

# THE INTEGRATION OF OCCUPATIONAL HEALTH AND SAFETY INTO VOCATIONAL TRAINING

A Conference organised jointly by the Ministry of Education of Quebec  
and the Quebec Commission for Health and Safety at Work  
Montreal 10th November 1999 2.00pm - 5.00pm

"The situation in Great Britain" by Jim Hammer, UK Technical Delegate

## Introduction

In this brief presentation I intend to:

- summarise the Government's policy in relation to the understanding and management of risk and its educational priorities in this respect.
- to describe the Health and Safety Commission's and Executive's particular priorities and initiatives.
- to give examples of the way in which risk is taught in schools and how knowledge about it is given accredited recognition, both at school and during Further Education.
- to describe the system for integrating Occupational Health and Safety into vocational learning and qualifications and the system for verifying that the intentions have been met.
- to consider the position in relation to undergraduate education and post-graduate professional qualifications.

## Definitions

But first we should be clear about definitions:

Hazard is anything which has the potential to cause hurt and/or damage

Assessing the risk is assessing the chance (or likelihood) of that hazard causing hurt and/or damage

Risk control is controlling the chance of that hazard causing hurt

Traditionally ensuring health and safety has been seen as complying with ever more complex rules and regulations. Whilst some basic rules are still necessary, generally today in the European Union (and doubtless elsewhere) the regulatory regime for health and safety adopts a non-prescriptive risk-based approach. This enables industry, commerce and public authorities to devise solutions appropriate to the problem at hand and to adapt those solutions over time to reflect technological change or updated guidance.

### Broad Government Policies in Relation to Risk and Education

The Blair Government, now in power for 2½ years, has made improvements in education one of its main priorities. Two of its national objectives are:

*"To equip young people with the knowledge, understanding and skills to plan and manage their own learning, including making effective and sustained transitions within and between education training and working life." and "to increase individual motivation and confidence to achieve and promote a positive attitude to life long learning".*

In order to promote this the Minister is proposing that the new national curriculum *"should enable pupils to respond positively to opportunities, challenges and responsibilities, to manage risk and to cope with change and adversity"*.

Thus it is to be hoped that pupils and students will be given an understanding and skills in recognising the existence of hazard, risk and uncertainty in a range of contexts, making decisions about risk and uncertainty and assessing consequences when dealing with hazards presented to themselves, to an organisation, to society and the environment. Students will hopefully know how to obtain appropriate advice and understand the need for rules and regulations.

Running in parallel is the Government's Foresight Programme designed to identify opportunities in markets and technology which are likely to enhance the nation's prosperity and quality of life. The panel dealing with education, skill and training is coming to realise the need to have a "risk literate" society in the future and to ensure that by specifically targeting training in risk assessment, risk management and risk communication.

### The Health and Safety Commission and Executive (HSC/E)

Occupational health and safety in Great Britain is under the overall oversight of a ten member Health and Safety Commission. This comprises employers, trade unionists, local authority representatives and independents, accountable to Ministers and responsible for the general direction of the 3900 strong Health and Safety Executive comprising policy makers, inspectors, specialists and support staff.

The Health and Safety Commission's strategy for health and safety training has the vision that everyone at work should be competent to fulfill their roles in controlling risk. In relation to vocational training, it includes the development in workers and managers of greater awareness of health and safety issues, specific skills in risk assessment and risk management as well as skills related to the hazards of particular tasks and occupations. In particular the Commission wishes to influence providers of the education system, to provide the necessary framework of basic knowledge and skills and to ensure that all parts of the education system provide a foundation of knowledge upon which health and safety training can be built. This includes promoting risk understanding and risk awareness in school children and young people about to obtain work experience.



This strategy targets those who have the power to influence and make a difference: curriculum authorities, sectoral training bodies and educators teaching at all levels. These can influence the education and training system and its content and help to create a new mind-set in young people. Their approach to understanding risk is a key life skill.

Thus influencing the education system ranges from risk assessment embedded in the National Curriculum to seeking ways to influence professional institutions. Recent consultation on the revision of the National Curriculum has enabled HSE to suggest widening the inclusion of health and safety and risk assessment from subjects such as physical education, science and design and technology into the whole personal, social and health education curriculum using the risk assessment approach. Instead of health and safety being treated as a matter of following rules, students should, where appropriate, be taught to understand hazards and risks and how they should be managed.

One particular initiative in 1999 has been the secondment of a Deputy Headteacher to HSE to develop material to help prepare children for the world of work, to give children the facts and tools to enable them to think rationally and broadly about risk and to give teachers the confidence to present risk issues in a balanced and convincing fashion.

This is particularly relevant to the new proposals for the National Curriculum which will specifically require from age 11 onwards, that they are taught "to recognise risk and make safer choices through gathering information related to health and safety environments and lifestyles."

#### Accredited Unit Awards in Risk Assessment and Management for schools

These awards, which are both internally and externally verified, are not qualifications as such but are intended to recognise the knowledge acquired in some specialised or related subject aside from the student's main academic or vocational studies. In support of the Commission's policy the seconded teacher has therefore developed unit awards in respect of the assessment and management of risk which will require the student to produce notes and completed work sheets which demonstrate their ability to recognise hazards exist in all aspects of life, to list when a hazard represents a significant risk, to assess the extent of risks involved in at least three different activities, to recognise that a balance exists between risk and benefits, for instance in the use of gas or electricity or insurance, and to have a knowledge of at least one situation where individual risk taking could have an effect on others. There are other elements to the award but the intention is that its existence should enable those with an interest in the subject the ability to gain appropriate recognition for that knowledge.

#### Formal Vocational Qualifications

National and Scottish Vocational Qualifications (NVQ/SVQ) which have been developed for many vocational skills and exist at any one of five levels from level 1 (basic competence) through level 3 (some control of others) to level 5 (substantial personal autonomy), although it is not appropriate for all vocational qualifications to exist at all levels. The Qualifications and Curriculum Authority (QCA) which accredits standards, qualifications and the assessment process ensures in each case that in relation to each skill and each level, that it includes appropriate requirements in respect of occupational health and safety and the means of working safely relevant to that trade and vocation at that level.

The assessment comprises a mixture of the student's portfolio of projects and work demonstrating his/her knowledge, in some cases, generally at a higher level, the passing of written tests and it is supplemented by oral questioning. The assessment is then presented in an assessment grid or criterion statement which will specifically require a response in respect of health and safety issues. Such assessments are then verified both internally and externally and finally the awarding bodies will wish to see evidence of the knowledge in each appropriate element.

Although this conference is about integration of health and safety into training, there has been a considerable demand for "stand alone units" in health and safety. The Employment National Training Organisation has responded by developing, with the help of safety professionals, employers, trade unions and others, some eight units to meet the needs of individuals with varying responsibilities including the environment.

Many colleges run 2-3 week induction programmes which include occupational health and safety and particularly in scientific and technological areas, there is in practice an ongoing legal requirement for the college to undertake risk assessments. These assessments, carried out to protect students and staff themselves, is itself a learning experience.

The NVQ/SVQ system backed by external verification and an independent accrediting body, does however compel lecturers to integrate occupational health and safety into their teaching, such that those in the artistic skills departments sometimes object that it inhibits their creativity!

#### The impact of health and safety training on vocational skills

Although we are mainly concerned with integration of occupational health and safety into vocational training at the initial stages, it perhaps needs to be said that in a sense vocational training is enhanced by new initiatives in health and safety awareness.

In the UK, gas fitting operatives have now to undergo a tougher appraisal and certification scheme in respect of safe practice - this inevitably involves a renewal and enhancement of their vocational competence. Different schemes exist in relation to welders and radiographers, construction plant operatives, crane drivers, divers and scaffolders, chain saw operators and mine managers, drivers of vehicles carrying specified dangerous goods and dangerous goods safety advisers.

#### Higher and Professional Qualifications

Perhaps the greatest area of uncertainty is in the world of higher and professional qualifications where each University or Institution is its own awarding body.

In 1998 HSE funded research to examine the coverage of occupational health and safety in Masters in Business Administration (MBA) courses. Some of the issues identified there apply more generally to the higher education sector, in particular:

- health and safety is not perceived as being a "real" academic subject
- the limited availability of lecturers familiar with health and safety concepts
- the perception that health and safety is about rule following (complying with the law) and as such is inappropriate to the higher education environment.



HSE is therefore developing suitable health and safety case studies for use in higher education under its mainstream research programme. Over many years the HSE has sought to influence the professional institutions in respect of chemical, chemical engineering, mechanical engineering, civil engineering and architecture, who in practice confer licenses to practice to persuade them to place greater emphasis on the assessment of an applicant's competence and knowledge in occupational health and safety and risk assessment when awarding their professional qualifications.

Perhaps because of the occurrence of high profile disasters, the chemists and chemical engineers have been particularly receptive and co-operative in developing such an approach. But new legislation over the last 25 years has increasingly put obligations on engineers and civil engineers involved in the design and installation of machinery and equipment or in the design and building of structures. This means that those professionals have to be familiar with the detailed obligations in respect of safety in the design of equipment and the safe design and building of structures. The architects have regrettably remained largely unresponsive and unco-operative in spite of the significant new legal responsibilities placed upon them.

Most recently an HSE report on the education of undergraduate engineers in risk concepts concluded that, among other things:

- the concepts of hazard and risk are not well understood and differentiated by new graduates
- there are wide variations in course content
- university lecturers were not always familiar with techniques of hazard identification and risk reduction and needed training opportunities
- there was a need for more high quality teaching material and case studies so that the subject could be presented in an intellectually challenging way
- above all an understanding of risk issues and the handling of uncertainty was fundamental to the development of sound judgement.

Students must learn to think creatively from first principles and not just rely on codes, standards and rules.

### Conclusions

Whilst the HSE has relatively recently begun to promote teaching of occupational health and safety and risk assessment in schools, the present initiatives look promising. Teaching an understanding of hazard and risk must provide a sound base for later vocational learning and indeed life-long learning. The effectiveness of incorporating occupational health and safety and risk assessment into NVQs depends on the competence of the teaching and the rigor of the assessment process. On this there is as yet no independent research evidence.

Modifying the attitudes of University departments still has a considerable way to go. More departments need to be convinced that hazard recognition and risk assessment are judgemental skills fundamental to the ultimate competence of their graduates. The professional Institutions have shown a greater willingness to accept the importance of occupational health and safety and risk assessment in their appraisal and award processes although there is still more to be done.