCA has been revising the leaving certificate technology subjects and, as part of its advice on the implementation of these subjects, has developed a comprehensive implementation plan, which includes consideration of issues related to health and



safety. Whereas in the past instruction in health and safety tended to concentrate on the operation of material processing equipment and processes, it is now treated in a much more comprehensive manner; for example, by covering the nature of safety, requirements under legislation, the identification and prevention of potential accidents, and the inclusion of health and safety considerations in the design and planning of solutions to technological problems. In the draft guidelines for teachers of the technology subjects, attention is drawn to the importance of developing student awareness of health and safety issues, including personal health and safety in the classroom/workshop environment.

Technological education in the junior cycle has also been reviewed and revision will take place. A framework for provision of technology education in the junior cycle has been developed in which the key components of a technology education are specified. Health and safety is included as one of these key components and features as a core element in the common framework. The HSA is also developing a range of resources for use by teachers in schools to support teaching and learning in these higher risk subjects.

Art, craft, design

The importance of health and safety awareness and procedures in practical classes is emphasised, particularly in the use of the wide range of materials associated with art courses in both the junior certificate and leaving certificate levels. The syllabus is currently being revised.

Physical education

A curriculum framework for junior-cycle physical education has been introduced on an optional basis. A similar curriculum framework for senior cycle is being finalised by the NCCA, as is an optional leaving certificate subject syllabus. The embedding of teaching and learning about health and safety is central to the frameworks and syllabus. In particular, the curriculum documentation focuses on assessing and managing risk in physical activities, on awareness and avoidance of hazards, and on understanding key concepts in, and developing positive dispositions towards, health and safety.

Leaving certificate applied (LCA)

The LCA programmes are pre-vocational and have a practical orientation. LCA is structured around three areas: vocational preparation, vocational education and general education. Health and safety is explicitly covered in the first two areas and it is relevant to the third, through the social education course module on social health and education. Health and safety is also part of the assessment criteria of some of the student tasks. For example, for vocational preparation module 'Work and living', unit 7 on health and safety, the learning outcomes are that the student will:

- become familiar with work-related health and safety legislation, covering for example fire safety, pregnancy, chemicals, noise, use of VDU screens;
- list what they can do personally to maintain health and safety at work;
- recognise some of the symbols associated with health and safety.

In vocational education the student takes two courses in vocational specialisms and the relevant aspects of OSH are covered for each specialism. For example, in the specialism 'Office administration and customer care' the module on office practice includes a unit on health and safety, the learning outcomes of which are that the student should be able to:

- use office equipment safely (e.g. guillotine, electrical equipment, lifting, rest periods);



- recognise and avoid potential hazards in the office;
- understand the main provisions of the Health and Safety at Work Act;
- understand the importance of fire regulations.

Leaving certificate vocational programme

Link module 1 'Preparation for the world of work' covers OSH explicitly. Among the specific learning outcomes, unit 1.11 states that the student should 'understand current health and safety regulations in workplaces' and unit 4.7 requires students to 'follow a specific set of instructions related to health and safety'. Students taking the construction module may take the FÁS 'Safe pass health and safety awareness training programme'. Link module 2 is 'Enterprise education', in which students may set up a mini-company.

Transition year

The transition year acts as a bridge between the junior certificate and the leaving certificate. The school designs its own transition year, which usually includes work experience placements, and it is here that teaching and learning related to OSH can be taught as part of the preparation for, and debriefing after, work placements.

A number of resources related to work experience and for the setting up of mini-companies by students have been developed by the support services. In 'Work experience at senior cycle: Guidelines for schools' (2000, Department of Education and Science), awareness of health and safety issues is identified as a key area that should be part of the preparation of all students for work experience (p. 11). In the resource 'Transition year mini-company "Get up and go"' (2004, SLSS) the Health and Safety Officer is identified as a member of the mini-company team and the role and duties of the job are described (p. 32).

HSA actions to mainstream OSH into the curriculum

Mainstreaming OSH into education is an explicit part of the HSA strategy for 2007/09 and including OSH in the curricula is among the actions to achieve the strategic goal in this area: 'HSA will develop and implement programmes which contribute to mainstreaming safety and health in education and training curricula. The starting point is to have the full plan agreed with key education bodies; initial pilots implemented; and cross-curricular resources developed. The next stage is a major implementation stage to install curriculum in specified areas.' Further details of the strategy are given in Appendix 3.

As mentioned, as part of its strategy on education, the Health and Safety Authority commissioned the NCCA to explore the extent of health and safety content in the current curriculum (pre-school, primary level and secondary level). The NCCA was also asked to identify opportunities within the curriculum for expansion or inclusion of health and safety content. The 'Curriculum probe on health and safety in the curriculum' was published in September 2007.

Third level education

Under its strategy on education the HSA is currently exploring ways to integrate OSH into the curricula of multiple courses at third level including degree courses in areas such as architecture, engineering and construction studies. It plans to conduct a wide-ranging research project to assess and evaluate the range, depth and relevance of the



health and safety training received by students in these areas, where health, safety and welfare at work are at the core of their daily activity.

It is also working at a high level to introduce policy agreement whereby OSH is included in specific new courses and at programmatic review stage of existing courses.

Supporting activities, programmes and projects

As mentioned above, the HSA has integrated education into its OSH strategy statement and rolling work programme for 2007/09 and its annual work programme for 2007. One sixth of the authority's strategic goal's refer to 'Target the workers and managers of the future by fostering a culture of safety through early and continued interventions in the education and training systems'.

Within this strategy the HSA is exploring many opportunities to disseminate the focal principles of health and safety through education. These include the curriculum probes and the health and safety management system for schools mentioned above. Other activities are as follows:

'Choose safety'

This is a pilot project on introducing the principles of health and safety in the workforce for secondary level students. It is aimed primarily at post-junior certificate students who are likely to engage in a community service or work experience programme during the course of the year. Transition year, leaving certificate applied and leaving certificate vocational programme students will gain most from the module, although mainstream students of subjects such as home economics, architectural technology, engineering and science will also benefit. The 'Choose safety' module is available as a pack consisting of a student's workbook, a teacher's guidebook and a DVD. The 20-hour programme is suitable as a short course for transition year or as a module for the leaving certificate vocational programme or the leaving certificate applied. The lessons may be expanded or condensed to suit the school timetable and the ability range of students. It will be introduced in school year 2007/08. As well as covering risk assessment and control, it incorporates communication skills and case studies.

Summer courses for teachers (primary)

The HSA has developed a 20-hour 'summer course' for primary school teachers. It is designed to be delivered over five consecutive days as per the specifications of the Department of Education and Science. The aim is to develop awareness of health and safety matters among primary teachers. There is an equal emphasis on the teacher acquiring knowledge as a worker in a workplace and on ways of increasing the students' understanding of health and safety issues.

Health and safety training of teachers of technology subjects

Due to the hazards in technology classrooms it is viewed as imperative that teachers of these subjects are competent in best health and safety practice. The HSA is supporting an initiative of the second level support service for technology teachers (T4) to provide a specific safety training to all 1 800 technology teachers in the secondary system. These include teachers of design and communication graphics, material technologies, engineering technology, construction studies (architectural technology) and technical graphics.



Junior achievement — Health and safety in enterprise education

'Junior achievement Ireland' is part of a worldwide organisation that promotes a culture of enterprise through education. With the support of the HSA, it has developed two health and safety modules. The 'Our nation' programme is taught to fifth-year classes in over 100 primary schools. This introduces basic business concepts including health and safety. The 'Company programme' is taught to transition year students in about 50 schools. Students learn to apply the principles of health and safety management to their own mini-companies. Again the emphasis is on practical and interactive learning techniques. Both health and safety programmes are taught by volunteers from the business world.

Young Scientist and Technology Exhibition

The HSA sponsors a special award at the annual BT Young Scientist and Technology Exhibition. The exhibition includes more than 500 projects by students throughout the country. Displays, illustrations, competitions and seminars are also held over the first weekend in January each year. There is more information about the competition at: <http://www.btyoungscientist.ie>

The National Adult Literacy Agency

The National Adult Literacy Agency, with support from the HSA and FÁS, has produced a series of learning resources for participants on 'Skills for work' courses. These aim to improve literacy and develop English-language skills using health and safety terminology. 'Steps to safety' caters for participants with English-language needs and those with very low literacy skills. It is aimed at FETAC Level 1 and may be used as a pre-intervention resource for the main workbook *Safe and Well*, which is a resource for FETAC Level 2. *Clocking in to clocking out* will be the third publication in the series, aimed at FETAC Level 3. This learning resource will contain five mini-workbooks to develop students' communications, analytical and problem-solving skills. Further information is available at <http://www.nala.ie>

Science and technology in action

The third edition of the teaching resource *Science and technology in action* will be sent to all schools during the first term of the 2007/08 academic year. This includes a lesson plan prepared by the HSA on the classification and labelling of chemicals, including the new global harmonised system that will be phased in worldwide over the next few years. Further information is available at <http://www.sciencetechnologyaction.com/>

Further information

- HSA web pages on education and training: <http://www.hsa.ie/eng/Education>
- Results of the curriculum probe: 'Mapping health and safety in the curriculum — NCCA' available at: <http://www.hsa.ie/eng/Education/Mainstreaming>
- HSA strategy 2007–09: <http://publications.hsa.ie/index.asp?locID=17&docID=226>
- HSA work programme 2007: <http://publications.hsa.ie/index.asp?locID=17&docID=225>
- Eurydice website (Ireland): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=IE>
- Department of Education and Science, Government of Ireland: <http://www.education.ie>
- Council for Curriculum and Assessment (NCCA) <http://www.ncca.ie>



ITALY

Legislation

Following the introduction of Legislative Decree 626/1994 (national enforcement of EU Directive 89/391 on occupational safety), the Ministries of Labour, Health, Education, University and Research (MIUR), as well as various local bodies and agencies, instigated a number of acts, policies, programmes and circulars on safety management, including training issues. This has included activities concerning health promotion, safety culture, specific courses on education safety and teacher training. Article 22 of the above decree concerns worker training and, specifically, the training of students involved in school–work alternation projects.

The Ministry of Education, University and Research, by signing the ‘Charter 2000’ drafted by the Ministry of Labour and in cooperation with the social partners, further committed itself to include safety in school curricula. Supporting guidance is needed for schools to support its implementation.

Subsequently, Legislative Decree 257/2000 (rules on compulsory training), made it obligatory to include OSH prevention and protection issues in educational programmes, though the indications contained in the Decree are generic. In addition, Ministerial Circular 122/2000 focused on two significant concepts: (1) the school is where values, culture and civic education are fostered and is the institution in charge of nurturing responsible individuals, aware of safety and health protection issues; (2) school teaching programmes should be reviewed to include issues related to this training field.

National regulations — Legislative Decree 59/2004 — have drawn schools’ attention to the need to educate students to adopt lifestyles that are healthy in both the psychological and physical sense, and for such education to be both part of a general approach and included in the specific learning objectives of certain subjects. However, while national regulations contain specific directions to include OSH issues in the school curricula, many schools have not yet fully done so.

Curriculum

Overall responsibility for education in Italy lies within the Ministry of Education, University and Research (Ministero dell’Istruzione, dell’Università e della Ricerca — MIUR). This ministry is represented at local level by regional and provincial education offices. Regions may delegate certain responsibilities to the provinces and municipalities. Since the 2000/01 school year, all schools have had autonomy in the fields of administration, organisation, teaching, research, experimentation, and development.

Primary and lower secondary school

Under the recent reforms, starting from school year 2004/05, primary and lower secondary schools had to adopt the *Indicazioni nazionali per i piani di studio personalizzati* (national guidelines for individualised study plans). These guidelines define the standards required from each school and the specific learning objectives for different subjects.

Health and safety learning: ‘education for civil life’

Specific learning objectives for ‘education for civil life’ — which includes ‘citizenship, traffic, environment, health, nourishment and emotional life education’ — are indicated



for both educational levels. 'Education for civil life' is not a subject in its own right but a cross-curricular theme, comprising educational and teaching activities carried out jointly by all teachers of the same year group. The guidelines are nationally determined and adapted to local needs by each school. Knowledge and skills are indicated for each subject; the school will help pupils to transform them into personal competences.

Supporting activities, programmes and projects

The Italian National Institute for Prevention and Safety at Work (ISPESL), as part of its commitment to promoting a new culture of prevention at work and in daily life, has focused on supporting schools to introduce OSH education. They have instigated, or are involved in, a number of projects. The regional organisations involved with OSH have also been carrying out projects to promote the issue and produce resources. Some examples of projects are given below.

OSH in civil protection education

ISPESL are developing materials to support the teaching of OSH as part of education about civil protection in kindergarten and primary schools. See ENETOSH website: http://www.enetosh.net/webcom/show_article.php/_c-98/_nr-2/i.html

Mainstreaming OSH into education: the contribution of ISPESL in kindergarten and primary schools

To spread the prevention culture ISPESL created multimedia tools, such as the CD-ROM 'A casa di Luca', the CD-ROM 'Occhiali per vederci', the DVD 'Le disavventure di Tommaso, Lucia e... ' and 'Album-diario della Sicurezza'. The first resource is an interactive CD-ROM that makes children aware of the dangers of particular situations or actions in their own homes. 'Occhiali per vederci' is a short video, useable in a karaoke style, where children have to answer questions about health and safety, learn to identify risks and to avoid and prevent accidents at home. 'Le disavventure di Tommaso e Lucia e...' involves children through the fairy tales Cinderella and Snow White, and aims to teach them about the right and wrong ways to behave in order to prevent accidents during their life.

The 'Album-diario della Sicurezza' has been created for use in two different contexts: the album at school and the diary at home, where the child transfers the OSH knowledge acquired at school, sharing it with his or her parents. The main aim of these tools is to use various methods of play to make young children aware of the value of prevention.

See 'Mainstreaming OSH into education: the contribution of ISPESL in kindergarten and primary schools', Giuliana Roseo, Ghita Bracaletti, Cistiano De Luca (ISPESL), poster presentation at the Training & Innovation seminar, Dresden, 6–7 July 2007, http://www.dguv.de/bgag/de/veranstaltungen/tundi/2007/_dokumente/poster.pdf

Mr Help TV programme by Rai Educational and ISPESL

This is a TV programme which concerns safety in school and everyday life. It was aimed at children and teenagers attending compulsory education (aged 6–15), to convey a clear message on issues related to safety. More information is available at: <http://www.misterhelp.rai.it>

Pilot project on the promotion of safety at work geared to vocational schools: 'Sicurezza in cattedra'

The project 'Sicurezza in cattedra' was carried out from 2002 to 2005 and involved 900 students and 60 teachers in 12 vocational schools in Friuli Venezia Giulia, Veneto, Marche,



Liguria, Tuscany, Sicily and Sardinia. It arose from an idea proposed by the Leonardo da Vinci vocational school in Florence and was funded by external institutes (ISPESL, INAIL, etc.) and by the Regional Institutes for Educational Research (IRRE) of Veneto and Tuscany. The latter institutes were also in charge of the monitoring and assessment of activities. Those schools wishing to take part had to meet the following requirements:

- the acceptance of the initiative by the school manager;
- approval by the teacher governing body;
- inclusion of the project in the training, educational and further activities plan (POF);
- the presence of a prevention and protection service (SPP) inside the school;
- a EUR 1 000 per year financial investment to motivate teachers and support the activities.

The objectives of the project are:

- to promote cooperation among schools within the same region;
- to turn the risk assessment document from a mere formal tool as required by law into a teaching instrument;
- to create and trial a participative model to carry out risk assessment, to identify prevention measures and to manage safety issues;
- to raise students' awareness, both from a technical and lifestyle point of view, on health protection;
- to promote school–work alternation experience;
- to create synergies between the school and public bodies, enterprises, public institutes, universities, etc., with a view to producing skilled workers.

To help meet the above objectives the 'Sicurezza in cattedra' project has provided for:

- mutual cooperation among schools by publishing examples of good practice online;
- monitoring by the national project group;
- the involvement of teachers and students during the risk assessment stage of working activities;
- the involvement of regional authorities during the planning and operative phase;
- assessment of the project by accredited research centres.

Project development

The project lasted three years and the objectives and actions broken down by year were as follows:

1st year	
Objectives	Actions
Raising students' awareness:	<ul style="list-style-type: none"> ■ to analyse the meaning of some key words related to safety; ■ to identify dangerous situations in the school environment and possible solutions to tackle them.
Involving the prevention and protection services in the identification of technical-organisational actions:	<ul style="list-style-type: none"> ■ critical review of the risk assessment document.
Promoting cooperation between the prevention and protection services and teachers in the organisation of teaching activities:	<ul style="list-style-type: none"> ■ to investigate the students' risk perception; ■ to organise meetings with experts external to the school; ■ to schedule visits to workplaces.



2nd year	
Objectives	Actions
Creating teaching routes focused on trans-curricular themes relating to health and safety:	<ul style="list-style-type: none"> to identify dangerous situations in the school environment and possible solutions to tackle them.
Involving students in real activities identified/suggested by the prevention and protection services:	<ul style="list-style-type: none"> interviews with school operators, laboratory technicians, employees; risk assessment of an activity carried out in a school lab integrated with video recordings displaying 'wrong' and 'correct' procedures to be adopted; updating of the risk assessment document.
3rd year	
Objectives	Actions
Developing students' abilities aimed at identifying technical, organisational and procedural measures to guarantee health and safety in the workplaces: Creating a safety management plan:	<ul style="list-style-type: none"> unpaid work experience for students in companies or within the school itself; online test and granting of a certificate to be included in the school curriculum; adoption of the measures to manage the safety system worked out in the school;

The main products of the project were:

- handbook entitled 'Sicurezza in cattedra', published by ISPESL (<http://www.ispesl.it>), which includes the project specifications and background;
- manual entitled 'Prevention tools against risks deriving from the use of dangerous substances in school Labs', published by ISPESL, proposing methods and operational solutions for risk assessment and safety management in chemical labs;
- a package of tools for safety management at school, included in the CD supplied with the handbook 'Management of the safety system and the culture of prevention at school', published by the Veneto and Tuscany regions;
- subject gateway, designed for the online publication of good practice by the schools involved in the project in order to ease communication between school representatives and the national work group;
- teaching units to be structured in such a way that they may be further used as models and applied to other school contexts;
- various types of teaching materials: dossiers, CDs, panels, glossaries, exhibitions, press clipping reports, brochures — to be used and distributed in the course of the teaching activities or during national seminars promoted by the national work group and school meetings supported by the people in charge of the project.

ISPESL continued funding for the project for the year 2006/2007 and participation was extended to other schools.

ISPESL Web feature for children:

This portal contains various resources for pupils, teachers and young people: http://www.ispesl.it/formazione/scuola_en.asp

Further information

- Eurydice website, Italy: <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=IT>



- MIUR — Ministero dell'Università e della Ricerca (Ministry of the Universities and Research):
<http://www.miur.it>
- Italian National Institute for Prevention and Safety at Work (ISPESL):
<http://www.ispesl.it>

'Safety school in Italy — A handbook for teachers to implement OSH at curricular level', Emanuela Giuli and Raffaele Paganoni, 2003 (PowerPoint presentation):
http://osha.eu.int/topics/osheducation/fullproceedings.stm/document_view

LATVIA

Curriculum

The curriculum for basic education as well as for general and vocational secondary education is set at the national level. There are ongoing reforms in curriculum development. A number of new subject standards have been developed in order to help the students acquire basic skills and to avoid overloading them with factual material. The reforms will be completed in the 2007/08 school year.

Currently it is not obligatory for schools to teach OSH. Health and safety topics are touched on in some schools, but the way in which they are taught depends on the teacher and the subject concerned, so they are not taught in a systematic way. Because of this, the new Latvian national OSH strategy will include the compulsory integration of health and safety issues in education from kindergarten to university as an objective.

Primary and lower secondary schools

In primary school grades 1 to 4, health and safety issues are included in subjects such as natural sciences, social sciences and physical education. The topics covered include:

- what to do in emergency situations;
- road safety;
- fire safety;
- electrical safety;
- safety in the natural environment;
- safety at work with different materials and substances;
- safety at school, home, and on the road.

In grades 5 to 9, pupils extend their knowledge about safety issues in subjects such as social sciences, chemistry, physics, etc. Topics covered include:

- first aid;
- the safe handling of dangerous and flammable substances;
- electrical safety.

Upper secondary school

Health and safety aspects are included in subjects such as social sciences and health education.



Universities

Some universities have courses that include a compulsory module on occupational health and safety, for example, Turība University and Riga Stradins University.

Further information

- Eurydice website (Latvia): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=LV>
- IZM — Izglītības un zinātnes ministrija (Ministry of Education and Science): <http://www.izm.gov.lv>

LITHUANIA

Legislation

In Lithuania, occupational safety and health education at secondary school level as well as in vocational training is governed by the Law on Safety and Health at Work, No IX-1672, 1 July 2003, Vilnius (as amended by No IX-2507, 26 October 2004):

Article 8. Training in safety and health at work

3. General secondary schools must instruct pupils on the basic requirements of safety and health at work and at home.

4. Students in higher schools, colleges and vocational training schools must be instructed on the requirements of safety and health protection at work in the specialities and professions they are studying.

Law on Safety and Health at Work, No IX-1672, 1 July 2003, Vilnius (as amended by No IX-2507, 26 October 2004) is available at:
http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_e?p_id=249611

The curriculum

Elementary education

The topics of road safety, safety in the home and during leisure time are included into the curriculum of elementary school.

Secondary education

Topics related to safety, such as fire and civil safety, are included in the secondary school curriculum.

Vocational education

The topics of safety at work, fire safety and civil safety are included in the curriculum of initial vocational education and polytechnics/higher vocational education.



Universities

Safety at work is included in the curricula of technical universities but not other universities. What is covered depends on the course being studied.

For example, students at Kaunas University of Technology are taught about risk factors, risk assessment and prevention. The specifics of the course depend on the course taken. The three study module programmes are as follows.

The study module programme for the **bachelor of technology** covers both the management of OSH and occupational risks and their prevention. The general objectives are for students: to become knowledgeable about factors determining health and safety at work and methods of occupational risk prevention; and to understand the principles of safety in the workplace and the requirements for healthy working conditions. The specific focus is on the properties and reactions of harmful and dangerous substances, how these substances affect human health, the general methodology of organising a safe workplace, and how to select and apply appropriate methods of risk prevention.

The study module programme for **electrical engineering** covers both ergonomics and safety at work. The general objectives for students are: to become knowledgeable about human, machine and environment interaction, human capabilities, the general methodology of the work environment, assessing and designing work tasks, and the principles of safe use of machinery and materials; to be able to apply the principles of ergonomics to the investigation and design of workstations, tools and work tasks; to identify and assess harmful and dangerous factors; and to select and apply methods of occupational risk prevention.

The study module programme for **civil engineering** covers the management of occupational health and safety in construction. The main aims are to train future employers in occupational safety so that they can create safe and healthy working conditions for workers in construction. Students learn about the principles of occupational safety management, procedures for dealing with accidents, the analysis of occupational diseases, proper use of personal protective equipment, as well as methods of occupational risk evaluation and prevention in construction.

OSH is also on the curriculum at the Kaunas University of Medicine. The topic 'Assessing OSH risks' is taken by all students, especially those studying in the Faculty of Public Health. The teaching module is the responsibility of the Department of Environmental and Occupational Medicine of this faculty. The teaching is based on the requirements of the Occupational Risk Assessment Regulations, approved by the order No A1-159/V-612 of the Ministry of Social Security and Labour and the Ministry of the Health of the Republic of Lithuania on 16.10.2003 (*Official Gazette*, 2003, No 100-4504). The five steps of risk assessment are first taught in theory, followed by practical training in the Labour Hygiene Laboratory of Kaunas Public Health Centre. Finally, students carry out a real risk assessment in specific companies.

Ongoing initiatives, programmes and projects

Survey on OSH in education and new education programme

In 2006 a survey was carried out on the existing situation regarding OSH in education, training and assessment, conveyance and workers' instruction in Lithuania. As a result of this survey, a new programme was developed by the State Labour Inspectorate with



the labour market training authority. Mainstreaming OSH into all levels of education forms part of this programme.

Child safety in the national injury prevention action plan

In February 2006 the Ministry of Health approved a draft resolution on an action plan for 2006/07 for the implementation of the national programme of injury prevention 2000–10 and submitted it to the government. This draft includes educational and training measures in the field of child safety.

Hygiene standards

In June 2006 the Lithuanian Hygiene Standard HN 21:2005 'General education school, general health and safety requirements' was approved by Order No V-476 of the Minister for Health. This standard lays down the essential requirements for design, construction, installation and running of the buildings and premises of schools and for nutrition, hygiene and health education, as well as student surveillance.

Training on the handling of chemical substances in school laboratories

This training is for teachers. In 2004, 166 chemistry teachers underwent such training. In the second quarter of 2005, 30 chemistry teachers took a 20-hour course on the subject.

Further information

- Eurydice website (Lithuania): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=LT>
- ŠMM — Švietimo ir mokslo ministerija (Ministry of Education and Science): <http://www.smm.lt>

Further information on Lithuania's injury prevention and hygiene standards activities: http://www.euro.who.int/eehc/implementation/20060609_1

LUXEMBOURG

Curriculum

Overall responsibility for education in Luxembourg lies with the Ministry of Education and Vocational Training. The curriculum and textbooks are determined by an ad hoc committee and approved by the ministry. Teachers may choose their own teaching methods, but they must conform to formal curricular requirements.

Some curricula for schools in Luxembourg make reference to health and safety. In many general education subjects, however, there is no explicit mention of safety issues. Technical education pays more attention to the topic although it is not yet explicitly included in all relevant subjects.

Luxembourg Ministry of Education:

<http://content.myschool.lu/sites/horaires/2005-2006/index.html>



Vocational education

Following are some examples of how OSH is included in vocational education:

- vocational education for painters: specific attention is drawn to safety regulations and risks;
- vocational education for construction workers: specific attention is drawn to safety regulations and risks. Reference is made to ergonomics.

Higher education

In higher professional education, there are some courses related to health and safety, for example:

- civil engineering: safety and organisation of work places, including building sites;
- truck drivers: road safety;
- sales personnel: ergonomics and office organisation.

Further information

- Eurydice website (Luxembourg): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=LU>
- MENFP — Ministère de l'Éducation nationale et de la formation professionnelle (Ministry of Education and Vocational Training): <http://www.men.public.lu>

MALTA

Malta's organisation for health and safety education includes a health and safety unit in the Planning and Development Department of the Ministry of Education, and health and safety teachers.

Legislation

The legal framework of the Maltese National Minimum Curriculum (NMC) and education in Malta can be found in the Education Act (Chapter 327) as approved by the Maltese Parliament in 1988.

In addition to entitlement to education, the state regulates the minimum required educational levels for all schools.

Curriculum

The National Minimum Curriculum (NMC) was adopted by the Maltese government in 1999 and came into force on 1 October 2000. NMC is a framework establishing parameters within which every school is empowered to design and set teaching provision in order to meet particular curricular needs.

Each school in Malta develops its own curriculum. The school curriculum should:

- be governed by the principles and general aims expressed in the national curriculum, and is intended to help realise those goals that contribute to the full educational development of each boy and girl between the ages of 3 and 16;



- reflect the specific aims for each level, as expressed in the national curriculum, and be structured to realise these aims at the different levels concerned: kindergarten, primary or secondary.

Preparation for the world of work

The NMC states that a dynamic curriculum should provide an educational experience which prepares students for the world of work, where change is a fact of life, and that education must respond to the world of work: 'it is important that the school and the world of work draw closer together. The educational system should equip all individuals with a balanced mix of wisdom, knowledge, skills and attitudes in order for them to operate effectively in today's, and particularly tomorrow's, world of work.'

One of the educational objectives of the NMC is 'effective and productive participation in the world of work'. Information on the laws and regulations governing safety at the workplace is included, as well as the laws governing the rights and duties of Maltese workers. With respect to OSH, objectives include gaining an awareness of occupational hazards and the ability to eliminate them, and being able to interpret regulations, orders, directives and instructions.

Health

Another educational objective is 'wise choices in the field of health'. Students must learn about personal harm caused through certain choices in the area of health, basic principles of hygiene, and the connection between health and the environment. The attitudes to be developed are, among others, respect for one's health and that of others and an appreciation of the importance of a healthy life.

The national minimum curriculum is available at:
http://www.curriculum.gov.mt/docs/nmc_english.pdf

Syllabus for state primary schools

Personal and social development

The issue of safety and health is included in the personal and social development syllabus. According to its mission statement, personal and social development aims at 'empowering individuals to develop skills that enhance their wellbeing, by identifying and developing their potential, thus enabling them to participate effectively in their social environment'.

At this stage an important learning objective is that children develop the necessary skills to keep themselves safe and free from danger. They are taught about forming relationships as well as safety issues. Inter-linked with safety is the idea of healthy living. At this stage children start to take some responsibility for developing a healthy lifestyle.

General Aims Years 1 to 3 — Health and safety

It is crucial to instil a sense of health and safety in individuals from a very young age. This is achieved by focusing on children's everyday life experiences and environment. Particular importance is given to issues related to safe people and safe places, together with the importance of personal hygiene and healthy eating. Situations where safety is at times taken for granted are also considered. Emphasis is on safety at home, the street and during play.



General Aims Year 7 — Safety

Here a sense of health and safety is developed through by focusing on children's everyday life experiences and environment. Issues related to safe people and safe places, identifying hazards, the possible consequences and ways of taking care of oneself are covered, including recognising dangerous play and ways of reducing these dangers.

The personal and social development syllabus for primary schools is available at: http://www.curriculum.gov.mt/docs/syllab_pr_psdrationale.pdf

Technology education syllabus for primary schools

The safety issue is dealt with also in the technology education syllabus, for example:

- only older children should have access to tools such as circle cutters and glue guns and they must be under direct adult supervision; a separate area should be set aside for the use of glue guns and the whole class should be instructed on their safe use;
- children should never use tools that are designed for adult use only;
- direct safety instructions are to be given to children each time they undertake a technology activity.

Syllabus for state secondary schools**Personal and social development**

As with primary schools, in state secondary schools issues related to safety and health are included in different modules of the personal and social development syllabus. For example, bullying and conflict management are included in the form 1 module 'Self and immediate others'. Smoking, drugs, alcohol and eating disorders are dealt with within different modules in forms 2 and 3. Examples of how health and safety is included in the various modules of the personal and social development syllabus are given below.

Self and immediate others module — Form 1

This module aims at increasing students' awareness of the importance of listening, both in the personal and social development group as well as to other important individuals. This module also aims to make students more aware of the elements that constitute friendship, and pass on the skills needed for dealing with negative situations, such as bullying.

Bullying objectives:

- to increase awareness on the issue of bullying;
- to provide practical skills for dealing with bullying situations.

Conflict management — re-bullying — objectives:

- to assess students' methods of dealing with conflict in situations involving bullying;
- to help students develop better methods of conflict management.

'Personal safety and me' module — Form 1

The module 'Personal safety and me' in form 1 includes issues such as safety in the home, and leisure and safety. The main consideration with this module is to help group members consider various aspects of personal safety. A link is created with the previous



module by starting from the physical and then moving on to the immediate environment, considering also practical means of self-protection.

Safety in the home objectives:

- to become aware of the dangers that exist in the home;
- to learn prevention aspects in the home;
- to provide basic first aid precautions and procedures;
- to build a first aid kit.

Leisure and safety objectives:

- to become aware of one's use of free time;
- to increase awareness of safety precautions and sun protection;
- to provide information about emergency calls.

'Personal health and me' module — Forms 2 and 3

The main emphasis of this module is on personal health. This involves an evaluation of the importance of this aspect in one's life both in relation to self and in relation to immediate others. For example:

Health and wellbeing — Smoking objectives:

- to examine smoking habits and their negative health implications;
- to evaluate its effect on personal behaviour and its effects on others;
- to develop skills for saying no to smoking in an assertive manner.

Drug education module — Forms 2 and 3

This module focuses on drug education, with particular emphasis on alcoholism. The aim is to make students gain an understanding of what alcoholism is, and make them able to recognise its effects on the individual. Even more importantly, the module provides students with assertiveness skills and teaches them to value independent thinking.

Alcohol and its effects objectives:

- to identify environments and circumstances that lead to alcohol use;
- to recognise the effects alcohol can have on one's behaviour, mental and physical health;
- to understand what alcoholism is;
- to understand how alcoholism affects families, road safety, etc.

Health education — Forms 2 and 3

This module targets social issues that are related to our body. For example, drugs are dealt with at this stage including an exploration of the reasons for drug use and abuse.

Drugs education objectives:

- to become aware of the use and abuse of drugs;
- to become aware of the various reasons people abuse drugs, including peer pressure;
- to become aware of the various types of drugs and their repercussions.

Eating disorders objectives:

- to review the importance of healthy eating habits;



- to become aware of the dangers surrounding the eating disorders of anorexia nervosa, bulimia and comfort eating;
- to identify support agencies that can help deal with eating disorders.

Democratic rights as a citizen — Form 4

Occupational safety and health issues are included in the module 'Democratic rights as a citizen' in form 4. The module aims to help students recognise both their rights as citizens of a democratic society and their obligations to the same society. It also allows students to explore the possibilities of living out those rights and obligations to the best of their ability.

Conditions of work and rights objectives:

- to become familiar with one's rights in the place of work;
- to recognise the rights and responsibilities as employees and employers.

Safety at work objectives:

- to identify hazards and dangers at the place of work;
- to recognise the consequences of dangerous activities;
- to learn basic first aid at the workplace.

More details about the personal and social development syllabus are obtainable on the website (http://www.curriculum.gov.mt/docs/syllabus_psd.pdf).

Organisation of health and safety education in state primary and secondary schools

The health and safety unit of the Planning and Development Department within the Ministry of Education is responsible for the organisation of health and safety education in primary and secondary state schools. There are presently two sections to the health and safety (H & S) unit, namely 11 peripatetic teachers servicing state primary and special schools and another 60 resident teachers in state secondary schools. Small secondary schools have one H & S teacher while the bigger schools have two. It is proposed that schools with more than 1 000 pupils and/or schools with a large catchment area should have at least three H & S teachers.

The peripatetic teachers visit the primary schools according to a pre-determined schedule, teaching pupils in years 4, 5 and 6 the principles of health and safety. While they are there, they draw up a report for the head teacher on any health and safety hazards in the school. It is then up to the head to prioritise remedial actions according to the severity of the hazard and the budget available. In the primary schools, apart from class contact, emphasis is put on the upgrading of fire-fighting equipment and signage. The peripatetic teachers make two rounds every school year so that every primary school pupil receives a minimum of 12 full lessons. The schools are assessed for risks every year.

The teachers who are based in the schools have slightly different duties. They teach the students from form 1 to form 5. Secondary school students receive another 14 lessons. In the secondary and post-secondary schools activities include safety audits, and upgrading of fire-fighting and fire alarm facilities. Safety weeks, talks by the Malta Red Cross Society and seminars are also organised. The H & S teacher also advises the head teacher about any hazards present and is also in a position to advise members of staff on relevant legislation and subsequent procedures.



The role of the H & S teacher should be viewed in the context of the National Minimum Curriculum. Health and safety can be viewed with regard to its educational value. The NMC is intended to direct educational goals and foster both intrinsic and extrinsic values that are core to the Maltese educational system; this also applies to the work of the health and safety teachers.

The health and safety unit has also produced a draft policy on school health and safety and circulated it to schools for comment. It consists of general guidelines which mainly concern the health and safety of the staff, pupils and visitors at school. Other areas covered by this draft document include fire prevention equipment, emergency evacuation procedures, first aid and accident reporting procedures. The Planning and Development Department within the Education Division aims to develop such strategic policy and implement it in all Maltese schools.

The health and safety unit of the Education Division has its own area on the Ministry of Education's schools website that can be accessed by students and teachers alike where it makes various resources and information available. The unit also produces and disseminates a newsletter to all schools in which a different aspect of health and safety is discussed every time.

Further information about the health and safety unit can be obtained from:

- The Health and Safety Unit in the Education Division:
<http://www.gov.mt/newsletterarticle.asp?a=186&l=2>
- The Health and Safety Unit website: <http://schoolnet.gov.mt/healthandsafety>

Further information

- Eurydice website (Malta): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=MT>
- Gvern Ta' Malta (Government of Malta): <http://www.gov.mt>
- Curriculum — http://curriculum.gov.mt/docs/nmc_english.pdf

THE NETHERLANDS

Legislation

Compulsory education is laid down in the Compulsory Education Act.

Curriculum

The Ministry of Education determines the overall curriculum and details of compulsory subjects.

Schools devise their curricular plan and teaching methods and select materials. Schools are free to decide how much time is spent on the various areas of the curriculum, and when it is delivered. The only restriction is the minimum number of teaching periods per year. During the first three years of secondary school (the period of basic secondary education) pupils are taught a compulsory core curriculum of 15 subjects (1 000 periods of 50 minutes per year). The remaining 20 % of teaching time (840 hours) may be used by schools for lessons and other educational activities at their own discretion.



Primary education

The Primary Education Act lists subjects that must always be taught to all pupils in primary school, if possible in an interdisciplinary manner. The school draws up a school plan stipulating how it will cover the curriculum, and this plan is submitted to the education inspectorate.

The compulsory subjects include, among others, social and life skills, which covers road safety and healthy living:

- sensory coordination and physical exercise;
- Dutch;
- arithmetic and mathematics;
- English;
- a number of factual subject areas: geography, history, science (including biology), social structures (including political studies), religious and ideological movements;
- expressive activities: developing the use of language, drawing, music, handicrafts, play and movement;
- social and life skills, including road safety;
- healthy living.

These core objectives, set in 1993, are currently undergoing revision. The new objectives will be obligatory from school year 2009/10 onwards. The core objectives for primary education are very open and while the direct link to occupational safety and health is quite remote there are useful learning possibilities.

For example, for health and environment there are some relevant objectives, such as that:

- pupils should know how they can handle situations in and around school, that might lead to danger, in a responsible way, and how to act in an environmentally friendly way;
- pupils should know how to help themselves and others in case of illness or minor accidents.

Secondary education

After primary education the pupils go to secondary school until they are at least 16 years old. The first years (2, 3 or 4, according to the school's preferences) of secondary education are common for all pupils. The emphasis is on applying knowledge, acquiring skills and delivering an integrated curriculum.

The recommended basic secondary education subjects are: Dutch, English, second foreign language, mathematics, biology, physics and chemistry, IT studies, history and politics, geography, economics, technology, social and life skills, art, physical education. In addition, 20 % of the total curriculum is made up of optional subjects (Latin, religious education, mother tongue teaching, pre-vocational subjects, subjects from the basic curriculum, individual lessons or study, or vocational orientation). The time need not be used in the same way for every pupil and its extent may vary from one course year to the next.

While there are no specific OSH objectives, it can be seen that there are possibilities for relevant learning objectives.

Pupils can then follow one of three paths for the second part of secondary education:



- VMBO (preparatory secondary vocational education); a good deal of the recommended timetable for VMBO is devoted to vocationally oriented subjects, for which there are a prescribed minimum number of classes;
- HAVO (higher general secondary education);
- VWO (preparatory scientific education).

The main difference between the different types of secondary education is the level at which the subjects are studied and the number of lessons devoted to different subjects over the whole period of a particular type of education.

The recommended timetable for the whole period of all types of secondary education includes: Dutch, English, French and German, history and politics, geography, mathematics, physics and chemistry, biology, music, drawing, handicrafts, dance, drama, physical education, technology, social and life skills, IT studies, economics, and individual classes.

Optional subjects for VWO and HAVO in the compulsory period are: Frisian, other modern foreign languages, biblical studies, history of Christianity, religious knowledge, astronomy, philosophy, film, theatre, performing arts, history of art, healthcare and care of the home, nutrition and clothing.

There are no specific final competences with a link to occupational safety, but again there are possibilities for bringing OSH into relevant learning objectives.

Other initiatives

Healthy schools in the Netherlands (NIGZ)

The school programme of NIGZ focuses on promoting health and safety in primary and secondary schools in the Netherlands. There is structural collaboration with nine national health promotion bodies on developing 'health-promoting schools'. The main target group of this collaboration are regional health services that support schools in the area of health and safety. NIGZ hosts the national focal point for health-promoting schools, manages the website www.gezondeschool.nl for intermediaries and is actively involved in the European Network for Health Promoting Schools.

Further information:

<http://www.gezondeschool.nl>

http://www.enetosh.net/webcom/e_wcsearch.php?suchbereichid=16&wc_prog=57&wc_search=Netherlands&colid=55&rootid=129&details=1

'Kansarme Jongeren' — promoting safe and healthy computing at school and home

Various aspects of healthy computing were highlighted in a series of themes; 'How do you sit?', 'How long do you sit?', 'Get moving!!', etc. Specially designed student workshops were held to introduce each theme which was accompanied by a solution. The workshops took several forms, e.g. a film, a quiz. The solutions were tried out for a month after the workshop and then evaluated after that time before the next theme was introduced. At the end of the project, groups of students presented the different topics to their classmates.

Further information:

<http://www.melanchthon.nl/?node=952>



http://www.enetosh.net/webcom/e_wcsearch.php?suchbereichid=16&wc_progvr=57&wc_search=Netherlands&colid=55&rootid=245&details=1

Got a good idea?

Arising out of a national agreement to tackle MSDs in agriculture, this is a project where vocational agricultural students worked together in groups to come up with solutions to MSD problems in real workplaces. Students were encouraged to enter their results into a competition and some employers adopted the solutions.

Further information in: 'A safe start for young workers in practice': cases from the 2006 good practice awards (<http://osha.europa.eu/en/publications/reports/GPB06/view>).

Further information

- Eurydice website (Netherlands): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=NL>
- Ministerie van Onderwijs, Cultuur en Wetenschap (Ministry of Education, Culture and Science): <http://www.minocw.nl>
- See also Kerndoelen basisonderwijs, 1998: <http://www.minocw.nl/documenten/kerndoelen-kern.pdf> (in Dutch)

POLAND

Legislation

Education

Core curricula for primary and general secondary education are included in the Regulation by the Minister for National Education and Sport of 26 February 2002 on Core Curricula for Pre-school and General Education.

Labour Code and OSH in education

The Minister for National Education and Sport sets the basic scope of the content of educational programmes for primary, lower secondary and higher secondary schools and the Labour Code obliges the Minister to include OSH issues in this basic scope. These issues include ergonomics and safe working conditions and are adjusted to the educational stage and type of school and vocation.

Curriculum

The Ministry of Education sets the core curricula for each subject and cross curricular theme in all types of school. Core curricula for compulsory subjects are the same for all pupils. For the first stage of primary school the curricula for integrated teaching apply; for the second stage of primary school and gymnasium (lower secondary) there are curricula for separate subjects and cross-curricular themes. As mentioned above, by virtue of the Labour Act this basic scope includes OSH issues.

Curriculum reforms and the increasing importance of OSH in education

In 1999 Poland's educational system underwent a major reform involving profound changes in the school structure, curricula, the grading system, and requirements made



of students. The changes concern not only the structure of the educational system but also the curriculum content. The reformed educational programmes emphasise ergonomics and safe working conditions to a much greater extent than before. This change in emphasis is a result of a critical assessment of the Polish educational system that indicated the necessity of including health and safety issues into the earliest stages of education and resulted in the amendment of the regulation on the educational system in 2003.

In the amended regulation, the role of school in teaching safety and health issues is defined as: 'disseminating the knowledge of safety and developing the appropriate behaviours towards threats and extraordinary situations among children and teenagers.'

Primary school

Classes 1 to 3 — health and safety topics

The education in primary schools can be generally divided into two stages. At the first stage (classes 1 to 3) the curriculum includes the following safety and health topics:

- recognising the signals of danger;
- moving in the streets;
- safe use of technical devices in everyday life;
- developing habits of safe use of dangerous tools (such as knives, scissors or matches);
- taking care of health and hygiene;
- food and nutrition;
- safety rules for games.

Classes 4 to 6 — health and safety topics

In classes 4 to 6 (the second stage of education) the curriculum includes the following topics related to safety and health:

- recognising environmental hazards and learning correct behaviour towards dangerous and toxic objects, flammable and explosive materials and unexploded materials;
- safety in the streets and during games;
- applying first aid where appropriate, coping with difficult situations and how to get help;
- behaviours favouring and endangering health;
- the influence of different natural and non-natural factors on health, and the relationship between health and various human activities;
- the safe use of tools and everyday devices, and understanding technical instructions;
- the safe use of and riding a bicycle (bicycle licence should be obtained by the age of 10).

Lower secondary education

The gymnasium was introduced in the school year 1999/2000, offering three years of full-time general lower secondary education for pupils who have completed the reformed six-year primary school. It is compulsory for all pupils.

Core curricula for gymnasias were included in the Regulation on Core Curricula for Pre-school and General Education of 26 February 2002.



Civil defence and health and ecological education

In the gymnasium, education in safety and health includes civil defence and health, and ecological education and aims, among other things, to help students:

- develop awareness of their responsibility for protecting health and recognise factors that protect and endanger health;
- recognise environmental hazards related to energy production and transport, and inappropriate waste storage;
- develop safe behaviours at school, at home, in the street, during games and while studying and resting;
- develop appropriate behaviours in the event of threats to one's life, health and property;
- apply first aid in emergencies;
- develop a sense of the importance of following health and safety regulations.

Upper secondary education

New core curricula have been developed for general education in all types of upper secondary schools. They are included in the annex to the Regulation on Core Curricula for Pre-school and General Education of 2002.

OSH education depends on the type of school

In the upper secondary school the way safety and health is taught differs depending on curriculum and school type: grammar, vocational, complementary high school or post high school. Safety and health issues are included in vocational subjects in vocational schools, while in grammar schools they are covered in learning about entrepreneurship.

OSH in the content of vocational subjects

In 2003 the basic scope of educational programmes for 195 professions was set out. Occupational safety and health is not taught as a separate subject as it was in the past but it is included in the content of vocational subjects. The programmes include, among other things, requirements related to ergonomics and occupational safety and health specific to developing professional competence in each profession.

OSH and exam questions

The Central Examining Board guarantees that occupational safety and health questions will be covered in educational programmes. The Board sets the requirements of professional exams covering occupational safety and health so as to ensure that they are equal to qualifications that could be obtained during initial training provided by employers.

As the occupational safety and health specialist has been included in the list of vocational professions, a legal base for teaching specialists in this field has been established. The schools teaching occupational safety and health specialists are provided with educational programmes and equipment.

Education in occupational safety and health in universities

The scope of educational programmes for particular faculties is defined by the Main Council of University Education and is confirmed by the Minister of National Education and Sport.



Changes in the delivery of university education and the development of non-public universities as well as autonomy in creating educational programmes mean that how occupational safety and health issues are included in university programmes differs even within the same type of schools. Occupational safety and health issues are taught through:

- obligatory training for first-year students;
- obligatory lectures and tutorials on ergonomics, occupational safety and health, the legal protection of labour, etc.;
- including occupational safety and health issues in the content of specialist subjects.

In addition, some technical universities provide postgraduate studies in occupational safety and health.

Teaching materials for universities

The Central Institute for Labour Protection (CIOP), in cooperation with university lecturers, has developed model educational programmes adjusted for the following school profiles: technical studies, human and social studies, and medical studies. Educational modules entitled 'Knowledge of work — safety, health, and ergonomics' are integral parts of these programmes. Each module is an active tool for supporting academic teachers and can be used for independent study as well. Eight modules including handbooks, exercises and PowerPoint presentations have been divided into thematic units and prepared in both printed and multimedia versions.

The materials are available on CD and via the Internet. A multimedia version enables teachers to print texts and presentations, prepare their own presentations and cross-check information. The materials are accessible to all universities. It also allows distance learning, for example the CIOP uses it to conduct education on 'Ergonomics and occupational safety' for the students of technical universities via the Internet.

Based on the Poland national report, EDFORSA project:
http://edfora.vubp.cz/products_vysledky.php

Continuing further education

Occupational safety and health education in Poland also includes continuing (adult) education and other forms of education provided by national institutions, mass media, social organisations and companies. The Central Institute for Labour Protection — National Research Institute (CIOP-PIB) organises and conducts postgraduate courses (including e-learning) and other OSH training and courses.

Supporting activities, programmes and projects

Kultura bezpieczeństwa (safety culture) school educational materials

Working together with teachers, CIOP has produced a collection of materials to help teachers educate students about safety, occupational hygiene and ergonomics at all levels of primary and secondary school.



The materials are divided into modules. This enables their flexible use and for the abilities of pupils and students of different ages to be taken into account. Each module consists of: source material; materials for teachers and students; PowerPoint presentations; films and other didactic materials. For particularly young pupils, materials aimed at developing a safety culture have been based on games. These materials are available in printed and CD multimedia versions and via the Internet (<http://www.ciop.pl/7142.html>).

The CIOP 2006 poster competition was on the safety of young people (<http://www.ciop.pl/4353.html>). See also posters on safety in schools (<http://www.ciop.pl/4351.html>).

'Safe school with PZU' is organised under the patronage of the Ministry of National Education and Sport, National Road Safety Council (NRSC), Main Police Command, and Onet.pl. Experts from those institutions worked out materials which would be easy for pupils to understand. For further information, see ENETOSH and PZU websites (<http://www.enetosh.net> and <http://www.bezpiecznaszkola.pzu.pl> respectively).

STOEN's 'safe energy' programme was launched by the STOEN RWE Foundation to address first grade students of primary schools (see <http://www.enetosh.net/> and <http://www.bezpiecznaenergia.pl>).

Materials for teachers of OSH were prepared by experts and teachers associated with the Centre for Teachers' Development and Practical Education. They are meant to be used mainly by teachers with higher education running OSH classes in secondary schools, but they could be used in other contexts too. See <http://www.enetosh.net/> and <http://www.wckp.lodz.pl> for further information.

Further information

- EDFORSA Poland national report: http://edforsa.vubp.cz/products_vysledky.php
- Eurydice website (Poland): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=PL>
- MENIS — Ministerstwo Edukacji i Nauki (Ministry of Education and Science): <http://www.men.gov.pl/>
- Central Institute for Labour Protection — National Research Institute (CIOP-PIB): <http://www.ciop.pl>
- ENETOSH toolbox contains various examples of activities in Poland: <http://www.enetosh.net>

PORTUGAL

Legislation

Decree Laws 6/01 and 209/02 define the organisational principles and management of the curriculum, and assessment of primary and lower secondary education.

Curriculum

In the academic year 2001/02, the Ministry of Education published the Reorganisation of the Compulsory Schooling Curriculum (Reorganização Curricular do Ensino Básico), consolidated by the Decree Laws mentioned above. In accordance with Decree Law 6/01, the Ministry of Education defined the set of basic essential competences within the field of national curriculum development, as well as the specific competences for



each subject at each educational level. School and class curriculum projects are drawn up to put the curriculum into practice.

At upper secondary level, two bodies are responsible for the curricula setting: the General Directorate of Curriculum Innovation and Development (Direcção-Geral de Inovação e Desenvolvimento Curricular) for regular teaching, and the General Directorate of Vocational Training (Direcção-Geral da Formação Vocacional) for special art education, vocational training and adult education. New study plans for upper secondary education came into effect in the academic year 2004/05.

Cross-curricular citizenship topic and OSH education

The Decree Laws establish, among other things, the integration of citizenship in a cross-curricular fashion. Within the scope of citizenship are issues such as environmental education and road safety.

Some schools use their autonomy to create new subjects or include OSH topics in their curriculum with the support of PNEST (see below).

Vocational education

In Portugal, OSH education occurs mostly at the technical and vocational levels.

Higher education

The Portuguese national OSH institute, ISHST, promotes and supports OSH courses at higher education levels IV and V and secondary level III. Other initiatives include developing higher education level training on specific matters, and OSH for teachers and kindergarten assistants.

Supporting activities, programmes and projects

The Institute for Safety, Hygiene and Health at Work (Instituto para a Segurança, Higiene e Saúde no Trabalho (ISHST)) is actively working to mainstream OSH in the national, formal education system at all levels, building on the opportunities offered by the EU 2010 education strategy and the Bologna Process.

ISHST has established general OSH competences for general schools from the first grade and supports teachers by providing innovative methods and practices. It is involved in promoting the mainstreaming of OSH into the education curriculum at all educational levels. It supports the National Programme on Education for Health and Safety at Work (PNEST) (see below). It is also involved in developing and promoting OSH in teacher training (see 'Higher education', above) and providing training for qualified teachers and other education workers. Building cooperation with enterprises on OSH education is also part of its strategy.

National Programme on Education for Health and Safety at Work (PNEST)

This is an extensive, all round programme, carried out by the Portuguese Work Conditions Authority (ACT), which covers risk education, school safety and health at school. It operates within primary, secondary and vocational education. The overall objective of the programme is to promote a national safety culture starting with school education. It aims to make the links between school and work, promote risk education



in schools and promote a safe school environment. Working thorough partnerships, common goal setting and the exchange of practices and experiences are important aspects. The programme provides training for both pupils and teachers which is strongly based on the presentation of good practices. The programme has covered 200 schools, 71 000 pupils and students and 4 000 teachers.

The project supports projects developed by schools and three main types of actions have been carried out under the Pnesst programme:

- inclusion of OSH subjects in school curricula;
- seminars and training;
- production and dissemination of educational resources.

The programme favours projects that promote learning through practical investigation of OSH topics and team work, such as the identification of hazards and risks in the school and corresponding preventive measures.

A collaborative programme has also been established with teams in regional Health Centres (equipas de saúde escolar de Centros de Saúde) to include OSH elements such as hazard identification within the National Plan for Health at School. Various agreements have been made with regional public bodies such as municipal governments and regional public health centres. The objective of the agreements is the promotion of OSH and environment protection principles. The programme also works with trade unions and employer associations.

The programme has also established a network covering more than 200 schools.

The PNESSST website includes an information pack and examples of good practice in schools.

Further information

- PNESSST: http://www.ishst.pt/IDICT_P0E.aspx?Cat=Cat_Prg_Apoiados_IDICT&prd=A00000000001223&lang=
- Eurydice website (Portugal): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=PT>
- Ministério da Educação (Ministry of Education): <http://www.min-edu.pt>
- ISHST: <http://www.ishst.pt>

SLOVAKIA

Legislation

ILO convention 155

Slovakia has signed ILO convention 155 on OSH, article 14 of which covers requirements on OSH education in schools (see section on global policy). It has been adopted in Slovakia via Edict No 20/1989 Col.

Safety and health protection at work policy: objectives for OSH education

The document 'Concept of the state policy of safety and health protection at work' (SHPW) and the programme for application of state policy of SHPW — national programme of



SHPW (government Resolution No 838/2002 amended by government Resolution No 665/2003, action programme of application), covers education and training in OSH.

In part D of the document, 'Education, training, science and research objectives related to education in safety and health' are defined as follows:

'To build an effective system of training and education in SHPW from pre-school institutions through primary and secondary schools to universities, including subsequent education of employees, certifications of specialised forms of education, etc.'

Curriculum

The curriculum for primary and lower secondary education is approved by the Ministry of Education. The compulsory subjects are the same for all pupils. Several types of curricula are currently available. Teachers are free to use the teaching methods and textbooks of their choice (from a list approved by the Ministry of Education). The curriculum for upper secondary education is set according to the same arrangements as in compulsory education. Teachers can adapt the curriculum to the region, the situation of the school and the interests and needs of the pupils.

Teacher training in OSH

Before the start of school year 2003/2004 the Ministry of Education sent out a recommendation to training colleges in which it emphasised the need for OSH education to be included in teachers' study programmes.

Pre-school education

Pre-school (kindergarten) education is carried out in accordance with the Ministry of Education's 'Programme of education and training of children in kindergartens', No 197/1999-41.

The main objective of pre-school education is to complement the family education by providing educational activities aimed at universal development of children's personalities, their emotional, physical and intellectual development, language development, development of moral and aesthetic sense, creative skills, working skills and habits, and encouraging interest in suitable work and learning in accordance with individual and age characteristics.

Health education and environmental education

The pre-school educational and training programme includes activities aimed at health education and environmental education. Activities relating to safety education are not systematically included, however, and teachers do not receive any training in this area.

Healthy kindergarten projects

Many kindergartens are involved in the healthy kindergarten project which is part of the project 'Schools supporting health'. The aim is to create conditions for the correct psychical, physical, social and emotional development of pre-school age children by applying educational principles and creating a favourable learning environment. There are also other healthy lifestyle programmes for kindergartens, such as 'Strengthening physical and psychological health of children of pre-school age', 'Step by step', 'Golden apple', and 'We want to breathe fresh air'.



Primary education

Education and teaching methods are stipulated by the Ministry of Education together with organisations under its jurisdiction: the State Pedagogical Institute and the pedagogical/methodological centres.

Inclusion of OSH

- OSH in 'Protection of man and nature': In 1992 the Institute for Research and Education in Safety at Work stated requirements for incorporating OSH education into the newly conceived subject, Protection of man and nature. Teachers can decide the themes themselves and so the topic of OSH is implemented differently at different schools.
- Proposals for integrating OSH into other subjects: In 1994 the Institute re-evaluated primary school subjects from the point of view of the integration of OSH into particular subjects and made proposals on how to integrate OSH issues and the development of safe behaviours. The proposal was endorsed by the Ministry of Education but according to the EDFORSA report (see 'Further information') it has yet to be implemented. This is partly because content was proposed, but teaching methods were not specified.

Health and hygiene promotion

Many schools take part in the 'Health-promoting schools' network, which is aimed mainly at the creation of programmes to enhance the learning environment. Topics such as drug abuse prevention are also being introduced.

Phare programme

OSH in education was included in a Phare programme to develop OSH in Slovakia (see 'Supporting activities' section below) which led to the development of resources and training of some teachers.

Secondary education and initial vocational education

Phare programme

The Phare programme mentioned above and described in the section on 'Supporting activities' also covered secondary schools, which led to the development of resources and training of some teachers.

Project to integrate OSH into secondary schools

Between 1995 and 1998 the Institute for Research and Education in Safety at Work carried out a national project entitled 'Education in OSH at secondary schools'. The project was based on the premise that education in safe attitudes and behaviour must be an integral part of educational objectives at primary and secondary schools, as well as preparation for university study and subsequently in lifelong education.

The outcomes of the project were guidebooks for teachers at different types of secondary schools (published on the website of the Institute) setting out requirements, learning objectives and teaching standards for including OSH education in relevant curriculum themes and subjects. Lists of information resources for each subject have



also been produced for teachers. The guides are designed to help teachers with little knowledge of OSH and its teaching and the more knowledgeable.

Education in OSH is more advanced at the level of preparing students for working life, and is furthest advanced at secondary vocational schools and training colleges. For this level, rather than developing detailed guide books on safety at work for all students of all study branches OSH was included as part of branch study plans. To do this the study branches were divided into groups, according to subject, level of OSH risk and type of OSH risk. The study plans for including OSH are not absolutely binding and give the teacher the opportunity to change them and use creativity.

OSH learning objectives in subjects such as physics, chemistry, biology, physical education, ethical education, social teaching and informatics are set in terms of knowing how to act safely and developing positive attitudes to doing so.

Higher vocational education and universities

OSH is fairly widely taught in university engineering and medical courses in Slovakia. Examples are given below.

OSH has been included in the educational plans at the Faculty of Electro-technology and Informatics of the Slovak Technical University (STU). OSH is taught in two compulsory courses. In addition, there is an optional subject entitled 'Safety of electrical appliances'.

At the Faculty of Materials and Technology of the STU, OSH is included in secondary-level studies in environmental engineering and in first-level studies in industrial ecology. Courses with a technical bias in other faculties of the STU may include elements of the courses 'Safety of technical appliances' and 'Safety of work', depending on the educational specialisation.

Medical faculties focus in particular on the topic of health at work (as opposed to safety at work), in particular in the subjects Hygiene and Practical medicine. The Faculty of Nursing and Social Work at Trnava University includes OSH in public health studies, where one can opt to take the accredited specialisation 'Health at work'. There are also similar specialisations for practical nursery and practical hygiene.

Since 2003, training colleges have been obliged by the Ministry of Education to include the topic of OSH in their educational plans. The University of Constantine and Method in Nitra have a longer history of including OSH.

The Technical University in Košice trains OSH specialists in secondary studies at its two faculties and includes OSH in engineering courses.

Supporting activities, programmes and projects

Inclusion of OSH in education in the Phare programme project on OSH in Slovakia

The European Phare programme 'Enhancement of OSH systems: the Slovak Republic' was carried out with Swedish partners. The Slovak side was represented by the Ministry of Labour and Social Affairs. Component 2 concerned education about OSH at four levels: primary schools, secondary schools, universities and businesses (with particular emphasis on SMEs). Sixteen representatives of primary schools throughout Slovakia took part in the project, including teachers, head teachers and professional



employees of pedagogical-methodological centres. The aim was that these representatives should act as 'multipliers' of OSH education in primary schools, spreading their knowledge and experiences to other school colleagues. They were informed about the philosophy and principles of OSH and formulated a guide book for teachers to help them include OSH topics in education at primary schools.

Further information

- EDFORSA Slovakia national report: http://edforsa.vubp.cz/products_vysledky.php
- Eurydice website, Slovakia: <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=SK>
- Ministerstvo školstva Slovenskej republiky (Ministry of Education of the Slovak Republic): <http://www.minedu.sk>
- Labour Inspectorate website: <http://www.safework.gov.sk/index.php>
- Development and testing of an Education and Training System in the Slovak Republic — The Swedish Twinning project, Birgitta Melin, 2003 (PowerPoint presentation):
http://osha.eu.int/topics/osheducation/fullproceedings.stm/document_view

SLOVENIA

Curriculum

Compulsory education

The general content of compulsory subjects and general goals to be achieved by all pupils are stipulated by the National Curriculum Document. Within this framework, schools and teachers specify the content of each subject, choose their own teaching methods and select textbooks and exercise books of their choice (textbooks must be chosen from an approved list).

Compulsory school subjects in basic education are the mother tongue (Slovenian; Hungarian and Italian, depending on area), one foreign language, mathematics, geography, history, civic education and ethics, environmental studies, physics, chemistry, biology, social studies, music, visual arts, technologies (ICT included), home economics, sports. In the last cycle, schools must offer optional compulsory subjects in the field of social sciences and humanities and in the field of natural sciences and technology: at least three optional subjects in each field. Pupils must select two or three optional subjects. In addition, half an hour per week of 'home room' is obligatory, during which pupils discuss their current issues, problems, etc.

Educational reforms are taking place. In the reform agenda for the 2007, particular attention is being paid to strengthening the school-based management.

Post-compulsory

The National Council of Experts for General Education and the National Council for Vocational Education decide on the core contents and the curriculum objectives. In general education, compulsory subjects account for 80 % to 90 % of the curriculum (Slovenian language and literature, mathematics, two foreign languages, history, geography, physical education, biology, chemistry, physics, art, psychology, sociology,



philosophy and computer studies). In technical and vocational education, the compulsory subjects and their number vary according to the type of course. Srednje poklicno izobraževanje (vocational upper secondary education) can be school-based or partly work-based in the form of apprenticeship training.

Curriculum reforms are taking place that will affect technical and vocational education in particular and will include the introduction of occupational standards.

Supporting activities, programmes and projects

'WE CARE' — A programme for a better school and classroom environment

The project, conducted by the National Education Institute of Slovenia, is part of a larger programme of the International Network on School Bullying and Violence (participating countries: Australia, Austria, Belgium, Canada, France, Germany, Hungary, Ireland, Israel, Japan, Korea, Mexico, Norway, Poland, Slovak Republic, Slovenia, Sweden, Switzerland, Turkey, United Kingdom). The main goal of this programme is to improve the school and classroom environment, empower teachers and prevent bullying. The programme has a whole-school approach involving staff (head teacher, teachers, school counsellors), students and parents, and is adapted to the needs of individual schools. The target group is the primary and lower secondary school and pupils aged from 7 to 15.

Further information

- ENETOSH website: <http://www.enetosh.net>
- International network on school bullying and violence: <http://www.oecd-sbv.net/Templates/Article.aspx?id=234>
- Ministrstvo za šolstvo in šport (Ministry of Education and Sport): <http://www.mss.gov.si/>
- Eurydice website: Structures of education, vocational training and adult education systems in Europe — Slovenia: <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=SI>

SPAIN

Curriculum

In Spain, the procedure for drawing up the syllabus is the same for all educational stages. The central government is responsible for establishing the basic features of the curriculum (objectives in terms of skills, methodological principles, content and assessment criteria). Building on these basic elements, the autonomous communities set out their own curricula. These curricula do not differ significantly. Each school must in turn adapt the curriculum to its own socioeconomic and cultural context, establish general methodological criteria and adopt any pertinent decisions regarding the assessment process.



Primary and general secondary education

In Spain, education laws reflect the need to impart values to children and young people in order to encourage good behaviour and attitudes with respect to different areas of life. This emphasis on values is clearly expressed in the Regulation of 7 September 1994 (BOE 23.09.94) from the Education Secretary and in the guidelines of the curricula of pre-primary, primary and secondary education. These curricula are established by the following regulations of the Education Culture and Sports Department: Royal Decree 114/2004 (BOE 06.02.2004), Royal Decree 115/2004 (BOE 07.02.2004), and Royal Decree 116/2004 (BOE 10.02.2004), respectively. The subjects are: moral and civic education, peace education, equal opportunities education, environmental education, sex education, health education, consumer education and traffic education. These subjects are considered cross-curricular subjects by the regulations. They should be integrated in a cross-cutting way in the curricula of primary and secondary schools. Nevertheless, in Spain autonomous (regional) administrations are mostly responsible for setting the curricula.

Several of these cross-curricular subjects are relevant to health and safety education including: moral and civic education, environmental education, sex education, health education and traffic education.

Vocational education

In vocational education, safety and health is a stand-alone subject. The roles and training requirements for those who will be involved in company health and safety matters such as risk assessments are set out in Spanish law on OSH. Vocational training organisation is established by Royal Decree 362/2004 (BOE 26.03.04)

Higher education

At the university level currently some universities run health and safety courses. Several are developing Masters courses for the training of future OSH technicians. The precise competences and the training requirements of OSH technicians are specified in Spanish OSH law.

Regarding mainstreaming OSH into other courses, activities include:

Prevención Universitas

This is a project of the University of Salamanca together with la Junta de Castilla y León. All recent graduates are given a CD that contains basic information about risk prevention. There is also a complementary webpage. In addition the university has carried out a pilot study whereby students on certain courses such as the sciences have to learn risk prevention as part of their practical activities. The university is one of those developing a Masters course on OSH (Further information at: <http://www.prevencionuniversitas.com>).

Fundación Laboral de la Construcción (Labour Foundation for the Construction Industry)

This provides practical training facilities. It has developed various training resources including e-learning tools and a mobile classroom. It has cooperated with various universities to make its facilities available to provide some practical training to students on civil engineering courses. Further information at:

- <http://www.fundacionlaboral.org>
- <http://www.fundacionlaboral.org/training/campus.htm>



Supporting activities, programmes and projects

INSHT resources

The Instituto Nacional de Seguridad e Higiene en el Trabajo (Spanish National Institute of Occupational Safety and Health) has published a range of resources to support the inclusion of OSH in education.

- Erga Tebeo, a comic book at primary level in which contents are presented in a very educational and practical form. Subjects treated are: falls, burns, mental work load, toxic products, electrical risks, hits and shocks, cuts and injuries, fires and explosions, asphyxia and respiratory obstruction, and physical workload.
- Guides for teachers for cross-curricular teaching of OSH: two guides — one for primary and one for secondary teachers — that contain a series of proposals to help teachers to introduce 'health values' into various subjects. The objective is that health and safety should become a value appreciated by pupils, so that they adopt attitudes and habits aimed at preserving their own health and safety. The guides also present a method for learning the first concepts of safety, hygiene, psycho-sociology and ergonomics and contains specific material to use in the classroom.
- Primary school guide (<http://www.insht.es/portal/site/Insht>).
- Erga primaria transversal, an online publication aimed at helping primary school teachers to teach OSH as a transversal or cross-cutting subject, in order to promote OSH values and attitudes in pupils. There are three editions a year. This publication can be downloaded from the INSHT website (<http://www.insht.es/portal/site/Insht>).
- Erga FP provides web-based resources for primary schools on OSH and education, and also aims to involve teachers and pupils in the promotion of health and safety. Its contents are practical and interactive. The target group is teachers of vocational education and has the same the objectives as Erga primaria transversal, but addressed to vocational education (it can be downloaded at: <http://www.insht.es/portal/site/Insht>).
- Computer use in schools — case studies for use by teachers (<http://www.insht.es/portal/site/Insht>).

Regional resources

As the specifics of education provision are devolved to the autonomous regions in Spain, various projects have been developed on a regional basis. Some examples are given below:

'¡A salvo!' (Safe!) campaign: directed at primary education students aged from 6 to 12 years in all schools in Castilla y León, the project was developed to increase children's awareness of and attention to safety. The project includes a whole range of resources and the use of a bus to bring OSH to the children in the region. Further information at:

- <http://www.prevencioncastillayleon.com/escueladeprevencion>
- <http://osha.europa.eu/publications/reports/GPB06>

Crece en seguridad (Grow up in safety) is an online quiz by the region of Murcia. Further information at:

- <http://www.creceenseguridad.com>
- [http://www.carm.es/newweb2/servlet/integra.servlets.ControlPublico?IDCONTENIDO=3641&IDTIPO=100&RASTRO=c728\\$m](http://www.carm.es/newweb2/servlet/integra.servlets.ControlPublico?IDCONTENIDO=3641&IDTIPO=100&RASTRO=c728$m)

Prevenia3 comes from the Aragon region. It is an online 'classroom' for raising awareness about risk prevention and first aid intervention, aimed at children, young people and society in general. Further information at: <http://www.prevenia3.net>



Further information

- See 'Structures of education, vocational training and adult education systems in Europe' Eurydice website — Spain:
<http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=ES>
- Ministerio de Educación y Ciencia (Ministry of Education and Science):
<http://www.mec.es>
- INSHT resources:
— <http://www.insht.es>
- ENETOSH website toolbox, where examples of projects in Spain can be found:
http://www.enetosh.net/webcom/show_websiteprog.php/_c-57/_lkm-7/i.html

SWEDEN

Legislation

Education

The Education Act (1985:1100) establishes the framework for curricula, syllabuses and schedules for teaching. The Higher Education Act governs universities and colleges.

Health and safety

The Swedish Work Environment Act (SFS1977:1160) defines pupils as the 'employees' of the school.

Curriculum

The administrator of each school is required to establish a work plan describing in concrete terms how the school proposes to meet the national goals for education as set out in the Education Act.

The schools are required to lay the foundations for lifelong learning.

Engendering respect for others and the environment

All the Swedish curricula include democracy as a fundamental value of all school activities. Each and every person working in the school should display respect for others as well as for the environment. The schools strive to ensure equality of the sexes and actively counteract all forms of abusive treatment such as bullying and racist behaviour.

Safety and health aspects in pre-school and compulsory (comprehensive) school

Pre-school

The pre-school curriculum (Läroplan för det förskola, Lpfö 98) stipulates that pre-school activities should use educational group activities to stimulate the child's development



and provide a suitable foundation for growth and learning. They should provide children with a well-balanced daily routine and appropriate environment relevant to their age and time spent in the pre-school. For example, pre-schools should try to ensure that children develop:

- the ability to function individually and in a group to handle conflicts, and understand rights and obligations as well as responsibility for common rules;
- their motor skills, coordination, awareness of their own body, as well as understanding of the importance of maintaining their own health and wellbeing.

Compulsory education

The curriculum for the compulsory system (Läroplan för det obligatoriska skolväsendet, föskoleklassen och fritidshemmet, Lpo 94) was introduced in 1995 and since 1998 has also covered pre-school classes and leisure-time centres. The syllabuses for compulsory schools are set by the National Agency for Education.

The learning environment

One of the fundamental tasks of compulsory school is to provide a good environment for learning and development: the school should strive to be a living social community that provides safety and the will and desire to learn. All pupils should also be encouraged to take responsibility for their studies and working environment.

Health and environment objectives

The school is responsible for ensuring that all pupils completing compulsory school, for example:

- know the requirements for a good environment;
- have a basic knowledge about what is necessary to maintain good health and also understand the importance of lifestyle for health and environment.

Learning objectives related to safety and health at work and lifestyle

According to the syllabus several subjects have goals related to lifestyle and safety and health at work. For example:

- in physical education and health pupils should develop knowledge of ergonomics in everyday situations and the ability to assess unsatisfactory health and safety conditions related to physical activities;
- home and consumer studies includes the goal of acquiring knowledge and skills on safe handling of tools;
- in music pupils should learn of the importance of hearing and different sound environments to people;
- in chemistry pupils should obtain an insight into the risks connected with the use of chemicals at home, their labelling and handling;
- on completion of compulsory education, pupils should know first aid and be able to give a viewpoint on the aspects of working environment in the school.

Upper secondary schools

The curriculum for the non-compulsory school system (Läroplan för de frivilliga skolformerna, Lpf 94) covers upper secondary schools, the municipal adult education system, national state schools for adults (SSV), apprentice training, and upper secondary education for pupils with learning disabilities and adults with learning disabilities. The



school's task is to ensure that pupils acquire a foundation of lifelong learning and skills that will help them develop new knowledge and ways of coping with changes in working life, new technologies, globalisation and the complexity of environmental issues. The idea is that the non-compulsory schools should cooperate closely with the compulsory school, working life, universities and society in general.

Core subjects

The National Agency for Education outlines the goal and structures for the core subjects taught in the 17 national programmes for upper secondary education (gymnasium). The core subjects taught in all programmes are Swedish, English, mathematics, physical education and health, science, civics, religion, and artistic activities. The programmes are on children and recreation, construction, electricity, energy, arts, vehicles, business and administration, handicraft, hotel and restaurants, food, media, industry, use of natural resources, natural science, healthcare, social science and technology.

Vocational programmes and OSH education

All vocationally oriented programmes should include 15 weeks' training in a workplace. All these programmes should ensure that pupils leave the school with knowledge of the factors influencing safety and health. The pupils should also learn how these factors are connected to the working environment and how they can be managed safely to promote a good physical and psychosocial work environment. Several programmes include specific course topics on safety, such as 'electrical working environment and safety' in the 'electricity programme'.

Physical education and health

In physical education and health, the school should ensure that the pupils are able to apply ergonomics in the context of different work environments and are able to carry out emergency first aid.

Work environment in schools and its application to pupils

In Sweden pupil safety and their involvement in safety arrangements is set out in legislation. This includes requirements for the management of the work environment in schools and also the cooperation of both staff and pupils in school safety.

The legal basis

In 1990, the Swedish Work Environment Act (SFS1977:1160) classified pupils as 'employees' of the school and established that schools must have pupil safety delegates. The Swedish National Institute for Working Life (Arbetsmiljöinstitutet) worked with the Swedish National Agency for Education ('Skolverket') to put this in place.

'School environment round' for cooperation on the school environment

Between 1994 and 1997, the National Institute conducted the 'School environment round', a project that aimed to find a model for cooperation on improving the work environment in schools. Questionnaires were developed for both staff and pupils and



a model was created to enable the improvements in the school environment to be followed up. The model and questionnaires have been developed further with schools and are now available as a web tool on the website of the Skolliv, the national agency's work environment group (<http://www.skolliv.nu>).

Systematic work environment management

In 2001, the Swedish Work Environment Authority issued a decree on systematic work environment management (AFS 2001:01). The National Institute developed Skolmiljö 2000, a model for systematic environmental management in schools, which uses questionnaires and a method for continuous follow-up. The model uses an inclusive cycle of individual assessments, joint discussions and systematic improvements of the work environment with follow-up for the whole school. The assessments are made using the questionnaires from the 'School environment round'. The Swedish Work Environment Authority (Arbetsmiljöverket) also has a website for schools (<http://www.av.se/temasidor/skolweb>).

Role of pupils as safety delegates

In 2004, a decree by the National Agency for Education further defined the role of pupil safety delegates (elevskydsombudsman) in schools. These delegates represent the pupils in matters concerning the work environment and liaise between the school administration and the pupils. The head teacher has a major responsibility to ensure pupils can participate and learn about management of working environment. The Swedish pupils' union SVEA (Svenska Elevråd) provides information for the delegates on their website (<http://taingenskit.nu>).

Targeted inspections during the 'Safe start' 2006 campaign

The Swedish Labour Inspectorate targeted upper secondary schools (high schools) for inspection, in order to improve safety in schools during practical classes and in work experience placements. Further information:
www.av.se/dokument/osha/european_week.pdf

Higher education

No common curricula

Under the Higher Education Act universities and colleges have academic freedom and individual autonomy. There are no common curricula or teaching schedules: the universities and their faculties decide on their own curricula on the regulations applying to their degrees.

Safety in the university environment

As workplaces, universities are obliged to ensure the safety and health of the work environment, in relation to students as well as staff.

In May 2006, the Swedish National Union of Students (Svenska förenade studentkårer, SFS) published a 'Manual for the management of the work environment' (Handbok i arbetsmiljöarbete). The manual summarises relevant legislation, recommendations and lays down the roles of the stakeholders in the work for the work environment.



Supporting activities, programmes and projects

Examples of supporting activities in Sweden include the following:

Hearing health

Provides material for teachers in compulsory schools to enhance the knowledge of their pupils about noise, their sound environment and protection against hearing damage. A project of the National Institute for Working Life (NIWL). Further information at: <http://www.arbetslivsinstitutet.se>

Källby Gård — safe school project

This is an example in which pupils were involved in the process of making a school risk-free.

Further information:

<http://osha.europa.eu/en/campaigns/ew2006/europeansummit/WS1-3-Eva-Cardell-Safe-school-feb-Bilbao.pdf>

<http://osha.europa.eu/en/campaigns/ew2006/europeansummit/>

Children's environment and health action plan for europe (CEHAPE)

Sweden participates in the CEHAPE programme (see 'Global' section) and has included school activities within its actions. A national action plan on how the environment can be improved to strengthen the health of children and young people has been produced for governmental approval and the Swedish Work Environment Authority has supported the responsible body, the National Board of Health and Welfare, in this work and in the programme. Swedish activities in support of the programme have included:

- Allergy inspection in schools — a checklist:
<http://www.euro.who.int/document/che/05SWEweb.pdf>
- Working for a healthy indoor environment in schools and nursery schools through the MVG collaboration: <http://www.euro.who.int/document/che/29SWEweb.pdf>
- Noise in children's and adolescent's environments:
<http://www.euro.who.int/document/che/32SWEweb.pdf>

Further information

- Eurydice website (Sweden): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=SE>
- Utbildningsdepartementet (Ministry of Education and Research):
<http://www.regeringen.se/sb/d/1454>
- The National Agency for Education (Skolverket): <http://www.skolverket.se/sb/d/107>
- AFS 2001:1 — Systematiskt arbetsmiljöarbete:
http://www.av.se/lagochratt/afs/afs2001_01.aspx
- Arbetsmiljölagen SFS 1977:1160 — Arbetsmiljöverket:
<http://www.av.se/lagochratt/aml>
- Skolweb: <http://www.av.se/temasidor/skolweb>
- Skolliv: <http://www.skolliv.nu>
- Handbok i arbetsmiljöarbete — Dnr PT4-2/0506 — Svenska förenade studentkårer:
http://www.sfs.se/karerstart/dokument/utbildning/files/pt4_2_0506_arbetsmil_hb.pdf



UK

Legislation

Education

The national curricula for England, Scotland and Wales were established by the Education Reform Act, 1988. The Act requires all state schools to provide pupils with a broad and balanced curriculum. The National Curricula and guidance handbooks provide a general statement of learning standards and entitlement. Although there are differences in detail, the three national curricula outline a common set of requirements, related programmes of study and attainment targets.

Health and safety

The Health and Safety at Work Act 1974 includes a general duty on employers concerning not exposing people not in their employment to health and safety risks. This includes pupils.

National curriculum for England

The national curriculum for compulsory education determines the content of what will be taught and sets attainment targets for learning. It also determines how performance will be assessed and reported and provides a clear and shared understanding of the skills and knowledge that young people will gain at school. The national curriculum is reviewed regularly to ensure that it continues to meet the changing needs of pupils and society.

The compulsory national curriculum subjects (and religious education) are not considered to form the complete curriculum. The curriculum should, at appropriate stages, include other subjects, such as careers education, health education and sex education. Schools may also teach other areas at a level appropriate to their pupils' understanding.

Addressing risk issues: a general teaching requirement

Obligations to address risk issues are outlined within each national curriculum. The English national curriculum includes a 'general teaching requirement' for health, safety and risk education.

Each set of national curricular guidelines mention the requirement for teaching staff to address issues of risk, health and safety, relevant to their subject area.

The Scottish and Welsh curricula provide similar risk education requirements, but the requirement is not formally stated as a specific cross-curriculum requirement.

Primary and secondary education

Health and safety in the curriculum

There is a requirement to include health and safety as part of some school subjects in the UK. The 1999 national curriculum includes learning objectives for health and safety issues in all age groups. There are some 'stand-alone' objectives and some that fall



within the learning objectives of other topics. The national curriculum for primary and secondary schools includes a personal social and health education (PSHE) and citizenship framework. The curriculum for PSHE and citizenship has been used to address the issue of accidental injury and death in children and young people. One of the aims of PSHE is to enable children to apply personal and social skills to a range of contexts in their lives. For example, skills in risk assessment learned in relation to preventing accidents are transferable to other situations. Subjects where pupils have to carry out practical activities contain specific teaching requirements on health and safety.

Relevant statements from the national curriculum are given below:

Key stage 1 (5 to 7 age group)

Personal, social and health education (PSHE) — Pupils should be taught:

- that all household products, including medicines, can be harmful if not used properly;
- rules for, and ways of, keeping safe, including basic road safety, and about people who can help them to stay safe;
- to recognise how their behaviour affects other people.

Science — Pupils should be taught:

- to recognise that there are hazards in living things, materials and physical processes, and assess risks and take action to reduce risks to themselves and others.

Design and technology — Pupils should be taught:

- to follow safe procedures for food safety and hygiene.

Health and safety — concerning hazards, risks and risk control pupils should be taught:

- to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others;
- to use information to assess the immediate and cumulative risks;
- to manage their environment to ensure the health and safety of themselves and others;
- to explain the steps they take to control risks.

Key stage 2 (7 to 11 age group)

Personal, social and health education (PSHE) — Pupils should be taught:

- to recognise the different risks in different situations and then decide how to behave responsibly, including sensible road use, and judging what kind of physical contact is acceptable and unacceptable;
- that pressure to behave in an unacceptable or risky way can come from a variety of sources, including people they know, and how to ask for help and use basic techniques for resisting pressure to do wrong;
- school rules about health and safety, basic emergency aid procedures and where to get help.

Science — Pupils should be taught:

- to recognise that there are hazards in living things, materials and physical processes, and assess risks and take action to reduce risks to themselves and others.

Health and safety — Pupils should be taught:

- about hazards, risks and risk control;



- to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others;
- to use information to assess the immediate and cumulative risks;
- to manage their environment to ensure the health and safety of themselves and others;
- to explain the steps they take to control risks.

Key stage 3 (11 to 14 age group)

Personal, social and health education (PSHE) — Pupils should be taught:

- to recognise and manage risk and make safer choices about healthy lifestyles, different environments and travel;
- to recognise when pressure from others affects their personal safety and wellbeing, and to develop ways of resisting pressures, including knowing when and where to get help and support;
- basic emergency aid procedures and where to get help and support.

Science, design and technology, information and communication technology, art and design and physical education — When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

- about hazards, risks and risk control;
- to recognise hazards, assess consequent risks and take steps to control risks to themselves and others;
- to use information to assess immediate and cumulative risks;
- to manage their environment to ensure health and safety of themselves and others;
- to explain the steps they take to control risks.

In addition to this general teaching requirement for the five subjects, the programmes for each subject contain specific teaching requirements on health and safety.

Key stage 4 (14 to 16 age group)

Personal, social and health education (PSHE) — Pupils should be taught:

- to use assertiveness skills to resist unhelpful pressure;
- about the health risks of alcohol, tobacco and other drug use, early sexual activity and pregnancy, different food choices and sunbathing, and about safer choices they can make;
- to recognise and follow health and safety requirements and to develop skills to cope with emergency situations that require basic first aid procedures, including resuscitation techniques.

Science, design and technology, information and communication technology, art and design and physical education — When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

- about hazards, risks and risk control;
- to recognise hazards, assess consequent risks and take steps to control risks to themselves and others;
- to use information to assess immediate and cumulative risks;
- to manage their environment to ensure health and safety of themselves and others;
- to explain the steps they take to control risks.



In addition to this general teaching requirement for the five subjects, the programmes for each subject contain specific teaching requirements on health and safety.

The health and safety teaching requirement in those subjects where pupils carry out practical activities — science, design and technology, information and communication technology, art and design and physical education — was drawn up by the Qualifications and Curriculum Authority after consultation with the Health and Safety Executive. The review of the national curriculum was used to reconsider how the concept of risk should be taught.

The Health and Safety Executive has put guidance on its website about teaching the health and safety requirement in science, design and technology, information and communication technology, art and design and physical education (see box).

The Government Department of Education and Skills (DfES) has produced safety education guidance to support schools and teachers. The government website for teachers, 'teachernet', contains a leaflet which provides more detail about where and how safety education requirements apply in the primary and secondary schools. It covers the personal social and health education (PSHE) and citizenship framework. The safety education guidance leaflet is available at: <http://www.teachernet.gov.uk/docbank/index.cfm?id=1314> (see also Appendix 5).

Guidance from the HSE on the general teaching requirement for health and safety

1. This new health and safety requirement was drawn up by the QCA after consultation with the Health and Safety Executive. The review of the national curriculum provided an opportunity to reconsider how the concept of risk is taught.
2. This guidance aims to familiarise teachers with some of the terms used in the statement and indicate how this statement can be used to teach the concept of risk and develop pupils' ability to assess and control risks.
3. Some terms explained:
 - *hazard* means anything that can cause harm;
 - *risk* is the chance, high or low, that somebody will be harmed by the hazard;
 - *risk control* involves taking steps to reduce the chance, and/or mitigate the consequences, of the hazard causing harm;
 - *risk assessment* evaluates the risks and decides whether precautions are adequate or more should be done.
4. Teachers will have already introduced the concept of risk to their pupils. Consistent messages on risk awareness, delivered at the appropriate developmental level throughout a pupil's time in school, will result in them being better equipped to deal with situations of uncertainty and change, both in and out of school.
5. Pupils will need to be taught about the hazards, risks and risk control within the context of their work in these subjects so that risk awareness forms an integral part of their learning and development. The health and safety statement provides



a framework for pupils to gain an understanding of — and skills in — recognising hazards, risks and uncertainty in a range of contexts. Other subjects will also provide opportunities to develop risk awareness.

6. Teaching about the concept of risk will help pupils make their own decisions about risk so that they can:

- recognise the existence of hazards, risks and uncertainty in a range of contexts;
- assess their own ability, and the ability of others, to deal with different situations;
- assess the consequences when dealing with hazards presented to themselves and to others (for example, within school, the environment, the home);
- seek advice from appropriate sources to minimise and manage risk;
- understand that rules and regulations follow from risk assessment and help define individual and collective responsibility.

7. In the future, pupils' ability to assess and control risks will be increasingly important. An ability to manage risk has application in leisure activities and in the home as well as at work.

Taken from <http://www.hse.gov.uk/education/qca.htm>

National healthy school standard (NHSS) — key theme 'safety'

The UK also has something termed the 'National healthy school standard' (NHSS), which was launched in October 1999. It plays a very important part in improving the health of young people, and provides them with the knowledge, skills and understanding to lead healthy active lives. It acts as an umbrella for a variety of different

The DfES safety education guidance contains several practical examples of activities to include risk education in school curricula activities. For example:

Case study: Involving pupils in safety policymaking

- Active involvement in school safety issues
- Research
- Circle time
- Active involvement in democratic processes.

Guidance for PSHE and citizenship from the Education Advisory Service for the Shropshire, Telford and Wrekin region encourages the involvement of pupils in researching safety issues and recommending improvements. Having identified a traffic or playground concern, for example, collaborative 'circle time' discussions are recommended to clarify issues (e.g. what changes to rules they want to make), talk about views and feelings and agree an initial action plan. Polling among their peers, presenting plans to policymakers such as school governors, campaigning and bidding for funds help develop pupils' understanding of local democracy.



health initiatives and policies, bringing them together in a cohesive manner, promoting them in schools and recognising the achievement of schools that implement them successfully. It takes a whole school approach to provide a framework for school development. Safety is one of the eight key themes of the NHSS (see Appendix 6 for more information about the NHSS).

Further information:

'Wired for health': <http://www.wiredforhealth.gov.uk>

The 'Wired for health' site also summarises the curriculum requirements regarding safety: <http://www.wiredforhealth.gov.uk/cat.php?catid=904&docid=7571>

http://www.nc.uk.net/nc_resources/html/health.shtml

Healthy schools — a nationwide healthy school initiative in UK, Ruth Heatherley, 2003 (PowerPoint presentation):

http://osha.europa.eu/topics/osheducation/fullproceedings.stm/document_view

Schemes of work: teachers' guidelines on curriculum planning

The schemes of work are guidelines to support medium and long-term planning. They help schools implement the national curriculum programmes of study and teach risk education. The schemes of work also cover the health and safety aspects of the curriculum. For example, the teacher's guide for the scheme of work for science education for key stage 3 includes references to the relevant regulations and publications, and includes the following on health and safety:

'All practical activities in science must comply with the requirements of the Health and Safety at Work Act 1974. Specifically, teachers must carry out risk assessments of any hazards and are required to meet the demands of COSHH Regulations 1999 and/or the Management of Health and Safety at Work Regulations 1992.

Employers (LEAs, school governors, etc) generally use model (general) risk assessments for science activities normally carried out in schools. These are found in the following publications:

- *Be safe! Some aspects of safety in science and technology for key stages 1 and 2* (ASE, 2nd edition, 1990);
- *Safeguards in the school laboratory* (ASE, 10th edition, 1996);
- *Topics in safety* (ASE, 2nd edition, 1998);
- *Safety reprints* (ASE, 1998 edition);
- *Safety in science education* (DfEE, 1996, HMSO);
- *Hazards* (CLEAPSS, 1995 or 1998 update);
- *Laboratory handbook* (CLEAPSS, 1997 or later);
- *Risk assessments for technology* (CLEAPSS, 1994).

Teachers should check which models are recommended by their employers and ensure these are used. In addition, teachers are responsible for risk assessment of any modifications appropriate to their own classroom situation. In this scheme of work the particular hazards are detailed in the 'Points to note' and summarised in the 'Health and safety' section for each unit.'

(Taken from the Science scheme of work for key stage 3 — Teacher's guide.)



Post-compulsory education/upper secondary and post-secondary level — the safe learner concept

The Learning and Skills Council is responsible for funding and planning education and training for over 16-year-olds in England other than in universities. Established in April 2001 LSC's work covers:

- further education
- work-based training and young people
- school sixth forms
- workforce development
- adult and community learning
- information, advice and guidance for adults
- education business links.

They have been especially active in developing health and safety criteria and guidance for all those involved in planning or providing work experience and training placements.

In 2002 the LSC introduced the 'safe learner' concept. It provides the added value that colleges, work experience providers and others can make in addition to ensuring a safe, healthy and supportive environment for learners. The safe learner concept is defined as the situation in which the learner, through the quality of their learning experience:

- gains an understanding of the importance of health and safety;
- understands how hazards are identified, risks are assessed and the principles of control measures;
- develops a set of safe behaviours, so that they play an active part in the process and acquire practical, transferable skills from their experience.

In order to develop the safe learner concept within a framework that would be meaningful and useful to all those involved in LSC-funded learning, particularly vocational and work-based learning, the LSC set up a National Learner Health and Safety Partnership (NLH & SP) Group. Its membership included a broad range of interested parties including: education bodies; safety bodies; the social partners, insurers and NGOs. The NLH & SP Group has developed a framework for applying the safe learner concept. This has included proposing a 'safe learning model', which breaks the learner's acquisition of health and safety knowledge, understanding and behaviour into five stages, as follows.

- Stage 1: Pre-work (experience) briefing
- Stage 2: Workplace induction
- Stage 3: Progression and foundation
- Stage 4: The safe learner and worker
- Stage 5: Lifelong health and safety learning.

The framework for the safe learner concept comprises:

- the learner (and the development of capabilities and competences in health and safety);
- the learner's supervision arrangements (supervisor or mentor);
- the working and learning environment;



- the tasks, and the risks associated with the tasks and what goes on in the environment;
- the funded organisation, shown as the college or training provider;
- the employer for work-based learners.

If all of the key components of the framework are in place, the learner should not only be in a safe and healthy environment, but should also develop a positive attitude and safe behaviours, and so become a safe and healthy worker.

The aim is to incorporate the safe learning model into the work of the Qualifications and Curriculum Authority (QCA) and others in developing a strategy for health and safety qualifications and the new credit framework for vocational qualifications. The safe learner concept, the proposed framework and learning model affects the establishment of a competence-based health and safety passport and record of achievement for employees that can be accepted across sectors and industry.

Further information: 'The safe learner concept — Consultation paper', November 2004 (<http://readingroom.lsc.gov.uk/pre2005/research/consultation/safe-learner-concept-consultation-paper.pdf>).

Higher education

Across degree courses in the UK, the extent and content of risk education varies, and it is not necessarily always proportional to the level of risk that undergraduates could be responsible for managing in their professional working life.

Higher education in the 'Revitalising health and safety' programme

The UK's 10-year programme on 'Revitalising health and safety' (RHS, see below) includes an action point concerning further and higher education, which states that the Government and Health and Safety Commission will act to ensure that safety-critical professionals such as architects and engineers receive adequate education in risk management. There is increasing recognition, within the UK Health and Safety Executive (HSE) and professional bodies, of the need to educate engineering undergraduates in aspects of risk relevant to their degree.

Research into the extent of OSH in higher education

The Health and Safety Executive has already taken a number of actions to assess the current state of play in this area including research reports on: the extent of OSH teaching in engineering courses; the inclusion of OSH in civil engineering and architecture courses (see link below); and the extent of OSH teaching in business studies courses (see box). For example see *Identification and management of risk in undergraduate construction courses* (http://www.hse.gov.uk/research/crr_hm/2001/crr01392.htm).

OSH for engineers

The findings are that generally university professors not only need very strong convincing of the need to include OSH in university courses such as engineering, they also need teaching materials that they view as relevant. To move forward in this area the Health and Safety Executive funded a project in which the Health and Safety Laboratory (HSL) in association with the University of Liverpool worked to incorporate risk education into the curriculum of an undergraduate engineering degree course.



Integrating risk education into the curriculum has involved defining risk education as a set of learning outcomes, and designing a tool to ascertain students' awareness of risk issues and key concepts. Teaching materials that have been developed use real accident case studies, student interaction and team-building exercises to enhance students' understanding of the concepts of hazard and risk.

The project involves cooperation with the Engineering Interinstitutional Group (IIG), British Standards Institution (BSI), Institute of Mechanical Engineers (IMechE) Safety and Reliability Group (SRG), Safety and Reliability Society (SaRS) and the Engineering Education conference (EE2006). Work is continuing in this and related activities.

Further information:

'Risk education in engineering — Development of year one materials': http://www.hse.gov.uk/research/hsl_pdf/2006/hsl0661.pdf?ebul=hsegen/04-sep-06&cr=14

Risk education in engineering — The development of a new syllabus:
http://www.hse.gov.uk/research/hsl_pdf/2005/hsl0522.pdf

CD-ROM 'Engineering for a safer future' — an e-learning health and safety package for engineering undergraduates: <http://www.hse.gov.uk/research/rrpdf/rr452.pdf>

OSH in medical courses

The Health and Safety Commission (HSC) worked with the General Medical Council whereby the GMC introduced an agreement to add OSH objectives to its 'Tomorrow's doctors' guidance. A joint working group between the HSC's advisory group for the healthcare services and the Council for Medical Schools was set up to draft objectives for the GMC and to outline the guidance for medical schools (from Agency's 'Learning about OSH' seminar: http://osha.europa.eu/publications/forum/8/forum8_en.pdf/at_download/file).

The University Health and Safety Advisors (USHA) Student Health and Safety Working Group provide a forum to discuss, consult and promote Student Health and Safety in Higher Education. It encourages further investigation and development including coordination and cooperation with external bodies such as the Health and Safety Executive, Industry and other associated institutions.

Coverage of occupational health and safety on full-time MBA courses in GB business schools

'The researchers suggest that the only practicable way to encourage consideration of occupational health and safety in MBA programmes would be the development of high-quality case study materials that meet the needs of business schools for the presentation of 'core' subjects. These case studies could incorporate, more explicitly than hitherto, the challenges of occupational health and safety management. The objective would not be that MBA students graduated with a plethora of occupational health and safety facts and figures; rather that they left with a clear recognition that occupational health and safety should be managed with the same determination, and with the same insights, as any other key business objectives.'



Supporting activities, programmes and projects

Revitalising health and safety (RHS) — incorporating risk education into the national OSH strategy

RHS is a 10-year strategy to improve health and safety at work, launched jointly by the government and Health and Safety Commission on 7 June 2000. It contains three elements: a set of improvement targets for Great Britain, a 10-point strategy and 44 action points to improve health and safety. The strategy includes two action points concerning integration of health and safety issues into the education, including:

- health and safety in the national curriculum;
- health and safety in further and higher education.

National curriculum — revitalising action point 33

With respect to the national curriculum, the objective is to include more extensive coverage of risk concepts and health and safety skills at every level. Achievements under this objective include the following.

- Since the start of the 2000 academic year, risk concepts and health and safety have been included in the national curriculum for England in five subject areas. Joint guidance on the new general teaching requirement for health and safety was produced by the QCA and HSE and is included as an appendix in the DfES 'Safety education guidance for schools' publication (DfES/0161/20002).
- A small portfolio of risk teaching has been developed for teachers.
- 'Risk education provision: A study of schools in England, Scotland and Wales'. The main objectives of this report were to: identify the current stakeholders that influence primary and secondary education; identify any documentary guidance that may be produced by those stakeholders and; assess the risk education content of relevant documents (see http://www.hse.gov.uk/research/hsl_pdf/2005/hsl0524.pdf).
- 'Teaching practice in risk education for 5–16 year olds': The main objective of this report was to provide insight into issues surrounding the delivery of risk education in state schools in England, Scotland and Wales. This objective was addressed by a series of comparative case studies (http://www.hse.gov.uk/research/hsl_pdf/2005/hsl0523.pdf).

Next steps to be taken include the following.

- Work to consolidate the quality of teaching risk concepts now established in English curriculum.
- Work commenced with OGDs, English, Welsh and Scottish intermediary organisations to support teachers and lecturers through provision of additional guidance, videos, CD ROMs, posters and web-based teaching materials; research proposals to establish risk concept learning patterns and the effects of different health and safety teaching approaches are being developed.

Further and higher education — revitalising action point 34

The action point concerning further and higher education states that the government and the Health and Safety Commission will act to ensure that safety-critical professionals such as architects and engineers receive adequate education in risk management. This will be delivered through a programme of direct approaches to relevant higher and further education institutions and professional institutions.

Achievements under this objective include the following.



- HSE initiatives for raising levels of risk awareness among safety critical professionals mapped.
- Consultative meetings with internal and external stakeholders held.
- The research project investigating provisions of risk management teaching in construction has been completed.
- Research proposals have been developed to support a strategic approach to increasing levels of risk education in further and higher education. HSE is now funding a research project at the University of Liverpool to develop a set of risk education learning outcomes for inclusion in the curriculum of an undergraduate engineering degree course. The success of their delivery will be evaluated and the project team will investigate how to promote the new syllabus to other universities (see http://www.hse.gov.uk/research/hsl_pdf/2006/hsl0661.pdf).
- HSE is a member of the inter-institutional group on health and safety for major engineering institutions and the universities offering engineering degrees. The group is seeking to embed risk management techniques into undergraduate engineering courses by introducing concepts of proportionate risk control. With HSE funding the group has developed a 'sample' CD e-learning package to teach undergraduate engineers of all disciplines about the key concepts relating to health and safety risks (<http://www.hse.gov.uk/research/rrhtm/rr482.htm>).

Next steps to be taken include the following.

- Effective approaches to risk education of safety critical professionals being identified.
- Research findings in the construction sector being implemented. Further research proposals are being developed to support a strategic approach to increasing levels of risk education in further and higher education.
- A project board that included Directorate-General, Head of Field Operations and Chief Scientist has agreed a HSE policy statement on risk teaching for safety critical professionals. The responsibility for coordinating the implementation of this policy has been accepted by CoSAS (Corporate Science and Knowledge Unit).

Further information:

HSE, revitalising health and safety (<http://www.hse.gov.uk/revitalising>) and progress so far: <http://www.hse.gov.uk/revitalising/rhs.pdf>

Health and safety executive risk education programme

In 2000 HSE set up a risk education programme of work to identify and influence the degree to which risk management techniques are taught in schools and other educational establishments, including universities. The programme has consisted of four projects:

- raising risk awareness at every level;
- raising risk awareness levels among particular groups;
- providing risk education support materials;
- information gathering.

The findings from these four projects have also been reviewed in the context of the wider 'sensible risk debate' that is taking place in the UK. Some examples of the various initiatives and research are given below (see Appendix 6 for more information about the HSE risk education programme).



Examples of activities in the health and safety executive risk education programme	
Risk education provision: survey	A survey of schools in England, Scotland and Wales (Report HSL/2005/24) to collect baseline data on the extent of risk education in schools.
Study on 'Teaching practice in risk education for 5 to 16-year-olds'	The objective of the study 'Teaching Practice in Risk Education for 5 to 16-year-olds' (Report HSL/2005/23) was to examine how risk education is provided in schools (state schools in England, Scotland and Wales) including teaching staff's understanding of risk concepts and what guidance is needed. The report concludes that further research and guidance for teachers is needed on how to approach the teaching of risk concepts.
The 'Lifeskills — Learning for living' programme	The 'Lifeskills — Learning for living' programme is an interactive hands-on approach that was developed to teach safety skills to children (10 to 11 years). It improves their awareness of potential dangers, knowledge, self-confidence in dealing with risks, and performance of safety routines.
Evaluation of the risk education website for secondary-aged students (www.risk-ed.org)	The HSE and the Chemical Industry Education Centre have developed a risk education website for 11 to 18-year-olds. The website aimed to raise awareness of risk issues, improve understanding of statistics when comparing risks and to allow practical application of risk management skills through discussion of case studies. The website can help cover risk concepts and health and safety in school curricula more extensively.
Risk education in engineering: the development of a new syllabus	The overall aim of this project was to provide background information for further actions to ensure that 'safety-critical professionals receive adequate education in risk management' (Health and Safety Commission (HSC) strategic plan 2001/04). The content of risk education varies in higher education courses and is not always proportional to the level of risk that students could experience and would have to manage in their future working life. Specific aims included: <ul style="list-style-type: none"> ■ developing a list of risk education learning outcomes based on stakeholders' needs (e.g. engineering institutions and employers); ■ providing information on how these can be integrated into an engineering undergraduate syllabus; ■ developing a questionnaire that can be used to assess students' risk awareness; ■ considering what further work will be required for this syllabus to be taught in practice
Identification and management of risk in undergraduate construction courses	This study looked at the delivery of health and safety teaching at universities and schools of architecture that provide undergraduate construction courses. The study confirmed the need for better delivery of health and safety teaching. It also identified a need to develop teaching material and useful information in this subject.

Workplace hazards qualification

The HSE in partnership with the Institution of Occupational Safety and Health (IOSH), British Safety Council Awards (BSC Awards) and ENTO have developed a workplace



hazard awareness course and qualification and associated teaching materials. HSE helped to coordinate this activity as part of its contribution to the European Agency for Safety and Health at Work's focus on young people in 2006.

The course and qualification aims to provide Year 10 students with a basic understanding of health and safety in the workplace, so that they understand hazards, and what to expect of their employer. All schools in England have been notified about the qualification and course through Spectrum, a newsletter for schools and website (see <http://www.teachernet.gov.uk>).

The Workplace Hazard Awareness Qualification at entry level 3 is based on the new national occupational standard for basic hazard awareness developed by ENTO. It allows students to demonstrate their awareness of workplace hazards and how they can prevent harm by supporting the delivery of:

- the general teaching requirement for health and safety in the national curriculum; and
- the national curriculum's non-statutory guidelines for key stage 4 for work-related learning which require students to be able to describe the main hazards associated with particular types of workplace.

Teaching materials to support the qualification have been produced by IOSH and are free to schools and colleges. The materials are accessible for students to work online and have been piloted in schools in England to ensure they meet the needs of teachers and students.

The BSC Awards qualification has been accredited by QCA for 14 to 16 learning. Qualification details can be found on: www.openquals.com

Further information:

www.teachernet.gov.uk

www.wiseup2work.co.uk

www.openquals.com

Partnership activities by the Health and Safety Executive

HSE has engaged with key stakeholders in education (particularly the QCA, Learning and Skills Council, and ENTO) to develop:

- new initiatives targeted at over 14s and the further education sector;
- better guidance on work experience;
- new ways to raise awareness of basic health and safety issues.

Resources from the Health and Safety Executive

The Health and Safety Executive website contains a section on risk education with a number of resources to support educational activities (<http://www.hse.gov.uk/education/resources.htm>).

They also have resources related to the safety of work experience placements (<http://www.hse.gov.uk/youngpeople/workexperience/index.htm>).

RoSPA activities

RoSPA (Royal Society for the Prevention of Accidents) has produced a range of printed and other resources that are designed to enable teachers and others to empower children to develop appropriate knowledge and skills to remain safe in any environment. They have produced curriculum-linked teaching materials for all ages from pre-school



to secondary. These include A3/A4 activity sheets produced termly, two for each phase — infant, junior and secondary. These feature illustrations, facts and figures with teaching notes highlighting curriculum links and ideas for classroom use and relevant websites.

RoSPA has also set out a 'vision' for more effective education about safety and risk for all, with the aim of promoting effective safety and risk education relevant to all levels in society, throughout compulsory education, in the workplace and among educators, significant safety professionals, the media and policymakers. The eight-point vision covers: a focus on an understanding of risk in safety education; more research into how people learn about risk; government support for training adults with responsibility for teaching about risk and safety and for teaching safely; integration of safety and risk education into the statutory and non-statutory curriculum; a whole-school approach to safety and risk; inspection of safety and risk education and policy; partnerships to achieve consistency and avoid duplication; and developing and sharing the evidence base for effective practice. (The RoSPA 'vision' is given in given in Appendix 7.)

For further information about RoSPA's activities see the website (<http://www.rospace.com/shop/safetyeducation/index.htm>).

RoSPA, the Personal Social and Health Education Association and the Department for Children, Schools and Families have collaborated to produce a review of the literature available on effective safety education. The findings have been summarised as 10 principles for effective safety education, as follows.

1. Encourage the adoption of, or reinforce, a whole school approach, within the wider community.
2. Use active approaches to teaching and learning (including interactive and experiential learning).
3. Involve young people in real decisions to help them stay safe.
4. Assess children and young people's learning needs.
5. Teach safety as part of a comprehensive personal social and health curriculum.
6. Use realistic and relevant settings and resources.
7. Work in partnership.
8. Address known risk and protective factors.
9. Address psychosocial aspects of safety e.g. confidence, resilience, self-esteem, self-efficacy.
10. Adopt positive approaches which model and reward safe behaviour, within a safe, supportive environment.

For more detail, see <http://www.rospace.com/safetyeducation/principles.htm>

IOSH activities

The safety professionals' organisation, IOSH, has produced a range of resources to support risk education and is actively promoting safety education in the school curriculum. The resources available on their website include the interactive website *Wiseuptowork*. This website includes resources for young people and support for teachers that is compatible with the school curriculum. IOSH also has a six-point plan for better health and safety for young workers which covers: teacher training; a mandatory workplace hazard awareness course; competent risk assessment of workplaces providing work experience; workplace supervision; accident reporting; and prioritisation of risk education by the government. (The IOSH six-point is reproduced in Appendix 7.)

Further information:

Wiseuptowork website: <http://www.wiseup2work.co.uk>



Case 19 in 'A safe start for young workers in practice':

<http://osha.europa.eu/publications/reports/GPB06>

News release on young worker safety:

<http://www.iosh.co.uk/index.cfm?go=news.item&id=675>

Putting young workers first:

<http://www.iosh.co.uk/files/news/putting%20young%20workers%20First%202006.pdf>

Safe swimming

Resources and guidance are provided by the National Qualifications and Curriculum Authority (<http://www.nc.uk.net/safeswimming>).

Further information

- Health and Safety Executive: <http://www.hse.gov.uk/education>
- Eurydice website (England, Wales and Northern Ireland): <http://eacea.ec.europa.eu/portal/page/portal/Eurydice/ByCountryResults?countryCode=UN>
- National curriculum of England: <http://www.nc.uk.net>
- National curriculum requirements: general teaching requirements: http://www.nc.uk.net/nc_resources/html/health.shtml
- 'Wired for health' safety pages: <http://www.wiredforhealth.gov.uk/cat.php?catid=904&docid=7572>
- 'Wired for health': summary of health and safety curriculum requirements: <http://www.wiredforhealth.gov.uk/cat.php?catid=904&docid=7571>
- DfES — Department for Education and Skills (England): <http://www.dfes.gov.uk>
- DfES — The Safety Education Guidance leaflet: <http://www.teachernet.gov.uk/docbank/index.cfm?id=1314>
- Health and Safety Executive risk education pages: <http://www.hse.gov.uk/education>
- Learning and Skills Council: <http://www.lsc.gov.uk>
- Healthy schools: <http://www.healthyschools.gov.uk>
- RoSPA safety education pages: <http://www.rospa.com/safetyeducation/index.htm>
- RoSPA article on safety education in the national curriculum: <http://www.rospa.com/safetyeducation/curriculum/opportunities.htm>
- IOSH 'Wiseuptowork' resources: <http://www.wiseup2work.co.uk>



European Agency for Safety and Health at Work

WORKING ENVIRONMENT INFORMATION



EU NETWORKS

As the EU does not have a harmonised education policy, and including OSH in education is a new and developing area, networking between Member States on the issues can be very useful in order to share examples and experience.

There are at least two relevant networks at the EU level: the European Network Education and Training in Occupational Safety and Health, and the European Network for Health-Promoting Schools.

ENETOSH

The European Network Education and Training in Occupational Safety and Health (ENETOSH) is a Europe-wide network of experts in education as well as in occupational safety and health. Its aim is to facilitate the exchange of knowledge and experience in education and training in OSH and risk awareness. ENETOSH considers that safety and health should be an inherent part of lifelong learning, and therefore the network covers all levels of education and training from school to the workplace. Currently the core network consists of 13 partners from 10 countries and cooperates with the European Agency for Safety and Health at Work, Cedefop, the social partners and related networks. ENETOSH was established with funding from the EU's Leonardo da Vinci project.

The aims of ENETOSH are:

- to exchange knowledge and experience in education and training in OSH and risk awareness;
- to facilitate transnational exchange and use of good practice;
- to support the development of a coherent European strategy on how to integrate OSH into education and training systems and practices.

The website includes examples of good practice taking place in the Member States, a database of courses and activities, and links to resources in the form of a toolbox.

Further information:

- Proceedings of International Symposium on Youth and Work Culture 2005, ENETOSH (European Network Education and Training in Occupational Safety and Health), U. Bollmann, S. Copey and C. Junge: <http://www.ttl.fi/NR/rdonlyres/06A71996-69E3-4CD8-9033-F99BAD191ECA/0/bollmannweb.pdf>
- ENETOSH website: <http://www.enetosh.net>

EUROPEAN NETWORK FOR HEALTH PROMOTING SCHOOLS

The European Network for Health Promoting Schools (ENHPS), set up by the World Health Organisation, the European Union and the Council of Europe, aims to achieve healthy lifestyles for the whole school population by developing supportive environments for the promotion of health. Therefore the focus is on the entire organisation of the school as well as on the individual. It offers opportunities for, and requires commitment to, the provision of a safe and health-enhancing social and physical environment. Through its website it provides resources for health promotion in schools.



Because the determinants of education and health are indivisibly linked, the programme seeks to integrate the policy and practice of the health-promoting school into the wider health and education sectors. It works at three levels: school, national, and international. But its primary focus is the school pupil. More than 40 countries in the European Region are members of the ENHPS.

ENHPS (European Network for Health Promoting Schools) website:
<http://www.euro.who.int>

ROLE OF THE SOCIAL PARTNERS

Employers and trade unions do not have the same level of formal involvement in determining the national education agenda as they do for occupational health and safety, where the importance of a tripartite approach in determining policy and practice is strongly recognised. Nevertheless, the social partners are well aware of the benefits of mainstreaming OSH into education for workplace health and safety. As mentioned in the section on European policy, at the European level the European Commission's tripartite Advisory Committee on Safety and Health at Work (ACSH) has set up a temporary working group on education and training to explore the issues in the context of the European safety and health strategy.

There are also many examples of activities undertaken by employer and trade union organisations to promote the inclusion of OSH in education at the national level. A few examples follow.

BUSINESSEUROPE working group on education and training

The Federation of the European Employers, BUSINESSEUROPE, has a working group on education and training. Further information: <http://www.buinesseurope.eu/Content/Default.asp?PageID=418#sociales>

Trade union involvement in pre-employment education in the UK: 'A better way to work'

In the UK the national trade union body, the TUC, has been actively involved in developing materials on various work-related issues for use in schools. *A better way to work* is an education resource pack for 14 to 19-year-olds. The pack supports activities which help teachers prepare students for work experience and other work-related learning. It has been designed to fit in with statutory schooling requirements, curricula and teaching methods. The pack is divided into five sections which deal with: the role of trade unions; rights and responsibilities; health and safety; equal opportunities; and the future of work. The health and safety unit aims to introduce young people to the legal position in relation to rights at work, raise a number of questions for discussion around rights and responsibilities, both at work and on work experience placements, and provide opportunities for young people to work with trade unionists in the classroom. The pack includes activities for role play and work assignments. While designed to support the preparation of students for work experience, they are flexible enough for use in other parts of the curriculum. For example, the activities can also be useful in supporting and developing students' knowledge and understanding of citizenship.

In a separate initiative the TUC has also proposed that touch typing and keyboard skills should be taught in schools, to help reduce the incidence of musculoskeletal disorders.



Keyboard skills are not a statutory part of the national curriculum, although individual schools can decide to introduce them. Further information:

- Raj Jethwa, 'A better way to work', in *Agency Magazine*, No 9 — *Safe Start*, 2006:
<http://osha.europa.eu/publications/magazine/9>
- <http://www.tuc.org.uk/schools>
- www.tuc.org.uk/youngpeople
- Teaching children keyboard skills: http://www.tuc.org.uk/h_and_s/tuc-12997-f0.cfm

'Facket i sommarland': Sweden

This annual activity by trade union LO is to support students taking up summer jobs. The campaign activities by LO include visits to schools, visits to workplaces and a telephone helpline. Part 1 of the campaign involves schools; during the spring representatives from the 17 LO union districts visit schools and distribute the brochure *JOBBA!*, which contains information on working life, including OSH. Further information:

- Case 15 in *A Safe Start for Young Workers in Practice*:
<http://osha.europa.eu/publications/reports/GPB06>
- LO website: <http://www.lo.se/ung>

Tool to support the promotion of OSH in schools: Spain

Confebask, the employers' organisation in the Basque region, has developed resources on OSH for schools. Risk@ is aimed at 6 to 10-year-olds to help the development of awareness and good safety behaviour. It takes the form of a multimedia pack with two cartoon characters, Risko and Riska. Further information:

Confebask website:

<http://www.confebask.es/castellano/Notasprensa/2006/20060331-np.htm>



European Agency for Safety and Health at Work

WORKING ENVIRONMENT INFORMATION



**INCLUSION OF HEALTH AND SAFETY IN
NON-EU COUNTRY EDUCATION
CURRICULA — SOME EXAMPLES**

Some examples of activities to mainstream OSH into the education curriculum from countries outside of the EU are given below.

‘Getting students to work ... safely’ manual, Curriculum Corporation, Australia

Schools in Australia are increasingly incorporating work-related learning experiences and programmes into their curricula, particularly during the latter part of the compulsory years. There are a significant number of resources and initiatives currently in place at the state and territory level, making OSH education available to teachers and students. Year 10 students in most schools undertake a work experience programme of one to two weeks, and VET programmes. Structured work placements have grown. A number of senior secondary courses include practical work experience. Government departments of education in many jurisdictions provide comprehensive manuals and guidelines on teaching students about safety, and how to learn safely in workplace settings.

To support this process the Curriculum Corporation on behalf of the Australian Safety and Compensation Council have prepared a manual, ‘Getting students to work ... safely’. This document outlines six key principles for teaching health and safety to students preparing to enter the workplace and provides references for educators to relevant resources in each state and territory. The guiding principles are aimed at educators and education policymakers and are as follows:

1. Whole-school approach
2. Content of school programmes — developing knowledge and understanding
3. Content of school programmes — developing skills, attitudes, values and behaviours
4. Innovative and interactive teaching and learning strategies
5. Post-work experience debriefing
6. Programme evaluation and ongoing improvement

The manual advocates that to be effective OSH learning must take place within a comprehensive, whole-school approach (guiding principle 1). In this whole-school approach, the shared responsibility for — and crucial importance of — OSH education should be reflected in the school’s curriculum, structures, policies and procedures. The whole school community — parents, teachers, administrators, students and local stakeholder groups — helps to develop the sort of attitudes, values and behaviour that promote OSH. The manual points out that it is not realistic to expect that teaching OSH prior to work experience will in itself be sufficient to develop knowledge, understanding and the ability to transfer learning. An integrated, incremental, on-going approach that incorporates a range of strategies is likely to be more effective.

This whole-school approach to OSH education devises programmes and learning opportunities about OSH education in the workplace (in an actual or simulated work environment), and for the workplace (to enable students to develop and apply their skills and abilities in the workplace and not only in a school or classroom context).

The manual promotes the incorporation of OSH into two key learning areas in the Australian curriculum as being particularly relevant.

- Health and physical education (HPE) as it embraces health and safety aspects, especially within strands that focus on self and relationships and individual and community health.



- The study of society and environment (SOSE) as it deals with the world of work, often within an economics or commerce strand. A number of learning outcomes within the SOSE key learning area include a focus on a broad range of work-related issues including workplace safety, employment, technology-induced changes to work and vocational pathways.

In addition to HPE and SOSE, other key learning areas such as technology, science and some strands in the arts offer opportunities to include OSH as a planned component of their learning activities.

The manual points out that teachers would benefit from professional development (particularly those with direct responsibility for work placement programmes) to help them recognise and integrate OSH issues into their teaching programmes. Specifically, professional development that assists the educator to ensure a healthy and safe learning environment, including the knowledge and skills to deal with hazards and risks and to apply risk control strategies to ensure the safety, health and welfare of the learners whilst at school or in the workplace.

The manual suggests a number of approaches to making OSH learning a whole-school approach.

- Possible whole-school themes include:
 - promoting a safe school environment that encourages health and safety awareness among students and staff;
 - encouraging students to take responsibility for their actions;
 - encouraging participation by, or consultation with, teachers, students, parents/carers, employers of students and the wider community.
- Identify the teaching of OSH as an integral part of mainstream curriculum.
- Encourage students to identify and discuss issues related to OSH within the school community and to promote conditions supportive of OSH.
- Work with a range of teachers in developing programmes to ensure the whole-school approach is valued and implemented.
- Collaborate with a OSH-conscious workplace to heighten the awareness of both the school and the workplace.
- Not only does the manual have 'OSH lessons', but it also incorporates OSH learning activities and examples into a range of teaching contexts. For example, an oral communication activity in an English class might use an OSH consultation as a scenario. A role-play in a drama class might explore issues such as manual tasks and the impact of work-related injuries on family and friends.

Further information:

- 'Getting students to work... safely': <http://www.ascc.gov.au/NR/rdonlyres/C4B819CF-36D5-41F7-80F5-F44601953209/0/SchoolToWork2006.pdf>

Resources from other Australian states related to the OSH learning as part of the curriculum:

- NSW agricultural technology (Years 9 and 10): http://www.boardofstudies.nsw.edu.au/syllabus_sc/pdf_doc/ag_tech_710_syl.pdf
- Work education (Years 7 to 10 Syllabus): http://www.boardofstudies.nsw.edu.au/syllabus_sc/pdf_doc/work_education_710_syl.pdf
- NT 'Safe start': <http://www.worksafe.nt.gov.au/prevention/docs/safestart.pdf>
- Vic. safe@work: <http://www.sofweb.vic.edu.au/safe@work>
- Curriculum Council: <http://www.curriculum.wa.edu.au/>



‘WorkSafe smart move’ (Department of Consumer and Employment Protection, State of Western Australia), Australia

States in Australia have been promoting risk education and OSH in the school curriculum and developing supporting resources. One example comes from the Department of Consumer and Employment Protection in the State of Western Australia.

They have provided schools with ‘WorkSafe smart move’, which is a safety and health Internet resource package for years 10, 11 and 12 high school students undertaking work experience and work placements. ‘WorkSafe smart move’ includes interactive student centred activities designed to encourage flexible, self-paced learning and self-motivation. Designed to be in line with the Curriculum Framework, the package is directly relevant to secondary school courses that specify occupational safety and health outcomes (industry-related studies, work studies, career and industry awareness) and is particularly relevant to the increasing number of students undertaking courses where learning in the workplace is part of the curriculum.

‘WorkSafe smart move’ is also directly related to health and physical education; society and environment; and technology and enterprise learning areas of the Curriculum Framework. Supplementary activities included in ‘WorkSafe smart move’ are also related to the arts and English learning areas of the curriculum framework. Students are expected to work through a module, reading and studying the information under various topic headings, prior to undertaking the self assessment questions that follow.

‘Worksafe smart move’ consists of:

- the Curriculum Framework — indicating the curriculum framework outcomes that are relevant to WorkSafe Smart Move;
- a general module — designed mainly for year 10 students to introduce important facts about safety laws and common hazards;
- a review module — that allows year 11 and 12 students to refresh their memory before they complete one or more industry modules;
- industry modules — which contain more detailed information on the main hazards specific to each industry. Although aimed at years 11 and 12, these can be completed by younger students as they become relevant to students’ part-time work or work experience placement, either in class or in their own time;
- multiple choice tests — with separate tests for the General module and each industry module, to complete on the Internet;
- workSafe smart move certificates — for the general module and each industry module signed by the Minister for Consumer and Employment Protection that can be printed off the Internet when students have passed the tests. The certificates recognise their understanding of basic occupational safety and health information and can be kept in their portfolio.

Further information:

- ‘WorkSafe smart move’ resources:
<http://www.safetyline.wa.gov.au/pagebin/edcnwssm0160.htm>
- How ‘WorkSafe smart move’ relates to the Curriculum Framework:
<http://www.safetyline.wa.gov.au/pagebin/edcnwssm0198.htm>



NIOSH youth safety curriculum, USA

NIOSH (the US National Institute for Occupational Safety and Health) has launched 'Youth@work: Talking safety', a foundation curriculum in occupational safety and health. It is part of a strategic NIOSH programme of scientific research, outreach, and partnering for safe and healthy work for adolescents.

'Talking Safety' is a comprehensive curriculum consisting of six modules, student handouts, overheads, a PowerPoint slide show, video, and interactive activities. It also includes references to resources for more information. This curriculum is meant to be used in a classroom or other group training setting. It aims to raise awareness and equip students to become partners in workplace safety and health. The curriculum is available to schools at no charge from NIOSH. The curriculum is customised for each state and Puerto Rico to reflect state-specific rules and regulations for preventing work-related injuries among young workers.

The curriculum is the culmination of many years' work by a consortium of partners dedicated to reducing occupational injuries and illnesses among youth. It builds on earlier curricula developed by the Labor Occupational Health Program (LOHP) at the University of California, Berkeley, and by the Education Development Center, Inc. (EDC) in Newton, Mass. Those earlier programmes were produced under grants from NIOSH as well as from the Occupational Safety and Health Administration, the Massachusetts Department of Industrial Accidents, the Maternal and Child Health Bureau in the US Health Resources and Services Administration, and Liberty Mutual Insurance Company.

NIOSH and its partners developed the activities in the new curriculum in consultation with numerous teachers and staff from general high schools; with school-to-work, work-experience, and vocational education programmes; and with the California 'WorkAbility' programme, which serves students with cognitive and learning disabilities. The activities have been extensively pilot tested, used, and evaluated by numerous high school teachers, job trainers, and work coordinators around the country to teach youth important basic occupational safety and health skills.

Major topics under the curriculum include raising awareness of safety and health risks for young workers, recognising workplace hazards, understanding options for controlling hazards, dealing with emergencies, understanding one's rights and responsibilities as a working teen, and empowering the young worker to communicate with his or her employer about occupational safety and health.

The initiative is part of a strategic NIOSH programme of scientific research, outreach, and partnering for safe and healthy work for adolescents.

Further information:

- Youth@work: Talking safety: www.cdc.gov/niosh/talkingsafety
- More information on the curriculum: <http://www.cdc.gov/niosh/updates/upd-10-15-07.html>
- NIOSH web pages on youth: www.cdc.gov/niosh/topics/youth

'Student WorkSafe', 'WorkSafe British Columbia', Canada

Many initiatives on mainstreaming OSH into education are taking place in the different provinces of Canada. For example, 'Student WorkSafe' is a classroom safety resource for teachers delivering CAPP (Current grades 11 and 12 students still under the 1995



graduation programme) and personal planning (kindergarten to grade 9 students). The materials include age appropriate scenarios and activities that help students develop a strong safety attitude in their approach to tasks and chores at school, at home, and in the community.

This comprehensive kindergarten- to- year 12 health and safety curriculum was developed by teachers for teachers. It was initiated by the Workers' Compensation Board of British Columbia, Canada.

Further information:

- Student WorkSafe: <http://www2.worksafebc.com/Topics/YoungWorker/Resources-Educators.asp>

Prevention of school risks: a manual for general, basic education level. The Chilean Association for Safety (ACHS), Chile

The ACHS is a private corporation. Together with the Ministry of Education, it has developed a complete programme orientated at the development of safe behaviour in children and young people. It was developed within the context of a 'Convention of joint technical collaboration on the development of a preventive culture in children and young people' which exists between the ACHS and the Ministry of Education. This agreement made in 2003 establishes, among other things, that: the two partners will develop activities on risk education; the ministry will disseminate and promote activities on OSH in education; the ACHS will produce manuals to support active learning activities on OSH in education.

Supreme Decree 14, 1984, 'the extent of education' makes the teaching of the rules, practice and principles of risk prevention in education establishments obligatory.

The ACHS and the ministry have also established a commission that will make a plan of action to prevent risks in education, starting at the level of general, basic education. Therefore, the manual, structured in terms of a series of teaching modules, aims to impart general learning about safety within the context of developing a safe learning environment and safe behaviours of children when at school.

Further information:

- ACHS: <http://ww3.achs.cl/ws/wps/portal>



European Agency for Safety and Health at Work

WORKING ENVIRONMENT INFORMATION



**GLOBAL POLICIES,
STRATEGIES AND INITIATIVES**

There is international agreement on the importance of mainstreaming OSH into education. The International Labour Organisation and the International Social Security Association (ISSA) are two organisations that have specifically addressed the issue.

ILO Convention 155

The role of education and training as a powerful tool for developing a sustainable safety and health prevention culture is recognised at the international level in the International Labour Office (ILO) Convention 155 concerning Occupational Safety and Health and the working environment, which was adopted in 1981. The convention identifies the main spheres of action in national policies on occupational safety, occupational health and the working environment. One of these spheres of action is training, including necessary further training and qualifications for those involved in the area of safety and health.

Article 14 of the convention specifically addresses the mainstreaming of OSH into education: 'Measures shall be taken with a view to promoting in a manner appropriate to national conditions and practice, the inclusion of questions of occupational safety and health and the working environment at all levels of education and training, including higher technical, medical and professional education, in a manner meeting the training needs of all workers.'

The Member States that have ratified or are in the process of ratifying the convention include: the Czech Republic, Cyprus, Denmark, Finland, Hungary, Ireland, Latvia, Luxembourg, the Netherlands, Portugal, Slovakia, Slovenia, Spain and Sweden.

ILO Convention 155 is available on the website (<http://www.ilo.org/ilolex/cgi-lex/convde.pl?C155>).

Quebec City Protocol

The International Social Security Association (ISSA) International Section on Education and Training for Prevention has drawn up a protocol for the integration of occupational health and safety competences into vocational and technical education. Numerous international governmental agencies were involved in this collaborative development. It was presented during the second seminar of the International Seminar on Occupational Health and Safety Training that took place in Quebec City, Canada, on October 2003. This protocol 'provides a framework for cooperation between the institutions responsible for the prevention of industrial accidents and occupational diseases and those responsible for education. It defines the principles and measures associated with a concrete process that is designed to integrate occupational health and safety into vocational and technical education and that involves joint undertakings.'

The Quebec City Protocol for the integration of occupational health and safety competences into vocational and technical education is available at: <http://education.prevention.issa.int/Protocole%20Anglais.pdf>

See also: <http://education.prevention.issa.int/product/publication.htm>

World Health Organisation

WHO child health strategy and Children's Environment and Health Action Plan for Europe (CEHAPE)

CEHAPE is a document for policymakers addressing the environmental risk factors that most affect the health of European children. It was developed at the request of Member



States and adopted by European Ministers at the Fourth Ministerial Conference on Environment and Health (2004) on 'The future for our children'. This action plan highlights the main commitments on children's health and environment and focuses on four regional priority goals (RPGs) for Europe:

- RPG I — Ensure safe water and adequate sanitation
- RPG II — Ensure protection from injuries and adequate physical activity
- RPG III — Ensure clean outdoor and indoor air
- RPG IV — Aim at chemical-free environments.

By addressing environmental risk factors, CEHAPE covers two of the seven priorities within the comprehensive World Health Organisation (WHO) European strategy on child and adolescent health and development. Participating countries have included the healthy school environment among their activities; for example, see the section on Sweden.

The European office of the WHO also has a dedicated website on children's health and environment. Associated activities include their 'Train the trainers' initiative: international training workshops to enable professionals dealing with children and adolescents to take appropriate action on environmental risk and diseases.

Further information and examples of CEHAPE country activities:

<http://www.euro.who.int/childhealthenv>

'International safe schools designation' programme

The 'International safe schools designation' programme is part of WHO's 'Safe community' programme and promotes a whole of school approach to all safety issues. The programme works through collaboration and partnership and the dedicated website sets out the policies and provides resources.

International 'safe schools' have:

- an infrastructure based on partnership and collaborations, governed by a group of teachers, pupils, technical staff and parents that is responsible for safety promotion in their school; the group should be chaired by a school board (representative of school policy governance body) representative, with the headmaster as a co-chair (hereinafter the 'Safe school committee');
- 'safe school' policies decided by the safe school committee and community council in a safe community setting;
- long-term, sustainable, operational school programmes covering both genders and all ages, environments, and situations;
- programmes that target high-risk groups and environments, and programmes that promote safety for vulnerable groups;
- programmes that document the frequency and causes of injuries — both unintentional (accidents) and intentional (violence and self-directed);
- evaluation measures to assess school policies, programmes, processes and the effects of change;
- ongoing participation in 'safe schools' networks — at community, national and international levels.

Further information: International safe schools programme:

<http://www.intlsafeschools.com>





**DISCUSSION, CONCLUSIONS
AND RECOMMENDATIONS**

The need for a cross-curricular approach and experience-oriented learning

The provision of resources and campaigns to teach about safety and risk, although necessary, are not sufficient to ensure that OSH and risk education are provided in a systematic and consistent way in schools. The topic also needs to be embedded in education curricula, using an integrated approach across the curriculum that focuses on acquiring the relevant skills.

Previous activities by the European Agency for Safety and Health at Work on mainstreaming occupational safety and health (OSH) into education found that integrating safety and health into the school curriculum and the vocational education curriculum is a major task. It was also observed that the way this task is carried out has changed over the past 20 years. Currently, the way OSH and risk education are included in the curriculum is mainly based on:

- integrating OSH as a cross-cutting theme into different subjects and throughout different educational levels — OSH is no longer a topic primarily dealt with in science classes, but can also form part of teaching languages and literature, for example;
- developing key competences in OSH in pupils and students — the focus has moved from ‘teaching’ OSH knowledge in a ‘one-way-system’ to experience-oriented learning and dialogue between pupils and students and their teachers.

This review confirms the previous findings regarding the extent of the task of mainstreaming OSH into education curriculum and the approach being taken.

Mainstreaming OSH into core curriculum competences

A significant reason why these approaches are being taken is that this is the direction in which educational approaches and methods have moved in general. Currently in education the objectives of learning include acquiring skills, abilities, attitudes and behaviours, not purely memorising information. Curricula are based around core subjects in which various topics can be included and around the development of competences by pupils: for each topic and at each educational stage the competences and developmental goals to be achieved are set, covering attitude, knowledge and behavioural outcomes.

Regarding the inclusion of OSH in the school curriculum; firstly, there is limited room in the timetable for additional core subjects, so it is unrealistic to think that education ministries would make risk education a core subject. Secondly, good health and safety is a practical matter — knowledge has to be applied. So the learning is often more meaningful and the lesson better learnt if it is applied to another real and meaningful situation, such as safety issues in physical education, the use of computers or other practical activities. Thirdly, topics related to matters such as developing responsibility and acting as a good citizen have become part of the core curriculum. It is important that children develop such values in relation to OSH, especially in order to promote a safety culture at work. Fourthly, OSH is often perceived to be a rather dull topic. However, there is an opportunity to make it more interesting by, for example, making it the subject of painting tasks or poetry or imaginative essay writing.

Where safety education takes place in schools its focus is increasingly on the understanding of risk and the development of related skills — identification of hazards and assessment of risk by pupils, and knowing what to do and acting appropriately



where risk is identified. This is compatible with the principles of OSH legislation and the development of a safety culture.

Education world must be persuaded of the importance of OSH

In the OSH arena it is well recognised that the safety and health of tomorrow's workforce depends partly on the mainstreaming of OSH into their education and that it is an essential part of developing a safety culture in the workplace. Therefore OSH authorities are becoming increasingly active in trying to find an appropriate and permanent place for OSH within the school curriculum. Of course, one of the major tasks is to convince those setting the curriculum of its importance, especially given all the different parties who will be advocating for the inclusion of their topic in the packed school timetable.

Progress differs between education levels and between Member States

Progress is being made in integrating OSH into school curricula at all levels, including vocational education and university courses. But progress is not the same at all ages and study levels. While Member States are following broadly similar approaches regarding how and where OSH can be included in the curriculum, they are in different stages of achieving this goal.

Member States currently differ in: the extent that OSH-related objectives are included in the learning objectives for core subjects; the extent to which its teaching is obligatory; the amount of support available for teachers in terms of both explicit instructions and guidelines related to risk education and the curriculum and resources for delivering classes; and the training available for teachers.

OSH education in national OSH strategies

As seen with the European Community OSH strategies, some OSH authorities have made the task of establishing risk education in the education curriculum an important and visible part of their national OSH strategy. Ireland is an example of a Member State that has given significant prominence to OSH in education in their OSH strategy and work programme by placing education and training at the heart of their national strategy.

Research and studies

Some Member States have carried out specific reviews and research to find out, for example, where and how OSH could be included in the curriculum; what risk education teaching is taking place at present and what the obstacles to its teaching appear to be. The results of such studies can be used to develop policy, assess which actions may be most likely to be successful and to set priorities. The UK is among those Member States who have included risk education in the research programme of the national OSH authority.

Work with curriculum authorities

Successful actions to include OSH in education are those which have been adapted to the realities of national teaching programmes. Some OSH organisations have been working actively with their national curriculum organisations to have OSH included in



the formal curriculum and to produce official guidelines. For example, a report by the Irish Curriculum Authority for the Health and Safety Authority includes various recommendations for embedding OSH in education (see box). The ability of OSH authorities to cooperate with education authorities, especially those bodies specifically responsible for developing the curriculum, will have a big influence on the development of OSH and risk education in the curriculum.

Recommendations on including OSH in the curriculum adapted from the Curriculum probe for the (Irish) HSA

- Ensure that any OSH education strategy is coherent, targeted and well-tuned to the developments taking place in the education system and to the realities of schools and teaching and learning situations in classrooms.
- Undertake research about what the learning outcomes should be and how they could be implemented in practice, involving schools — especially teachers and students. OSH outcomes need to be appropriate, well-targeted and reliable. Use evidence-based research and initial consultations with schools.
- Target activity to be compatible with the curriculum structure and the framework qualifications
- Engage with organisations (curriculum authorities, education support services, etc.) developing curricula (content and learning outcomes) at both the development and implementation stages, and take part in consultations in order to influence the outcome.
- Work with a number of schools to develop modules or units that fit with the curriculum.
- Contribute to the development of curriculum contents and professional development of teachers.
- Regarding the development of a school safety qualification, also consider the use of self-paced e-learning.
- Look at where health and safety is already being incorporated and build on that, e.g. through the professional development of teachers, curriculum planning and support services.
- Develop a health and safety curriculum website as a central resource of up-to-date information for teachers.
- Establish a network of schools.

Resources and campaigns

The Member State OSH authorities have produced a wide variety of supporting resources for teachers and campaigns aimed at schools. This includes Member States where OSH is not an obligatory part of the curriculum. Other OSH and safety organisations, trade unions and employer's associations have also been active, providing resources, campaigning and pushing the policy agenda. A strong partnership approach is generally seen in the development of resources and campaigning, with partnerships involving not only education authorities but also business organisations, trade unions, OSH professional associations and NGOs.

The extent of OSH education at different levels of education

- In general, it seems that the process of the integration of OSH issues has advanced to a greater extent in the initial vocational education, as these courses are the most closely linked to work.



- OSH is also becoming more evident in the preparation of students for work experience in general secondary schools.
- Regarding vocational training, it needs to be ensured that courses related to typical female employment cover OSH adequately, as recommended in the Agency report *Young workers in figures*.
- As a broad generalisation, relevant OSH/risk education learning objectives appear to be more evident at primary level than at secondary level, and then at lower secondary level rather than higher secondary level in compulsory education. Perhaps the closer pupils get to final exams, and the more academic their educational path the less likely it is that OSH will be covered in their education. But more analysis is needed to see if this impression is borne out. If a good safety culture is to be developed in companies it is not just the future shop floor workers that need OSH awareness raising knowledge, but the whole business hierarchy (see also points below on university education).
- Opportunities are being taken to start safety education at nursery level.
- In primary and lower secondary levels OSH is most likely to be compulsory, with associated learning objectives, in subjects involving practical activities and the use of tools and equipment such as physical education, science practicals, technology, arts and crafts, home economics.
- Associated subjects that are commonly found on the curriculum and may be used to teach about safety and risk include social, personal and health and hygiene education, road safety, and environment studies.
- Relevant learning objectives are also being included in subjects related to citizenship.
- There is least inclusion of OSH at university level and its inclusion is least systematic at this level.
- As universities and higher educational institutes enjoy a high level of autonomy and therefore there are no common curricula, the extent and content of OSH education varies in the higher education sector, and it might not always be proportional to the level of risk that undergraduates could find themselves managing in their future professional working life. On the other hand, there is increasing recognition of the need to educate future safety-critical professionals such as architects, engineers and designers, health professionals and those entering business, finance and management about risk management and OSH issues, but it can be very difficult to persuade professors of this need. Systematic inclusion of OSH across relevant university courses is more common in those Member States that have a tradition of technical universities, including in some of the newer Member States. The greatest challenge is to have OSH included in business studies.
- There is also a lack of teaching resources on OSH for university-level courses, although some examples may be found. In addition to convincing professors to include OSH in courses, they need to be provided with suitable materials. Case study teaching materials directly related to the discipline, whether for engineering courses or business courses, may be of most use to engage both lecturers and students.
- Some Member States are actively promoting a safe school environment and linking it to OSH education. In some Member States such as Denmark, Finland and Sweden there is a legal requirement to involve pupils in school safety and this can be linked to the curriculum (see box).
- Where Member States have adopted the healthy schools approach, this creates additional opportunities for including OSH. The approach typically involves partnership between local health and education bodies to support schools in their area. Schools audit their 'healthiness' and set an action plan, involving the whole school community, including pupils, and working closely with health promotion organisations in the community. The types of subjects covered include healthy eating, substance abuse, relationship education and safety.



Curriculum reform creating opportunities for OSH teaching

The European Community's education policies are linked to its employment objectives. The promotion of cooperation on education across the Member States and the setting of common objectives are leading to a convergence in subjects taught, curriculum style and approaches to learning across the Member States. Such policies include 'Education and training 2010' and the 'Bologna' process. The Member States are in different phases with respect to the implementation of the reforms to their education and training systems and in taking into account 'Education and training 2010' and the 'Bologna' process in the formulation of national policies.

This common European agenda has therefore been one of the forces behind the changes in teaching approaches described above which is now being applied to risk education and OSH learning. It also means that Member State education curricula have been and still are in a state of active change. This has involved the broadening of educational objectives, the broadening of subjects from purely academic ones to include life skills as well and the opportunity to include topics as cross-cutting themes — all developments that provide opportunities to include or embed OSH in the education agenda. The scale of curriculum and qualification development that is taking place at present in European Member States is providing significant opportunities for embedding teaching and learning about OSH in the curriculum, and Member States are responding to this opportunity.

The implications of the current situation regarding education curricula include the following:

- the increasing focus of the EU education agenda on employment and generating a skilled workforce has to be helpful to the promotion of OSH in education;
- the ability for subjects to be included in a cross-curricular manner, the inclusion of broader topics of citizenship and life skills, health and the environment and the inclusion of learning objectives such as the development of responsibilities are all conducive to the inclusion of OSH in education;
- OSH must make sure that it does not miss the opportunity to be included in the change process, for example, by commenting on proposals or submitting proposals;
- OSH must adapt its expectations to the realities of the teaching programme;
- convergence in teaching in the Member States creates greater opportunities for the transfer of experiences from one Member State to another — experience can be shared regarding where and how risk education can be included in core subjects and linked to other cross-cutting subjects such as health education.

Training teachers to provide risk education

Risk education is currently seldom included in the curriculum of trainee teachers. Teachers are not necessarily comfortable teaching risk education. They can have difficulty with terms such as 'risk education', and the difference between 'hazard' and 'risk'. Without the necessary skills they will not be able provide risk education effectively and where risk education is a voluntary topic on the curriculum, teachers will not choose to cover it, even if they are provided with the resources to teach it, if they do not feel confident to teach it.

There are examples of briefings and seminars for trained teachers, but to underpin risk education it needs to be systematically integrated into training for student teachers.



The same is true for vocational teachers, although they are more likely to receive training as OSH is more likely to be an essential part of their curriculum. Among others, two safety organisations in the UK have called for action in this area (see box).

Safety organisations advocate risk education for teachers

UK safety NGO RoSPA has called for government support to train adults with responsibility for teaching about risk and safety and for training in how to teach safely. They seek 'a clear commitment by the government, backed by adequate resources, to ensure safety and risk education in the professional development of those involved in education of children and young people including teachers, and for parents, governors and others'.

UK OSH professionals' body IOSH has recommend that teacher training courses should include a work-related health and safety module (part of the initial teacher training curriculum): 'Teacher training must cover health and safety. We strongly suggest that training should include a module on how to deliver a short course on health and safety, so that students are properly prepared for their first work experience. We call on the government and teachers' professional bodies to recognise and support this as part of the teacher training curriculum, as well as professional development for existing teachers.'

(see Appendix 7 for source of these extracts)

Involving pupils in the assessment and management of risks in learning environment: examples

Sweden

In Sweden, the National Institute for Working Life developed an instrument called the 'School environment round' for controlling and improving the working environment in schools, in accordance with the Swedish Work Environment Act. In 2004, the National Agency for Education further defined the role of the pupil safety delegates (elevskydsombudsman) in schools. These delegates represent the pupils in matters concerning the school environment, and liaise between the pupils and the school administration.

Denmark

In Denmark, the requirement for a healthy and safe work environment is included in the Act on the Educational Environment of Pupils and Students. The act stipulates the participation of the students in the safety work of the educational establishments: pupils and students are entitled to elect environment representatives to protect their interests in the management of the educational establishment. These representatives participate in the safety and health work of



the educational establishment when matters are discussed which are of importance to the pupils' and students' educational environment. The act also stipulates the assessment of the safety and health situation of the educational environment and the participation of the student representatives in the planning, preparation, carrying out and follow-up of risk assessments.

Examples of pupil competences in compulsory education curriculum subjects that relate to risk education

Examples of personal and social competences

- to acquire and demonstrate safety skills
- to take responsibility
- to be able to ask for help
- to develop the confidence to give advice
- to deal with unhelpful stereotypes and pressures
- to recognise risk and make safer choices.

Examples of health competences

- to be able to apply first aid
- to promote a healthy lifestyle.

Examples of citizenship skills

- to understand the need for rules
- to take part in making and changing rules
- to research and discuss local and topical issues
- to consider social and moral dilemmas
- to participate in decision-making.

Examples of career-related learning

- to meet and talk with people with a range of work roles and skills
- to identify their own skills and achievements
- to think about ways to develop these skills further.

Examples of risk education specific competences, e.g. as part of practical curriculum subjects

- to know about hazards, risk and risk control
- to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others
- to use information to assess the immediate and cumulative risks
- to manage their environment to ensure the health and safety of themselves and others
- to explain the steps they take to control risks.

The above is based on information in the article 'Curriculum 2000: opportunities for safety and risk education', Jean McEntire, RoSPA UK:
<http://www.rospa.com/safetyeducation/curriculum/opportunities.htm>



Recommendations

Compatibility with curriculum development

Education curricula are changing and developing within the EU Member States and are presenting a range of opportunities to incorporate risk education and OSH. OSH and risk education initiatives must be compatible with curriculum development.

Taking a cross-curricular approach

The best opportunity for integrating OSH and risk education into the curriculum appears to be as a cross-curricular theme embedded into other appropriate curriculum subjects rather than as a separate subject. However, at vocational training level there is scope to include OSH in the general aspects of each vocational qualification and integrate it into the objectives and core contents of the different subjects, both general and vocational. Obviously, if risk education can be made a compulsory part of at least some curriculum subjects this will guarantee its presence. If it is voluntary, there is always the option to leave it out. There are strong arguments for making it a compulsory part of practical subjects from art and science practicals to physical education.

Developing a school-level OSH qualification

As suggested in the report from Ireland on OSH in the curriculum, development of a school-level qualification in OSH that fits in with the school qualification system could be beneficial in addition to a cross-curriculum approach.

Taking advantage of the opportunities that curriculum development presents

As change takes place in the curriculum, opportunities should be taken to explore where OSH and risk education can be included in statutory and non-statutory curricula. This means following curricula development and its timetable, commenting on proposals and submitting proposals as appropriate. This will be facilitated by developing a close rapport with curriculum-setting bodies.

Mechanisms to influence education planning

Formal mechanisms for OSH authorities to influence and have an input into education planning are needed, for example so that they are formally invited to comment when curricula are being revised.

Defining learning objectives and including OSH in the framework of the key competences

OSH topics need to be included in the framework of the key competences in an explicit way. To support this, learning objectives, developmental goals and competences to be developed regarding risk education should be defined for the different curriculum subjects and age levels. On the other hand, it is also important to identify which of the learning objectives that are part of the curriculum can be applied to risk education. Defining learning outcomes is essential for getting OSH on to the curriculum and for classroom planning. (See box for examples of learning outcomes related to risk education.)

Inspection

Where OSH/risk education is included in the curriculum a process is needed to assess this teaching. This could be achieved by including it in the remit of education inspection bodies.



Promoting a whole-school approach to safety and pupil health

Risk education should take place within the context of promoting a safe learning environment and the health of pupils, as this should reinforce learning. Making pupils more responsible for their learning environment will help foster a safety culture at an early age. The requirements for a safe learning environment should cover the learning-related physical environment, psychological factors and social relationships. The formal participation of pupils in school safety and the participation of schools in 'healthy schools' programmes therefore have particular merit. Regarding their participation in school safety, pupils should be involved in the assessment and management of the safe learning environment, including accident prevention and the prevention of bullying.

The challenge of mainstreaming OSH into tertiary-level courses — convincing professors and providing discipline-relevant materials

In higher education, efforts to integrate OSH should be continued to ensure that designers, architects, engineers, business and finance managers, medical professionals and others who need to know about OSH in their future careers receive adequate education in OSH issues. As universities and further educational institutes enjoy a high level of autonomy, it is necessary to involve professional associations and make approaches directly to higher and further education institutions and universities. Not only do professors have to be persuaded of the relevance of OSH to their discipline; they also need to be provided with teaching materials such as case studies that relate directly to the discipline.

Mainstreaming OSH into the trainee teacher curriculum

Teachers must be trained to teach about OSH and risk education as a part of their professional development. They need information and guidance on teaching health and safety issues. Existing teachers need additional training if they are to feel confident and motivated to use risk education resources. OSH and risk education should be included in the curriculum for trainee teachers in order to underpin the process of making risk education systematic and consistent. Teacher training should be provided for all education levels. Teachers need training for teaching about safety and for safe teaching. Others involved in the education of children and the management of schools also need safety and risk education.

Strengthening cooperation

It is essential to strengthen synergies and complementarities between education, including curriculum authorities and other policy areas such as health, employment, safety and health at work, and research and innovation. Partnerships are also essential to achieve consistency and avoid duplication, for example, in the provision of materials, advice and support.

Further research and practical interventions

Further research and practical interventions are needed to identify opportunities and effective methods for implementing the curricula with respect to health and safety issues and to support the development of appropriate guidance for the teachers. Among others, further research and practical work are needed:

- on the extent to which OSH and risk education are taught, especially where their teaching as part of the curriculum is voluntary, and opportunities for further inclusion;



- on how OSH and risk education are provided in schools including teachers' competences;
- to identify effective approaches in teaching health and safety issues and risk concepts and to evaluate support materials;
- on learning objectives — what they should be and how to implement them;
- on what young people think about health and safety, their beliefs related to safety and health and their behaviour;
- on how young people learn about safety and risk.

Exchange of experience, information and networking

The exchange of knowledge and experience and sharing of good practice and materials is important at all levels, including at higher education and university level. It is beneficial within Member States, especially where responsibilities for curriculum content lie at regional level, and between Member States and at the international level.

The forthcoming Agency report on the prevention of risks to young workers suggests that an exchange of experiences regarding the OSH training of young workers in the workplace and OSH and risk education methods in the school classroom would also be valuable.

There should be support and encouragement for networking between those working in this area to improve the sharing of experiences and resources. Allies for promoting OSH in the education curriculum include child and adolescent safety organisations, accident prevention organisations and health promotion bodies. The ENETOSH network that is dedicated to promoting OSH in education welcomes new members and contacts. Schools should also be encouraged and supported to network.

Success factors for mainstreaming OSH into the education curriculum

Some success factors for including risk education in the school curriculum can be identified from looking at the activities taking place in the Member States.

- Make a clear commitment and provide adequate resources.
- Set objectives for mainstreaming OSH into education in the national OSH strategy.
- Base activities on research into what is taking place in reality, what can be realistically achieved, what works best, etc.
- Develop close cooperation with education authorities and especially with curriculum-setting bodies.
- Identify opportunities in the education curriculum and seek to influence the curriculum as it changes and develops.
- Tailor proposals and initiatives to the core curriculum and current teaching policy and methods, including the integration of risk education across the compulsory and non-compulsory curriculum. Key areas for integration include the frameworks for personal, health and social education and citizenship. Risk education should also be incorporated into health-promoting schools ('healthy schools') programmes.
- Develop learning objectives for OSH and risk education for the relevant subjects in the curriculum framework matched to the age and ability of children and young people. Focus learning objectives on developing an understanding of risk, including hazard recognition, risk assessment and developing informed safer behaviour.



- Provide OSH/risk education resources appropriate to the various curriculum subjects and age levels.
- Provide professional development in risk education for teachers and trainers. Training is needed for teachers at all levels, both as part of the professional development of (existing) in-service teachers and in trainee teacher programmes. Consider the needs of others involved in education such as those involved in the management of schools, and parents too.
- Develop partnerships with key promoters of risk education to achieve a consistent approach and avoid duplication.
- Pilot initiatives and monitor and review progress.
- Exchange experiences and network.
- Place learning about risk within a whole-school approach to safety and risk. The approach should cover both a safe learning environment for pupils and staff health and safety. Link this in turn to 'healthy school' initiatives.

Further information

Agency

- 'Learning about OSH' seminar, held in Bilbao on 4 and 5 March 2002 and jointly organised by the Spanish Presidency and the Agency in cooperation with the European Commission; the full seminar proceedings, including PowerPoint presentations etc.: <http://osha.europa.eu/en/topics/osheducation/proceedings.stm>
- *Learning about occupational safety and health*, forum publication summarising the proceedings 2002 seminar: <http://osha.europa.eu/publications/forum/8>
- *Learning about occupational safety and health*, a longer report of the seminar proceedings (working paper): <http://osha.europa.eu/publications/reports/310>
- *Mainstreaming occupational safety and health into education*, 2004. This Agency report provides and analyses good practice examples in school and vocational education: <http://osha.europa.eu/publications/reports/313>
- *Mainstreaming occupational safety and health into education* — Facts No 52 — a summary of the report in 20 languages: <http://osha.europa.eu/publications/factsheets/52>
- 'Young workers in Figures', *Agency Magazine*, No 9 — *Safe start!*, 2006: <http://osha.europa.eu/publications/magazine/9>
- Forthcoming report from the Agency Risk Observatory which reviews risks to young workers and health outcomes.
- A Safe Start for Young Workers in Practice: cases from the 2006 good practice awards: <http://osha.europa.eu/en/publications/reports/GPB06/view>
- Proceedings of the 1. Agency Contact Group meeting, 26–27 May 2003, Bilbao: <http://osha.europa.eu/en/topics/osheducation/index.stm/fullproceedings.stm>
- Proceedings of the 2. Agency Contact Group meeting, 1–2 June 2004, Dresden: http://osha.europa.eu/en/topics/osheducation/index.stm/2m_fullproceedings.stm
- 'Safe start summit' held in Bilbao on 22 March 2007 and jointly organised by the German Presidency and the Agency in cooperation with the European Commission; the full seminar proceedings, including PowerPoint presentations etc. The summit



included a workshop on mainstreaming OSH into education:

<http://ew2006.osha.europa.eu/europeansummit>

- Young people web feature: http://osha.europa.eu/priority_groups/young_people
- Young people good practice web pages: includes a list of links with useful information on integrating OSH into education in Member States, Europe and beyond: http://osha.europa.eu/good_practice/person/young_people
- OSH and education web pages: <http://osha.europa.eu/topics/osheducation>

Other European sources

- European Community strategy on OSH 2002–06: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — ‘Adapting to change in work and society: a new Community strategy on health and safety at work 2002–06’, COM(2002) 118 final, Brussels, 11.03.2002: http://ec.europa.eu/employment_social/health_safety/strategies_en.htm
- European Community strategy on OSH 2007–12: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — ‘Improving quality and productivity at work: Community strategy 2007–12 on health and safety at work’ Brussels, 21.2.2007: http://ec.europa.eu/employment_social/health_safety/strategies_en.htm
- European Commission, ‘Education and Training 2010’: http://ec.europa.eu/education/policies/2010/et_2010_en.html
- European Commission, Education and training web pages: <http://ec.europa.eu/education>
- European Network on Education and Training in Occupational Safety and Health (ENETOSH). Its website (<http://www.enetosh.net>) contains many examples of projects and initiatives in the Member States to support learning about OSH in schools and colleges.
- EDFORSA project, a Leonardo da Vinci funded programme. The website includes some analyses, made in 2004, of how OSH is included in education in the following Member States: Czech Republic, Germany, Greece, France, Austria, Poland, Slovakia: http://edforsa.vubp.cz/products_vysledky.php
- EuroEducation.net — The European Education Directory (<http://www.euroeducation.net>) provides information about Member State education systems.
- Eurydice website — The Information Network on Education in Europe: <http://eacea.ec.europa.eu/portal/page/portal/Eurydice>



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European Agency for Safety and Health at Work

WORKING ENVIRONMENT INFORMATION

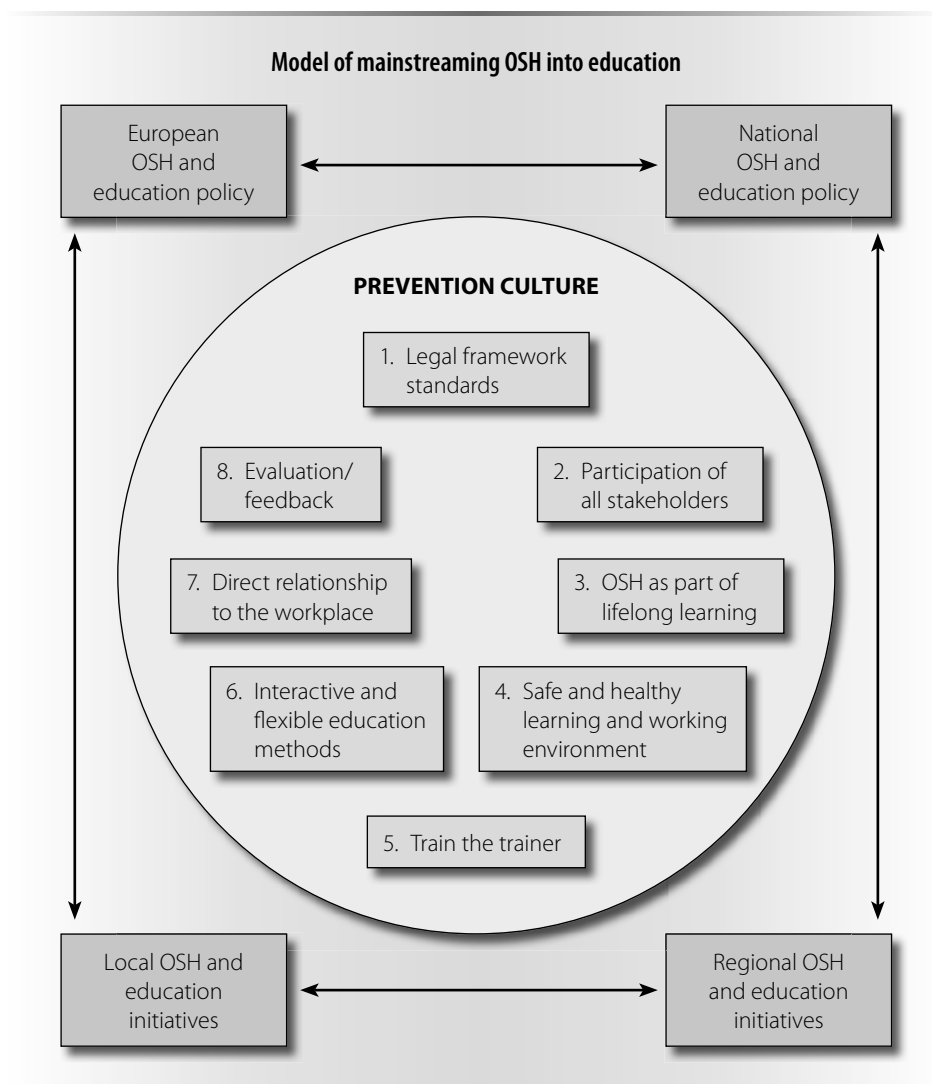


APPENDIXES

APPENDIX 1 — MODELS OF MAINSTREAMING OSH INTO EDUCATION

The following models are taken from the 2004 Agency report *Mainstreaming occupational safety and health into education — Good practice in school and vocational education* (available at <http://osha.europa.eu/publications/reports>).

Influences on the process of mainstreaming OSH into education



Source: Mainstreaming occupational safety and health into education — Good practice in school and vocational education, p. 8, Report TE-59-04-104-EN-C

This model shows the key external influences on the process of mainstreaming OSH into education, as well as internal elements that influence mainstreaming within the school or other educational establishments.

The internal factors for the promotion of OSH into education are:

- legislative background (existing legislation and the formal curriculum);

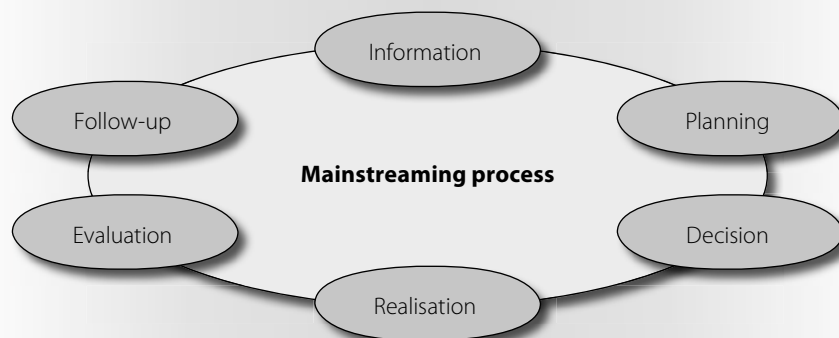


- communication with/between all stakeholders (school, students, parents, employers, educators, job placement agencies, healthcare providers, etc.);
- OSH as part of lifelong learning (safety and health form part of all aspects of the daily and working life);
- safe and healthy learning and working environment (school policy or OSH policy in other educational establishments);
- well-qualified teachers in OSH;
- interactive and flexible education material (age-adapted, attractive, ready-made);
- leave the classroom (contact with the working life, prevention officers, etc.);
- feedback of all stakeholders and evaluation.

The model is derived from an 'eco-holistic' model used to describe the key influences on health-promoting schools (see: B. B. Jensen and V. Simovska (eds), *Models of health-promoting schools in Europe*, European Network of Health Promoting Schools, 2002 (<http://www.euro.who.int/document/e74993.pdf>); C. Parsons, D. Stears and C. Thomas (United Kingdom), 'The eco-holistic model of the health-promoting school', in: Jensen and Simovska 2002, pp. 64–66).

The process of mainstreaming OSH into education

The process of integrating safety and health into education can be described using the typical six-step process model that is often used for quality management and has also been applied to the field of vocational education. The six steps are information, planning, decision, realisation, evaluation and follow-up.



Source: Mainstreaming occupational safety and health into education — Good practice in school and vocational education, p. 9, Report TE-59-04-104-EN-C

Step 1: Information

Collect necessary information before you start a project, e.g. data on accidents involving children and young people, the number of safety lessons given in schools, or working conditions in schools and other educational establishments. Also consider experience from similar projects.

Step 2: Planning

Clarify in advance which partners should participate in the project. Existing experiences and structures can be useful for your project, e.g. health-promotion networks,



cooperation with safety and health authorities and their training institutes. Did you check all resources for funding?

Step 3: Decision

If you have completed these first two steps, you are able to decide whether you will carry out a pilot study of the project. Define the general aim of the project and its operational goals. Set up an action plan with concrete deadlines and responsibilities.

Step 4: Realisation

In the implementation phase of the project, success will more than likely depend on the following factors: the recognition of safety and health as an inherent part of lifelong learning; a broad understanding of safety and health including physical, mental and social wellbeing; a direct relationship of educational measures to the workplace; and the involvement of experienced teachers in the development of the programme and its materials.

Step 5: Evaluation

Evaluation should be an intrinsic part of your project. Evaluation measures should accompany and improve the mainstreaming process. Additionally, you should evaluate the results of your project in terms of their sustainability and their transferability to other institutions and in other cultural contexts.

Step 6: Follow-up

Develop a promotion plan before the project ends and make plans for an active follow-up, as early as possible.

Excerpts from the discussion regarding Step 4 'Realisation'

Key success factors found from an analysis of cases:

- OSH as part of lifelong learning
- a broad understanding of OSH
- direct relationship to the workplace
- involvement of experienced teachers
- interactive methods
- flexible methods/material: easy to use, age-appropriate, context sensitive
- leave the classroom
- use of mass media
- train the trainer.

OSH as part of lifelong learning

Safety and health are relevant to all aspects of daily life, including of course working life. To promote good behaviour among children and young people before they enter working life, safety and health issues have to be included in the school curriculum.



The way this is achieved has changed over the past 20 years. Previous cases demonstrated that OSH is included in the curriculum as a single subject (or course), most often in science classes. Often it was an add-on or a one-off campaign. A weakness of these campaigns is that wider or follow-up intervention is lacking. Today, the aim is to achieve a more 'cross-cutting' integration of OSH aspects in different subjects and over the whole educational process, taking into account the age and education level of the children. It is hoped that handling OSH as a cross-cutting theme will enable the subject to be mainstreamed during the entire educational process rather than being taught once as a stand-alone topic. In the UK, national evaluation criteria (such as Ofsted) and curriculum guidelines (such as the national curriculum) are important levers for influencing the direction of teaching practice and school management. Furthermore, the OSH programmes should be context-sensitive, should be flexible enough to be tailored to each school's 'local' context and adaptable to different learning contexts.

In the report, nearly all cases take into account the representation of OSH into several subjects or courses. How can this be established and achieved in practice? What kind of topics should be presented to the pupils/students?

Information on this can be found in the Michigan model for comprehensive school health education (see <http://www.emc.cmich.edu/mm/default.htm>). This model was established by several state agencies to provide an efficient delivery mechanism for key disease prevention and health promotion messages, taking into account the education level of the students. For example, in kindergarten 'lessons' are given on 'rules to stay safe so we can learn' or 'making friends'. In secondary school, topics such as 'managing conflicts and preventing violence' or 'stay physically active — for life' are addressed.

Train the trainer

The importance of well-qualified teachers is mentioned in several cases. Teachers and trainers need to be trained, since they may have little practical experience of the world of work outside education. Also they may have little knowledge of how to transfer health and safety information. In addition, teachers often mention that they already have a lot to do, and that they are afraid they will not be able to achieve their 'classic' education goals. This points to the need to integrate safety and health into the whole curriculum, making it transferable between several subjects. It is also important to stay up to date and implement new knowledge on safety and health issues in education. Furthermore, it is necessary to improve the quality of teaching.

Teachers need good teaching tools. However, it is not enough to simply create tools and hand them over to the teachers. The integration of safety and health elements constitutes a considerable change in the learning culture, and its implementation requires innovative educational methods, demanding time and patience from everyone involved.

Within the 'At the safety school' project from Italy, a training process model has been developed for teachers who wish to apply the project. Often there is a dearth of OSH training for teachers. It is crucial to provide training for teachers so that answers are given to questions such as 'How should integration be started?', 'What do the students have to know?', 'What are adequate teaching tools?'. The English national curriculum includes a 'general teaching requirement' for health, safety and risk education. A project to develop national occupational standards (NOS) for learning, development and support services is currently being carried out by ENTO, UK.



APPENDIX 2 — OVERVIEW OF ‘CURRICULUM’ CASES FROM AGENCY ‘MAINSTREAMING OSH INTO EDUCATION 2004 REPORT’ AND RELATED CONCLUSIONS

The following information, related to including OSH in teaching curricula, is taken from the 2004 Agency report *Mainstreaming Occupational Safety and Health into Education — Good practice in school and vocational education* (available at <http://osha.europa.eu/en/publications/reports/313/view>).

Table giving an overview of main and snapshot cases

Country	Title	Lead Organisation	Main achievement
Denmark	Ar and Mi at School/ New Kids on the Job	Arbejdsmiljøradets Service Centre	Age-adopted educational resources for teachers
England	SPLAAT — Safe Play At All Times	Laing Homes Community Programme	Education resource pack related to building site
Italy	At the Safety School	Servizio Medicina Preventiva di Comunità Bergamo & ISPEL	Conceptual and methodological framework for teachers
Italy	Examples of good practice to promote health and safety in primary school	ISPEL & Civic Network of Milan Foundation	Creation and diffusion of didactic tools
Italy	Safety is ... 626 set to music	Polistudio srl	CD with study and musical material on safety
UK	Human Torch	Health and Safety Executive	CD-ROM with innovative teaching chemistry activities
UK	Personal Protective Equipment	Royal Society for the Prevention of Accidents & West Midlands Fire Service	Technology project on protective clothing
Spain	No badis! La prevenció des de l' escola	Departament de Treball, Indústria, Comerç i Turisme	Didactic material for primary schools
Spain	OSH as subject of transversal education	Instituto Nacional de Seguridad e Higiene en el Trabajo	Guides for primary and secondary school
Spain	Erga primaria transversal	Instituto Nacional de Seguridad e Higiene en el Trabajo	Online guide for teachers of primary schools

Source: *Mainstreaming occupational safety and health into education — Good practice in school and vocational education*, p. 145, Report TE-59-04-104-EN-C



Summaries of the main ‘curriculum’ cases described in the report

‘At the safety school’, Italy

The teacher manual ‘At the safety school’ provides teachers with a conceptual and methodical framework to introduce OSH into the teaching syllabus. Safety and health education is understood as a process by which OSH can be applied to all subjects. A distinctive element of this project is the active participation of teachers within the development of the course model and a training process model for teachers who wish to apply the method.

Examples of good practice to promote health and safety in primary school, Italy

Good practice examples of how to develop and disseminate teaching tools to promote a prevention culture at primary level, especially by introducing new and interactive methods, are described in this case study. The main aim is to involve the pupils so that they are able to acquire the necessary knowledge to implement effective prevention measures in their daily environment.

Splaat — ‘Safe play at all times’, England

The Splaat initiative is part of the ‘Laing Homes’ community programme’ and provides training packages. The initiative aims to raise children’s awareness of the dangers on building sites and to equip them with the knowledge to manage risks, for example by visiting construction sites and carrying out construction workshops at primary level.

The Armi project: ‘Ar and Mi at school’/‘New kids on the job’, Denmark

This case study covers a project for primary schools and a follow-up project reflecting the first steps of young people into working life. The project has been carried out against the backdrop of the government programme ‘Clean working environment’ and a broad range of partners have been included in the project. The education material conveys the message in a way that appeals to each targeted age group and a special teaching approach is used that guarantees an active involvement of the pupils.

Report conclusions

Integrating safety and health into the school curriculum and especially in the curricula of vocational education is a major task. But the way this task is carried out has changed over the last 20 years. The curriculum approach today is mainly based on two concepts.

1. To integrate OSH as a **transversal** or cross-cutting topic in different subjects as a part of lifelong learning. OSH is no longer a topic primarily in scientific classes, but also forms part of, for example, teaching languages and literature.
2. To develop key competences in OSH for pupils/students and teachers. The focus has moved from ‘teaching’ OSH knowledge in a ‘one-way-system’ to **experience-oriented learning based on a dialogue** between pupils/students, teachers and OSH professionals.



Conclusions related to a 'curriculum' approach included:

- safety and health have to be an inherent part of lifelong learning from pre-school education until post-retirement;
- the projects prove that legislation can be an incentive and a reason to set up an OSH and education project:
 - certain projects were born out of OSH regulations,
 - others found their origins in standards imposed by the educational authorities and/or in the curricula;
- cooperation should be initiated with and among authorities of education, of employment and of health;
- there is necessity for strong back-up, guidance and close cooperation from above and work at national, regional and local levels;
- it is clear that good communication is necessary between OSH, public health and education authorities or administrations. Both at and between international and national levels, there is a need for enhanced dialogue.

Beyond the teaching curriculum — a 'holistic approach' to safe and healthy schools

Linked to, but distinct from OSH education, is the situation where there is a requirement for schools to promote the health of pupils, and where there are requirements to involve pupils in school safety matters in a similar way to 'workers' as part of creating a safe teaching environment. Increasingly, Member States are developing and implementing programmes in this area. The report's findings were as follows.

- A long-lasting improvement in the safety and health of children and young people at school, or in other educational contexts, requires a preventive approach that covers:
 - physical, mental, and social wellbeing, and
 - the entire school as a relationship of organisational, individual and environmental components.
- A 'holistic' approach to mainstreaming safety and health in school education aims at:
 - creating or improving individual attitudes and perceptions of safety and health in school, and
 - designing school as a workplace that is appropriate to the needs of pupils and teachers.
- The thinking behind this is that a safe and healthy learning environment enables children and young people to achieve risk awareness and competences as early as possible to shape their own future working (and private) life, making it safe and healthy.



APPENDIX 3 — EXTRACTS FROM THE HEALTH AND SAFETY AUTHORITY (HSA) OF IRELAND — STRATEGY STATEMENT 2007–09 AND WORK PROGRAMME 2007

Strategy statement 2007–09

The HSA has a specific strategy goal on mainstreaming OSH into the education system:

‘Education: The Authority is in consultation with the Department of Education and Science and associated key organisations, including the National Council for Curriculum and Assessment (NCCA) on the development and implementation of programmes to mainstream safety and health in curricula. In this way, we will educate and influence the workers of the future.’

The related goal is reproduced below:

‘Goal 2: Target the workers and managers of the future by fostering a culture of safety through early and continued interventions in the education and training systems.’

HSA gives the rationale for this goal as follows: ‘We have a long-term vision in which the practice of safety should come naturally to workers in Ireland. Our challenge is to influence and change the collective behaviour of all those at work. To achieve such long-term change, the process must start through early intervention in the formal education system. By mainstreaming safety and health at all levels of education, we will be best placed to foster this culture and to create a “safety first” mindset in young people, before they reach the workplace. During the lifetime of this strategy, it will be possible to make progress through a concerted national effort and alliance with the education and training sectors.’

The strategy statement sets out the following actions to achieve the goal over the three year period 2007–09:

Actions	Year	Milestones
Continue to consult with the Department of Education and Science and key organisations to agree ways and means for sustained cooperation between our organisations with regard to the achievement of this goal.	1	Consultations concluded and action plan agreed and initiated.
	2	Structures in place to sustain cooperation; actions continued.
	3	Actions continued; evidence of benefits from cooperation.
Develop and implement programmes which contribute to mainstreaming safety and health in education and training curricula.	1	Full plan agreed with key education bodies; initial pilots implemented; cross-curricular resources developed.
	2	Major implementation stage to install curriculum in specified areas.
	3	Concluded phase 1 implementation; phase 2 designed.



Actions	Year	Milestones
Promote and develop relationships with other organisations to seek to bring about significant landmark learning opportunities for students at all levels in the context of occupational safety and health.	1	Identified potential organisations for collaboration; plan published to develop safety and health learning opportunities.
	2	Projects and activities implemented and evaluated.
	3	Continuation of activities at local and national level.
Participate in networking, continued professional development seminars and conferences leading to an enhanced profile of the benefits of an occupational safety, health and welfare culture.	1	Planned participation in key activities to raise profile.
	2	Minimum of three national level activities with participation by the authority.
	3	Participation continued; effectiveness of campaign assessed.
Develop a safety and health management system for use in schools, in order to create a safe whole-school environment.	1	System and audit tool piloted in post-primary schools.
	2	System rolled out in all post-primary schools.
	3	System piloted in primary schools.

The HSA has also specified measures to assess its performance regarding its goal as follows:

‘Quantitative measures will determine the number of courses, the level and type of curriculum in which safety and health is included. These, together with other criteria, will determine the number and type of cross-curricular resources which have been developed. The baseline position will first be established. The authority will also evaluate the number of collaborative measures which have been put in place and the number still in existence at the conclusion of the strategy period.

At a qualitative level, base measures will be taken of general awareness levels among young people. The impact and progress in terms of behaviour change among young people will take many years to assess but early indicators will be sought. The authority will audit the extent to which a safety and health management system exists and operates in at least one level of the formal education structure.’

The HSA strategy 2007–09 can be found at:
<http://publications.hsa.ie/index.asp?locID=17&docID=226>

2007 work programme

HSA has a specific programme on mainstreaming OSH into education in its 2007 work programme:

‘5.7 Education and competence programme

As part of overall programmes, the workers and workplace managers of the future must be influenced and encouraged to develop a “safety first mindset” which will become engrained in their careers on a long-term basis. This necessitates fostering a



culture of safety among students at all levels of education, and to achieve a safe whole-school environment.

In pursuit of this aim, the authority will engage in a number of education specific initiatives including the following:

- development of an Internet/CD-ROM-based safety and health management system and audit tool for use at post-primary and further education levels;
- implementation of the key recommendations of the report of the National Council for Curriculum Assessment (NCCA) into the mainstreaming of safety in education from pre-school through post-primary levels;
- development of learning resources for schools including the development of a CD-ROM/resource pack on work experience for post-junior certificate students;
- establishment of a "summer course" programme on health and safety for primary level teachers through education centres nationwide;
- promotion of a safety and health culture to students through sponsorship of and involvement with 'Junior achievement Ireland' and the 'Young scientist' and 'Spirit of enterprise' programmes;
- development of appropriate curriculum supports for teachers around health and safety in conjunction with second level support services.

Performance indicators

- Roll-out of safety and health management system in post-primary schools.
- High level of recognition and usage of authority education programmes and resources.
- Implementation of key recommendations of NCCA report.
- High levels of interaction and strong relations built with the second level support services and other support services to schools.
- Policy agreement in place with IT and independent colleges sector.'

The HSA work programme 2007 can be found at:

<http://publications.hsa.ie/index.asp?locID=17&docID=225>



APPENDIX 4 — SAFETY EDUCATION GUIDANCE FOR SCHOOLS: UK DEPARTMENT FOR EDUCATION AND SKILLS TEACHING

This guidance on curriculum and standards for safety education has the status of good practice and is for head teachers, teachers and school governors. As well as indicating national curriculum requirements and other government recommendations, the guidance also demonstrates the need for safety education; recommends appropriate approaches to teaching and learning; demonstrates how safety education builds on and enhances existing curriculum provision; recommends sources of support for schools and; provides examples of good practice. The information about safety education requirements given below has been taken from this leaflet. Additional guidance from DfEE and QCA supports statutory requirements for careers education and guidance in years 9 to 11.

The following are excerpts from the guidance:

Safety education is the responsibility of all staff in the school, including teaching and non-teaching staff, through the formal and informal curriculum. If safety education is to be effective, safety should underpin the whole culture and ethos of the school. According to UK education policy safety education should enable pupils to keep themselves safe and to contribute to keeping others safe. It helps them to be aware of possible hazards in different areas of their lives, and be able to take appropriate decisions and actions. Safety education is not about isolating young people from all hazards — the bumps, cuts and bruises which are a normal part of growing up — but about equipping them to deal safely with a wide range of situations.

Safety education includes:

1. **the skills of hazard awareness and recognition, and risk assessment and management.** Pupils will be taught about risk assessment in subjects such as design and technology, science and physical education. Safety education enables pupils to transfer this learning to other areas of their lives;
2. **the factors which influence attitudes and behaviour** which relate to safety. Safety education should include consideration of the stereotypes and pressures which affect risk taking, for example, media images linking driving and speed, or the influence of fashion trends on the wearing of protective equipment;
3. **personal and social skills** like assertiveness are important in enabling pupils to take responsibility for their own and others' safety: for example, when asking for help or calling the emergency services, or asking an adult to wear a seat belt or to drive more slowly;
4. **the role of emotions in recognising and managing risky situations.** Being able to control anger and deal with stress and fear are valuable safety related skills;
5. **playing a part in making communities safer.** Safety education involves learning to take responsibility for social and moral issues. Discussing safety issues to do with their school and local environment can lead on to pupils taking part in activities to improve safety. It should include discussion about social and political issues, which impact on improving safety;
6. **understanding the roles of professionals and organisations** concerned with safety, for example understanding the responsibilities of the school crossing patrol, a firefighter or a trading standards officer, or understanding the range of skills needed by the emergency services to deal with road accidents. Safety education



also encourages pupils to assess their own skills, including those they will need to cope with future transitions in their own lives.

Generic and specific safety education. Safety education includes:

- **generic** knowledge and skills which pupils can transfer to other contexts and situations. Generic skills include: risk assessment; how to give and get help; and dealing with and understanding peer and media pressure. Effective safety education can enable pupils to transfer these skills to different contexts;
- **specific** knowledge and skills, which only apply to a particular context or activity. For example, cyclists need to know the regulations for cycle lights and reflectors.

Contexts for safety education

Effective safety education should include a range of contexts appropriate to the age and developmental stage of the pupils. Account should be taken of the immediate environment of the pupils, for example, urban or rural roads, as well as unfamiliar environments that pupils may encounter, for example, driving, field visits, family holidays or work experience settings. Different contexts are suggested in the following table:

Contexts and issues for safety education

- | | | |
|----------|---------------------|--------------------------|
| ■ play | ■ sport and leisure | ■ construction sites |
| ■ water | ■ roads | ■ rail |
| ■ fire | ■ electricity, gas | ■ agricultural settings |
| ■ school | ■ community safety | ■ the world of work |
| ■ home | ■ personal safety | ■ socio-political issues |

Effective planning for safety education will help teachers to promote **key skills** and **thinking skills**:

Key skills

- information
- improving pupils' learning and performance
- information processing
- enquiry
- evaluation

Thinking skills

- technology working with others
- problem solving
- reasoning
- creative thinking

The place of safety education in the curriculum

Although the purpose of this guidance is to show how safety education can be delivered within the PSHE and citizenship framework, it is important to be aware of other related National Curriculum provision.

The general teaching requirement for health and safety (The National Curriculum. DfEE/QCA, 1999) applies to science, design and technology, information and communication technology, art and design, and physical education. It requires that pupils are taught procedures for assessing and controlling risks to themselves and others, and includes simple and concise definitions of hazard, risk, risk control and risk assessment.



Safety education in PSHE and citizenship should ideally build on this learning in other subjects and discuss how it can be applied to other contexts in pupils’ lives, both in and out of school. The general teaching requirement for health and safety requires teachers to teach pupils how to:

- recognise hazards — a hazard is something with the potential to cause harm (this can include objects, substances, machines, ways of working and the working environment);
- assess risk — a risk is the likelihood of potential harm from the hazard being realised. The extent of the risk will depend on:
 - the likelihood of that harm occurring
 - the potential severity of that harm
 - the number of people who might be affected;
- control risk — the purpose of the risk assessment is to determine what measures should be taken to control the risk, taking into account existing precautions and their effectiveness. Controlling a risk does not necessarily mean that the risk can be eliminated.

Adapted from HSE (1998)

Other aspects of safety education described above are addressed at all four key stages in the National Curriculum framework for PSHE and in citizenship.

Career-related learning provides very clear contexts for safety education and is included in the framework for PSHE at all key stages in the strand entitled ‘Developing confidence and responsibility and making the most of their abilities’. The box below shows examples of how these aspects of the National Curriculum can contribute to safety education.

Examples of safety-related learning through the four key stages

	Developing a healthy, safer lifestyle	Preparing to play an active role as citizens	Developing confidence, responsibility and making the most of their abilities
Key stage 1	<p>Learn ways to keep safe at home, school, play, on the roads.</p> <p>Practise asking for help.</p> <p>Learn and practise how to make choices.</p>	<p>Help to agree classroom/playground/dining room safety rules.</p> <p>Talk about how easy/difficult it is to keep the rules; practise ways to get better at rule keeping.</p> <p>Consider how keeping or breaking safety rules can affect ourselves and others.</p>	<p>Learn about roles and skills of adults who help us to keep safe, e.g. school crossing patrol, midday supervisor.</p> <p>Identify skills needed to cooperate with such adults.</p> <p>Practise these skills and reflect on how to get even better at them.</p>
Key stage 2	<p>Learn how to recognise risks in different situations.</p> <p>Learn how to make more confident and informed choices. Learn how to recognise stereotypes.</p> <p>Prepare for transition to secondary school, e.g. identifying safe routes and means of travel.</p>	<p>Research and discuss safety issues, e.g. in the playground.</p> <p>Research the views, needs and feelings of others about such issues, e.g. through surveys about playground safety issues.</p> <p>Take part in democratic decision — making playground safety rules, e.g. by presenting survey results to governors.</p>	<p>Meet and talk with people who implement safety rules in the community — drivers, police, fire service, lifeguards — identify the skills they need.</p> <p>Identify the skills we need to make our own contribution to these safety issues.</p> <p>Plan how to practise one such skill.</p>



	Developing a healthy, safer lifestyle	Preparing to play an active role as citizens	Developing confidence, responsibility and making the most of their abilities
Key stage 3	<p>Learn how to recognise and manage different kinds of risks.</p> <p>Learn to recognise when the influence of others threatens safety; develop ways to resist pressures, including asking for help.</p> <p>Learn about emergency aid procedures and where to get help and support.</p>	<p>Be actively involved in school or community issues, e.g. in safer travel projects.</p> <p>Learn how to be more effective in public life, e.g. by identifying and practising the skills needed to lobby or campaign on a local safety issue.</p>	<p>Meet and work with people who can give reliable information about safety issues, e.g. trading standards officer, driving instructor, environmental health officer.</p> <p>Discuss safety issues in relation to the changing world of work.</p> <p>Consider personal skills and aptitudes regarding work related safety issues. Plan how to develop one such skill.</p>
Key stage 4	<p>Learn to recognise and follow health and safety requirements, make risk assessments in unfamiliar contexts.</p> <p>Develop skills to cope with emergencies, including basic aid and resuscitation techniques.</p> <p>Develop assertiveness skills to deal with unhelpful pressure or to ask for help confidently.</p>	<p>Develop a range of skills for involvement in school and community safety issues, e.g. researching, publicising, public speaking in support of safe play and leisure facilities for young people.</p> <p>Develop understanding of democratic and electoral processes.</p>	<p>Reflect on safety aspects of future careers/ transitions.</p> <p>Discuss safety related rights and responsibilities of employers, employees, consumers.</p> <p>Identify safety related skills, qualifications and experience in records of achievement and curriculum vitae (or CVs).</p>

This table is based on the 'spiral curriculum'. The notion of a spiral curriculum is familiar to teachers and forms the basis of the national curriculum. In all subjects knowledge, understanding and skills are built up in a step-wise way, with the same concepts being revisited at each key stage, although through differing activities. As in other aspects of planning the formal curriculum, teachers will need to be aware of:

- how pupils' understanding of health and safety concepts develop; and
- the extent to which pupils can be expected to take their share of the responsibility for safety.

At each step teachers will need to find out:

- where pupils are in their understanding;
- what language pupils use to explain that understanding; and
- what skills pupils are capable of applying in a range of different situations.

In planning the curriculum, teachers also need to be aware of pupils' changing lifestyles, particularly age-related changes such as the transfer to secondary school.

The PSHE guidance and the National Healthy School Standard set out some key principles for PSHE and Citizenship which also apply to safety education. These principles rest on the notion of a whole school approach, where:

- leadership,
- management,
- curriculum planning and resourcing,
- school culture and environment,
- professional development of staff,



- partnerships with parents and communities, and
 - relationships with pupils
- support teaching and learning about safety.

Taken from:

'Safety education — guidance for schools', 2001, Department for Education and Skills, Ref. DfES/0161/20002 (<http://www.teachernet.gov.uk/docbank/index.cfm?id=1314>).



APPENDIX 5 — UK HEALTH AND SAFETY EXECUTIVE 'RISK EDUCATION' PROGRAMME

The information given below has been taken from:

<http://www.hse.gov.uk/education/index.htm>

In 2000 the Health and Safety Executive (HSE) set up a 'Risk education' programme of work to identify and influence the degree to which risk management techniques are taught in schools and other educational establishments, including universities where undergraduate courses lead to entry into safety critical professions such as engineering and design. The programme has consisted of four projects:

- Raising risk awareness at every level
- Raising risk awareness levels among certain groups
- Providing risk education support materials
- Information gathering.

The findings from these four projects have also been reviewed in the context of the wider sensible risk debate that is taking place in the UK.

Research has revealed that:

- pupils are being instructed about particular risks and hazards in particular contexts, but not about risk itself, or the principles of risk management which is fundamental to good health and safety practice;
- there are no firm grounds for assuming that education about risks in one context (e.g. road safety) will lead to the application of the same principles to manage different risks (e.g. substance abuse);
- teaching staff have difficulty with terms such as 'risk education' and 'risk concepts' and there is currently no mechanism for HSE to influence teacher training or trade union agendas;
- discussions with teachers on risk and health and safety reveal that they themselves feel vulnerable and often inhibited, fearing personal liability and litigation;
- young people are at their most vulnerable when entering the workplace for the first time.

Having set curriculum requirements some specific research was conducted to look at teaching practice in risk education for 5 to 16-year-olds. In particular, the research aimed to provide insight into the extent to which national curricular guidance on addressing risk issues impact upon teaching practice. A further objective was that the research should offer findings relevant to the design and development of HSE's future curriculum related risk education strategy and guidance, including the development of teaching resources.

The recommendations are as follows.

- There is a need for a coordinated policy on the coverage of risk education issues. To be effective this policy should be established within individual education establishments by senior staff, e.g. the head teacher or head of discipline. This should be backed up by clear guidelines on provision from an external source, e.g. the LEA, possibly supported through INSET training and coordinated across relevant subjects. This approach would place the emphasis on a school-centred approach to risk education.
- Teaching staff would benefit from clearer instruction on how to deliver risk concepts in education. The provision of teaching packages and schemes of work would help



facilitate this, but would not in themselves overcome the problem of the lack of clarity over what is meant by risk concepts and risk management.

- Teachers should be encouraged to recognise the value of their existing (formal and informal) approaches to risk communication, and steps should be taken to build upon these skills in the provision of future advice, guidance and training in risk education.
- Where possible, guidance and training in risk concepts should aim to avoid the use of abstract risk concepts, or codes of conduct, as there is no reason to assume that they will be understood and communicated with any useful practical effects. Idealised or generic concepts often create tensions, and promote confusion, rather than clarity, unless they are firmly linked with specific risk-taking activities. However, teachers should be encouraged to adopt appropriate methods for addressing risk education; these include learning through case studies, vignettes and practical activities. The most appropriate method is likely to depend on the curriculum subject and the topics that are being addressed.
- It is considered that a potentially effective way of advancing the implementation of risk education components would be to provide a range of well-designed teaching modules that fit into existing schemes of work, for each key stage. Rather than provide documents that include abstract discussions about best practice in risk communication, guidance should be based on clearly defined tasks and activities relevant to the subject area. Information should also be provided about curriculum objectives, learning points, and teaching methods. The main focus would be tasks for teachers and pupils to undertake.
- Given that many teaching staff appear confident that they are teaching risk concepts effectively, there is a need to bring the apparent shortfalls to their attention. In part this misplaced confidence reflects ambiguity over the distinction between responsibilities for risk management and risk education.

For more information see: 'Teaching practice in risk education for 5-16-year-olds', Report No HSL/2005/23 (http://www.hse.gov.uk/research/hsl_pdf/2005/hsl0523.pdf).

More detailed findings can be found in six research reports produced under the 'Risk education' programme (<http://www.hse.gov.uk/education/research.htm>).



APPENDIX 6 — UK NATIONAL HEALTHY SCHOOL STANDARD (NHSS) AND SAFETY EDUCATION

The scheme and how it works

The National Healthy School Standard (NHSS) is an accreditation scheme which allows schools to gain recognition as 'healthy schools' and to use the healthy schools logo. The scheme has clear opportunities for safety education. The scheme was launched nationally in England in 1999 and was built on previous pilot schemes.

Local partnerships of education authorities (LEAs), health authorities (HAs) and other agencies provide support to local schools and assess their achievements against national criteria. Schools audit their existing provision and involve the whole school community in devising an action plan. The action plan must address the health and wellbeing of everybody, staff as well as pupils. Schools must involve pupils in planning and find out their priorities and ideas. Schools must also work closely with their wider communities and relevant partner agencies. Safety professionals and organisations could be involved in the overall planning of a school's scheme.

Following their audit, schools plan to work on health issues chosen from the following themes:

- personal, social and health education
- citizenship
- drugs, alcohol and tobacco
- emotional health and wellbeing
- healthy eating
- physical activity
- safety
- sex and relationships education.

Several of these themes give opportunities for safety work.

The safety theme

There are criteria for each theme. For the safety theme, the criteria include both health and safety management and the teaching of health and safety in the curriculum, including:

- schools must have a health and safety representative and must carry out regular risk assessments;
- pupils should learn about first aid and how to assess risks;
- play and recreation areas should be designed with health and safety in mind;
- child protection and domestic violence should be discussed in the curriculum and staff must know the procedures for dealing with any incidents;
- staff and pupils should be encouraged to walk or cycle to school and there should be a programme of safety training to support this.

Many schools have involved themselves in the NHSS schemes, although it was reported in 2001 that there is some evidence that schools are less likely to choose to focus on safety than the other themes.



Further information:

'Wired for health' website (<http://www.wiredforhealth.gov.uk>).

RoSPA website (<http://www.rospa.com/safetyeducation/atschool/standard.htm>). The above information is adapted from material given on the RoSPA website at this address (RoSPA Safety Education Journal (Spring 2001)).



APPENDIX 7 — PLANS FOR BETTER RISK EDUCATION: EXAMPLES FROM UK SAFETY NGOS

RoSPA's 'vision' for safety and risk education: more effective education about safety and risk for all

To promote effective safety and risk education relevant to all levels in society, throughout compulsory education, in the workplace and among educators, safety significant professionals, the media and policymakers, to be achieved by the following.

- **A focus in safety education on an understanding of risk.** To enable young people and adults to make safer choices through an informed recognition of hazards, the assessment of risk and the costs and benefits of risk management.
- **More research** into how people learn about risk. A continuing commitment to research into how young people and adults learn about safety and risk.
- **Government support** for training adults with responsibility for teaching about risk and safety and for teaching safely. A clear commitment by the government, backed by adequate resources, to ensure safety and risk education in the professional development of those involved in education of children and young people including teachers, and for parents, governors and others.
- **Integration of safety and risk education into the statutory and non-statutory curriculum.** An integrated approach to safety and risk across the curriculum in England, Wales, Scotland and Northern Ireland in the context of healthy schools and the frameworks for personal social and health education, citizenship, post-16 education and vocational training with a focus on acquiring relevant skills.
- **A whole-school approach** to safety and risk. Promotion of a whole-school or college approach to safety and risk including policy, curriculum and an ethos which encompasses both teaching safely and teaching safety.
- **Inspection** of safety and risk education and policy. Inclusion of safety and risk education and Health and Safety by Ofsted and other inspecting and examining bodies.
- **Partnerships** to achieve consistency and avoid duplication. Partnerships between key promoters to provide materials, advice and support to achieve a consistent approach to risk and safety education.
- **Developing and sharing the evidence base for effective practice.** Cooperation at a national and international level to share knowledge about risk and safety education and to share materials, experience and evidence for effective practice.

Taken from the RoSPA website (<http://www.rospace.com/safetieducation/ourvision.htm>).

IOSH six-point plan for better health and safety for young workers

- **Teacher training** courses should include a work-related health and safety module (part of the initial teacher training curriculum): 'Teacher training must cover health and safety. We strongly suggest that training should include a module on how to deliver a short course on health and safety, so that students are properly prepared for their first work experience. We call on the government and teachers' professional bodies to recognise and support this as part of the teacher training curriculum, as well as professional development for existing teachers.'



- IOSH is working with the HSE and BSC to provide a **workplace hazard awareness course** and qualification (the course should become a mandatory part of the national curricula, taught during the summer term). We want to see this course as a mandatory part of every curriculum. We call on the government to recognise and support this.
- **Employers and workplaces** (prior to a work experience placement) should be assessed for health and safety and those assessing them should complete a training course of ENTO national standard.
- The approved code of practice for the management of health and safety at work regulations should **strengthen the requirement for workplace supervision**.
- **Accident reporting** procedure must be part of teacher and employer placement officer training and reporting requirements should be reviewed.
- **Health and safety should be a priority** for the government when setting strategic priorities for education, training and skills.

Taken from: 'Putting young workers first':

<http://www.iosh.co.uk/files/news/Putting%20young%20workers%20first%202006%2Epdf>

See also IOSH news release on young worker safety:

<http://www.iosh.co.uk/index.cfm?go=news.item&id=675>



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European Agency for Safety and Health at Work

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In order to improve the working environment, as regards the protection of the safety and health of workers as provided for in the Treaty and successive Community strategies and action programmes concerning health and safety at the workplace, the aim of the Agency shall be to provide the Community bodies, the Member States, the social partners and those involved in the field with the technical, scientific and economic information of use in the field of safety and health at work.

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European Agency
for Safety and Health
at Work

Gran Vía 33, E-48009 Bilbao
 Tel.: (+34) 94 479 43 60
 Fax: (+34) 94 479 43 83
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