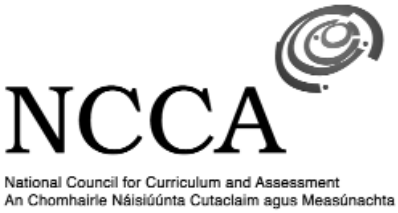
Mapping Health and Safety in the Curriculum

Commissioned by the Health and Safety Authority

September 2007

NCCA
National Council for Curriculum and Assessment
An Chomhairle Náisiúnta Cutaclaim agus Measúnachta



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1. Introduction

The National Council for Curriculum and Assessment was established as a statutory organisation in July 2001. The brief of the statutory Council as outlined 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)*

This probe on health and safety in the curriculum was undertaken at the request and commission of the Health and Safety Authority (HSA). The probe is aimed at

- Identifying the range of existing opportunities within early childhood education, primary and post-primary education for teaching and learning related to health and safety
- Establishing a further range of possibilities associated with ongoing NCCA curriculum review and broader system developments in these areas
- Suggesting ways in which the HSA can contribute to improving possibilities for health and safety in the curriculum in the future by influencing these ongoing developments in curriculum, assessment and qualifications
- Suggesting a range of strategies and initiatives that the HSA might engage with to ensure that the potential for health and safety in the curriculum is realised in the actual teaching and learning that takes place in schools.

The probe is structured in the context outlined above. It commences with a short discussion aimed at clarifying the nature and content of health and safety in the curriculum. Having established this as a base, it proceeds to consider the wide range of developments in curriculum, assessment and qualifications currently underway that have relevance for health and safety in the curriculum and that can be capitalised on to improve the embedding of these concerns within the curriculum.

In section four, it then provides a series of accounts of existing opportunities for teaching and learning in relation to health and safety in primary and post-primary curricula. Accounts are included of potential and opportunities in the areas of the science subjects, the technology subjects, social, personal and health education and the three senior cycle programmes among others.

Finally, in section five, the probe suggests a range of strategies that the HSA could engage in to ensure firstly that the aims associated with health and safety in the curriculum are better embedded in the curriculum in the future and secondly likely to be implemented and realised in schools and classrooms; in other words ensuring that the gap between curriculum provision and curriculum implementation does not become unacceptably wide.

2. What is health and safety in the curriculum?

This brief section is aimed at clarifying what we're talking about when we talk about health and safety in the curriculum. It tries to identify the central concerns and matter of teaching and learning about health and safety and teases out the relative emphasis within it on attitudes and dispositions, on information, knowledge and understanding, and on skills/competences.

In its totality, 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.

Clearly, learning associated with these concerns or a set of learning outcomes derived from them would be diverse in nature and in scope covering the areas of knowledge and understanding, concepts, skills, and attitudes and behaviours. If a relative prioritisation were to be placed in the list of concerns it would seem that, in the first instance health and safety in the curriculum is about engendering certain dispositions around and attitudes towards matters of health and safety such as accident prevention, risk assessment and awareness of hazards. In order to be able to act on these dispositions and attitudes, certain skills and competences needed to be healthy and safe are also essential for the learner. Finally, to provide a secure foundation in health and safety on which to exercise dispositions and attitudes and apply skills and competences, a certain level of conceptual understanding, knowledge and information is also of importance for learners.

More broadly, it is arguable that to date the emphasis in education related to health and safety has been focused more on safety than on health, on matters of practice, procedure and provision rather than on the relationship between attitudes to risk/safety and being healthy. However, this emphasis is shifting.

Internationally, in the field of curriculum development, there is considerable interest in developing the composite idea of well-being (physical, emotional, mental) as an increasingly significant area of the curriculum, in terms of the contribution it can make in assisting young people in making a successful transition from childhood to adult life in an increasingly individualised, marketised and globalised world.

Over time, this may have the effect of adjusting the focus of health and safety in the curriculum away from safety and more towards health. At this point in time, this movement can be observed in the extent to which health and safety in the curriculum is associated with areas such as social, personal and health education where in the past it may have been more focused on vocational aspects of certain subjects and areas of the curriculum such as science and technology. This changing focus is reflected in the aspects of the curriculum discussed in the following sections of the probe.

3. Engaging with developments in curriculum, assessment and qualifications

Introduction

Much can be achieved by identifying current opportunities for teaching and learning related to health and safety in the curriculum and undertaking implementation initiatives e.g. developing resource materials to ensure their realisation. But the question of ensuring that there are sufficient, relevant and appropriate opportunities presenting themselves in the curriculum is arguably even more important.

This question carries particular importance at a time when the NCCA in fulfilling its remit to advise on developments in curriculum and assessment from early childhood to post-primary education is undertaking major reviews of curricula at the junior cycle and senior cycle of post-primary education, and when it is in the process of reviewing the recently introduced Primary Curriculum (1999). The question is also posed at a time when other developments, in particular those related to Information and Communications Technologies (ICT) and to the recently introduced National Framework of Qualifications also present opportunities for underpinning teaching and learning related to health and safety in the curriculum.

From a strategic perspective, a major question for the HSA is whether the brunt of its efforts and resources in the field of formal education should, at this point in time, be aimed at capitalising on existing curriculum opportunities or on influencing future possibilities for health and safety in the curriculum. Of course, it is possible to do 'a bit of both' but the scale of curriculum development and developments in qualifications underway at present is such that the potential for ensuring the embedding of significant opportunities for teaching and learning related to health and safety is great.

This section of the probe sets out the NCCA's current work in the area of curriculum development and what it may lead to over the coming couple of years. The various areas of development in early childhood education, primary education and post-primary education are outlined with a view to the potential they represent for improving the provision for health and safety in the curriculum. Following this, an outline of some possibilities in the related and cross-cutting areas of ICT and qualifications is provided.

Early childhood education

The NCCA is currently developing a national curriculum framework for children from birth to six years. As the national framework, the *Framework for Early Learning* will complement existing curriculums and guidelines and bring greater coherence and connectedness to children's learning and development throughout their early years. The framework will support practitioners in developing their practice to provide children with appropriately enriching, challenging and enjoyable opportunities and experiences to help them to learn and develop to their full potential.

The framework is for parents/guardians, childminders and practitioners. This means the framework will be relevant and useful in a range of settings such as childminder settings, crèches, nurseries, parent and toddler groups,

playgroups, pre-schools, hospital and after-school settings, Early Start and infant classes as well as the child's home.

Reflecting the highly integrated nature of children's learning, the framework will present the content of this learning and development (dispositions, values, skills and knowledge) through broad and interconnected themes rather than through curriculum areas/subjects. These themes are

- Wellbeing
- Identity and belonging
- Communication
- Exploring and thinking.

The theme of wellbeing, in particular, will contribute to nurturing children's growing understanding of health and safety. Through this theme, children will be supported in developing interpersonal and intrapersonal skills to enable them to live and learn alongside others. They will also be helped to explore a range of emotions and how to deal with those emotions in different situations. Another element of learning through the theme of wellbeing is the focus on taking an increasing level of responsibility for personal actions.

The framework will also provide information on the different ways adults interact with and support children, on building better relationships with parents/guardians, on using play as a vehicle for learning, on assessing children's learning and development and using this information to plan for the next steps. The image of the child as an active and competent learner will be emphasised throughout the framework.

Primary education

A child's primary education is shaped by the Primary School Curriculum, which was launched in 1999. The overall aim of the curriculum is to *enable children to meet, with self-confidence and assurance, the demands of life, both now and in the future* (Introduction, p.6). The curriculum consists of eleven subjects presented in six curriculum areas

- Language – English and Gaeilge
- Mathematics
- Social, Environmental and Scientific Education (SESE) – History, Geography and Science
- Arts Education – Visual arts, Music, Drama
- Physical Education
- Social, Personal and Health Education (SPHE)

Religious Education, also part of the curriculum, is the responsibility of the different church authorities and faith groups.

The Primary School Curriculum is being implemented on a phased basis, beginning in 1999 and due for completion in 2007. Each subject is implemented in a three-year cycle as follows:

- Year 1: In-career development support organised by the Primary Curriculum Support Programme (PCSP)
- Year 2: Phased implementation of the subject
- Year 3: Full implementation of the subject

Curriculum review is integral to system improvement. It involves gathering, analysing, reporting and using information about how the curriculum is experienced in order to ensure the curriculum remains responsive to the needs of its intended beneficiaries. The Education Act (1998) confers responsibility on the NCCA *to review the curriculum, or any part of the curriculum, for schools and the syllabuses taught and to advise the Minister* (Section 41, Subsection 2).

The NCCA is currently involved in Phase 2 of reviewing the Primary School Curriculum. Phase 1 focused on teachers', principals', parents' and children's experiences with the curriculum for English, Visual Arts and Mathematics.[1] Mirroring the national in-service schedule, Gaeilge, Science and SPHE are the focus for Phase 2. As with Phase 1, the NCCA will gather information from schools and use this information to identify and develop additional curriculum supports where necessary.

Junior cycle education

Over the period 2006-2008, the work of the NCCA on developments in junior cycle education will include the revision of a range of Junior Certificate syllabuses to a new syllabus template including Business Studies, English, History, Home Economics, Music, Art Craft Design, Environmental and Social Studies and Geography. More extensive syllabus review in the technology subjects, in mathematics and in Gaeilge will also be completed.

Senior cycle education

A major review of curriculum provision at senior cycle is underway at present. It is based on extensive consultation on the future of senior cycle education undertaken by the NCCA in recent years. The outcomes of that review enjoy the full support of the partners in education. The advice on the way forward at senior cycle issued to the Minister for Education and Science in 2005. This year the NCCA has commenced developmental work on a number of aspects of the advice and the first fruits of that work will be available for consultation in 2008.

Briefly, the developments at senior cycle are designed to maintain the clear strengths of the existing senior cycle and improve on them. In particular, they are aimed at improving the rate and the quality of participation in senior cycle education for all and at sustaining excellence in learning at this stage of education. In this sense they build on the successes of the senior cycle reforms introduced in the 1990s.

The developments represent a practical response to the challenge of inclusion and equity faced by many education systems in the developed world—how to ensure that education systems originally designed to serve the needs of a few can be re-shaped to meet needs associated with higher levels of participation involving an ever broader, more diverse group of learners, including those experiencing educational disadvantage and those with special educational needs. In this context, the developments represent a tangible response to criticism of the Leaving Certificate as being too narrowly focused in its 'academic' orientation.

[1]NCCA (2005), *Report on Primary Curriculum Review, Phase 1: Final Report*, Dublin: The NCCA.

The developments involve restructuring the senior cycle curriculum to include more diverse programmes of study involving a wider range of curriculum components—transition units, short courses and subjects. This wider range of curriculum components will allow for a better balance between knowledge and skills in the educational experience of senior cycle students, and will promote the kinds of learning strategies associated with participation in the knowledge society. The developments also provide for improved access to a greater variety of assessment methods and for the introduction of a new inclusive certificate of senior cycle education. They are linked inextricably to a changing culture of schooling where greater attention to the management of learning in schools will result over time in learners taking greater responsibility for their learning choices, activities and achievements, with schools facilitating a wider range of learning experiences, opportunities and environments.

The combination of structural curriculum and assessment change with cultural change in schools will result in the developments achieving effective alignment between what is happening in schools and the emerging knowledge society with its critical emphasis on flexible, personalised, lifelong learning.

From 2006-2008 the work of the NCCA on the senior cycle developments includes

- Revision of Leaving Certificate subject syllabuses in the areas of science, mathematics and languages
- Development of new curriculum frameworks for SPHE and Physical Education
- Development of new Leaving Certificate subjects in the areas of Social and Political Education and in Chemical and Physical Science
- Development of a draft short course in Enterprise Education, and sample courses in a number of other areas
- Advising on the implementation of three revised syllabuses in Leaving Certificate technology subjects and one new general Technology syllabus
- Adoption of an agreed template for the development of transition units and the development of a significant number of prototype or sample units for use in schools
- The embedding of key skills in each of these curriculum components, namely Communicating, Working with Others, Being Personally Effective, Thinking Critically and Creatively, Processing Information and the overarching skill of Effective Learning
- The introduction of a wider range of assessment methods for use in formal examinations
- An initiative with a number of schools addressing educational disadvantage which will develop prototype flexible programmes of study, some of which will be pre-vocational in nature, all of which will be focused on entry to the world of work and life after school
- The review of aspects of the Leaving Certificate Applied, in particular the Vocational Preparation and Guidance Course and a number of the Vocational Specialisms.

The development and revision of syllabuses and short courses will involve embedding the key skills, considering the balance between content and skills in the course, reviewing the assessment methods with a particular emphasis on moving beyond terminal written examinations, updating and modernising the course where necessary and appropriate, removing any obsolete material and addressing any major issues arising in the implementation of the course in schools.

Other developments

There are also three other areas of work worthy of mention that encompass primary and post-primary education to varying degrees, curriculum frameworks in the areas of ICT and Guidance and guidelines for schools on intercultural education.

Curriculum Framework for ICT

A curriculum framework for ICT in education has recently been developed. This provides schools and teachers with a structured approach to using ICT in curriculum and assessment. It outlines the ICT-related learning outcomes that all learners should encounter through their programme of study in primary and junior cycle education. The learning outcomes in the ICT Framework are presented in four inter-related areas of learning with ICT. These are *Foundational knowledge, skills and concepts*; *Creating, communicating and collaborating; Thinking critically and creatively* and *Social and personal impact of ICT.* The ICT Framework is developed at three levels catering for different stages of education.

Level 1	Junior infants to second class
Level 2	Third class to sixth class
Level 3	First year to the end of junior cycle

Many of the learning outcomes in the framework provide students with the opportunity to explore and reflect on issues that might impact on their health and safety, physically, emotionally and mentally in an ICT environment. For example, students should be able to

- Develop a knowledge of and engage in healthy and safe practices in an ICT environment
- Demonstrate an awareness of and comply with responsible and ethical use of ICT.

These are further developed in the ICT Framework to include topics such as ergonomics, safe use and maintenance of equipment, internet safety, acceptable user policy (AUP), cyber bullying and etiquette.

As students progress through primary and into post-primary education they are encouraged to be more evaluative, participative and proactive in deciding to use ICT in a safe, responsible and ethical way.

Students through engagement with the ICT Framework are being provided with opportunities to identify hazards, undertake risk assessments and propose, implement and evaluate risk controls.

This occurs within each of the three levels of the ICT Framework. In the infant classes, students are very much supported and guided by the teacher in achieving the learning outcomes. For example, in the junior classes in primary school 'students should be able to recognise the need to adhere to guidelines for responsible ICT use and care in the school', while in junior cycle, 'students should be able to discuss, develop, implement and evaluate an acceptable use policy (AUP)'.

Curriculum Framework for Guidance

A further area of work relates to the completion of a similar curriculum framework for guidance in post-primary education that sets out the learning outcomes that all learners should encounter through their programmes of study

in junior and senior cycle. These learning outcomes are described in terms of 'Dispositions, Values, Attitudes and Skills' in the areas of personal guidance, educational guidance and vocational guidance. The framework has recently been the subject of an extensive consultation and will be issued to the Department of Education and Science in early 2008 for future implementation.

Guidelines on Intercultural Education

Guidelines on intercultural education in post-primary schools, which are designed to assist schools in mediating the curriculum and the educational experience in an inclusive way, will issue to schools in 2007. This follows the success of similar guidelines for primary schools and are aimed at assisting schools in meeting the increasing diversity of the student population participating in primary and post-primary schooling

Developments in qualifications

Much of the focus of this probe is on *already embedded* opportunities for teaching and learning related to health and safety in curriculum specifications or on influencing and advocating for their *embedding*. However, the potential for the development of discrete curriculum components, such as modules or short courses, dedicated to aspects of health and safety should not be overlooked. The potential also exists, with the introduction of a National Framework of Qualifications, for developing and organising these curriculum components in ways that would result in the certification of learning achievement in these areas. It is conceivable, for example, that new qualifications or educational awards could be introduced which would recognise the achievements of learners in the area of health and safety and which would be formally included on the National Framework of Qualifications.

National Framework of Qualifications

The National Framework of Qualifications has been in place since October 2003. It is an instrument of national policy, developed in accordance with the provisions of the Qualifications (Education and Training) Act, 1999. It is intended to encompass all education and training awards in Ireland, providing recognition for all learning achievements.

In general terms, its purpose is to offer a framework through which all learning achievements can be easily compared and valued. The framework now includes the vast majority of education and training qualifications or awards in Ireland. It includes awards currently gained in schools, the workplace, the community, in training centres and in colleges and universities. It includes those from the past that are no longer available. It is likely that all future awards will be developed with the idea of inclusion on the framework in mind.

But what is the framework itself? It has 10 levels. Level 1 relates to quite a basic level of learning. It includes the ability to learn under supervision, to take in information and use basic repetitive skills. It also includes skills in basic literacy and numeracy. Compare this with Level 10 where learners are expected to be able to discover and develop new knowledge and skills and where the skills required are highly specialised and can be transferred from one task to another very different one. Each level is described in terms of

- the knowledge learners need to have
- the know-how and skill they need to be able to demonstrate
- the competence they need to absorb and apply to all their learning.

School awards and other awards on the framework

Since 2003 the National Qualifications Authority of Ireland (NQAI), who have responsibility for developing and implementing the framework, have led the process of placing Irish awards on the framework. The school awards were placed at the following levels: the Junior Certificate was placed at Level 3 of the framework while the Leaving Certificate, including the LCVP and Leaving Certificate Applied, was placed at Levels 4 and 5. The placing of the Leaving Certificate across two levels reflected the wide range of learning outcomes included in the various senior cycle programmes. At this time, there are no formal awards associated with primary education.

The inclusion of the school awards on the framework is a relatively minor reflection of the importance of the framework. Its significance for further and higher education has been much greater. In particular, in the area of further education a large number of pre-vocational, vocational and training awards and qualifications offered by a large number of providers and awarding bodies were operating in relatively isolation prior to the introduction of the framework. Its emergence has provided the opportunity and capacity to include all awards on a common framework that facilitates ease of comparison and clarity in recognising the nature and approximate standard of learning involved for learners. As a result, the framework is making important contributions to education and training in the key areas of access, progression and transfer.

In the future, the framework itself will be the subject of review and, in turn, the inclusion of school awards on the framework is being kept under review. Some questions have been raised, for example, about whether achievement at different levels or grades in the subjects of the Leaving Certificate should be reflected by more definitive placement on the framework, rather than across the two levels as at present. A discussion paper is currently being generated by the NQAI/NCCA on this question and will give rise to further discussion of this issue in 2007.

Most significantly for schools, it is likely that any future developments in the areas of curriculum and qualifications will be carefully aligned with the framework. In this context, for example, the proposed senior cycle developments will take full account of the descriptions and outcomes of learning at relevant levels of the framework. Agreement will be sought in advance of their introduction as to where any new awards that might arise from these developments will be placed on the framework.

Nor are NCCA developments in relation to the framework confined to senior cycle. At junior cycle, in the interest of facilitating those with special educational needs who are increasingly integrated in post-primary classes, the NCCA is developing proposals on a new curriculum framework for students with general learning disabilities (aged 12-16). This framework will derive from the Junior Certificate and will include a broad, balanced set of learning experiences as well as opportunities to develop personal, independent and living skills during the final years of compulsory education. If introduced, this framework could give rise to the inclusion of a new school award at Level 2 of the framework.

European Qualifications Framework

Clearly the framework will be an important influence in developments in education over the coming years. Further evidence of this is the ongoing discussions that commenced in 2005 around the introduction of a European Qualifications Framework. A draft European framework was the subject of consultation in the second half of 2005. The

idea of a Europe-wide framework is strongly supported by the European Commission (EC). There are many similarities between the European framework and the Irish one. Both are levels based although the European framework has only eight levels. In both, the levels are described in terms of learning outcomes that relate to competences in the areas of knowledge, skills and wider professional competences. The principles underpinning both are similar; valuing all learning and promoting quality assurance for example.

However its main purpose differs to that of the national framework. The European framework is a meta-framework for use by national agencies involved in the area of qualifications. It enables an agency in Ireland to directly compare their qualification with a similar one in Spain where both have been aligned with the European framework. By extension, it facilitates the individual learner in having their qualifications recognised as they travel between countries.
The European framework is not designed to replace the national framework. It is not envisaged that its use will impose any legal obligations on countries that use it. It will be used in countries on a voluntary basis to support and inform reform in the field of qualifications. Nevertheless, it is further evidence of the fact that qualifications frameworks will be an increasingly prominent part of the landscape of education and training in the future.

Potential Awards in the area of Health and Safety

Clearly, the potential for recognising specific 'bundles' of learning (whether units, modules or larger courses) around the areas of health and safety through the framework is great. For purposes of simplicity, such learning should be focused as closely as possible on specific aspects of health and safety. There are a number of factors that would need to be considered in thinking through and planning for this possibility.

Awarding Body

An awarding body is a national body that has the legal power to make an award in Ireland. Currently, for all the awards and qualifications included on the framework there are four awarding bodies. The universities, the Dublin Institute of Technology (DIT) and the Higher Education and Training Awards Council (HETAC) are the awarding bodies for higher education. FETAC, the Further Education and Training Awards Council have responsibility for awards in the area of continuing and further education. In the case of the school awards, the State Examinations Commission (SEC) have responsibility for making school awards while the responsibility for developing new awards and associated curriculum specifications remains with the NCCA.

This gives rise to the question of who the awarding body for any award in the area of health and safety would be? Depending on the nature of the award and the target group for the award, would the SEC or FETAC be the appropriate body?

The provider

A second factor relates to the question of the provider/s of the award. In the case of the vast majority of the awards included on the framework, the awarding body and the provider of the award are separate institutions or places. Typically, education and training institutions and other settings offer programmes leading to awards or qualifications and these institutions or settings are termed *providers.*
In relation to an award in the area of health and safety who would the envisaged provider/s be? Would such an award be targeted at schools, at employers involved in providing work experience or work-based learning, at further education

settings or at a combination of these? An interesting question for discussion here is whether such an award would be focused on the learner herself/himself and whether in this sense there is scope for the provider to be 'virtual', ICT-based? In the latter case, the provider, through a dedicated education website, could be the HSA itself. A further question for consideration here is who the providers might be in the case of an award that was targeted at the teachers/trainers rather than at students/learners themselves?

The award

An *award*, which can be and is used interchangeably with the term *qualification,* is at its simplest a record that a learner has achieved a standard of knowledge, skill and competence. The NQAI has determined four classes of award-types: Major, Minor, Special Purpose, Supplemental. The determination of four award-types is reflective of the fact that not all combinations of learning achievement at a given level of the framework are equal in terms of the standard and amount of learning involved. All awards included on the framework can be classified under this typology.

Currently, there are 16 Major awards included in the framework. These are large volume awards that fulfil a broad range of purposes including, for example, the Leaving Certificate awarded by the SEC or a Level 5 Certificate awarded by FETAC. Minor awards are smaller in volume and narrower in purpose and are often building blocks of or constituent parts of major awards. So, modules that when added to produce a certain combination and volume could become a major Level X Certificate, can also be treated on their own as minor awards.

The other two types are self-explanatory. They involve other, more limited or specialised recognition of learning related to learning that takes place for *special purposes* and learning which is *supplemental* to, for example, a major award.

On the face of it, it would seem that the award-types of greatest relevance to the area of health and safety would be those of Minor Awards and Special Purpose Awards. In the case of minor awards, modules/courses could be designed for recognition in their own right but with the added benefit of potentially being included as part of a larger award. On the other hand, there may be some merit in developing stand-alone awards for the *Special Purpose* associated with Health and Safety and seeing these as separate from other Major and Minor awards.

Either way, a third key factor and set of questions for further discussion surrounds the type of award to be offered.

Levels, level indicators and learning outcomes

Clearly, the main determinant of the *level* at which it is proposed to include any prospective award in the area of health and safety on the framework, will be the target group. Awards aimed at primary school children will most likely be included at Level 1 or 2 of the framework. Currently post-primary and junior cycle awards are included at Level 3 and at Levels 4/5 respectively. An award aimed at teachers/trainers, depending on the scale and standards of the learning achievement involved might be placed at any level between 6-8 assuming that it wouldn't be offered at the level of post-graduate study. If the award is to be offered within the context of further and continuing education it may be related to the awarding of FETAC Certificates at any level from 1-6.

The *level indicators* provide a useful guide to thinking about the nature of any prospective award and the level at which it might be included on the framework of qualifications. As mentioned earlier, the indicators are set out as

general learning outcomes in terms of

- the knowledge learners need to have (breadth of knowledge and kind of knowledge)
- the know-how and skill they need to be able to demonstrate (the range of know-how and skill and the ability of the learner to select from it and apply it in given situations)
- the competence they need to absorb and apply (including the range of contexts and role of the learner in relation to the competence, and their capacity in knowing how to learn and gain insights into themselves and their learning).

The level indicators can be viewed as a tool to assist in general planning and development in relation to any prospective award.

More detailed planning would need to follow in relation to the specific learning outcomes associated with any unit, module or course. This would involve aligning the relevant general learning outcomes from the level indicators with more specific learning outcomes associated with the particular aspects of learning about health and safety taken up in the curriculum component.

First steps

Initial discussions in relation to the development of an award in the area of health and safety would need to focus on

- Who would the award be targeted at? Why?
- What kind of curriculum component/s would be involved? What volume of learning would be involved?
- What type of award would it be?
- Who would be the awarding body?
- Who would provide the award?
- What would the notional level of the award be?
- What would the main learning outcomes associated with the award be?

Key organisations to liaise with in the context of these discussions would be the NQAI, the NCCA (in the case of school awards) and FETAC (in the case of awards in the field of continuing and further education). A range of institutions might be involved in the case of higher education awards.

Some possibilities in the area of ICT

The contribution that Information and Communication Technologies can make to teaching and learning about health and safety are significant and varied. In particular the potential for the provision of online resources and support, of courses in aspects of health and safety for learners, and in training for teachers should be noted.

Focusing on the provision of online resources and training is consistent with both international trends and the DES 'Broadband in Schools' initiative. Online provision facilitates ubiquitous, readily available, easily accessible and updatable multimedia digital resources.

However, the level and type of use of ICT to support teaching and learning is very much dependent on the availability of resources. These include

- Access to up to date ICT infrastructure
- The availability of reliable high-speed broadband connectivity in schools
- Funding for the development, sourcing, publishing and maintenance of appropriate digital content
- Funding for the continuous professional development of teachers.

In exploring the contribution that ICT can make in supporting health and safety education in the curriculum, account is taken of the current levels of ICT resources in schools and the existing opportunities that it presents. Future augmented levels of ICT resources are envisaged and the potential opportunities that such a scenario would present are envisioned.

The current situation

The current levels of ICT provision in Irish schools as noted in the NCTE 2005 Census[2], include a pupil-computer ratio in 2005 of 9.1 in primary schools and 7.0 in post-primary schools. Over 50% of the computers are more than 4 years old in primary schools and over 40% in post-primary schools. The computer age and ratio are significantly higher in Irish schools than most other developed countries. In most post-primary schools, the ICT facilities/room are almost fully timetabled for ICT classes. Difficulties are encountered in providing access to ICT facilities to support teaching and learning across the range of curricular areas.

In post-primary schools, 80% of computers are networked and have Internet access, while in primary schools this figure is 45%. Most schools now have broadband access, however in most cases the bandwidth is significantly below the bandwidth provided to schools in countries such as the UK and Norway. The latter bandwidth is necessary to access multimedia-rich digital resources in a classroom situation.

An increased number of teachers and students are acquiring broadband access at home. However, access to broadband in rural areas continues to be problematic. Approximately 7% of teachers availed of online courses in the last two years.

It is recognised that there is a dearth in the availability of indigenous curriculum based digital resources to support teaching and learning in Ireland. This needs to be addressed. However, there are some resources being developed to specifically support the Irish curriculum and resources available from other jurisdictions could be customised to align with the Irish curriculum. Interactive multimedia resources supporting health and safety education in industry and education are currently available.

No national investment in ICT infrastructure with the exception of the networking and broadband grants have been provided to schools since 2001/2002. However, the release of a new ICT in schools policy supported by National Development Plan funding is anticipated sometime in the current academic year.

[2] *NCTE 2005 Census on ICT Infrastructure in Schools-Statistical Report,* Gerry Shiel, Adrian O'Flaherty, Educational Research Centre, St Patrick's College, Drumcondra (October, 2006)

Existing opportunities

Although funding and access to ICT facilities and broadband are currently limited, significant opportunities for using ICT to support health and safety education exist. There are many existing resources available electronically and online, for example useful websites; lists of available resources (videos, posters, etc); legislative documents pertaining to health and safety; sample risk assessment tools and templates; sample health and safety plans; sample accident investigation and reporting templates; lesson plans; worksheets; case studies.

These resources are currently located all over the Internet and are difficult for teachers to find. An audit and evaluation of current resources is currently underway by the HSA. A *Health and Safety for Schools website* (or as a section of an existing website) could be developed containing links to relevant websites and hosting health and safety templates, lesson plans, presentations etc which could be downloaded and customised by teachers for use in their classroom. This would be a useful step in utilising ICT to support health and safety education.

Potential opportunities

The scenario presented above does not utilise the opportunities presented by online interactive multimedia resources, such as animations, simulations, and streaming video. Neither does it examine the potential offered by managed learning environments (MLEs), podcasts, RSS feeds etc.

In going forward, investment is needed in the development of new, and customisation and acquisition of existing multimedia digital content (assets). For example, digital video clips of safe practice and harmful practice in the workplace/science lab/PE hall could be generated; digital video role-plays of bullying in the classroom and animations of correct/incorrect lifting or seating positions could be developed.

In short, a repository of digital resources could be created. These digital resources should be available online and used for many different purposes in a variety of contexts. For example as

- A downloadable stand alone teaching and learning resource
- A resource that a teacher or course tutor may incorporate into another resource
- Part of an online digital lesson
- Part of an online course for teachers or students in some aspect of health and safety
- Part of an online accredited course
- Part of an assessment task.

Given the cost of developing multimedia digital assets, it is important that they would be used in as many contexts (e.g. school, teacher professional development, industry etc) as possible.

Selections of these digital assets could be used along with additional resources in the development of an online course for teachers or students. Online courses for teachers or students could be hosted within an online managed learning environment, where the teacher or student registers to participate in a course. In this scenario, they would receive a username and password and their progress would be monitored as they progress through the course. Online assessments could take place at intervals throughout the course and/or at the end. A certificate of participation or achievement could be automatically generated on completion.

As indicated in the previous section on qualifications, some of these courses may be approved and recognised. Courses could be either pre-defined or customisable where the user registers for a specific predefined course or selects a number of available modules. There are also opportunities for course providers (e.g. support services and teachers) to develop their own courses, if they were given appropriate authoring tools. This facility would be particularly useful to support services such as T4, who are supporting the implementation of the suite of new and revised Leaving Certificate technology subjects.

It is worth noting that numerous online courses pertaining to health and safety issues already exist and are mainly provided by commercial course providers.

Teachers and students could be kept up to date with new courses and resources by subscribing to an RSS feed informing them when new items appear on the website.
In additional to online resources, many other ICT resources may be used to support health and safety education in the curriculum. For example, the use of digital video in the classroom, recording a science experiment, or a gymnastic movement, where the recording could be played back and comments and reflections on safe or harmful practice. In short, the opportunities with ICT are endless!

Conclusion

This section of the probe has set out some developments in early childhood education, primary education and post-primary education that provide opportunities for further embedding teaching and learning related to health and safety in the curriculum. It also drew attention to developments in the area of qualifications and in ICT, which also offer some possibilities in this context.

In the final section of the probe the ways in which strategies could be developed and prioritised around these opportunities is discussed.

The next section of the probe outlines already existing opportunities for teaching and learning related to health and safety in existing curriculum specifications.

4. Health and safety in the current curriculum

Introduction

The probe has identified a number of existing educational programmes and curriculum areas that are particularly conducive to underpinning teaching and learning related to health and safety in the curriculum. These include educational programmes such as Transition Year, the Leaving Certificate Vocational Programme (LCVP) and the Leaving Certificate Applied. Science education, technology education, business education and social, personal and health education are among the curriculum areas where considerable opportunities exist for teaching and learning related to health and safety.

The nature and scale of the opportunities vary from area to area and from programme to programme. Some cover the full gamut of learning outcomes related to attitudes and dispositions, conceptual understanding, information and knowledge, and skills. Others may focus, predominantly, on understanding of knowledge. Some are focused on actual preparation for the world of work and life outside school, others treat health and safety largely in the context of subject learning and in-school safety. But they all have a contribution to make.

Business

Business Studies is a major subject taken by almost all students in the junior cycle of post-primary education. At senior cycle there are three business subjects offered as part of the Leaving Certificate, namely Business, Economics and Accounting. Business is also offered as a course in the Leaving Certificate Applied.

In addition, many schools offer units/modules based on different areas and aspects of business as part of the Transition Year. For example, in the Transition Year programme, students are encouraged to get involved in enterprise activities and are made aware of health and safety issues in this context. They also complete work experience in companies so they can see at first hand the need for health and safety regulation in their place of work.

Teaching and learning related to the *Safety, Health and Welfare at Work Act 2005* is a feature of the business subjects in junior and senior cycle. In particular, the rights and duties of employers and employees under the Act are emphasised.

With regard to employers, learning focuses on their responsibilities to

- Provide a safe place of work and safe systems and equipment in the workplace
- Ensure that risks are assessed and a safety statement is prepared and updated
- Prepare and update procedures to deal with an emergency situation
- Provide training and information to workers in relation to health and safety
- Provide and maintain good welfare facilities for employees
- Report serious accidents to the Health and Safety Authority

Attention is also given to the statutory requirement on every employer to have a written safety statement, which identifies the risks and hazards in the place of work based on appropriate risk assessment. The role of the HSA is also a feature of teaching and learning in this area.

With regard to employees, learning focuses on their responsibility to

- Comply with relevant safety and health laws
- Not to endanger their own health and safety and that of others
- Avoid engaging in improper conduct or behaviour
- Wear protective clothing where necessary
- Cooperate with the employer and report any dangerous practices that they are aware of
- Avoid interfering with or misusing any safety equipment in the workplace.

Teaching and learning arises out of topics related to these areas in the business syllabuses. In Junior Certificate Business Studies, this includes the topics

- At Work
- Introduction to the rights and responsibilities of employers and employees
- Introduction to insurance.

In Leaving Certificate Business, this includes the topics/activities

- Stakeholders in Business
- Management - organisation, control and communication
- Enterprise - legal requirements
- Human Resource Management - recruitment of competent staff and monitoring behaviour
- Government and Business – the social responsibilities of companies
- Insurance - risk assessment
- Report writing (students can be asked to write a report on a health and safety topic.

In addition, in Leaving Certificate Economics there is some scope for learning related to health and safety in the topic on the 'Regulatory role of Government' while in Accounting the area of costing and budgeting for Health and Safety is also an area of learning covered.

Home Economics

Home Economics at junior cycle and senior cycle focuses on the acquisition of knowledge and the development of skills and attitudes that will enable students to take control of their own lives at present and in the future, whether that be in the home, in further education, in the world of work, or other life situations. The wide range of learning experiences to which the students are exposed will allow them to be flexible and adaptable in the changing situations of modern life. It prepares students of both sexes for life in a consumer-oriented society and provides a learning foundation for those seeking employment in a wide range of careers, such as the food industry, tourism, clothing and design, and the health and social services. The syllabuses emphasise the need to develop an awareness of health and safety practices in activities related to Home Economics.

The Junior Certificate Home Economics syllabus comprises five sections: Food studies and culinary skills, Consumer studies and resource management, Home management and design, Social and health studies and Textile studies. The three optional areas are: Child development, Textile studies and Design and craftwork. Home Economics-Scientific and Social at senior cycle comprises three areas: Food studies, Resource management and consumer studies and Social studies. There are also three electives from which one must be chosen. They are: Home design and management, Textiles, fashion and design and Social studies.

Home Economics is also offered in Transition year in various modules including culinary skills, interior design, first aid, healthy living, etc. It forms the basis for the Hotel, Catering and Tourism Vocational and the Childcare/Community care specialisms for Leaving Certificate Applied.

While studying Home Economics in school 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

Home Economics is a practical subject and much of the learning takes place through practical activities in the kitchen. As the kitchen is the room where most accidents occur in the average home it is of paramount importance that the teacher enables the student to carry out this learning in a safe and supportive environment. Standard safety precautions must be observed, and due care must be taken when carrying out all activities. Students are taught how to organise and manage activities associated with producing safe food for consumption. They are encouraged to work in an observant manner, to be aware of the dangers of spillages, heat, fire, sharp knives, electrical equipment, toxic cleaning materials and other potential hazards that may arise. They are taught the importance of adhering to regulations that apply to working in a kitchen, including the importance of personal protection such as protective clothing (aprons, head covering and oven gloves). They are trained how to behave in emergencies e.g. fire drills, how to use fire blanket in the event of small local fires. The main learning outcomes of practical activities carried out in the school kitchen concerns the safe use of materials and equipment and the procedures that promote good health and safety practices.

Junior cycle

Students at junior cycle cover practical elements in textile studies. They are expected to handle fabrics and practice the skills associated with basic sewing. This necessitates the use of basic sewing equipment like needles, pins, scissors and the sewing machine. It is extremely important that the correct use of this equipment be stressed to avoid any safety issues.

Content from the junior cycle syllabus can be used to help students develop a positive attitude toward health and safety issues. Basic requirements for healthy living is a section in the nutrition and diet areas, as well as in food hygiene and personal hygiene. An area of particular relevance to health and safety are the causes and prevention of accidents in the home and the rules for first-aid. The procedures for treating burns, scalds, cuts and poisoning are important. Safe work practices in relation to electricity, gas and water is extremely relevant and is ongoing in the

home economics classroom. The correct and appropriate use and storage of detergents and other cleaning materials is stressed in the context of practical work. Students are expected to familiarise themselves with safety symbols and hazard warnings that appear on chemicals and equipment found in the home.

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

Senior cycle

It is stated in the syllabus document for Leaving Certificate Home Economics-Scientific and Social that 'Teachers must work within the guidelines of the Safety, Health and Welfare at Work Act (1989) and any subsequent amendments. Teachers are encouraged to develop in their students positive attitudes and approaches to safety in the range of activities they encounter and to inculcate in them an awareness of the value of creating a safe working environment.'

At senior cycle the teacher stresses that students should appreciate the importance of safe and hygienic practices in the home and elsewhere and the fact that safety awareness should be an integral part of life in the use of food, materials, and equipment. Safe use of food preparation and cooking equipment is important. This follows on from practices at junior cycle.

The textiles area of the syllabus focuses on the safety considerations in the selection of household textiles, and students are expected to be familiar with fire-retardant finishes and the 'Fire Safety (Domestic Furniture) Order (1988 and 1995).

The study of ergonomics and its importance in relation to health and safety is covered in the Home design and management elective.

As part of the Home Economics Scientific and Social syllabus for Leaving Certificate, students are required to undertake 5 food studies assignments, for which a record is kept and submitted for assessment. In filling out the pro-forma journal associated with each assignment the student is expected to refer to safety and hygiene factors encountered in the implementation of the task. They are also expected to refer to any issues arising in relation to safety and hygiene when evaluating the assignment.

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 familiarize students with the language associated with health and safety. In observing the rules of the school kitchen each student is made aware that he/she is responsible for both his/her own safety, the safety of those in their care and of those working alongside them.

The sciences

Having an understanding of inherent hazards and learning how to be safe is core to the teaching and learning of science in school at both primary and post-primary level.

Science is part of the curriculum area called *Social, Environmental and Scientific Education* in the Primary Curriculum. The Science Curriculum helps children to develop their scientific knowledge and ideas, and their ability to work as scientists. It presents the knowledge and ideas involved in four strands:

- Living things
- Energy and forces
- Materials
- Environmental awareness and care.

Each strand is divided into a number of strand units with each unit enabling children to explore particular concepts in detail. Children learn to work as scientists by having opportunities to work scientifically and to design and make models and objects.

The Science Curriculum emphasises children's ideas as a starting point for learning in Science. The curriculum highlights the importance of children learning through first-hand experiences by working with everyday objects and materials. Supporting children to link their new learning in Science to everyday situations and problems also helps to make the learning more authentic, interesting and enjoyable. Working in and learning about the environment is an important part of this.

Following primary education, science is a major subject taken by almost all students in the junior cycle of post-primary education. In senior cycle there are five science subjects offered as part of the Leaving Certificate and LCVP – Agricultural Science, Biology, Chemistry, Physics and Physics/Chemistry (combined). General Science is also a discretionary subject in the Leaving Certificate Applied. Finally, many schools offer units or modules based in different areas and aspects of science as part of the Transition Year.

While studying science in school students learn how to

- care about their health and safety and the health and safety of others
- identify everyday hazards and how to protect themselves against them
- create a safer and healthier learning and working environment
- live safer, healthier, lives

One of the roles of the science teacher is to enable pupils to learn science in a safe and supportive environment. Throughout their experience of science in school, students are taught how to cope with the hazards associated with practical work, and to minimize the risks to themselves and to their colleagues. Science has the advantage over other subjects of hands-on practical activity. However, the more activity that a student is engaged in, the more potential there is for accident and personal injury. The excitement generated by the use of potentially dangerous equipment and chemicals adds to the risks involved in carrying out practical science activities.

As well as practical activities, content from the science syllabus can be used as a context to help students develop a positive attitude toward health and safety issues in a variety of situations. It can also be used as a focus for teaching by using health and safety issues as starting points. (An exemplar of how this strategy can be used by teachers can be found in the teacher guidelines for Junior Certificate Science).

Health and safety is explicit in each of the science curriculums. The primary curriculum states that at each stage of their science investigations children should be aware of and encouraged to adopt safe practice. They should observe safety procedures in designing and making tasks, particularly when they are using tools and materials. This is referred to both in the *designing and making* component of the curriculum and the *working scientifically* component of the primary science curriculum. Designing and making in primary education provides students with opportunities to acquire and practice skills with tools such as needles, knives, screwdrivers and saws under the supervision of their teacher. Through developing understanding of science, students will be shown how to use these tools appropriately with due care and attention. The Primary Science Curriculum also emphasises the importance of children developing an appreciation of the dangers associated with electricity and sunlight. Through their investigations and discussions on these energy sources, the children are helped towards understanding the dangers and how to overcome/prevent these.

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 will develop a sense of safety in the laboratory, at home, in the workplace, and in the environment, in addition to an awareness of health issues.

Students have many, if not all of their science lessons in a school laboratory during their post-primary education. The main learning outcomes of the initial practical activities carried out in the school laboratory concern the safe use of apparatus and the development of procedures that promote good health and safety practices. Students are taught how to identify and avoid potential hazards, many of which they will encounter in day to day life such as burning, scalding, broken glass, or slippery surfaces. They are taught the importance of adhering to the strict rules that apply to laboratories, including the importance of personal protection such as protective clothing and eye protection. They are also taught how to use the various pieces of safety apparatus that exist in a school laboratory.

As part of the revised syllabus for Junior Certificate Science, students are required to undertake 30 practical activities, for which a record is kept and submitted for assessment. Planning the activity is central to the scientific process; students are taught how to include safety in their planning, and in doing so are encouraged to take some responsibility for their own safety. Students should identify any potential hazards or risks that exist and include in their plan how these risks can be avoided. At the end of the three years of junior cycle, students complete further course-work investigations set by the State Examinations Commission and submit them for assessment. A section of the assessment pro-forma asks for 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. By the end of junior cycle students have had repeated instruction on working safely with everyday hazards, working safely in groups and treating the workplace with respect.

As students move to senior cycle, they bring with them the lessons learned in junior cycle and apply them to situations in the study of science at senior cycle that potentially present greater hazards. These include biological hazards, toxic and poisonous chemicals, electrical hazards and ionizing radiation. 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 are encouraged to develop positive attitudes and approaches towards safety in the range of activities they encounter and an awareness of the value of creating a safe working environment. All activities are undertaken within the parameters of the Safety, Health and Welfare at Work Act, 2005. In each section of the syllabus students develop their understanding of the impact of agricultural activities and processes on the environment. In carrying out the range of activities required by the syllabus students are expected to appreciate the need for investigative and experimental and other measures designed to minimise errors and risks.

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 of sound, the hazards of methane production in slurry pits, coal-mines and refuse dumps is specified under fuels and heats of reaction in chemistry. Knowledge of the effect of smoking, diet and exercise is specified under organisational complexity in the human in biology. There are many other such examples.

Throughout the science syllabuses at both primary and post-primary, there are opportunities to teach and promote good health and safety practices and to familiarise students with the language associated with health and safety, including explanations of safety symbols and hazard warnings. In observing the rules of the school laboratory each student is made aware that he/she is responsible for both her/his own safety and the safety of those working alongside them.

To accompany the syllabuses in science, the Department of Education and Science have 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 embraces a broad understanding of health and wellbeing while also emphasising individual and collective responsibility for health and wellbeing. In the context of the SPHE curriculum, health is understood as

> *the extent to which an individual or a group is able on the one hand, to realise aspirations and satisfy needs; and on the other hand, to change and cope with the environment. Health is therefore, seen as a resource for everyday life, not an object of living; it is a positive concept emphasising social and personal resources as well as physical capacities (WHO 1984)*

SPHE provides students with learning opportunities to explore and reflect on a range of issues which impact on health and wellbeing. Students are encouraged to be proactive about their health and wellbeing and that of others. In educating students to take responsibility for health and wellbeing, SPHE in turn can help to lay the foundation for positive attitudes, values and decision-making in relation to health and safety in their lives now and in the future.

SPHE in the primary curriculum

SPHE in the primary curriculum begins this journey by expanding the child's understanding of health and wellbeing. In primary education, SPHE is built around three strands: *Myself, Myself and others and Myself and the wider world*. The child begins to explore what it means to be healthy and well for themselves, in their relationships with others and in the context of the wider world. From an early age, health and wellbeing are seen as not being solely one's personal responsibility but as something that is affected by our relationships with our family, our friends and the wider community.

The following are a selection of the relevant areas addressed in SPHE in the primary curriculum that help underpin students' broader understanding of health and safety:

Strands	**Strand units**	**Opportunities are provided to explore**
Myself	**Self-identity** Self-awareness Developing self-confidence Making decisions	▪ taking **increased responsibility** for their own **actions and behaviour** ▪ their own **reactions and behaviour** in differing situations
	Safety and Protection Personal safety Safety issues	▪ when and how **to seek help** ▪ the need for **rules and regulations** ▪ taking **lifts from strangers** ▪ being asked to **keep a difficult secret**
Myself and others	**Myself and other people**	▪ a range of **communication and interpersonal skills** including listening, asking questions, giving and receiving compliments, affirmation and constructive criticism
	Relating to others	▪ aspects of **genuine friendship** such as listening, trust honesty, laughter, empathy

		▪ the ways in which **individual actions and behaviour affect others** ▪ treating others with **dignity and respect** ▪ **empathising with others** and exploring issues from a variety of perspectives
Myself and the wider world	**Developing citizenship** My school community	▪ the **celebration of difference** ▪ **being part of something** that goes beyond personal interest and recognising that they can make a valuable contribution to society ▪ **the concept of democracy** including voicing individual opinions, undertaking a variety of responsibilities, listening to different points of view and working both as an individual and as a member of a group

In *Myself and others*, students learn to deal with conflict and disharmony by practising different techniques that focus on identifying the problem and exploring possible solutions including learning to compromise, to apologise, to receive an apology and to forgive. In *Myself and the wider world*, the particular experiences included in SPHE lay the foundation for active and interested participation in society. Students are encouraged to explore the diversity of the world in which they live. They examine how discrimination can occur in their schools and in their local community. They learn about individual and group rights and responsibilities particularly in the context of their school and local community

Junior cycle

In junior cycle post-primary education, the SPHE curriculum is designed around ten modules: belonging and integrating, self-management, communication skills, physical health, friendship, relationships and sexuality 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.

Four modules in particular, *Belonging and integrating, Communication skills, Emotional health and Personal safety* emphasis the importance of developing students self-awareness about their own behaviour, values and attitudes and the impact that these have on the health and wellbeing of themselves and others. Teaching and learning in SPHE can build on this awareness, promoting the particular dispositions, values and attitudes that are central to health and safety education. Health and safety in the context of SPHE is understood as being about more than health and safety procedures and practices. Health and safety is understood as being concerned with protecting the physical, emotional and social health and wellbeing of everybody in the community of the school and other settings where young people live out their lives.

The following are a selection of the relevant areas addressed in SPHE in junior cycle that help underpin students' broader understanding of health and safety:

	Year 1	**Year 2**	**Year 3**
Belonging and integrating	▪ Skills for **working in groups** ▪ Identifying and labelling **bullying behaviour** ▪ Personal and group **responses** to bullying behaviour ▪ Familiarity with school's **procedures** for responding to bullying	▪ Further development of the skills for **working in groups**	▪ Identifying factors which **promote** a good **atmosphere for learning** ▪ **Personal and group contracts** to promote a good atmosphere for learning
Communication skills	▪ **Listening skills** ▪ Importance of **sensitivity to the opinions** of others ▪ Skills of **conflict management**	▪ Skills for **assertive communicati on** ▪ The **use** of assertiveness skills when dealing with **people in authority**	▪ **Skills** for open, honest and sensitive **communicati on** ▪ Characteristics of **constructive criticism** ▪ Skills for **negotiation**

	Year 1	**Year 2**	**Year 3**
Emotional Health	▪ Recognising appropriate and inappropriate ways of **expressing emotions** ▪ Awareness of one's emotional responses and the **feelings of others**	▪ Skills for **promoting** a sense of **wellbeing** in others	▪ The **place of stress** in day-to-day living ▪ Recognising the **effects of a high level of stress** on self and others ▪ Skills for **expressing feelings appropriately**
Personal Safety	▪ Procedures for **protecting personal safety and security** ▪ Appropriate responses when safety and security are threatened ▪ **Fire and safety procedures** in the school ▪ Basics of **road safety**	▪ Raising awareness of the role of every member of **school community** to **school safety** ▪ Raising awareness of **situations** in which **accidents** occur and ways in which they may be **avoided** ▪ Strategies for **promoting security and safety** and sources of **crisis support**	▪ Identifying **situations** in which students' **safety** might be **compromised** ▪ Awareness of **safety-enhancing behaviours** ▪ Knowledge of **help agencies** and how to contact them

Senior cycle

The curriculum framework for SPHE in senior cycle is currently nearing completion by the NCCA. Building on students' learning in SPHE in junior cycle, SPHE in senior cycle aims to develop students' self-awareness, self-efficacy, capacity to empathise, resilience, health literacy skills and understanding of themselves as learners. The draft curriculum framework is built around five areas of learning: mental health, gender studies, substance use, relationships and sexuality education (RSE) and physical activity and nutrition. Designed as an enabling curriculum, students and teachers are advised to select learning outcomes in relation to three strands:

- Emotional and social health and wellbeing
- Physical health and wellbeing
- Personal/group health and wellbeing

The draft curriculum framework emphasises the importance of students being encouraged to take responsibility for health and wellbeing informed by each of these three strands. The third strand in particular, *personal/group health and wellbeing* emphasises the importance of students being aware of the wider influences on health and wellbeing including the interdependence of the individual, the community and the environment in the context of health and wellbeing. Relevant legislation and policy is an essential part of this interdependence in each of the areas of learning.

Students in senior cycle have increasing autonomy in their own lives. Many students are working part-time and have some level of financial independence. Students in senior cycle are frequently in contact with other settings in their social and part-time working lives where health and safety practices, procedures and considerations are an integral part. In the draft curriculum framework for SPHE in senior cycle, there are a number of opportunities for students to develop their understanding and appreciation of the importance of health and safety in these various settings.
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 following are a selection of those aspects of the curriculum that students and teachers may choose to include in their SPHE programme in senior cycle:

Mental health	▪ **Communication skills** including skills of **negotiation** and **assertiveness** in a variety of contexts, e.g. home, school, **work place** and social settings ▪ **Anger management** skills ▪ Recognising the signs and symptoms of **stress** ▪ **Strategies** for managing stress in a healthy way ▪ **Health and safety regulations**, part-time employment legislation and their importance for health and wellbeing of young people ▪ Different types of **abusive behaviour** and the impact of such behaviour on others ▪ **Skills** for supporting self and others in **bullying situation**

Substance use	▪ Critically examine the **responsible use of prescription drugs and over the counter drugs** and what constitutes the harmful use of such substances ▪ Critically examine the **different influences** which impact on **personal lifestyle choices about substance use**, e.g. family, friends, gender, personal finances and community ▪ Critically analyse the **relationship between alcohol consumption, part-time employment** and the possible negative consequences for school attendance and study habits ▪ Explain how lifestyle choices about **substance use** can **impact** on the **health and wellbeing of others** ▪ Identify ways in which young people can **support themselves and/or each other** in dealing with **substance abuse** by friends and family
Relationships and sexuality education	▪ **Assertiveness skills** in support of positive, healthy relationships ▪ Ways of **relating respectfully** to others of different sexual orientation ▪ **Homophobic bullying**, its effects and consequences ▪ **Personal and social skills** to protect themselves and others on **homophobic bullying situations** ▪ Understanding **sexual harassment** including issues of power and control ▪ The **law** as it applies to **sexual harassment**

The SPHE curricula in primary education, junior cycle and senior cycle post-primary education are designed as enabling curricula. While teachers may be required to cover each of the areas or modules of the particular curriculum, they are encouraged to select those aspects of SPHE which are most pertinent to the needs of their particular students, class and school. In this overall context, those aspects of the SPHE curriculum related particularly to students' understanding of health and safety may or may not be included. In the NCCA consultation on the draft curriculum framework for SPHE in senior cycle, no consensus emerged as to which aspects of the curriculum were essential for students to encounter. In the context of health and safety education and the importance of raising students' awareness of a more composite understanding of health and safety in the various settings, it would be important to consider how relevant areas might be highlighted as part of the continuing professional development of teachers in SPHE.

The technologies

The technology subjects at junior cycle 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.

In the junior cycle of post-primary education the technologies comprise of four subjects, Materials Technology (Wood), Metalwork, Technical Graphics and a general subject called Technology. In senior cycle the Leaving Certificate technology subjects have recently been reviewed and extensively revised. The three senior revised Leaving Certificate subjects are called Architectural Technology (formerly Construction Studies), Engineering Technology (formerly Engineering) and Design and Communication Graphics (formerly Technical Drawing). A new general subject, Technology, has also been developed.

Two subjects (Technology, and Design and Communication Graphics) were implemented in September 2007 with the remaining two due to be implemented in subsequent years. A programme of support has been established for implementation of the four Leaving Certificate technology subjects. In addition, several technology based vocational specialisms are offered as part of the Leaving Certificate Applied.

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.

In the teaching and learning of these subjects, students are required to observe safe working practices and to follow recommended procedures. They develop an understanding of the potential dangers that may be associated with energy sources, machines, equipment and devices that are used in the course of their learning. Through instruction they become familiar with the proper use of safety equipment and the maintenance of a safe working environment through the application of appropriate safety precautions that will avoid danger and minimise risks.

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 their awareness of health and safety issues and their understanding of its relevance and importance through the application of safe practices in a wide range of circumstances and activities.

The report by the State Claims Agency, 'Review of Occupational Health and Safety in the Technologies in Post-primary Schools', points to the need for schools to have a systemised approach to the management of occupational health and safety, based on an assessment of their risks. It also recommends that schools review their system of managing occupational health and safety on an annual basis.

The NCCA has completed a revision of three Leaving Certificate technology subject syllabuses (Architectural Technology, Design and Communication Graphics, and Engineering Technology) and has also developed a new syllabus for the subject Technology. As part of its advice on the implementation of these subjects, the NCCA developed a comprehensive Implementation Plan, which included 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, embracing such aspects as 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 important emphasis that must be placed on developing student awareness of health and safety issues, including personal health and safety in the classroom/workshop environment.
Exploratory discussions took place with the Health and Safety Authority when the Implementation Plan was being prepared and it was recommended that health and safety guidelines for teachers should be developed in collaboration with the Department of Education and Science and the support service that would be established for the implementation of these subjects. A Technology Subject Support Service (T4) is now in place, and the NCCA is represented on the Steering Committee.

A review of technological education in the junior cycle has also been undertaken and the revision of the four technology subjects at this level will commence in 2007. 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. Each course committee will draw on the content and learning outcomes developed in the framework proposals when revising their respective syllabuses. It is expected that the programme of professional development that will be provided in the context of the implementation of the senior cycle technology subjects will address in a comprehensive manner the health and safety aspects that are likely to arise in respect of the revised junior cycle subjects.

The Leaving Certificate Applied

Introduction

The Leaving Certificate Applied (LCA), introduced in 1995, is a discrete, educational programme offered under the umbrella of the Leaving Certificate. The programme is pre-vocational by nature, and aimed mainly at those who do

not wish to proceed directly to higher education and for those whose aptitudes, needs and learning styles are not fully catered for by the Leaving Certificate (established). Participants in the LCA are predominantly engaged in work and study with an active, practical, task-based orientation.

The programme is structured around three areas – *Vocational Preparation*, *Vocational Education* and *General Education*. Within these areas courses comprised of a number of modules are taken. It is an innovative programme in terms of what participants learn, of the methodologies employed in the learning process and of the ways in which their achievement is assessed. On completion of the programme, participants generally proceed to Post-Leaving Certificate vocational education and training courses or directly to the labour market.

Within the LCA students encounter aspects of health and safety in all three of the constituent areas of the programme. They are also expected to take account of health and safety in the carrying out of some of the *Student Tasks* which form a significant part of the ongoing assessment of their participation in the programme.

Vocational Preparation

It is in the Vocational Preparation area of the LCA that the work experience and enterprise modules of the programme are encountered. Health and safety feature prominently in many of the modules studied. In the module *Work and Living* Unit 7 is specifically entitled *Health and Safety.* The learning outcomes associated with this unit include the following

The student will

- Become familiar with work related to health and safety legislation e.g. 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.

As part of the assessment of their work students of the LCA complete key assignments on each module. One of the four key assignments for the *Work and Living* module is
I prepared a report/presentation/display on health and safety issues.

There are four modules on the LCA course in *Work Experience.* In each of the four modules there is an explicit emphasis on health and safety issues. Again this is reflected in the learning outcomes, which include the following

The student will

- Describe the health and safety notices posted in the workplace
- Observe health and safety regulations in the workplace

There are three modules on enterprise in the *Vocational Preparation and Guidance* course, one of which is compulsory. A study of health and safety is explicitly required in all three modules. The module *Enterprise 1* includes a learning outcome requiring students to discuss health and safety considerations for workers and set a list of appropriate guidelines. *Enterprise 2* includes the following learning outcome - Students will identify health and safety considerations

and how these will be observed. Finally, in *Enterprise 3* students are offered the option of studying the health and safety procedures in a chosen local business.

Apart from these embedded references to health and safety, there are opportunities to learn about issues associated with health and safety in the *Jobsearch* module. In this module students are assisted in looking for their first work experience placement. This involves being made aware of the types of employment specifically excluded on the grounds of risk from the school's indemnity insurance covering work experience placements. The requirement for employers to have health and safety statements may arise at this stage as well. Those wishing to get work experience placements on building sites will learn of the necessity of having a recognized *Safe Pass* before being accepted. Many schools are now inviting training companies to offer the *Safe Pass* to LCA students who have reached the required minimum age of 16.

Vocational Education

In this area of the LCA students take two courses in vocational specialisms from a list of eleven. The specialisms are

- Agriculture/Horticulture
- Childcare/Community Care
- Graphics and Construction Studies
- Craft and Design
- Engineering
- Hair and Beauty
- Hotel, Catering and tourism
- Office Administration and Customer Care
- Technology
- Information and Communication Technology
- Active Leisure Studies

As the specialisms are directly related to specific areas of employment, aspects of health and safety are explicitly studied in all eleven. The extent of the exposure to health and safety matters ranges from courses including dedicated modules on health and safety, to units within modules, to expected learning outcomes in units, and in some instances includes specific key assignments related to health and safety. By way of example, the treatment of health and safety in a number of the specialisms is outlined below.

The ***Hair and Beauty*** specialism includes a unit on *Safety,* which specifies the following learning outcomes among others

The student will be able to

- Identify a range of potential hazards found in a hair salon
- List potentially hazardous substances found in salons
- Describe a routine for the safe and hygienic disposal of waste
- Describe the safe use of basic hair and beauty equipment
- Identify fire prevention and fire fighting equipment that should be found in a salon
- Record an accident on an accident report form

There is also a key assignment in this module, which requires that the student use information technology skills to design a health, hygiene and safety checklist for a salon.

There is a further module in the *Hair and Beauty* specialism entitled *Bodycare*, which comprises the following units

- Unit 1: Personal Hygiene
- Unit 2: Nutrition
- Unit 3: Health and Well Being
- Unit 4: Care of the Body
- Unit 5: Sun Care
- Unit 6: Leisure, Exercise & Rest

In the specialism called ***Office Administration and Customer Care*** the module on *Office Practice* includes a unit on health and safety, the learning outcomes of which are as follows

The student should be able to

- Use office equipment safely (e.g. guillotine, electrical equipment, lifting, rest periods)
- Recognize 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

Other specialisms include Health and Safety as appropriate to the particular circumstances of the activities and equipment involved. Four of the five modules in the Engineering specialism include a unit on *Health, Safety and Personal Development* which are of interest in that, in line with more recent thinking on education for health and safety they associate the ideas of understanding, practice and personal wellbeing. The personal development sections emphasize the role that the student having a sense of personal responsibility plays in carrying out procedures and using equipment in a safe manner.

Five of the six modules of the ***Graphics & Construction Studies*** specialism include a unit on *Health and Safety* with learning outcomes appropriate to the particular module. For instance the module on *Graphic Communication*, which teaches students to communicate by means of drawings and diagrams includes the following learning outcomes

The students will be able to

- Identify the health risks associated with the incorrect use of computers
- Use all materials and equipment in a safe and proper manner
- List positive ergonomic features in the use of computers

The ***Hotel, Catering and Tourism*** specialism helps students develop competencies of a broad personal and vocational nature. Emphasis is placed on social inclusion, teamwork, quality consciousness, interpersonal skills, creativity and dexterity.

In several modules of this specialism the identification of health and safety rules and regulations plays a major part. For example, it is suggested in the guidelines that the students invite a Health and Safety officer to speak to them to fulfil aspects of their key assignments.

The topics covered enable students to understand and apply safe and hygienic work practices. A large part of this specialism focuses on practical work ensuring that the safety and hygiene rules and regulations relating to the use of a school kitchen are emphasised. Students are expected to be able to follow correct procedures in the event of fire and administer simple first-aid. One key assignment in this module stipulates that the student identify, locate and record the safety equipment in the food preparation and service area of a food establishment. They are also expected to keep up to date with the latest information from the Food Safety Authority of Ireland.

An aspect of the ***Childcare/Community Care*** specialism is to develop students' awareness of the importance of creating a healthy, hygienic and safe environment for babies and young children, for older people and for people with special needs. In this context, they look at the safety points and EU regulations that should be considered when buying toys and equipment. The student is expected to design a safety routine that should be observed when babysitting. One unit of this module on *The Care of Babies and Young Children* is designed specifically around safety and first-aid.

In relation to people with special needs and older people a discussion on safety issues and hazards would take place in the classroom, while at the same time identifying facilities and access requirements in public buildings. Students taking this specialism are also expected to complete work experience in this area and therefore will be exposed to the health and safety regulations in the workplace.
The other specialisms all deal with health and safety in similarly detailed way. The effect of this is that no matter which two specialisms are offered to LCA students they will encounter many explicit opportunities to consider and learn about health and safety. Pending review of a number of the specialisms present an opportunity for considering the quality of the learning outcomes, activities and assignments associated with health and safety in the specialisms and whether these need to be improved and modernised.

General Education
In this area of the LCA programme the main exposure to health and safety matters is through the course on *Social Education* in which two modules of health education are mandatory. In year one the module called *Social and Health Education 1* is studied over the full school year. Among the aims of this module are the following

- To increase the students' awareness of what it means to be healthy
- To enable students to develop health care strategies
- To increase the students' awareness of the affects of drug and alcohol abuse

The second unit of the module is called *Taking care of yourself* and includes the following learning outcomes among others The students will be able to

- Explain what it means to be healthy and understand that being healthy involves aspects of physical, mental,
- social and physical health and not just the absence of disease
- List the factors which contribute to a healthy lifestyle
- List some signs of stress in everyday life and identify ways of coping with stress
- Identify ways of maintaining good health: good nutrition, regular exercise, adequate rest, relaxation and sleep, meeting the psychological need for belonging, self-esteem and fun

Two of the four key assignments for this module require work on health issues including "I collected information on healthy lifestyles and made a plan to improve one aspect of my own lifestyle".

The *Social and Health Education 2* module is taken during year two of the LCA programme and aims to equip the students with the coping skills needed for the various personal, family and social crises which they may encounter, for example, bereavement, sexual harassment, mental illness or even personal criticism. The key assignments they are expected to produce give an idea of the scope of this module.

- As a member of a group I have made a list/chart/collage or picture of appropriate ways of dealing with feelings of anger.
- I have described a method that I have used, either in real-life or in role-play, in trying to solve a conflict situation or in dealing with criticism.
- I have listed the main tasks and responsibilities involved each day in taking care of:
  (a) A three-month-old baby
  (b) A three year old child or
  (c) A ten-year-old child

I have listed the agencies that help with a particular health or addiction problem and identified the sort of help they provide. I have described ways of contacting these agencies and accessing help and advice.

Apart from social education, the General Education area of the LCA also requires all students to study *Leisure and Recreation,* which includes a module called *Physical Activity for Health and Fitness*. This module introduces the student to the concept of health-related fitness. It gives the student the confidence to make choices that will help him/her to lead a healthy life and respond positively to the challenges they encounter. Students are given an understanding of the benefits of physical activity as a means of maintaining health and fitness.

Student Tasks

In the assessment of the LCA programme 35% of the 200 credits may be awarded for the completion of seven student tasks, which are externally examined by the State Examinations Commission. Where it is appropriate and necessary, aspects of health and safety form part of the marking criteria for these tasks. If the task undertaken can be described as a product, production or live performance, the provision of a service, the staging of an event or as an enterprise activity, the implementation of health and safety practices is one of the criteria for awarding marks under the category *Carrying out of the task*. This also applies to the Practical Achievement Task, which must be undertaken by the students in their own time out of school. The only tasks where health and safety would not *necessarily* feature as part of the assessment arrangements would be the Personal Reflection Task and the General Education Task.

Conclusion

In conclusion, the LCA provides students with many opportunities to learn about health and safety. In many instances treatment of health and safety matters or issues or procedures are explicitly included as a specific module, a unit of a module, learning outcomes within units, or as mandatory key assignments to mark completion of a module. This concern with health and safety is reflected also in the assessment criteria for most of the Student Tasks completed by students. In short, by its nature as a pre-vocational programme of study, the LCA provides a natural base for teaching and learning about health and safety.

The Leaving Certificate Vocational Programme

The Leaving Certificate Vocational Programme (LCVP) can be described as an educational intervention in the Leaving Certificate (established), which is designed to enhance that programme. The enhancement is of a vocational nature, preparing learners for further and continuing education and for the world of work. The focus of the programme is on participants taking greater responsibility for their own learning, becoming more innovative and enterprising, communicating well, working in teams, and on accessing and using technology.

The LCVP requires that participants, while taking the Leaving Certificate (established) in the usual way, ensure that two of the subjects chosen constitute a vocational subject grouping (e.g. Engineering and Physics) from the list of 13 or so specified. There are two categories of subject groupings

(i) The specialist group, in which the subject content of each subject is complimentary, e.g. home economics and biology

(ii) The services group, where the subjects are linked from a commercial point of view, e.g. construction studies and business.

Students must also study a continental language but most significantly they take two *Link Modules*. These are assessed, the results achieved recorded on the Leaving Certificate and they can be used to generate points for the purposes of progression to third level.

The vocational relevance of the subjects studied in the LCVP is explored through the Link Modules - *Preparation for the World of Work* and *Enterprise Education*. It is in these link modules that opportunities for teaching and learning related to health and safety arise.

Link module I – Preparation for the World of Work

This module aims to provide the student with a general knowledge of the world of work, the skills to find employment and experience in an adult working environment. Awareness of health and safety is explicit in this module. 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*. In terms of teaching and learning this means that students are expected to be familiar with the main provisions of the Safety, Health and Welfare at Work Act and to take care to observe health and safety regulations as they apply to the workplace they choose for work experience.

One practical way in which some schools prepare LCVP students for work experience, particularly those who take construction studies as a vocational subject (and are likely to seek work experience in construction/building), is to ensure that they take the FÁS Safe Pass Health and Safety Awareness Training Programme. The cost of the programme, however, has inhibited its wider adoption by LCVP schools.

Link module II – Enterprise Education

This unit aims to introduce students to the skills of enterprise and entrepreneurship such as idea generation, risk assessment, problem solving, teamwork, leadership and commitment. As part of the module students are encouraged to plan, set up and run their own enterprise activities. In many cases the enterprise is a mini-company where students manufacture a product or provide a service and, in doing this, are encouraged to consider the health and safety implications of their 'workplace'.

The Transition Year

The transition year is designed to act as a bridge between the Junior Certificate and Leaving Certificate. Over 500 of the 800 or so post-primary schools offer transition year. It offers the potential for the holistic development of young people as flexible learners, active citizens and future workers. It is envisaged as an interdisciplinary programme developed by the individual school. Its flexible structure allows for the provision of a broad range of learning experiences with an emphasis on personal development including social awareness and increased social competence.

The transition year has three main aims

- Education for maturity with emphasis on personal development, including social awareness and increased social competence
- The promotion of general, technical and academic skills with an emphasis on interdisciplinary and self-directed learning
- Education through experience of adult and working life as a basis for personal development and maturity

Each school designs its own transition year, within set guidelines, to suit the needs and interests of its students. In establishing its programme content, the school takes into account the possibilities offered by the local community interests.

Work experience placements are a feature of most, if not all transition year programmes, and it is in preparing students for work experience and de-briefing students after work experience that opportunities arise for teaching and learning related to health and safety.

Schools commonly offer mini-company modules as part of their transition year. As in the LCVP link modules, students are encouraged to consider the health and safety implications of the workplace that they create within the school.

A number of resources have been developed by the support services for transition year, the LCVP and Leaving Certificate Applied to assist schools and teachers in preparing students for work experience and for setting up and running mini-companies. 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).

Transition Units

Transition units (TUs) are one of the new curriculum components to be introduced as part of the senior cycle developments outlined earlier in this document. Transition units are 45-hour units of study. Schools prepare written outlines of transition units, which could then be subject to a validation process. A template is provided to assist schools in preparing these unit outlines.

A general typology of TUs has been developed by NCCA to assist schools in offering a broad and well-balanced learning experience to their senior cycle programmes. Areas of learning within this typology include *Health and Well-being, Work and Future,* and *Pursuing Wider Learning Interests* (where students may seek an additional qualification such as ECDL or a First Aid qualification).

In developing transition units schools may devise some 'from scratch' – opening up a new area of learning for students. They may decide to adapt some of the modules they already offer as part of their Transition Year programme, and redraft them as TUs. Schools may also work with external agencies, such as non-governmental organisations (NGOs), in the development of TUs, and it is here that opportunities present themselves for a unit or units relating to health and safety to be developed.

Assessment of Transition Units will be built into the teaching and learning of each unit. There is no external assessment and it is not proposed that TUs will be reckoned for 'points'. However, it is suggested that a record of completed TUs will be recorded on a student's certificate of senior cycle education.

Conclusion

This section of the probe has outlined some of the teaching and learning opportunities that arise out of existing curriculum provision in the curriculum areas and subjects covered. In all the areas covered, to a greater or lesser extent, the opportunities are there and are clearly embedded in the syllabus or course of study. This is particularly so in the case of the sciences, the technologies and home economics where health and safety as it has been traditionally understood and in its more recent interpretation is an intrinsic part of learning in these areas. Areas such as social, personal and health education and physical education offer more specific opportunities for aspects of health and safety, particularly those to do with health and well-being. In all cases it is clear that more recently developed syllabuses embody and embed treatment of health and safety matters to an extent and in ways that were not the case previously. This is probably reflective of the growing profile of health and safety matters and consciousness among the general public and in society.

One or two other areas where the potential for teaching and learning in this area is evident and growing are those of Art and Physical Education. Art, Craft, Design is a Junior Certificate subject introduced in the early 1990s while a revised Leaving Certificate Art syllabus is currently awaiting implementation. In both cases, the importance of health

and safety awareness and procedures in practical classes is emphasized, particularly in the use of the wide range of materials associated with Art courses. A curriculum framework for junior cycle Physical Education was introduced on an optional basis in recent years. A similar curriculum framework designed for senior cycle is being finalised by the NCCA, as is an optional Leaving Certificate subject syllabus in this area. In both cases, the focus on and advocacy of physical activity in the courses is paramount. Of necessity, the embedding of teaching and learning about health and safety and the generation of positive dispositions in the learner in this context is central to the frameworks and syllabus. In particular, the curriculum documentation focuses on assessing and managing risk in physical activities, on awareness of and avoidance of hazards and on understanding key concepts in and dispositions towards health and safety.

The question of how, from a strategic perspective, to draw attention to and capitalise on the wide range of existing teaching and learning opportunities outlined in this section is taken up in the following section, which also suggests a balance to be achieved between building on existing opportunities and creating new ones.

4. Strategising: How the HSA can contribute to developing and implementing health and safety in the curriculum

This section identifies, elaborates on and suggests a prioritisation within a range of strategies that the HSA could engage in to support teaching and learning about health and safety in the existing curriculum and to contribute to a future curriculum where health and safety is embedded, emphasised and provided for to a greater extent than at present.

The strategies are based on the identification of different points in the cycle of curriculum development, research and review, and implementation where interventions can be made.

Advocacy

Clearly an ideal starting point is to try to influence the content and learning outcomes specified in the curriculum in the first place. Unless there is a solid foundation of appropriate and targeted curriculum opportunities for health and safety in the curriculum in the first instance the task of persuading teachers and schools that it is worth their time and attention placing 'additional' emphasis on health and safety is an uphill one.

However, the task of advocating the role and place of health and safety in the curriculum is not necessarily a straightforward one. It is one thing to write learning outcomes in theory and another entirely to see them in practice. The role of research is useful in this context, even at the stage where an organisation like HSA is trying to influence the contents of the curriculum. Talking to schools, particularly to teachers and students, about their perceptions of health and safety and how it can best work and be managed in the curriculum can be very useful. It can assist in formulating learning outcomes related to health and safety in the curriculum that are appropriate, well-targeted and realisable. These in turn can be fed into the process of curriculum development and embedded in curricula. To develop curricula well we don't only need to know the kinds of things we think should be in the curriculum. We need to gain good insights into how they would work in the implemented curriculum. Research has an important role to play in this context. In its work on curriculum development, the NCCA is increasingly using evidence-based research and initial consultations with schools as the basis for developing curricula.

Section 3 of the probe has established that opportunities for influencing the embedding of teaching and learning related to health and safety in the curriculum are manifold at this point in time, particularly when account is taken of developments in senior cycle education ongoing in the NCCA and developments in qualifications coming about through the increasing influence of the National Framework of Qualifications. The table below identifies a number of key elements that could be included in a strategy designed to ensure improved embedding of health and safety concerns in the curriculum.

Influencing the embedding of health and safety in the curriculum:
Some elements of a strategy

1. Undertake a research initiative with schools, building on the ideas in Section 2 of the probe, and designed to establish the learning outcomes that are central to education and learning in the area of health and safety. To narrow the scope of this initiative, prioritisation should be given to identifying and articulating learning outcomes aligned to those levels of the National Framework of Qualifications that are viewed by the HSA as priority target groups. These outcomes would provide the basis for advocating inclusion in school curricula and in any future awards developed in the area of health and safety. The input of teachers and the views of learners should be sought in the generation of these learning outcomes.
2. Embark on a programme of advocacy aimed at influencing the contents of revised and new curricula emerging as part of the NCCA's senior cycle developments. In 2007-2008, and in order of progress, this would involve engaging with the NCCA and making submissions to consultations on revised and new syllabuses in the areas of Junior Certificate and Leaving Certificate Mathematics; Leaving Certificate Agricultural Science, Biology, Chemistry and Physics. It would also involve responding to consultations and implementation proposals on curriculum frameworks in the areas of Guidance and of Social, Personal and Health Education; on a new short course in the area of Enterprise Education; and on revised courses of the Leaving Certificate Applied. A further programme of advocacy could follow in 2009.
3. Work with a number of schools to generate a suite of Transition Units for use in Transition Year programmes. These units could be designed to the NCCA template for Transition Units, piloted with schools, and could in due course be validated through a process of validation currently under development. Their validation could provide the basis for their dissemination for use in any school interested in offering the units. This development might, in turn, give rise to possibilities for the development of a short course in Health and Safety for use in the senior cycle. Short courses are new curriculum components (80 hours) proposed by the NCCA whose assessment would be graded in the same way as subjects and would be awarded points on a pro-rata basis with subjects in the points system.
4. Investigate the development of an educational award in the area of health and safety for inclusion in the National Framework of Qualifications. Consider the potential for this award to be made available to self-directed learners online while also being available to a range of education providers.

Implementation

It is also possible to place an intervention at the point of implementation. This is the stage at which the NCCA has completed the work of developing a course or subject syllabus and its implementation is planned for and organised by the Department of Education and Science (DES). Usually the DES will establish a programme of support over a limited period of time to assist schools and teachers with the process of implementing the changed curriculum. Sometimes a particular support service is established (e.g. Junior Certificate Science Support Service). Sometimes the support is channelled through an existing support service like the Second Level Support Service (SLSS). The national Education Centre network also play an important role in these contexts. Linking the work of an initiative to support health and safety in the curriculum with an existing support service engaged on an existing implementation

support task is valuable and provides added value all round. The main difficulties involved relate to questions of timing (the window of opportunity is usually tight and needs to be carefully planned for) and relative influence (the concerns of the smaller initiative can be swamped in the larger implementation programme). Nonetheless this is a better option than advancing with an implementation initiative for schools and teachers that has no connection with what is changing in schools at the time.

Many organisations go down the route of developing resource packs or teaching and learning support materials with the collaboration of schools and teachers in pilot initiatives. These initiatives are usually successful due to the high quality of input, support and resources initially available to schools. They are very useful tools for learning about how an area like health and safety works in the curriculum. The major problem with such pilot initiatives is their replicability (or lack of it) and how to address the question of wider dissemination. What works for the initial group of schools seldom works as successfully in the wider dissemination and the Irish educational landscape is littered with pilot initiatives that never made it to the point of full dissemination in all schools.
The table below identifies a number of key elements that could be included in a strategy designed to capitalise on existing opportunities for teaching and learning in the area of health and safety in the curriculum.

Capitalising on existing opportunities for teaching and learning about health and safety in the curriculum: Some elements of a strategy

1. Engage with the T4 Support Service recently established (2006) to support the implementation of three revised Leaving Certificate syllabuses in technology education and a new Leaving Certificate subject on general Technology over the coming years. This engagement could involve contributing directly to the professional development of teachers through professional development events and generating teaching and learning resources and exemplification of good practice in teaching and learning. The potential for online resources, exemplification and professional development courses (that could be recognised as awards) are significant in this context.
2. Engage in planning for a similar implementation programme in the area of the sciences following the curriculum developments and consultations taking place during 2007 and 2008. The revised curricula are likely to place a greater emphasis on the process of scientific enquiry and on practical activity in the subjects, which carry implications for improved learning opportunities in the area of health and safety.
3. Investigate the potential for further involvements with the range of support services and education centres currently providing continuing professional development for primary and post-primary teachers on particular subjects, educational programmes and more generic aspects of education. Within these involvements the particular group of students who will proceed to working life early or directly on completion of post-primary education might be identified as a particular target group for teaching and learning in the area of health and safety.
4. Develop a Health and Safety in the Curriculum website which would act as a central source for teachers of the latest information, resources and advice on teaching and learning about health and safety in a variety of targeted contexts. The website should place a particular emphasis on seeing the curriculum in action and for this reason would prioritise the use of digital video material exemplifying teaching, learning and educational activities in the area of health and safety.

5. Establish a network of schools to assist the HSA in the implementation of its strategy in the area of education. This network would contribute to the range of projects and initiatives contained in that strategy, including those previously identified related to advocacy a well as those aimed at building on existing curriculum opportunities. More generally, the network would contribute to refining understanding of the nature of and central concerns of health and safety in the curriculum, to the clarification of learning outcomes in this area and to advising on the practicalities of implementation in schools.

In short, there are many possibilities for initiatives and actions in the area of health and safety in the curriculum that can contribute to an overall education strategy in this area. Those specifically mentioned here relate to opportunities for advocacy on embedding health and safety in the curriculum and those focused on building on existing opportunities and learning from them. Clearly, there are direct links between the two. For example, the identification and articulation of the kinds of learning outcomes that are central to health and safety in the curriculum are not only of use in the field of advocacy, they provide a basis for class planning in the area of implementation, they may derive from working directly with networks of schools. What is essential is that any education strategy is coherent, targeted and well-tuned to developments taking place in the education system and to the realities of schools and teaching and learning situations in classrooms.