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**A Review of National Curriculum (5-16 yrs)
Guidance of England, Scotland and Wales.**

**Report Number
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EXECUTIVE SUMMARY

Objectives

The main objectives of this study are as follows:

- identify the current stakeholders that influence the shape of primary and secondary education;
- identify any documentary guidance that may be produced by those stakeholders, for example:
 - guidance produced by the Department for Education and Skills (DfES);
 - guidance produced by the Curriculum Authorities for England, Scotland and Wales;
 - guidance produced by regulatory authorities, for example, the Health and Safety Executive, the British Standards Institute;
 - guidance provided by Local Education Authorities (LEAs);
 - guidance documentation produced by professional bodies;
 - published literature and other mediated accounts / debates in the public domain.
- assess the risk education content of relevant documents.

Main Findings

- 1) There are many actors influencing the shape of education and the National Curricula of England, Scotland & Wales. On a day-to-day basis schools are directly responsible for interpreting the National Curriculum and delivering a school curriculum that is relevant to their particular context. The National Curriculum acts as policy guidance and is by no means a constraint on education practice. Indeed, each National Curricula encourages schools to adapt lessons in relation to the availability of local skills, interests and resources. In addition to the influence that the teaching staff have over the delivery of the National Curriculum, it is also likely that the pupils' background and their parents' expectations will shape the delivery of the National Curriculum.

At a policy level, perhaps the most apparent means for influencing the shape of the National Curriculum is through the curriculum review process (i.e. the Curriculum Authorities' programmes of curriculum monitoring and evaluation). Engagement within a review will depend on the actors conducting or commissioning the review, their criteria for selecting relevant participants and the designated scope of the review. More proactive forms of influence over the curriculum could presumably be achieved by contacting specific branches of the curriculum authorities, and registering an interest in the shape and direction of the curriculum. HSE has already engaged with the curriculum authorities and the national departments for education. The outcome, as documented here, has been a comprehensive inclusion of health and safety issues throughout the curricula literature and related materials.

- 2) There are no mandatory requirements within the National Curricula guidance documents for schools to teach risk education. The strongest endorsement for health and safety education was found in the English National Curriculum where there was a general teaching requirement for health and safety; roughly summarised, the requirement held that pupils 'should be taught' about risks and hazards associated with certain activities. There were similar endorsements for health and safety education within the National Curricula literature for Scotland and Wales. These curricular requirements have some clear overlap with the statutory requirements for health and safety.

The three nation's National Curricula guidance documents provide a large number of recommendations for lessons that include opportunities for pupils to learn about subject related risk, health and safety issues. The documents also include more specific recommendations for topics through which pupils can explore related risks and learn about safe and healthy practices. This literature does not, however, provide teachers with detailed lesson plans, prescriptions or 'recipes' for best practice in risk education topics. Given that National Curricula documents do not provide any substantial guidance on best practice in risk education, we anticipate that for most risk-related topics the risks are not considered to present any special challenges to schools and their teaching staff. Where specific risks are recognised, teachers are recommended to refer to standard procedures or regulations, or may require accredited qualifications (especially in the case of PE and D&T). Within 'personal, social and health' related subjects, outside experts are frequently invited to attend schools and address pupils.

- 3) Within the curriculum literature, risk is regularly treated as a universal or, in the education context, a cross-curricular theme. For example, understanding risks is equally important in most subject areas, and it is understood that rules can be learned and applied across contexts. However, there is much uncertainty surrounding the application of abstract 'risk principles' from one situation to the next, and whether learned risk principles hold any relevance beyond a context of learning. Applying what is learned in the classroom (or the factory, or other contexts) will not necessarily *transfer* to the next place of practice. Between different settings skills are not always transferable, often there is a tacit aspect of learning associated with the locality. The National Curriculum's rendering of risk education is particularly vulnerable to these criticisms.

Teachers may benefit from additional practical advice on best practice for risk communication in education contexts. From evidence gathered, although there is a notable literature on suitable subject matter, there is little guidance for delivering risk education (from curriculum authorities, teacher training institutions and subject associations). In addition to providing useful lists of risk education topics, advice on best practice for risk communication may prove valuable for teaching staff; such material should draw on current understanding of the nature of risk communication but be adapted for teachers. Plausibly, information on these issues would have greatest impact if directed through the institutions and companies that provide teaching resources and lesson plans. The support would, in this scenario, directly relate to a subject topic or subject module. A recent publication by DfES (DfES 2001) provides some useful guidance on risk communication, although it is not related to practical activities.

Although this report is not intended to be a comprehensive review of the risk communication literature, it is apparent that little useful guidance is available on the subject for schoolteachers and there remains much to be learned about risk communication within school contexts.

- 4) Given the nature of risk learning we feel that education through topics - particularly practical topics or role-playing scenarios - is likely to constitute an effective way to sensitise pupils to the construction of risk during activities and 'real-world' situations. In a few instances related approaches to risk education are promoted through the National Curriculum guidance materials. Clearly, there are some topics covered by the National Curriculum that can only be approached in the abstract; for example, the risks associated with sexual intercourse and drug-taking (although role playing scenarios are often used on similar subject matter). Where possible, it is best to avoid introducing pupils to abstract risk concepts, or codes of conduct, as there is no reason to assume that pupils will readily 'activate' such knowledge in real-world settings. Furthermore, idealised or generic concepts

often create tensions, and promote confusion, rather than clarity, unless they are firmly linked with specific risk taking activities. Drawing on the evidence from this study, the National Curricula and, in particular, the *Schemes* or *Guides* recommend a number of methods for addressing risk education; these include learning through case studies, vignettes and practical activities. The most appropriate method is likely to depend on the curriculum subject and the topics that are being addressed. Although teachers are well equipped to impart knowledge to their pupils, some additional guidance on topic based risk communication may prove useful. The impact of such guidance would be greatest if integrated into existing published teaching lesson plans, schemes or guides – where such guidance is generally absent.

- 5) Where risk education does feature in the teaching *Schemes* or *Guides* (along with other published lesson planning materials) it is mostly treated as a sub-topic and rarely constitutes the main motivation for the lesson. We believe that that the school curriculum could include more topics with risk education as a principal focus. The ‘personal and social education’ subjects are one exception as topics covered tend to have a high profile for risk issues. Decisions about the balance or nature of the school curriculum are left to the discretion of the school and its teachers. However, teachers often take a lead from published *Schemes* or *Guides*, therefore, one way of influencing the balance of the curriculum would be to give a higher profile for risk education within these teaching resources.

A good example of a lesson plan that gives a high profile to risk education is the RoSPA lesson module for Key Stage 2 Design & Technology. The module concerns fire safety and the design of personal protective equipment. The module specifically aims to develop pupil’s knowledge (and transferable skills) of risk control, whilst addressing National Curriculum attainment requirements. The opportunity to deliver risk focused topics will depend on the nature of the subject¹. For example, PE topics will presumably work best where safety education is an integrated sub-topic of every lesson.

- 6) Although there are some important differences in the structure of the National Curricula of England, Scotland and Wales, the risk education content is of a similar nature. For this reason, there is scope for future, HSE led, interventions in the 5-16 year old curricula to be applied across the National boundaries without the need for any regional adjustments or variations to the content². This point is supported by the fact that the National Curriculum (and related school curriculum) is intended to be flexible, to accommodate new topics and innovative methods of teaching. Any future risk education interventions would fit smoothly into place especially if they align with existing themes across the curriculum (of relevance here are issues of ‘key skills’ and ‘continuity and progression across the school years’).

However, the flexibility of the National Curriculum may result in variable patterns of risk education implementation. As National Curriculum guidelines for teachers are not mandatory specifications for teaching, there is little reason to assume that schools or teachers single out risk education issues or prioritise them above other curriculum issues³. The relevance of risk education in classroom contexts is open to interpretation by schools and teachers. We will be better placed to comment on related issues following the case study work of this project (see Shearn & Weyman 2004).

¹ There may be a number of reasons preventing a risk focused approach (some related evidence will be picked up during the teacher interviews).

² There will be some regional variations in that ‘rail safety’ or ‘farm safety’, etc. will be of relevance in certain areas and not others.

³ Presumably, teachers will be aware of (subject related) risks that pupils face. And they will adapt lessons according to various mitigating factors, safety being one of those factors.

7) Although the National Curriculum sets out what pupils should be taught and is the main policy document that shapes programmes of teaching and learning within schools, there are other channels that provide guidance and may claim to have an impact on pupils' learning, understanding and skills. Within this report we have identified health and safety guidance publications, school inspections, LEA support, 'health and safety schemes' and exam/assessment processes as contributors to the shaping of risk education within schools. Each is discussed here:

- The Examining Bodies' coursework guidance documents have a similar structure as the Curriculum Authorities' *Guidelines*. Teachers will draw heavily on these resources when developing the school curriculum and preparing lesson plans. The Curriculum Authorities, directly or indirectly, influence the shape of the examination syllabus and have the potential shape the content of related coursework guidance.

The formal examination process appears to have little potential for impact on risk teaching and learning. From the content analysis of exam papers and related documentation, we found that the documents rarely provide any subject relevant questions about risks and hazards. However, given the small sample that was used, we are not able to comment more generally about the content of exam papers.

Another point to consider, following from contemporary commentaries on risk communication, examinations are not necessarily a good vehicle through which individuals may demonstrate practical knowledge of risk issues. Many critics claim that there is a gap between safety knowledge learned in the abstract – as suggested by the examination process – and the application of the safety rule. If examinations were devised to test risk understanding they may be more effective where related to actual experiences (or case scenarios). Indeed, the coursework pamphlets supplied by the examining boards were more likely to contain risk education content or recommendations than the exam papers.

However assessment is an important part of teaching and learning. Despite examinations being considered by some to be a poor mechanism for learning about risk management or demonstrating practical insight of risk management, the coursework that prepares pupils for examinations will presumably be shaped by the actual or anticipated examination content. It is likely that a higher requirement for risk education knowledge within examinations would be reflected in the content of practical class work, and it is arguably through the practical task that the pupil is most likely to develop knowledge of risk management.

- Health and safety guidance publications, health and safety regulations and related school health and safety policies are likely to have some impact upon pupils' risk education and understanding. On the one hand, through being in an environment where safety rules are developed and applied, pupils learn through an informal school curriculum about safety cultures and regulations of schools. On the other, through more formal mechanisms, pupils may be directly involved in carrying out regulatory safety checks or ensuring that protective equipment is properly used, etc. There is much overlap between the National Curricula and health and safety regulations / guidance publications. On the whole the National Curricula and school health and safety publications are mutually supportive. The National Curricula make recommendations for safe practice and risk education topics, conversely the health and safety publications provide curricular related guidance on safe practice, etc. The publications reviewed provide much useful guidance on safe practice in subject areas. These publications, however, have little to say about risk communication and risk education for pupils.

- School inspections have an impact on the ways that schools are organised and managed. They encourage schools, albeit periodically, to focus on issues of health, safety and regulatory compliance. The review of inspection reports highlights the importance of health and safety within the inspection remit. Where the inspection focuses on health and safety, checks for compliance with regulations is more likely to feature over and above assessments of risk education. Nevertheless, (as noted above) compliance with regulations has potential to have an impact upon pupils' risk education experience.

Where inspections do focus on risk education within schools, the reports normally identify significant improvements or deficits in performance. These reports, therefore, give only a partial view of the terrain. There is potential to monitor risk education through the inspection process, although it may be argued that inspections are already making an important contribution in this respect, and that risk education is one of many other important education issues covered. Inspections do incorporate particular points of interest, there may be scope for HSE's priorities to be included.

- Although LEAs have a responsibility to work in partnership with schools, their contribution to the everyday teaching of pupils is very limited. In some cases, the LEA will intervene in the running of schools if education targets are not met (some support of this viewpoint was gained through school case studies). Usually they will provide optional services that the schools can buy-in at their own discretion. Their contribution to the shaping of risk education can be considered marginal. The degree to which the LEA take a proactive stance on risk education is likely to be variable, and will depend upon the current priorities and available resources. The LEAs are often consulted during the development and evaluation of the National Curriculum. Their inclusion in this process will vary across evaluations and between LEAs.

- School related 'health and safety initiatives' have a number of overlaps with HSE objectives and priorities. Typically based on certain themes (e.g. rail safety, farm safety, etc.), these initiatives have the potential to impact upon the curriculum and are, in many cases, designed to support curriculum objectives. Ultimately, they are designed to impact on pupils' knowledge, attitudes and behaviour. The initiatives often depend on additional support or funding from the local community, local support agencies and government departments. Initiatives of this type often overlap with aspects of the 'personal and social education' curriculum. Some of the popular initiatives originate from, The Police Service (road safety, street wise, etc.), The Fire Service (fire safety), Drug Information Agencies (drug awareness/safety) and Electricity Companies (electrical safety). Many of these initiatives overlap with HSE's risk education interests.

- 8) The existing 'National Healthy Schools Scheme', a collaboration between DfES and DoH (amongst others), is an exemplary case of integrating health-related cross-curricular themes through curricula programmes. Similar project(s) could be developed with HSE related issues in mind – or indeed integrated with this scheme. Health Education is increasingly covered in PE, PSE and Citizenship courses. Presumably health and safety projects with cross-cutting curriculum agenda that build on the already existing health and safety recommendations for the five English curriculum subjects identified above (and related versions for the Welsh and Scottish curricula) would generate relevant education commitment and resources. For example, the Healthy Schools project focuses on learning about health, especially issues that are associated with the DoH (e.g. safe sex, healthy eating, alcohol/drug consumption). A 'Health and Safety at School - Health and Safety at Work' scheme could aim to educate school pupils about issues relevant within schools and

in the world of work (falls from height, hazardous substances, musculoskeletal issues, psychosocial stress etc.). Such an initiative is likely to come into its own during work placement schemes.

Another, perhaps less ambitious, endeavour would be the development of teaching materials, or guides, that cover issues from the HSE priority programmes or other contemporary health and safety concerns (e.g. rail safety). We would recommend that this work does not duplicate the important work of other government bodies or institutions (e.g. DoH or RoSPA). There already exist many risk education materials which are focused on DoH related issues (e.g. 'safety in the sun', 'healthy eating', etc.). From the literature, there are fewer risk education projects based on *occupation* related health and safety issues.

9) We feel that there are some ambiguities surrounding the HSE as a promoter of risk education in the National Curricula of England, Scotland and Wales. HSE is traditionally associated with the promotion of risk education for workers in occupational environments. The current interest in school pupils' risk education indicates a new focus. The justification for using HSE resources for the development of risk education within schools is intuitively straightforward, children are the future workers and it may be cost-effective to raise young peoples' risk awareness before bad habits are formed. There are a number of other justifications, not least that that young people have a right to risk education, especially given they are likely to be ill equipped with risk management skills. Although there are many antecedents to risk avoidance behaviour, formal school based risk education programmes may contribute to improved patterns of safe behaviour and risk management.

However, the National Curricula (and the school curriculum) cover a wide range of risk topics, many of which do not relate to HSE programmes. For example, education programmes for 'healthy eating', 'drug taking behaviour' or 'stranger danger' represent a departure from HSE's traditional concerns⁴. Although risk knowledge relating to all topics is important for school pupils, HSE may wish to address whether risk knowledge and behaviour relate across domains (e.g. whether safe sex education bears any relation to manual handling education, and so on).

There already exists much school risk education curriculum support from other agencies, institutions and government departments (e.g. Department of Health, RoSPA and DATA). Having identified relevant curriculum topics, HSE would also need to consider which risk topics are currently under represented in the school curriculum, and which topics require promotion through some form of intervention.

10) If HSC/E interventions result in any changes to teaching practices, etc. care should be taken where assessment is concerned. Teachers have widely reported assessment as the most serious burden on their workload; they often view this work negatively. Any interventions may gain a more positive response if they are associated with assisting teaching staff in meeting curriculum objectives.

Recommendations

- Where risk education does feature in teaching *Schemes* or *Guides* (along with other published lesson planning materials) it is mostly treated as a sub-topic and rarely the main focus for learning. We believe that that the school curriculum could include more topics with risk education as a principal focus. 'Personal and social education' subjects are a main

⁴ This catch-all treatment of risk education appears to be based on an assumption that risk knowledge can be treated generically.

exception, as topics covered tend to have a high profile for risk issues. Decisions about the balance or nature of the school curriculum are left to the discretion of the school and its teachers. Teachers often take a lead from published *Schemes* or *Guides*, therefore, one way of influencing the balance of the curriculum would be to give a higher profile for *discrete* risk education topics within these teaching resources.

- Teachers may benefit from additional practical advice on best practice for risk communication in school contexts. From evidence gathered, although there is a notable literature on suitable subject matter there is little guidance on the delivery of risk education (from curriculum authorities, teacher training institutions and subject associations). In addition to providing useful lists of risk education topics, advice on best practice for risk communication may prove valuable for teaching staff. Plausibly, information on these issues would have greatest impact if directed through the institutions and companies that provide teaching resources, and if incorporated with published schemes or lesson plans. In this scenario the support provided should directly relate to a subject topic or subject module.
- From the literature reviewed, there are fewer risk education initiatives or topics based on *occupation* related health and safety issues. HSE would need to consider which risk topics are currently under represented in the school curriculum, and which learning resources are most likely to have an impact on HSE occupational health and safety targets.
- HSE intends to develop teaching materials, or guides, that cover issues from the HSE programmes or other contemporary health and safety concerns (e.g. rail safety). We would recommend that this work does not duplicate the important work of other government bodies or institutions (e.g. DoH or RoSPA). There already exist many risk education materials which are focused on DoH related issues (e.g. ‘safety in the sun’, ‘healthy eating’, etc.).

1 INTRODUCTION

This document reports on the Health and Safety Laboratory's (HSL) review of the guidance and requirements for learning and teaching risk education for five to sixteen year olds in the United Kingdom. In order to gain a comprehensive understanding of the nature and extent of guidance for teaching staff, the content of teaching guidance materials has been analysed and particular attention has been paid to any 'risk education'⁵ content. Relevant stakeholder groups have also been consulted where additional information was required. This report stands as a mapping of the existing risk education guidance (and related performance criteria) for primary and secondary level schools in England, Scotland and Wales. It also identifies the key actors that influence the shape of the National Curricula and other relevant guidance material.

This work is designed to support the Health and Safety Commission's (HSC 2000) *Revitalising Health and Safety* strategy for 'better education in risk concepts'. Action point 33 of this strategy document identifies scope for improvements in the coverage of risk education for the National Curricula of England, Scotland and Wales. An HSC progress report (HSC/02/10) provides further evidence of the ambitions to integrate health and safety education into the school curriculum. This study provides evidence of the current status of risk education as outlined in the education sector's policy and practitioner documents.

The risk education content of curriculum guidance has not been the topic of any previous in-depth analysis. This overview of curriculum guidance and requirements for risk education, is designed to inform the Health and Safety Executive's (HSE) policy and guidance on risk education for young people in schools.

This study of guidance materials is supported by a second study, based upon case studies, that assesses the reception and application of risk education requirements of the National Curricula by schools and their teaching staff (see Shearn & Weyman (2004) – 'Teaching Practice and Risk Education for 5-16 year olds'). The relationship between education policy documents and the situated teaching of risk education is not discussed here. The current report identifies the key guidance materials that have potential to influence primary and secondary teaching. The report also identifies other influential documents and initiatives. Further consideration is given to the actors that influence the formal requirements of primary and secondary education, and the lead that is given in the material that they produce or publish. These documents are assessed, in most cases, in relation to their 'risk education content'.

There are a number of issues that this report does not, by intent, consider due to the constraints of this study's resources. For example, this study does not address risk education issues for pupils with special needs. This could reasonably constitute a research project in itself. However, it is felt that this study is of relevance to the learning needs of all pupils in *State Sector* schools as it covers the general guidelines for teachers and managers.

1.1 AIMS & OBJECTIVES

The overarching aim of the HSC/E's risk education related strategy is to raise awareness amongst young people of health and safety issues through formal education processes. It is anticipated that the (further) integration of risk education into the existing education curricula will have a positive impact on pupil's knowledge, attitude and behaviour to health and safety.

⁵ Throughout this document risk education should be read as teaching and learning activities wherein risk, health, safety and well-being are being addressed.

The objective of this project is to provide an initial insight to help inform future HSE policy and guidance in this area. As yet there is little insight into what guidance is provided to teaching staff with regard to risk education, or more fundamentally the extent to which there is awareness within schools that risk issues need to be addressed. Relevant issues here relate to requirements of the curriculum and how the various stakeholders interpret those requirements.

This study is a mapping exercise of existing risk education guidance for school and other relevant stakeholders in England, Scotland and Wales. It identifies features of the curriculum and other teaching programmes that have a bearing on risk education. It is not, however, a study of the impact of such guidance on teaching or learning.

The main objectives of this study are as follows:

- identify the current stakeholders that influence the shape of primary and secondary education;
- identify any documentary guidance that may be produced by those stakeholders, for example:
 - guidance produced by the Department for Education and Skills (DfES);
 - guidance produced by the Curriculum Authorities for England, Scotland and Wales;
 - guidance produced by regulatory authorities, for example, the Health and Safety Executive, the British Standards Institute;
 - guidance provided by LEAs;
 - guidance documentation produced by professional bodies;
 - published literature and other mediated accounts / debates in the public domain.
- assess the risk education content of relevant documents.

2 BACKGROUND TO SCHOOL BASED RISK EDUCATION

As children develop physically and mentally their ability to manage risks also increases, thereby removing much of their reliance upon guardians. During these formative years they are granted more freedom. A child's risk awareness develops in relation to these new freedoms. Typically they are faced by new situations, wherein they may be required to adapt their understanding of risk-taking. For example, the new freedoms and opportunities of sociability associated with entry to school may conflict with the child's learned understanding of dangers from strangers. In such circumstances, they may have to learn where it is appropriate to follow rules already learned, and ways in which they can be assimilated. The concentration on risk education for young people is considered important for at least two reasons: first, young people are most at risk from dangers that we all face due to their relative inexperience; and secondly, many potentially health damaging habits are formed during the years of growing up and are considered to influence adult behaviour (Smith et al 1992).

The bulk of this report confines itself to an exploration of education guidance materials (with a focus on risk education) for the school curriculum.

School education provides a range of opportunities to learn about health, safety and risk. In many cases these opportunities are informal, and it may not be readily apparent whether legal, ethical, safety or curricular concerns are the antecedents for learning processes. This report focuses on the National Curriculum and other education programmes that have potential to impact upon the common experience of risk education in all schools. The following list highlights the range of ways that schools typically conceptualise and accomplish health, safety and risk education:

- The promotion of respect and care for self and others as fundamental to all activities. In effect, 'everyone owes a duty of care to everyone else, at all times in all situations'.
- Careful planning, with attention given to the inherent risks are central for any activity.
- Teaching techniques for learning an activity and the progressive stages leading up to that activity.
- Involving all the pupils with the assessment and management of risk as an integral part of their education.
- The use of tasks which allow for differentiated inputs and outputs.
- Ensuring that pupils as individuals are sufficiently mature and physically able to understand and to cope with tasks which involve a degree of risk before these are presented to them.
- Establishing procedures which are contained in a written safety policy, adopted across the school.
- The taking of a register to account for those present in a lesson.
- Deciding not to embark on or to proceed with an activity where an inherent hazard cannot reasonably be managed and therefore where safety may be compromised.
- Ensuring that appropriate progressive steps in learning an activity are included and that each step is thoroughly consolidated before moving on to the next, especially high risk activities are concerned (BAALPE 2000, p.35).

When we talk of risk education within school contexts it is best understood as a multifaceted process; pupils learn about risks in various ways, and arguably 'unlearn' through others. The strategies that schools adopt for injury prevention and health promotion are a response to, amongst other things, curriculum guidance on risk education. Plausibly, general policy statements on risk education encourage a climate of safe and healthy practice. We still have

much to learn about the ‘best’ way to develop and implement policy prescriptions. This report has a relatively narrow focus, as it considers only the shape of such prescriptions.

A useful starting point for this study is the conceptualisation of risk education. ‘Risk education’ is used throughout this document as a generic concept that covers issues of risk, health and safety within learning and teaching. Within primary and secondary education contexts curriculum related risk education includes learning about hazards, risk management, personal health and safety, and social and environmental impacts of hazards.

3 METHODOLOGY

One of the aims of this report is to *assess the risk education content* of relevant 5-14 age group education guidance materials. *Content analyses* of literature conventionally follow three basic steps, 1) the identification of relevant literature, 2) the analysis of identified documents (often quantitative and/or qualitative), and 3) a literary summary of the findings, drawing on the evidence provided in step 2).

3.1 IDENTIFYING THE LITERATURE

Given there are many stakeholders that provide teaching guidance and that nearly all education and curriculum documents contain some risk education content, there is a vast literature in this area. We have attempted to be as inclusive as possible. The documents reviewed in this report are believed to be amongst the most influential sources of teaching guidance. Most originate from the curriculum authorities for England, Scotland and Wales. Other important sources of guidance were identified following pilot studies with a sample of teachers (n = 5). These teachers identified sources of guidance that they were most likely to draw on. They recommended that we review guidance provided by examination bodies and local education authorities. In addition we have included a brief review of other sources of guidance provided by teaching associations, National Education Inspectors and health and safety schemes or initiatives. During subsequent case studies (see Shearn & Weyman 2004) that involved interviews with a larger sample of teachers, further complimentary evidence was provided that the guidance sources selected here are amongst the most influential. Although not all guidance comes in the form of published or printed documents, this report focuses on written guidance – therefore excluding training courses and other non-textual sources.

From the outset the HSE recommended that the review should focus on guidance provided for five subject areas; namely Art, Information Technology, Physical Education, Design & Technology and Science (or the regional equivalents). In addition, we have reviewed guidance for PSE related subjects, as they have significant risk education content. The majority of this review is therefore focused on guidance for these subjects. In addition we have reviewed guidance materials that have a particular health and safety focus. The selection of guidance documents was conducted on the basis of what was most ‘visible’ or (reportedly) most likely to impact on teaching (Shearn & Weyman 2004). Full details of the documents that have been analysed can be found in section 11 of this report.

3.2 CONTENT ANALYSIS

Documentary analysis traditionally depends on some form of interpretative understanding or structural analysis. For the purposes of this report, with its focus on risk education content, we have conducted both modes of analysis of curriculum authority guidance documents. The intention is to provide a range of ways of looking at these documents, and merging the analysis to provide an overall understanding of their form and content.

Structural analysis is performed using quantitative content analysis of key documents. This method provides evidence indicative of the importance or relative salience of the themes of interest; specifically it focuses on the frequency with which certain words or phrases occur in the text. The number of times that a word or phrase occurs is then taken as a surrogate for its significance (Weber 1990). The quantitative analysis adopted for this report is based on the assumption that risk education is closely associated with various key words. The frequency of these key words, to some degree, identifies the characteristics of the document. Therefore,

through an initial analysis, we identify the substantive usage of ‘risk’, ‘health’ and ‘safe’⁶ as the most commonly associated with the general concept ‘risk education’, and the most prevalent in the documents we analysed. This endeavour can be highly technical, thus, as a preliminary level of analysis we have provided simple counts. Other important and related words (e.g. ‘accident’, ‘hazard’) are not featured as regularly in the documents. It can be inferred that frequency of text occurrence reveals something about the content of the documents, but also the current use of language and understanding. Through employing basic quantitative content analysis methods, this report provides an ‘objective’ means for comparing key documents.

However, a range of problems are associated with quantitative content analyses if used in isolation. For example, it should not be assumed there is any correspondence between the original documents and a transformed (quantitative) account; the frequency of words in the text says nothing about the significance of the text, or the way that the text may be received; and this approach may do no kind of justice to the author’s intentions. Furthermore, the isolated text categories used to search the guidance literature and other published materials do not account for information that cannot be measured, that may be implicit within the meaning of the text.

To overcome the weaknesses of such an approach, we explore the content of teaching guidance literature in a number of ways. For example, much of the report includes extracts from guidance literature, especially where there is some reference to risk, health or safety. We provide extracts of text as evidence that allow the reader to make his or her own judgements of representativeness. Though somewhat pithy statements, the extracts do capture the nature of the guidance materials as they rarely provide extended descriptions or guidance for teaching – this in itself can be considered a significant finding.

The National Curriculum documents have also been subject to an *interpretative analysis*. That is, we have attempted to grasp the underlying, latent content of the text. Unlike the quantitative approaches to content analysis, little can be said about analytical techniques, or criteria for valid interpretation of texts. One way around this problem is to consider the audiences reception of the documents. What would be their likely or actual reading of the text? In this context, we have attempted to interpret the guidance documents from the perspective of teachers, taking into account issues that are relevant to their everyday work and the social forces that may lead them to read the guidance materials in a particular way. To this end we have sought the viewpoints of teaching staff (n=5) to gauge how they read and interpret guidance materials and have thereby gained feedback on their likely usage of guidance materials (see also Shearn & Weyman 2004). The combination of the interpretative and quantitative analysis provides a deeper understanding of the form *and* content of the documents.

Some additional information is provided about discrete risk education topics or subject matter identified within the National Curricula guidance literature. Many of these topics have a health, safety and risk component (see section 5.7). For example, the curriculum authorities recommend various topics that provide potential for pupils to learn about safety. These topics are mostly practical subject related activities, and are the level at which teachers conceptualise and organise lessons. This additional information is provided as it is the level at which most risk education programmes are delivered.

For the most part, in this report we discuss only the product and not the process of interpretation (by teachers, etc.), nor the context in which the product is produced. We will be better placed to discuss the received meanings of the text in relation to interviews that were held with teaching staff, and that form the second part of this study on schools and risk education (see Shearn & Weyman 2004). The thematic analysis provided here is a subjective interpretation of the text

⁶ The text string ‘safe’ is also intended to capture ‘safer’, ‘safety’, ‘safest’, etc.

and its potential impact on the reader and highlights important subject related risk education learning opportunities.

4 THE NATIONAL CURRICULUM

4.1 THE STRUCTURE OF THE NATIONAL CURRICULUM

4.1.1 The Broad Aims of the National Curriculum

The main focus of this study are the National Curricula for England, Scotland and Wales. The National Curricula (and associated assessments) were established by the Education Reform Act 1988. The Act required all state schools to provide pupils with a broad and balanced curriculum. Given that the National Curricula determine what should be taught and outline the skills that pupils will learn, the content of the curriculum handbooks and related documents are of central importance to the current mapping exercise.

The National Curricula provide a general statement of learning standards and entitlement. The curricula therefore aim to provide a coherent and continuous system of education for school pupils – the focus for this study is the 5 to 16 years age range. The curricula typically consist of common requirements, a programme of study and attainment targets.

4.1.2 Regional Variability in the Structure of the National Curriculum

The National Curricula for England, Scotland and Wales are organised and developed by separate curriculum authorities: in England, the *Qualifications and Curriculum Authority* (QCA); in Scotland, the *Scottish Qualifications Authority* (SQA); and in Wales the *Qualifications Curriculum and Assessment Authority for Wales* (ACCAC). On the whole, the structure and the content of the curricula are similar⁷. The main differences in the structure of the National Curricula can be observed in the differences between Table 2 and Table 3 below. For example, England and Wales use similar subject categories and closely collaborate in the development of the National Curriculum. Scotland's National Curriculum contains slightly different subject categories and is not partitioned into key stages. However, analysis of the curriculum documents demonstrates that the scope and balance for the National Curricula are similar (see below). Despite core subjects being organised using different names the subject topics or content are of a similar nature. The introduction of 'key stages' within England and Wales does not result in any significant differences to the Scottish timetable for education.

Qualification	England	Scotland	Wales
c.16 years	GCSE	Standard Grade	GCSE
16-18 years	AS Level A Level	National Qualifications	AS level A Level

Table 1. The National Qualifications

⁷ A detailed analysis of the differences between the National Curricula is beyond the scope of this study. Given the aims of this study, relevant documents are analysed for their risk education content, differences are identified where they have a bearing upon that content.

Age Year Groups	Key stage 1	Key Stage 2	Key Stage 3	Key Stage 4
	5-7	7-11	11-14	14-16
	1-2	3-6	7-9	10-11
English	•	•	•	•
Mathematics	•	•	•	□
Science	•	•	•	□
D & T	•	•	•	□
ICT	•	•	•	•
History	•	•	•	
Geography	•	•	•	
Modern foreign languages			•	□
Art & design	•	•	•	
Music	•	•	•	
PE	•	•	•	□
Citizenship			→	→

Key: • Statutory from August 2000; □ Statutory from August 2001; → Statutory from August 2002

Table 2. The Curriculum Structure for England. *Source:* NC Online⁸

Level Age	Primary Levels							Secondary Levels			
	P1 5-6	P2 6-7	P3 7-8	P4 8-9	P5 9-10	P6 10-11	P7 11-12	S1 12-13	S2 13-14	S3 14-15	S4 15-16
Mathematics	•	•	•	•	•	•	•				
Maths & Apps								•	•		
Language	•	•	•	•	•						
Language with modern language						•	•	•	•		
Environmental Studies	•	•	•	•	•	•	•				
Science Studies								•	•		
Technical Activities								•	•		
Soc. & Env. Studies								•	•		
Expressive Arts	•	•	•	•	•	•	•				
Creative Activities								•	•		
PE								•	•		
Religious, Personnel & Health	•	•	•	•	•	•	•				
ICT (permeating all areas)	•	•	•	•	•	•	•	•	•		

Table 3. The Curriculum Structure for Scotland.

⁸ The structure of the Welsh National Curriculum mostly identical to the structure outlined here for the English curriculum.

4.1.3 Subjects with Risk Education Content

Throughout this study we have used the structure of the English National Curriculum as the model around which this report was developed. The English National Curriculum, unlike the curricula for Scotland and Wales, includes a ‘general teaching requirement’ for health, safety and risk education⁹. The National Curriculum for England states that schools *should* teach risk education, where relevant, in five key areas of the curriculum i.e.: ‘*Art & Design*’, ‘*Design & Technology*’, ‘*Information and Communication Technology*’, ‘*Physical Education*’ and ‘*Science*’.

It is felt that these five subjects (and their equivalents in Scotland and Wales), more than other subjects, either place pupils at greater risk of injury, or provide opportunity to convey risk, health and safety messages. These subjects constitute the core focus for this study. This study focuses on these five subjects, or their National equivalents in Scotland and Wales, along with other subjects where there is a prominent risk education component¹⁰.

In recent years, statutory requirements have been introduced to ensure that the curricula cover broad personal and social issues. In this respect the *Education Act* states that each pupil should receive a broad and balanced curriculum which:

‘promotes the spiritual, moral, cultural, mental and physical development of pupils at the school and of society and prepares pupils for the opportunities, responsibilities and experiences of adult life’ (§ 351, Education Act, 1996).

Learning for all pupils includes subjects that accommodate related issues. In recent years more emphasis has been placed on ‘personal and social education’. The subjects under this umbrella cover some important risk education issues, and are therefore relevant to this study. They differ from the five subjects identified above in that they do not relate to practical school based activities, but as their titles suggest, situations where certain social and personal skills are required.

There is some variation in the subject titles for these subjects for each nation although the content is similar (see below): in England related subjects are ‘*Citizenship*’ (QCA 2000e) and ‘*Personal Social Health Education*’; in Scotland related subjects are ‘*Health Education*’ (LTS 2000b) and ‘*Personal and Social Development*’; in Wales the related subject is ‘*Personal and Social Education Framework*’ (ACCAC 2000e).

The National Curricula are closely associated with assessment. This report is less focused on the requirements for assessment (although see section 6.2 below). For the age group 5-14 years, teaching staff normally assess pupils locally, although there are some national examinations that enable comparison (notably for the subjects of English, Maths and Science). For the age group 15-16 years, external qualifications play a significant part in assessing pupil attainment. Qualifications for the 15-18 age group are identified for each nation in Table 1.

⁹ It may be argued that the Scottish and Welsh curricula do provide similar risk education requirements, but that the requirement is not *formally stated* as a specific cross curriculum requirement.

¹⁰ In the case of Scotland we assume that ‘*Environmental Studies: Science*’ relates to ‘*Science*’; and, ‘*Environmental Studies: Technology*’ relates to ‘*Design & Technology*’.

4.2 REVIEW AND DEVELOPMENT OF THE NATIONAL CURRICULUM

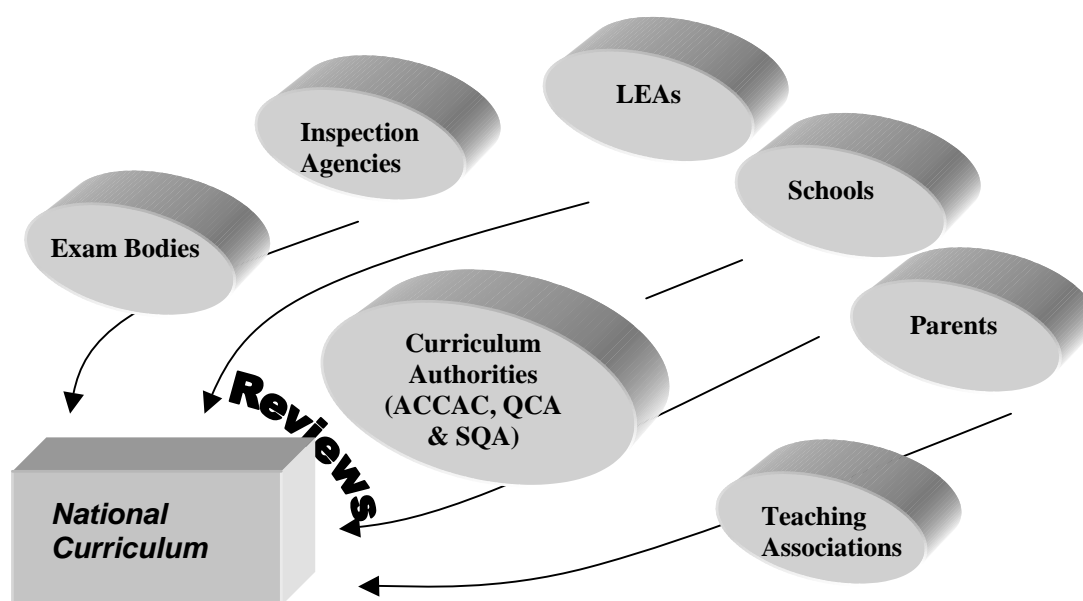


Figure 1. Actors that shape the National Curriculum.

The curriculum authorities are directly responsible for providing support and guidance on matters relating to school curriculum and assessment. They are therefore responsible for instigating programmes of review, for ensuring quality standards in assessment, for providing relevant materials to support teaching, and for advising Government on matters relating to school education.

Each Curriculum Authority has primary responsibility for the monitoring and evaluation of the curriculum. This is an ongoing process and includes various assessments and a statutory five-yearly evaluation of the National Curriculum. The main mechanism for gathering information about the National Curriculum is through ongoing reviews. Reviews will typically address various major issues, for example:

- evaluation of the breadth and balance of the curriculum;
- monitoring the impact of any changes to the curriculum;
- establishing the current situation across the school years, for subjects and for regional variations;
- identifying future needs and anticipated requirements for the National Curriculum.

Under the auspices of a review, evidence is gathered through engaging in broad ranging consultation. Various strategies for data collection are employed, including questionnaire surveys, interviews, and focus group meetings (see e.g. ACCAC 1998). Teaching staff are often the most widely consulted group given their central role in delivery of the curriculum. Views are also sought from various interested parties, for example the DfES, the national inspectorates (e.g. OfSTED), the Teacher Training Agency (TTA), the General Teaching Council (GTC), Local Education Authorities (LEAs), subject and professional associations (see e.g. Figure 1). The stakeholder participants will depend on the focus of the review. For example, the HSC/E may be consulted where health and safety issues are relevant and expert advice is required (see e.g. DfES 2001). The aims and objectives of reviews will depend on various factors. On the

whole they are conducted to identify how the curriculum can be shaped to strengthen teaching and pupil's acquisition of basic knowledge and skills.

5 ANALYSIS OF THE GUIDANCE PRODUCED FOR TEACHING RISK EDUCATION IN ENGLAND, SCOTLAND AND WALES IN SIX KEY AREAS

The curriculum authorities of England, Scotland and Wales produce curriculum guidelines for each subject of the National Curriculum. In this section we provide a content analysis of those *Guidelines* and the related *Schemes of Work* (or *Guides* in Scotland) for ‘*Art and Design*’, ‘*Citizenship*’, ‘*Design and Technology*’, ‘*Information and Communication Technology*’, ‘*Physical Education*’ and ‘*Science*’ (or their national equivalents).

The *Guidelines*:

- determine what will be taught and identifies targets that should be reached.
- aim to integrate learning across the various subjects and facilitate the transition of learning across the various age groups (and schools).
- identify common requirements but aim to be flexible, allowing teachers to accommodate particular needs and conditions in their teaching environments.

The guidelines are a framework for teaching. As one teacher-training professional put it, “these documents are the ‘Bible’ for both practicing and student teachers” (interview #101). They provide a basis for planning lessons and provide a standard for performance and progress. Guidelines are provided for each statutory subject and a review is conducted every five years (currently Curriculum 2000).

In contrast to the broad framework provided by the *Guidelines*, the *Schemes* (or *Guides*) provide a sound basis for short-term lesson plans¹¹. They are flexible teaching guides for teaching staff. They demonstrate ways in which the guidelines for study and assessment can be translated into practical teaching plans.

The schemes provide a coherent and progressive outline for Key Stage curriculum design. They also make reference to, and link up with, other key areas of the curriculum, such as literacy, mathematics and health and safety. A scheme is designed to be a long-term plan of work that identifies the teaching requirements for the year stages of a particular subject. The scheme is divided into a number of units or medium-term plans that provide some indication of the requirements for short-term lesson plans. The schemes are a useful resource for teachers that remove much of the interpretation and planning required to meet the curriculum requirements.

The *Schemes* are not intended as hard and fast rules or obligations for teaching the National Curriculum; the teacher may use their discretion when they consider other criteria or units of work to be equally important in certain circumstances.

In this section we describe the guidance in terms of their risk education content. For the most part, this section provides a (quantitative) content analysis of the National Curriculum guidelines for England, Scotland and Wales. Where relevant, examples are provided to demonstrate the qualitative nature of these documents. In addition, published *Schemes of Work* and *Guides* are analysed as they often provide further recommendations for practical tasks.

¹¹ ‘Schemes of Work’ have a high a profile in the planning of the daily lessons over a term- or year-period. As one indication of their importance, school inspections conducted by, for example, OfSTED make many references to the quality of the school’s *Schemes*.

5.1 THE NATIONAL CURRICULUM GUIDELINES FOR ENGLAND

The QCA (England) National Curriculum *Guidelines* (or programmes of study) set out, ‘*what pupils should be taught, and the attainment targets set out the expected standards of pupils’ performance. It is [however] for schools to choose how they organise their school curriculum to include the programmes of study for [each subject]*’ (from National Curriculum guidelines, e.g. QCA 2001a, p.6).

In addition, the curriculum *Guidelines* outline attainment targets and national qualifications for subjects at the four Key Stages.

The QCA *Guidelines* provide a general teaching requirement for health and safety for the five identified subjects:

‘When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

- a) about hazards, risks and risk control*
- b) to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others*
- c) to use information to assess the immediate and cumulative risks*
- d) to manage their environment to ensure the health and safety of themselves and others*
- e) to explain the steps they take to control risks’* (from e.g. QCA 2000a, p.35).

This is the strongest and most focused statement throughout QCA’s published literature concerning education guidelines for risk, health and safety teaching. It does not relate to ‘personal and social education’ subjects, as its content most readily relates to practical subjects. The following content analysis will go some way to indicating whether and to what degree *Guidelines* and *Schemes of Work* provide support for this statement. In this section guidelines for the five subjects and ‘Citizenship’ are considered in turn. The analysis includes a thorough scan of the documents to find evidence of risk education content. The occurrence of key words and relevant extracts from texts are provided.

5.1.1 Art & Design (QCA 2000a)

In addition to the health and safety statement, there are 10 references to ‘safe’, 6 references to ‘health’ and one reference to ‘risk’. This document contains 45 pages.

- From the foreword:
‘The handbooks also provide for the first time a national framework for the teaching of personal, social and **health** education. Both elements reflect the fact that education is also about helping pupils to develop the knowledge, skills and understanding they need to live confident, **healthy**, independent lives, as individuals, parents, workers and members of society’ (p. 4).
- From the section on structure of the National Curriculum:
‘When planning, schools should also consider the general teaching requirements for inclusion, use of language, use of information and communication technology, and **health** and **safety** that apply across the programmes of study’ (p.6).
- From the guidelines for each of the key stages (p.3):
‘The general teaching requirement for **health** and **safety** applies in this subject’ (pp 16-21).
- From the section on inclusion:
‘Pupils are enabled to participate **safely** in clothing appropriate to their religious beliefs, particularly in subjects such as science, design and technology and physical education’ (p. 26);

‘Teachers should take specific action to provide access to learning for pupils with special educational needs by - helping pupils to manage their behaviour, to take part in learning effectively and **safely**, and, at key stage 4, to prepare for work’ (p. 28);

‘Teachers help pupils to manage their behaviour, take part in learning effectively and **safely**, and, at key stage 4, prepare for work by - teaching essential **safety** rules’ (p. 29);

‘Teachers help individuals manage their emotions and take part in learning through - creating a supportive learning environment in which the pupil feels **safe** and is able to engage with learning’ (p. 29);

‘Teachers create opportunities for the development of skills in practical aspects of the curriculum through - ensuring that all pupils can be included and participate **safely** in geography fieldwork, local studies and visits to museums, historic buildings and sites’ (p. 30).

5.1.2 Design & Technology (QCA 2000b)

In addition to the health and safety statement, there are 20 references to ‘safe’, 7 references to ‘health’ and no reference to ‘risk’. This document contains 49 pages.

The references to risk, health and safety are mostly identical to the guidelines for Art & Design.

- The additional references to ‘safe’ can be found in the section on structure of the national curriculum (e.g.):

‘Pupils should be taught to - follow **safe** procedures for food **safety** and hygiene’ (p. 16);

‘Pupils should be taught to - consider aesthetics and other issues that influence their planning (for example, the needs and values of intended users, function, hygiene, **safety**, reliability, cost)’ (p. 20).

5.1.3 Information & Communication Technology (ICT) (QCA 2000c)

In addition to the health and safety statement, there are 11 references to ‘safe’, 7 references to ‘health’ and no reference to ‘risk’. This document contains 47 pages.

The references to risk, health and safety are identical to the guidelines for Art & Design with the exception that ICT covers guidelines for key stage 4.

5.1.4 Physical Education (PE) (QCA 2000d)

In addition to the health and safety statement, there are 27 references to ‘safe’, 31 references to ‘health’ and no reference to ‘risk’. This document contains 49 pages.

- From the guidelines for key stage 1:
‘Pupils should be taught to - perform basic skills in travelling, being still, finding space and using it **safely**, both on the floor and using apparatus’ (p. 17).
- From the guidelines for key stage 2 to 4:
‘Pupils should be taught - why wearing appropriate clothing and being hygienic is good for their **health** and **safety**’
‘During the key stage, pupils should be taught the Knowledge, skills and understanding through five areas of activity – [options including] swimming activities and water **safety**’ (pp. 18-24).
- There are various references to promoting ‘positive attitudes towards active and **healthy** lifestyles’ (e.g. p.15 and throughout the sections on the key stages).

5.1.5 Science (QCA 2000e)

In addition to the health and safety statement, there are 21 references to ‘safe’, 30 references to ‘health’ and 13 references to ‘risk’. This document contains 87 pages.

- From the guidelines for key stage 1-4:
 - ‘Pupils should be taught to - follow simple instructions to control the risks to themselves and to others’;
 - ‘Pupils should be taught - about the need for food for activity and growth, and about the importance of an adequate and varied diet for health’;
 - ‘Pupils should be taught - about the effects on the human body of tobacco, alcohol and other drugs, and how these relate to their personal health’;
 - ‘Pupils should be taught - about the importance of exercise for good health’;
 - ‘Pupils should be taught - how the growth and reproduction of bacteria and the replication of viruses can affect health, and how the body’s natural defences may be enhanced by immunisation and medicines’;
 - ‘During the key stage, pupils should be taught to - recognise that there are hazards in living things, materials and physical processes, and assess risks and take action to reduce risks to themselves and others’;
 - ‘Pupils should be taught to - use simple equipment and materials appropriately and take action to control risks’ (pp. 16-57).

5.1.6 Citizenship (QCA 2000f)

The citizenship curriculum does not include a health and safety statement. There are 6 references to ‘safe’, 3 references to ‘health’ and no reference to ‘risk’. This document contains 36 pages.

The references are similar to those for Art & Design.

Subject (number of pages)	Text Category		
	Safe	Health	Risk
Art & Design (45)	10	6	1
Design & Technology (49)	20	7	0
Information and Comm. Tech. (47)	11	7	0
Physical Education (49)	27	31	0
Science (87)	21	30	13
Citizenship (36)	6	3	0
Health & Safety Statement	2	2	6

Table 4. Frequency of reference to ‘risk’, ‘health’ and ‘safe’ within QCA National Curriculum guidelines.

5.2 THE NATIONAL CURRICULUM ‘SCHEMES OF WORK’ FOR ENGLAND

The QCA provide detailed ‘Schemes of Work’ intended to assist teachers with the day-to-day delivery of the National Curriculum. The *Schemes of Work* provide a range of information, for example: the relationship of a proposed teaching unit to other units, pupil task and attainment expectations, prior and expected learning capabilities and available resources. Teaching staff are expected to interpret or adapt these schemes according to available resources, staff/pupil skills and their particular ambitions, etc.

As there are in excess of one hundred separate units (each averaging 4 pages) for each of the six subject areas under consideration, we will limit details to a random sample of five documents, one for each subject, to provide insight to their content in relation to risk, health and safety education.

5.2.1 Art & Design (QCA 2000g)

Year 9, Unit 9c – ‘Personal places, public spaces’. General Overview:

‘In this unit, pupils explore examples of public art in their local area. They research the different ways in which ideas, beliefs and values are represented and shared in their local area and in different times and cultures, including contemporary modern practice. They explore ways of representing their own ideas and then collaborate with others to make a mural or a three-dimensional form for a specific location. This unit is expected to take 10–15 hours’ (p. 1).

There is 1 reference to ‘safe’, 0 references to ‘health’ and 0 references to ‘risk’. This document contains 5 pages.

- From the section on investigating and making:
‘Safety- pupils need to be given clear instructions about the use of any dangerous equipment and should be aware of the hazards’ (p. 4).

5.2.2 Design & Technology (QCA 2000h)

Year 8, Unit 8B(iii) – ‘Designing for clients’. General Overview:

Focus: textiles

‘The main aim of this unit is to develop pupils’ designing skills and to teach them about designing for clients. In this unit, pupils tackle a design and make assignment on the theme ‘Wallets’. They design and make a wallet for a particular purpose, developing a standard prototype that can be varied or personalised for particular clients, *e.g. by decoration, or using different fabrics or fasteners*’ (p. 1).

There are 6 references to ‘safe’, 0 references to ‘health’ and 3 references to ‘risk’. This document contains 6 pages.

- (e.g.) From the section on expectations:
‘Pupils should - work **safely** and with some accuracy with a range of resources, avoiding **risks**, noting any hazards to themselves and others, and identifying ways of controlling **risks**’ (p.1).
‘Pupils should - show a good understanding of a range of making techniques, existing products, how their product could be produced to the required quantity and quality, and users’ **safety** needs, when generating ideas’ (p.1).

5.2.3 ICT (QCA 2000i)

Year 3, Unit 3C – ‘Introduction to databases’. General Overview:

‘In this unit children learn to collect and store information involving more than two variables. They will use a database to answer simple questions by sorting and finding the top or bottom and searching in a single field’ (p. 1).

There are 0 references to ‘safe’, 0 references to ‘health’ and 0 references to ‘risk’. This document contains 3 pages.

5.2.4 PE (QCA 2000j)

Year 5/6, Unit 3 – ‘Outdoor and adventurous activities’. General Overview:

‘In this unit children develop their orienteering and problem-solving skills in familiar and unfamiliar situations and environments. Throughout, there is an emphasis on building trust and working as a team’ (p. 1).

There are 14 references to ‘safe’, 3 references to ‘health’ and 1 reference to ‘risk’. This document contains 3 pages.

- (e.g.) From the section on knowledge and understanding on fitness and health:
‘Teach the children to be aware of risks and to follow safety procedures. Teach them how to lift, carry and use equipment safely’ (p. 2).

5.2.5 Science (QCA 2000k)

Year 7, Unit 7J – ‘Electrical circuits’. General Overview:

‘In scientific enquiry pupils - explore early ideas about electric current, model current in a variety of ways, plan safe procedures and recognise hazards, and use ammeters to measure current’ (p. 1).

There are 9 references to ‘safe’, 1 reference to ‘health’ and 2 references to ‘risk’. This document contains 6 pages.

- (e.g.) From the learning objectives:
‘Using secondary sources of information, pupils could write a safety leaflet about mains supply, using the term ‘voltage’ (p. 6).

Subject (number of pages)	Text Category		
	Safe	Health	Risk
Art & Design (5)	1	0	0
Design & Technology (6)	6	0	3
Information and Comm. Tech. (3)	0	0	0
Physical Education (3)	14	3	1
Science (6)	9	1	2

Table 5. Frequency of reference to ‘risk’, ‘health’ and ‘safe’ within a sample of QCA Schemes of Work.

5.3 QCA – STATUTORY ASSESSMENT

The Education Reform Act 1988 requires national testing of children in all maintained schools at the ages of 7, 11, 14 and 16. ‘Arrangements for statutory assessment at the end of each key stage are set out in detail in QCA’s annual booklets about assessment and reporting arrangements’. The main focus for this study is the Curriculum, although QCA GCSE examinations are discussed below (see section 6.2 ‘Examining Boards & Awarding Bodies’).

5.4 THE NATIONAL CURRICULUM GUIDELINES FOR SCOTLAND

The National Curriculum guidelines for Scotland are published by Learning & Teaching Scotland (L&TS). On the whole, they are similar to the QCA guidelines for England. The main differences relate to the age bands (labels) and the subject categorisations. The Scottish curriculum is aimed at 5-14 year olds, with separate guidance provided for the S3 and S4 (15-16

year old) school years. As mentioned above, the subject names differ to those for England. In this review we will consider the subject guidelines for *Environmental Studies*¹²: *Society, Science and Technology, Health Education, and Information and Communications Technology*.

In similar fashion to the QCA guidelines, the L&TS guidelines do not, 'prescribe a particular methodology in the teaching of [subjects]. [They state], there are many valid and effective ways of motivating children to learn, and schools will adopt the approach that is best suited to their particular circumstances and to the needs of their pupils' (LTS 2000a, p.iii).

The guidelines are provided as a basis for understanding and planning lessons. The guidelines do provide clear instructions for the subjects that could be addressed and the expected levels of learning achievement.

5.4.1 Environmental Studies: Society, Science and Technology - (LTS 2000a)

This document is similar in its scope to the QCA National Curriculum guidelines for Design & Technology, Science and Citizenship.

There are 31 references to 'safe', 12 references to 'health' and 5 references to 'risk'. This document contains 83 pages.

- From section 5.9 'Science':
'Safety should permeate all aspects of the teaching of science. It can be used as a context to consider working in a safe and hygienic manner in a variety of situations across environmental studies. It can also be used as a focus for teaching about science by using health and safety issues as starting points' (p. 45).
- From section 5.12 'Knowledge and Understanding- Energy and forces':
'At the later stages of primary, simple electrical circuits should be introduced and the relationship between conductors, insulators and safety established' (p.51).
- From section 5.18 'Technological Capability':
'Teachers need to ensure that pupils use resources and processes safely and hygienically. Pupils need to learn how to use resources and processes safely and hygienically. In working with tools, equipment and materials pupils need to learn: about hazards, risks and how to control them; how to recognise hazards, assess risks and take steps to control risks to themselves and others' (p. 67).

5.4.2 Health Education – (LTS 2000b)

The guidelines are based on the three interconnected themes of physical health, emotional health and social health.

This document is similar in its scope to the QCA National Curriculum guidelines for Citizenship & PSHE.

There are 42 references to 'safe', >100 references to 'health' and 11 references to 'risk'. This document contains 27 pages.

- From section 3.1 'A Strategic Whole-School Approach to taking responsibility for health':
'Learning to take responsibility for health does not only happen in the classroom but is also determined by the extent to which the school shows that health promotion is an important part of its daily life' (p.7).
- From section 3.5 'Evaluating the programme':

¹² *Environmental Studies* is assumed to be equivalent or similar to the QCA subjects, *Science and Design & Technology*.

‘In planning and evaluating such **health** education programmes, schools will want to ensure that they: cover and revisit **health** issues at several stages to build on prior learning; focus on **health** issues and also link them to their impact on the **health** of individuals and communities; involve pupils in exploring responsible decision making as well as awareness of **risk**’ (p. 9).

5.4.3 **Information and Communication Technology - (LTS 2000c)**

This document is similar in its scope to the QCA National Curriculum guidelines for *Information and Communication Technology*.

There are 2 references to ‘safe’, 2 references to ‘health’ and 0 references to ‘risk’. This document contains 31 pages.

- From section 3.1 ‘Planning and Managing’:
‘Schools work in partnership with their local authority, which has the responsibility to ensure ICT provision including resources, training and support, and to policies and practices dealing with a range of issues such as safe uses of the internet’ (p. 7).

Subject (number of pages)	Text Category		
	Safe	Health	Risk
Environmental Studies: Society, Science and Technology (83)	31	12	5
Health Education (27)	42	100+	11
Information and Comm. Tech. (31)	2	2	0

Table 6. Frequency of reference to ‘risk’, ‘health’ and ‘safe’ within L&TS National Curriculum guidelines.

5.5 THE NATIONAL CURRICULUM ‘GUIDES’ FOR SCOTLAND

The LT&S ‘Guides’ for teachers are similar to the QCA’s *Schemes of Work*. They differ in that the guides for each level are contained in one booklet (unlike the QCA where a series of booklets is provided). The subject titles differ from the QCA’s categorisation. As with the QCA’s *Schemes of Work*, these *Guides* exemplify the kind of teaching and learning activities that are appropriate for certain age groups for the subject area.

In this mapping exercise we consider the subject guides for ‘*Environmental Studies: Science*’, ‘*Environmental Studies: Technology*’, ‘*Health Education*’, and ‘*Information and Communications Technology*’.

5.5.1 **Environmental Studies: Science – (LTS 2000d)**

There are 58 references to ‘safe’, 15 references to ‘health’ and 1 reference to ‘risk’. This document contains 87 pages.

- From a learning activity – ‘3 Earth and Space’:
‘Relate uses of everyday materials to properties: Properties such as strength, flexibility, insulation and conduction, magnetism and water resistance should be added to those encountered at Level A. Pupils should be introduced to the idea of **safe** handling of material’ (p. 31).
‘Use pictures to spot **unsafe** situations in school and at home and consider which senses are used when we cross a road’ (p. 55).

5.5.2 **Environmental Studies: Technology – (LTS 2000e)**

There are 33 references to ‘safe’, 13 references to ‘health’ and 12 references to ‘risk’. This document contains 63 pages.

- From a section on integrating skills:
‘Designing and making food for a party: Pupils explore people’s food preferences, some food types and also some examples of what could be made for the party. Skills for safe, hygienic food preparation and skills for systematically investigating people’s food types and preferences are needed’ (p.26).

5.5.3 **Health Education – (LTS 2000f)**

There are 42 references to ‘safe’, 100+ references to ‘health’ and 11 references to ‘risk’. This document contains 27 pages.

- From a section on approaches to health education:
‘Where the teacher wants pupils to consider a specific situation, such as a risk situation involving friends and alcohol, the use of a case study or role-play would be more appropriate’ (p. 23).

5.5.4 **Information and Communications Technology – (LTS 2000g)**

There are 19 references to ‘safe’, 9 references to ‘health’ and 2 references to ‘risk’. This document contains 83 pages.

- From a section on computer safeguards:
‘Well-reported instances of abuse of media such as the internet, telephone, video and photography in terms of paedophilia, pornography and sales exploitation raise serious questions of personal safety on the part of children and schools in the use and development of ICT’ (p. 46).

Subject (number of pages)	Text Category		
	Safe	Health	Risk
Environmental Studies: Science (87)	58	15	4
Environmental Studies: Technology (63)	33	13	12
Information and Comm. Tech. (83)	19	9	2
Health Education (27)	42	100+	11

Table 7. Frequency of reference to ‘risk’, ‘health’ and ‘safe’ for L&TS ‘Guides for Teachers’.

5.6 THE NATIONAL CURRICULUM GUIDELINES FOR WALES

The curriculum ‘Guidelines’ for Wales have a similar structure to the English guidelines. Similar to the English curriculum, the Welsh curriculum is banded into four key stages. The subjects are categorised by identical names. For the purposes of this study, the curriculum structure can be considered as identical to that for England. Unlike the English curriculum, there is no stipulated general teaching requirement for health and safety for particular subjects. As with the English curriculum, we will consider the content of the curriculum guidelines for the subjects of ‘Art & Design’, ‘Design & Technology’, ‘ICT’, ‘PE’ and ‘Science’.

There is significantly less content to these Guidelines than the equivalent QCA and LT&S documents. The ACCAC Guidelines for 'Design & Technology' do however provide a statement similar to the health and safety statement within the QCA documents:

'Pupils should be taught how to use tools and equipment safely and to consider the hazards and risks in their activities. They should be able to follow instructions to control risk to themselves and others, e.g. work tidily, putting things away in the right place' (ACCAC 2000b, p.5).

5.6.1 Art & Design (ACCAC 2000a)

There are 0 references to 'safe', 0 references to 'health' and 0 references to 'risk'. This document contains 10 pages.

5.6.2 Design & Technology (ACCAC 2000b)

There are 12 references to 'safe', 3 references to 'health' and 6 references to 'risk'. This document contains 10 pages.

- From the guidelines for key stage 3 (Designing Skills):
'Pupils should be taught to - consider appearance, function, **safety** and reliability when developing ideas for products, materials, using appropriate tools, equipment and techniques' (p. 6).

5.6.3 Information Technology (ACCAC 2000c)

There are 0 references to 'safe', 0 references to 'health' and 0 references to 'risk'. This document contains 10 pages.

5.6.4 PE (ACCAC 2000d)

There are 20 references to 'safe', 17 references to 'health' and 2 references to 'risk'. This document contains 10 pages.

- From the guidelines for key stage 3 (Health-related exercise):
'Pupils should be taught - the long-term effects of exercise on physical health, e.g. reduced **risk** of heart disease, osteoporosis, obesity, improved management of **health** conditions such as asthma' (p.11).

5.6.5 Personal and Social Education Framework (PSE) (ACCAC 2000e)

There are 16 references to 'safe', 15 references to 'health' and 2 references to 'risk'. This document contains 11 pages.

- From the guidelines for key stage 3 (Knowledge and Understanding):
'Pupils should - know the effects of and **risks** from use of the range of legal and illegal drugs (including alcohol and tobacco) and the laws governing their use' (p. 9).
'Pupils should - understand the relationship between diet and good **health** and the importance of food safety' (p. 9).

5.6.6 Science (ACCAC 2000f)

There are 9 references to 'safe', 10 references to 'health' and 8 references to 'risk'. This document contains 11 pages.

- From the guidelines for key stage 1 (Programme of study):
‘Work on life processes in humans should be related, when appropriate, to pupils’ personal **health**’ (p. 7).
- From the guidelines for key stage 2 (Programme of study):
‘Pupils should be taught – when planning an investigation to recognise the hazards and **risks** to themselves and others’ (p. 11).

Subject (number of pages)	Text Category		
	Safe	Health	Risk
Art & Design (10)	0	0	0
Design & Technology (10)	12	3	6
Information Technology (10)	0	0	0
Physical Education (10)	20	17	2
Science (34)	9	10	8
PSE (11)	16	15	2

Table 8. Frequency of reference to ‘risk’, ‘health’ and ‘safe’ within ACCAC National Curriculum guidelines.

5.7 RISK EDUCATION PROGRAMMES AND THEMES

In addition to the quantitative content analysis and extracts, we provide here a thematic analysis of the National Curriculum *Guides* and *Schemes of Work*. In Figure 2 we have identified some of the risk education themes that feature across the National Curricula. Clearly the boundaries between themes are not fixed. Nevertheless, the content of school risk education will relate to one or more of these themes.

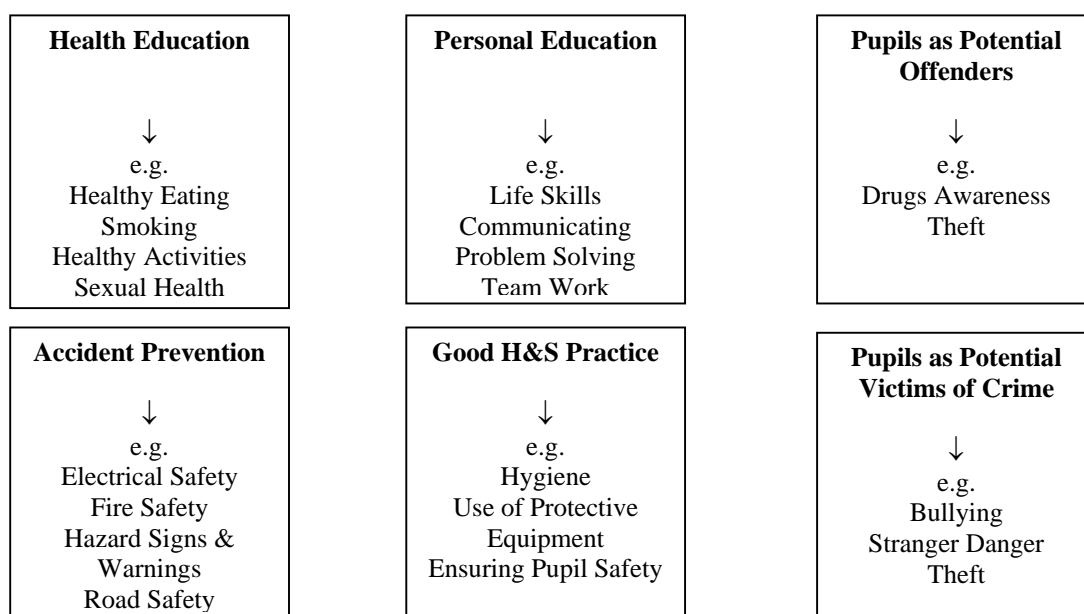


Figure 2. Risk education and prevention themes.

5.7.1 A Selection of Risk Topics by Subject

At a practical level, the themes encompass a range of topics, through which issues of risk, health and safety can be taught and learned. That is, the various teaching resources reviewed above provide an abundance of lesson plans (through *Schemes* or *Guides*) which tend to be based on specific topics. It is most likely that risk education will feature as a sub-topic, since the lesson plans are mostly composed of topics that do not directly concern risk education, but provide opportunities for teaching about risks and hazards. For example, during science lessons involving corrosive substances there are various opportunities to learn about the potential risks when handling substances and the importance of protective clothing, although the main focus may not be risk education. There are a few notable exceptions wherein risk education does feature as the principal topic. In contrast to the practical subjects, the curricula for ‘*Personal and Social Education*’ subjects are often comprised of risk topics that are addressed over a number of weeks or lessons, wherein risk education is the principal focus.

We have assembled a list of general risk education topics/subtopics that originate from the curriculum authorities’ *Guides* and *Schemes of Work* (see Tables 9 to 14)¹³. Each topic illustrates some subject relevant risk education learning opportunities - they may be either principal- or sub-topics.

The manner in which risks are addressed will vary across these topics. Many risk topics, such as ‘drugs awareness’, can only be addressed in the abstract, generally through discussion or role-play activities. Other topics are more hands-on, and knowledge about risks may be gained through applying safety procedures to practical tasks. The risk issues that we have identified relate in that the outcomes of ‘real world’ situations present some potential risk to individuals.

1) Science Topics (adapted from the national curricula of England, Scotland and Wales).

Science	
Subject Area	Topic
Creating circuits, electricity.	Safe use of electricity: insulators and fuses.
Materials from Earth, water.	Water safety and hygiene.
Materials from Earth, various.	Safe handling of materials: hot drinks in plastic cups.
Properties of materials.	<ul style="list-style-type: none"> • The effects and danger of fire: fire retardant material, product labelling and fire safety. • The effects of pollutants: sewage and pesticides as possible contaminants. • The reactivity of materials: include the use of safety goggles.
The uses of energy.	Light and sound, light reflection from materials: possible links to reflective material and road safety.
Forces and their effects.	Friction: links to tyre wear and road safety.
The roles of micro-organisms.	Bacteria and mould: reasons and responsibility for food hygiene/health education.
The processes of life.	Using the senses for safety: using smell or sound to detect danger.

Table 9. ‘Risk topics’ for Science.

2) Technology Topics (adapted from the national curricula of England, Scotland and Wales).

¹³ There is much similarity between each Nation’s curriculum guidance removing any case for presenting topics for each nation separately.

Technology	
Subject Area	Topic
Using Plans and Rules	Getting around the school, using plans to move safely and organise behaviour.
Communication through design and symbols.	Designing safety symbols, exploring what works.
Properties of materials.	The use of safe materials and safe design of products.
Food preparation.	<ul style="list-style-type: none"> • Hygiene and safety in food preparation and production. • Understanding information for safe food preparation.
Food and diet.	Understanding healthy food and nutrition and relation to a healthy diet.
Using tools.	<ul style="list-style-type: none"> • Learning about dexterity and abilities to manage and control tools. • Learn about properties of tools. • Learn about safe practices and learn through risk-taking. • Learning about resources and safe practices through demonstration, practice and reinforcement.
Using and designing tools.	Learning about lifting heavy items using pulley equipment. Design and make safe lifting equipment.

Table 10. ‘Risk topics’ for Technology.

3) ICT Topics (adapted from the national curricula for England, Scotland and Wales).

ICT	
Subject Area	Topic
The impact of ICT.	<ul style="list-style-type: none"> • Identifying the health concerns that relate to computer use. • The benefits of computer simulation for safety, e.g. flight simulation.
Information protection.	The safe use of the internet.

Table 11. ‘Risk topics’ for ICT.

4) Personal, Health and Social Education (adapted from the national curricula of England, Scotland and Wales).

Personal, Health and Social Education (including citizenship)	
Subject Area	Topic
Social Skills	The role of communication, assertiveness and knowledge when avoiding harm.
Safety Education:	<ul style="list-style-type: none"> • Ways of keeping safe, e.g. avoiding bullying, safe food preparation, safe road crossing. • Ways of getting help, e.g. telling, dialing 999. • The role of laws for safety, e.g. rights of children, seat belt • The importance of a clean environment for safety. • The relation between personal decision making and safety, e.g. wearing a cycle helmet. • Risk-taking, what it means.
Health Education (Drugs):	<ul style="list-style-type: none"> • The effects of harmful substances, e.g. smoking, alcohol, drugs.

	<ul style="list-style-type: none"> • Drugs and addiction. • Peer and media influences on the decisions that we make. • Communicating personal problems as a way of avoiding harm.
Health Education (Mental):	<ul style="list-style-type: none"> • Understand emotions, stress and the causes of stress.
Health Education (Nutrition):	<ul style="list-style-type: none"> • The relation between health and what we eat. • The relation between health and the exercise that we get. • Ways of reducing infection, e.g. oral hygiene.
Health Education (Environment):	<ul style="list-style-type: none"> • Environmental pollution and its affect on health. • The importance of a clean environment for health and safety.
Health Education	<ul style="list-style-type: none"> • Sexual development and sexual responsibility. • Puberty, pregnancy, family roles and sexually transmitted infections. • Safe sex and methods of contraception.

Table 12. ‘Risk topics’ for Personal, Health and Social Education.

5) Physical Education (adapted from the national curricula of England, Scotland and Wales).

PE	
Subject Area	Topic
General Issues (for games, gymnastics, dance, athletics, etc.)	<ul style="list-style-type: none"> • The relation between personal hygiene and sport. • The importance of risk-taking and its relation to safe practice. • Exercise and the management of health conditions. • Safety procedures for physical activities. • The importance of protective clothing for physical activities.
Swimming	<ul style="list-style-type: none"> • Water safety and safe behaviour around water. • Rescue and resuscitation for water based activities.

Table 13. ‘Risk topics’ for PE.

6) Art & Design (adapted from the national curricula of England, Scotland and Wales).

Art & Design	
Subject Area	Topic
Using tools and materials	<ul style="list-style-type: none"> • Safe handling of tools and materials. • Hygiene when handling certain materials.

Table 14. ‘Risk topics’ for Art & Design.

5.8 SUMMARY OF THE CURRICULUM AUTHORITIES’ PUBLISHED NATIONAL CURRICULUM GUIDANCE MATERIALS

The quantitative content analysis, the selected extracts, and the thematic analysis provide snapshot characterisations of the curriculum documents. On the basis of the evidence gathered here, it can be concluded that risk education is well represented throughout the documents.

Evidence from the frequency count of risk education related text categories ('safe', 'health' and 'risk') for the National Curriculum documents (see e.g. Tables 4, 6, and 8 above) indicate that each Nation places a significant emphasis on risk education issues. The subject documents for each nation make various references to the selected text categories - the text categories averaged between 0.4 to 1.8 references per page.

Common patterns of reference to risk issues emerged for each equivalent National subject. For instance, the national guidelines for '*Design & Technology*', '*PE*', and '*Science*' are well populated with references to the selected text categories. As one might expect, these subjects include significantly greater risk education themes and the guidelines – as suggested by the content analysis - confirmed this intuition. There were significantly fewer risk education references for '*Art & Design*' and '*ICT*'. In the case of the ACCAC guidance, there were no references for these subjects. References to the text categories for '*Personal & Social Education*' (or its National equivalent) varied between the nations. In the case of the QCA guidance document for '*Citizenship*' (QCA 2000f), there were relatively few references. This be explained in that the QCA *Schemes of Work* for '*Citizenship*' covers the main risk topics where an abundance of risk education issues can be located, whereas the guidance provides a teaching overview.

The only notable variation between the documents for the three nations was that the documents from ACCAC are considerably shorter than those published by QCA and L&TS¹⁴.

The thematic analysis identified some of the risk education topics that feature within the national guidance materials. The guidance identifies many opportunities for learning about the various risk topics across the subject areas. Furthermore, teachers are encouraged to make connections between learning opportunities for subject lessons across the curriculum. For example, 'health and nutrition' are considered cross cutting themes for 'Home Economics' / 'Food Technology', PE and Science, and may also be related to 'Personal and Social Education' units.

Where risk education issues were identified within the curriculum documents, they could be related to six (sometimes overlapping) themes:

- Health Education;
- Accident Prevention;
- Personal Education;
- Good H&S Practice;
- Pupils as Potential Offenders;
- Pupils as Victims of Crime.

The curriculum guidelines for each subject provide a range of recommendations for conducting lessons that incorporate risk topics (see e.g. sections 5.1, 5.2, 5.4, 5.5 and 5.6). In some cases it will be possible to present risk education as a discrete topic (e.g. the risks of smoking), but in most it will feature as an integrated sub-topic (e.g. reminders for safe practice during practical sessions). Whether risk education features as discrete or sub-topic will depend on the nature of the task or lesson and presumably the discretion of the teacher. Depending on the nature of the topic and the resources available, opportunities for learning about the risk topics will be based on practical lessons, written work, group discussion or off-site visits. Lists of topics for each subject are outlined in Tables 9 to 14 above.

¹⁴ It should be noted that this is not a comprehensive review of guidance provided by the curriculum authorities. Additional guidance, beyond these curriculum outlines is provided. Teachers may take their lead from these other documents.

Given the different structure of the *Schemes of Work* (QCA) and *Guidelines* (L&TS) documents for each nation, it is difficult to provide any meaningful comparisons. The English guidance is made up of a series of documents, too many in number to review in their entirety, whereas the Scottish guidance is contained in a single comprehensive document. However, the *Schemes of Work* and *Guidelines*, from the documents that we have sourced, provide many examples of class-work topics through which teaching staff may approach issues of risk, health and safety. Although this may not be their primary focus, these documents appear to highlight the ‘risk issues’ for various topics and indicate where there are opportunities for pupils to develop knowledge about risks. There was much similarity in the topics identified within these documents. The guidelines are extensive, and we feel that they stand as essential teaching resources, which cover a broad range of issues¹⁵. Teachers may use these resources as templates for individual lessons or broader themes for longer periods. We anticipate that *Guidelines* and *Schemes of Work* will influence teachers to consider risk education issues when they prepare or present lessons. However, there is no reason to assume that teaching staff do pay particular attention to the risk education aspects of the guidelines, or that they single out certain items in the way that we have done for this report. We will be better placed to gauge teacher’s interpretation of the guidelines during the case-study section of this study.

Looking at the guidance materials more generally, there appear to be opportunities for all age groups to learn about risk issues, and the quantity of risk education content appears consistent across the primary and secondary key stages. The only variation that can be detected relates to the level of competence required for specific tasks. As one would expect, older and more competent pupils are trusted to undertake tasks with greater associated risks. Related judgements about the competence of pupils are presumably left to the discretion of classroom teachers, and will depend upon their experience and ability to assess pupil competence.

Although there are some obligations for teaching staff to follow National Curriculum guidelines, they are not supposed to be followed slavishly. For this reason, it cannot be assumed that the UK’s pupils receive equivalent risk education. However, if teaching staff do refer to the National Curriculum guidelines there are, we believe, ample leads for them to take on issues of risk, health and safety. Given the significant number of references to risk education throughout the curriculum authorities’ documents, there seems to be little justification to alter the guidelines on the basis that there is not sufficient reference to risk education and related teaching and learning processes.

The National Curriculum documents do not, however, consider the practical task of communicating risk concepts through the curriculum. These documents are technical guides for structuring lessons. As with other subject topics, the practical task of communicating (risk) issues (or any lesson objectives) is left to the interpretation and abilities of teachers and the range of resources available to them. The style of the written guidance is characterised in the following statement: ‘Pupils should be taught - why wearing appropriate clothing and being hygienic is good for their health and safety’ (QCA 2000d, p.20). By itself, the guidance is insubstantial and only acts as a trigger for teachers to activate their knowledge and experience. Neither does the guidance say much about the manner in which their knowledge could be imparted.

¹⁵ Many private companies publish similar teaching guides that are widely used by teaching staff. We are unable to review the documents available from other educational publishers here. From information that we have gathered, their publications are designed to meet the Curriculum Authority’s requirements. They provide comprehensive guidelines and suggestions for teaching, and often include detailed lesson plans. One example is the ‘Exploring Science’ resource (Longman publishers (2003), see http://www.exploringscience.co.uk/exs_qca.html).

Similarities in the structure of the National Curricula for England, Scotland and Wales suggest that the curriculum authorities collaborate in some degree, and that they aim toward a degree of unity in their approaches to education. The extent of the collaboration between the curriculum authorities is not documented, but given the similarity of topics covered by each National Curriculum, it would seem reasonable to assume there is much alignment between their policy perspectives.

6 EDUCATIONAL ASSESSMENT AND RISK EDUCATION

6.1 SCHOOL INSPECTIONS

In this section we consider the role of School Inspectorates, for England, Scotland and Wales. The Inspectorates for England, Scotland and Wales are the Office of Standards in Education (OfSTED), HM Scottish Inspectorate of Education (HMIE) and ESTYN HM Inspectorate for Education, respectively. The discussion presented here is focused on the Inspectorates role in promoting risk education and associated good practice within schools. Given the broad scope of this study, we have drawn upon a sample of inspection reports as evidence of their impact, and to inform our conclusions

School inspections have a long history in the UK. The 1992 Education Act introduced a new system of inspection of schools. To carry out these inspections the Office for Standards in Education was created in England. The Head of each National Inspectorate is responsible for advising government about the performance and achievement of the public education service. The inspections are high profile and aim to establish various aspects of the schools' compliance and performance in relation to, amongst other factors, the National Curriculum, examination achievement and the quality of learning experience. The (full) inspections are conducted by contracted inspection teams, or directly by each National Inspectorate, for each primary and secondary school, on average every five to six years. The inspection will involve an on-site visit for approximately one week. The inspection team normally includes up to ten inspectors including one lay inspector. The inspections are multi-faceted evaluations that employ, for example, observations of classroom lessons and interviews with school staff, and draw on quantitative information, such as formal assessments or attendance records.

The inspection is the main national instrument for evaluating levels of compliance with statutory education requirements and regulations. In this respect the focus of inspections assess the degree to which schools achieve the National Curriculum requirements for risk, health and safety and other pertinent issues of educational health and safety – though the inspection remit is far broader than these issues.

OfSTED have stipulated clear lines of enquiry for the external inspectors that visit primary and secondary schools. The guidelines can be found in two publications, *'The Handbook for Inspecting Secondary Schools'* (OfSTED 1999a) and *'The Handbook for Inspecting Primary and Nursery Schools'* (OfSTED 1999b). Similar guidelines are produced by HMIE and ESTYN (see HMIE 2003). Within the OfSTED handbooks, the section most relevant to this study is titled, 'How well does the school care for its pupils'. The guidelines under this section stipulate that inspectors must evaluate and report on, 'the steps taken to ensure pupils' welfare, health and safety, including the school's arrangements for child protection' (1999a, p.74). Furthermore, inspections are required to check whether all children and staff work in a safe environment; the school promotes healthy and safe living; work-related opportunities conform to health and safety criteria (1999a, p.74). The inspections draw on standard evaluation research methods, by asking teachers about current policies and risk prevention behaviour, and through observing behaviour and physical evidence of hazards around the school. Inspections draw heavily on external standard assessments as evidence of achievement – i.e. rather than classroom assessment.

The section titled, *'The standards and quality of the teaching in areas of the curriculum, subjects and courses'* (1999a, p.104), is also of some relevance. One significant omission is that there are no specific guidelines for 'risk education' content. Assessments of teaching/lesson

plans, schemes of work, pupils' coursework and classroom observations are, however, included as part of the inspection process.

We have performed a quantitative content analysis on a random selection of school inspection reports with a view to provide an indication of the extent to which 'risk', 'health' and 'safety' are criteria applied in the performance assessment. We have selected three primary and three secondary school inspection reports upon which to conduct this analysis. Qualitative content also provides some indication as to whether inspection is used as a means to assess schools' risk education attainment. The length of each OfSTED report varies in relation to certain factors, notably the size and performance of the school. In some cases, greater attention may be paid to issues where the school is considered to be failing.

6.1.1 Inspection Case Example 1 - England

Secondary education (11-18 year olds), 1292 (113 six form) pupils, boys and girls, 59% eligible for free school meals, standards of attainment are below the national average, quality of education is good.

There are 7 references to 'safe', 30 references to 'health' and 3 references to 'risk'. This document contains 90 pages.

('Health' is dominant in the report as an outcome of 'health & social care' being a vocational curriculum area for 16-18 age pupils).

- (e.g.) From the section 'how well does the school care for its pupils':
'Health and safety matters are becoming increasingly well managed. Risk assessments are in place in departments but insufficient attention has been given to some safety aspects in the swimming pool area. The condition of some parts of the premises requires considerable vigilance to maintain safety but will be dealt with when the refurbishment programme takes place' (p. 25).
- (e.g.) From the section 'Standards and quality of the teaching in areas of the curriculum' (Key Stages 3 & 4, Design & Technology):
'Practical work is done carefully and pupils use tools, equipment and machinery with confidence. The quality of design products overall is good and reflect a wide range of pupils' interests. Health and safety matters are given high profile and pupils use appropriate guards, eye protection and clothing' (p. 51).
- (e.g.) From the section 'Standards and quality of the teaching in areas of the curriculum' (Sixth Form, Health & Social Care):
'The theory and practice of health and social care are well applied within assignments. This gives students realistic insights into the demands of the vocational area and promotes greater understanding' (p. 77).

6.1.2 Inspection Case Example 2 - England

Secondary education (12-16 year olds), 581 pupils, boys and girls, pupils socio-economic circumstances are below average, standards of attainment are below the national average, quality of education is satisfactory.

There are 4 references to 'safe', 11 references to 'health' and 0 references to 'risk'. This document contains 59 pages.

(‘Health’ is well populated in the report as an outcome of ‘personal, social & health education’ being a curriculum area).

- (e.g.) From the section, ‘how well does the school care for its pupils’:
‘The school complies with statutory **health** and **safety** requirements. The local education authority undertakes regular **safety** audits’ (p. 21).
- (e.g.) From the section, ‘how good are the curricular and other opportunities offered to pupils or students?’:
‘The provision for personal, social and health education, currently under review, is satisfactory. Although no member of staff has overall responsibility for co-ordinating the personal, social and health education programme, heads of year effectively oversee the provision for their year group. The programmes cover topics such as drugs, **health** and sex education satisfactorily. Specialists speakers are brought in to give additional support, for example in teaching sex and drugs education’ (p. 17).

6.1.3 Inspection Case Example 3 - England

Primary education (3-11 year olds), 377 pupils, boys and girls, there is above average entitlement for free school meals, standards of attainment are below the national average, quality of education is good.

There are 5 references to ‘safe’, 13 references to ‘health’ and 1 reference to ‘risk’. This document contains 41 pages.

(‘Health’ is well populated in the report as an outcome of ‘personal, social & health education’ being a curriculum area).

- (e.g.) From the section, ‘how well does the school care for its pupils’:
‘First aid is well catered for with two fully qualified members of staff for each key stage. All incidents are carefully recorded. No **health** or **safety** hazards were observed and regular **risk** assessment takes place. **Health** education has a high profile and no sweets or crisps are allowed but apples are sold by pupils at break time. The school runs a very **beneficial** annual **health** week in the summer term. Visiting specialists help to promote **healthy** living and there is an emphasis on sport and outdoor education. All classes receive personal, social and health education that includes aspects of **health** and sex education, personal responsibility and citizenship’ (p. 17).

6.1.4 Inspection Case Example 4 - England

Primary education (4-11 year olds), 43 pupils, boys and girls, there is low entitlement for free school meals (2%), standards of attainment are well above the national average, quality of education is good.

There are 4 references to ‘safe’, 3 references to ‘health’ and 0 references to ‘risk’. This document contains 20 pages.

- (e.g.) From the section, ‘how the school has improved since the last inspection’:
‘All statutory policies are now in place and **health** and **safety** issues have been fully addressed. There is now a regular **health** and **safety** audit of the school by governors’ (p.7).

6.1.5 Inspection Case Example 5 – Scotland

Secondary education (12-18 year olds), 1071 pupils, boys and girls. The standards of attainment are at the national average, quality of education is satisfactory.

There are 2 references to ‘safe’, 6 references to ‘health’ and 0 references to ‘risk’. This document contains 35 pages.

- (e.g.) From the section, ‘How well does the school perform overall’:
‘At S3/S4, almost all pupils followed balanced programmes comprising eight Standard Grade objects, certificated short courses in religious education and school-based courses in physical education and personal and social development. A small number of pupils took courses in life skills or **health** and food technology as an alternative to Standard Grade courses’ (p. 6).
- (e.g.) From the section, ‘Main points for action’:
‘The education authority should address weaknesses in the accommodation in the games hall and **health** and **safety** issues in access to the sports field’ (p. 29).

6.1.6 Inspection Case Example 6 – Wales

Primary education (4-11 year olds), 134 pupils, boys and girls, there is high entitlement for free school meals (43%), standards of attainment are good, quality of education is good.

There are 2 references to ‘safe’, 3 references to ‘health’ and 0 references to ‘risk’. This document contains 38 pages.

- (e.g.) From the section, ‘Partnership with industry’:
‘The school has benefited from sponsorship by industry. In particular pupils’ appreciation of environmental issues has been enhanced by support for a tree-planting scheme at the school, and a sponsored fun-run focused on **health** and fitness’ (p. 12).

Case No.	No. of Pupils	Level	Free Meals	No. of Pages	Text Category		
					Safe	Health	Risk
1	1292	Sec.	59%	90	7	30	3
2	581	Sec.	49%	59	4	11	0
3	377	Pri.	55%	41	5	13	1
4	43	Pri.	2%	20	4	3	0
5	1071	Sec.	17%	35	2	6	0
6	134	Pri.	43%	38	2	3	0

Table 15. Frequency of reference to ‘risk’, ‘health’ and ‘safe’ within inspection reports.

6.1.7 Summary of Inspections and Their Relation to the Curriculum

The guidelines for inspecting schools are well defined and transparently provide a systematic approach for inspections. Accordingly, the inspection reports use similar structures and employ similar language. From our analysis there would seem to be little variation in the style and content of inspection reporting¹⁶.

¹⁶ A review of a larger sample of inspection reports indicates that the reports described above are representative.

From the case documents selected for this analysis, there is some evidence that ‘risk’, ‘health’ and ‘safety’ are treated as important considerations within inspection assessments and reports. However, where reference is made to these text categories, this tends to relate to a school’s ‘risk management policy’, over and above the quality or extent of their risk education teaching. This evaluation approach is in line with the guidance for inspecting schools, that the main focus is on protecting pupils rather than assessing risk education per se.

There is more emphasis on ‘health and safety at work’ issues and less concern with the manner in which schools integrate health and safety issues into the lesson content and the learning experience. However, without a survey of inspectors’ attitudes, this stands as conjecture, as the inspections’ primary focus is arguably the extreme positive and negative aspects of the schools (in particular, teaching quality, education attainment and attendance levels). It may be the case that inspectors consider the risk education content of the curriculum to be adequate, and therefore not noteworthy.

Although the emphasis for reports is on compliance with health and safety regulations and good safety management practice, there is some evidence that the inspections do pay attention to the risk education content of the school curriculum, and in particular safe and appropriate teaching for activities with inherent risks. An interview conducted with one of OfSTED’s chief inspectors confirmed these findings. He acknowledged that the guidelines for inspection reports do not provide recommendations for reviewing risk education content of the school curriculum. However, he stated that, ‘comparison of all features of the National Curriculum with lesson plans and teaching practice is fundamental to the inspection, and safety education would not be overlooked during the inspection process’ (Interview #102).

Overall, the inspections stand as a useful mechanism for ensuring that schools comply with regulations under the Health and Safety at Work Act (1974). The inspections also provide some insight into the adequacy of a school’s risk education provision and its role within the school curriculum. Where schools have made concerted efforts to introduce issues of ‘risk’, ‘health’ or ‘safety’ into the school curriculum, Inspectorate reports appear to have viewed these efforts favourably. However, we should not infer from this that particular schools would actively integrate risk, health and safety modules within their classroom teaching in order to improve their inspection results.

With the recent introduction of the *Citizenship* subject into the English curriculum, and given its focus on ‘personal health and safety’, future inspections may be more inclined to consider the quality of a school’s *Citizenship* related risk education whilst this subject is in its early development stages.

6.2 EXAMINING BOARDS & AWARING BODIES

In this section we consider the role of examinations for promoting risk education through school assessments.

In England, Scotland and Wales, General Certificate of Secondary Education (GCSE) and Standard Grade examinations¹⁷ contribute to at least 50% of the 15 to 16 year old overall assessment for National Curriculum subjects. They are, therefore, a significant part of the pupil assessment, and an important mechanism for ensuring that pupils have attained required levels and breadth of comprehension. It would seem that coursework that involves practical tasks is

¹⁷ The ‘Standard Grade General Certificate’ is the Scottish equivalent to the English and Welsh GCSE award.

most relevant to issues of risk, health and safety, but that formal examinations can also serve as a mechanism for testing pupils' awareness of related issues.

The QCA and the ACCAC develop the national qualifications framework and act as regulators of the external GCSE key stage 4 examinations. In addition to the framework for teaching provided in the regulatory authorities' National Curriculum *Guidelines*, examination guidelines and accreditation criteria set out a structure for the external Awarding Bodies. Development of the accreditation criteria involves consultation with key interest parties (QCA 2000m, p.4). In Scotland the situation is slightly different in that the qualifications system is *administered* and quality assured by Scottish Qualifications Authority (SQA)¹⁸.

Under the general criteria for qualification design, there are no mandatory requirements for risk, health and safety considerations. There is, however, a requirement that, 'each specification should identify, as appropriate to the subject or sector, ways in which the study of the area can contribute to - awareness of environmental issues, health and safety considerations, and European developments, consistent with relevant international agreements' (QCA 2000m, p.10). There is also a requirement that, for National Curriculum subjects, the specifications must be *consistent with* statutory programmes of study (p. 11). Although the statutory regulations for external qualifications (see QCA 2000m) do not specify that there are mandatory requirements for risk, health or safety teaching provision, there is a requirement that risk education should be included at some, albeit unspecified, level. The general risk education requirements are similar to the teaching requirements outlined in the National Curriculum Guidelines.

In this section we review a small selection of coursework guidance and exam papers and course work support documents produced by three Examining Boards and Awarding Bodies, namely Edexcel, OCR and WJEC. The content of these documents is assessed. The coursework literature provides a similar framework of guidance to the National Curriculum *Guidelines*.

6.2.1 Examination Case Example 1 (Support Guidance)

Edexcel – Course Work Support Booklet, GCSE Design & Technology (Edexcel 2000)

This course guidance booklet provides help for teachers when planning, designing and assessing tasks.

There are 8 references to 'safe', 8 references to 'health' and no reference to 'risk'. This document contains 36 pages.

Many of the references to 'safe' and 'health' concern examples of pupils design strategies.

- From the section (suggested) 'Task Outlines':
'Design and make a prototype of a detachable attachment to a bicycle, that would enable items of your choice to be carried / transported more easily and **safely**' (p. 17).
- From the section 'What makes a Good Task or Investigation':
'Demonstrate appropriate manipulative skills in their use of tools and equipment; reflect and critically comment on the quality of their practical work, demonstrating willingness and ability to develop new skills when they are needed; apply **health** and **safety** practices' (p.7).

¹⁸ GCSE and Standard Grade examinations normally only apply to key stage 4 pupils (age 15-16 years). These examinations are nevertheless relevant to all key stages in that they are one of the ultimate points toward which primary and secondary education aims.

6.2.2 Examination Case Example 2 (Past Papers)

Edexcel – Past Examination Papers¹⁹, Science (Physics) June 98 (Edexcel 1998)

This includes four separate exam papers.

There are 0 references to ‘safe’, 0 references to ‘health’ and no reference to ‘risk’. This document contains 80 pages.

6.2.3 Examination Case Example 3 (Support Guidance)

OCR – Course Work Support Booklet, GCSE Design & Technology (Food Technology) (OCR 2000a)

This course guidance booklet provides help for teachers when planning, designing and assessing tasks.

There are 15 references to ‘safe’, 13 references to ‘health’ and 6 references to ‘risk’. This document contains 100 pages.

- From the section ‘Specification aims’:
‘The aims of this GCSE specification are to encourage candidates to - evaluate in terms of their scientific knowledge and understanding, the benefits and drawbacks of scientific and technological developments, including those related to the environment, personal **health** and quality of life, and considering ethical issues’ (p. 10).
- From the section ‘Specification content’:
‘During the key stage - recognise that there are hazards in living things, materials and physical processes, and assess **risks** and take action to reduce risks to themselves and to others’ (p. 21).
- From the section ‘Marking criteria for internally assessed work’:
Skill area: obtaining evidence, ‘candidates collect some evidence using a simple and **safe** procedure’ (p. 80) – provides 2 marks out of a possible 20.

6.2.4 Examination Case Example 4 (Specimen Paper)

OCR – Specimen Examination Paper, Science (Biology) 2003 (OCR 2000b)

There are 0 references to ‘safe’, 0 references to ‘health’ and no reference to ‘risk’. This document contains 24 pages.

6.2.5 Examination Case Example 5 (Specimen Paper)

OCR – Specimen Examination Paper, Science (Chemistry) 2003 (OCR 2000c)

There are 0 references to ‘safe’, 0 references to ‘health’ and no reference to ‘risk’. This document contains 20 pages.

6.2.6 Examination Case Example 6 (Specimen Paper)

OCR – Specimen Examination Paper, Science (Physics) 2003 (OCR 2000d)

There is one reference to ‘safe’, 0 references to ‘health’ and no reference to ‘risk’. This document contains 20 pages.

- From question 6b:

¹⁹ The document referred to is a collection of four Edexcel Physics examination papers for 1998.

'Kate's teacher wants to find how much beta radiation passes through different thicknesses of aluminium - Write down two safety precautions that he should take when using the beta source' (p.8) 2 out of 13 marks.

6.2.7 Examination Case Example 7 (Specimen Paper)

WJEC – Specimen Examination Paper, Art & Design 2003 (WJEC 2003a)

There are 0 references to 'safe', 0 references to 'health' and no reference to 'risk'. This document contains 9 pages.

6.2.8 Examination Case Example 7 (Specimen Paper)

WJEC – Specimen Examination Paper, Home Economics (food & nutrition) 2003 (WJEC 2003b)

There is one reference to 'safe', three references to 'health' and no reference to 'risk'. This document contains 15 pages.

- e.g. From question 10:

'Recent research shows that food choice affects the health and well-being of individuals. Discuss this statement with reference to the influence of (i) lifestyle (ii) cultural diversity (iii) advertising. (p.12) 12 marks out of 40.

6.2.9 Summary of Exam Boards and Exam Papers

The Examination Board's curriculum guidance appear to cover the risk, health and safety concerns outlined within the Curriculum Authority's examination guidelines. The Examination Bodies guidance and specifications provide many references to 'risk', 'health' and 'safe' and can be considered strong reminders for teaching staff of the importance of these issues for policy, regulatory and curriculum compliance. In this respect the 'coursework guidance' documents are very similar to the National Curriculum guidance materials and might reasonably be assumed to have a notable impact on the teaching and learning of risk education.

Using the Edexcel, OCR and WJEC coursework support booklets and exam papers as evidence, it would seem reasonable to assume that key stage 4 (i.e. 15-16 years) class work activities are likely to contain some risk education content, whereas such content was less likely to appear within the formal (GCSE) examination papers. From this small selection of exam papers we identified one OCR physics paper that provided a focused question on safety and one WJEC examination paper (Home Economics - food & nutrition) that provided two focused questions on health²⁰. Representation of risk education issues in exam papers is limited. The other papers reviewed contained no risk education related questions. Although examinations are considered a poor mechanism for learning about risk management or demonstrating practical insight of risk management (Lynch & Kline 2000), the course work that prepares pupils for exams is likely to be shaped by the actual or anticipated exam content. It is foreseeable that a higher requirement for risk education knowledge within exams would be reflected in the content of practical class work.

²⁰ One would expect 'Home Economics – food & nutrition' examination papers to include references to 'health'.

7 THE IMPACT OF HEALTH AND SAFETY REGULATIONS UPON TEACHING

There are a number of statutory requirements which place a duty of care for employees and non-employees (e.g. pupils) on employers (i.e. LEAs and Head Teachers). In addition and with respect to schools, there are responsibilities for teaching staff to protect the health and safety of themselves and their pupils. In most cases, such requirements will have some implications for staff training, pupil education, health and safety management and the upkeep of school property and equipment.

Legal and regulatory requirements for teaching would normally be published by DfES, Teaching Associations and the HSE, and distributed to schools via the LEAs or Teaching Associations. Where schools experience difficulties interpreting legal and regulatory requirements they may draw upon the expertise of the LEA's health and safety officer, trade union representatives or Teaching Associations.

7.1 A REVIEW OF GUIDANCE DOCUMENTS

In this section we review guidance documents on the legal and regulatory health and safety requirements for schools, and point to their possible impact on pupil's education. Here we principally draw on evidence from three documents, *Safety in Science Education* (DfEE 1996) and *Health and Safety for Design and Technology in Schools and Similar Establishments* (BSi 2000), *Safe Practice in Physical Education* (BAALPE 2000)²¹.

The subjects of *Design & Technology*, *Physical Education* and *Science* are associated with a greater number of hazards than most other subjects. These subjects were selected on the basis that they offer good practical opportunities for pupils to learn about risk control measures and safe working practices. This section explores the degree to which legal and regulatory requirements have potential to impact upon pupil's learning of risk, health and safety concepts.

7.1.1 Health & Safety Guidance 1

'Safety in Science Education' (DfEE 1996)

This publication outlines the potential hazards, safety legislation, safety management and good practice for key stage three and four science lessons. Much of the content is of a general nature and relates to all subject areas and primary school levels. The publication covers various topics for the management of safety including, legal requirements, first aid and the use of equipment. Two sections of this document have clear implications for pupil involvement in health and safety management and training/learning through classroom activities.

A chapter on *Risk Assessments* (pp. 14-19) covers the basic requirements for risk assessments within this subject area. Hazards that are particular to the school science lab are identified. The legal requirements for employers to ensure assessments are documented. There are various suggestions for integrating risk assessments with existing work structures. There are no specific recommendations for including risk assessments in science lessons although the recommendation to adapt day-to-day practices to include assessments suggests there is some scope for this.

²¹ There are various other important education related publications that concern health and safety in, for example, outdoor education, work experience, lessons using hazardous substances, etc.

A chapter entitled *Working with Pupils* (pp. 24-28) is relevant here, as it addresses safety education for pupils: ‘concern for safety within school science should not aim just to make school science laboratories safe work places; it should contribute to the safety education of pupils’ (DfEE 1996, p.24).

This section is based on the notion that safe work will depend on disciplined, rule abiding pupils. In addition to the safety rules that apply in other parts of the schools, teachers are encouraged to instruct pupils on additional health and safety rules that apply in the laboratory; for example, the proper use of appropriate personal protective equipment and the importance of reporting any accident to the teacher.

All of the requirements within this publication will have some implications for pupils’ health and safety and the development of their risk awareness. The clearest implications for the education of pupils relate to the instructions given to observe rules. Teachers are also encouraged to remind pupils of the hazards associated with electricity and certain substances, etc.

7.1.2 Health & Safety Guidance 2

‘Health and Safety for Design and Technology in Schools and Similar Establishments’ (BSi 2000)

This document - a code of practice - is a form of guidance and recommendations (it may confer legal obligations). The foreword for this document provides a clear statement of the importance of such codes for pupils:

‘In design and technology teaching areas, risk assessments should be applied to the working environment, equipment, processes, techniques, and activities.

Practical experience provides opportunities to introduce students to concepts of risk assessment and safe working methods. Students should be encouraged to develop their understanding of risk assessment processes. Through application of this process, students can be trained to use appropriate control measures to minimise risks to themselves and others’ (BSi 2000, ii).

However, there is very little content in this code of practice that refers to the teaching of pupils. There are regular acknowledgements that pupils should be aware of particular hazards (e.g. revolving machines or air borne particulates) although no particular advice beyond the identification of those hazards.

7.1.3 Health & Safety Guidance 3

‘Safe Practice in Physical Education’ (BAALPE 2000)

This publication is primarily concerned with safe practice in Physical Education. There are no parts of this document dedicated to risk education for pupils. It is, however, highly populated with references to risks that pupils will face during certain activities. It is made up of two sections, the first outlines the statutory requirements and *general safety* issues for Physical Education, and the second outlines the responsibilities of safety for various PE *activities*.

A section on *activities* identifies some activities through which pupils’ risk education knowledge may develop. For example, a section on *Trampolining* (pp. 202-208) provides many safety considerations and recommends useful ways of communicating safety to pupils. There are various recommendations for pupils, for example, they should be aware of their competence levels in relation to the task; the importance of relying on fellow pupils to ensure safety; and the basic safety rules for participation. For the most part, this document contains formal instructions for the teacher, identifies the various task-related hazards and stipulates best practice and

responsibilities for safety management. It is assumed that these instructions will be passed on through the lesson to the pupils and, if conducted appropriately, will stimulate pupils to think about risks.

7.1.4 Summary of Legal, Regulatory Requirements for Teaching

These documents contain information regarding the legal responsibilities of employers and employees. They provide, to varying degrees, important information on best practice for the use and maintenance of equipment, outline technical specifications and identify most of the common hazards within the subject related areas.

The three documents reviewed all point to the importance of involving pupils in healthier and safer working practices. On the whole, they are technical and legal documents that do not address broader issues of communicating risk concepts – although there are some issues raised that relate to risk education.

In much of the education literature there is a demarcation between the ‘management of risks within education establishments’ and the ‘communication of risk issues through the curriculum’. The former generally relates to statutory regulations for workplace health and safety management, such as the safe operation and storage of equipment. The latter is concerned with passing on risk messages to pupils through formal education processes. In many instances school environments this demarcation tends to become blurred, there tending to be much overlap between the two, each informing and drawing upon the other. Although this report is primarily concerned with formal education processes, it is clear that health and safety legislation has an important impact on the education of pupils and the shape of the curriculum.

The Health and Safety at Work Act 1974 places a duty on employers to provide instruction and training about health and safety. To comply with such regulations, pupils may be implicated; they may be asked to conduct mandatory risk assessments, or more likely to consider statutory safety legislation and abide to regulatory safety instruction (e.g. DFEE 1996). In many ways, curriculum requirements and regulatory requirements merge.

Statutory health and safety regulations are more commonly associated with the imposition of planning and monitoring measures. These requirements directly shape teaching and learning. Statutory requirements may have an impact on both lesson planning and pupil learning about risks and hazards. Good classroom practices, that follow legal or regulatory requirements, such as safe storage of coats and bags or appropriate use of personal protective equipment, are examples of peripheral curricular related educational strategies. Generally, pupils will be encouraged to observe the school’s health and safety rules, through which there is potential to informally learn about institutional cultures of risk avoidance, management and control.

8 OTHER AGENCIES IMPACTING UPON RISK EDUCATION DELIVERY

Good teaching is dependant upon the mastery of a range of skills, not all of which are not well understood or mapped. Little constructive can be said about what effective teaching is, or how it can be conveyed to others. In an effort to be effective in their profession, teachers will draw on various sources of information for support and guidance.

Guidance is provided by various bodies, amongst the most influential and authoritative are Teacher Training Institutions, Teaching Associations and LEAs.

8.1 TEACHING ASSOCIATIONS

For the five subject areas considered in this report there are related Teaching Associations and Teacher Training Institutions that provide important support services for teachers.

Much of this support covers matters of safe practice within education. The bulk of this literature is in the form of regulatory guidance documents (see for example the guidance documents outlined in the section 7, ‘The Impact of Health and Safety Regulations upon Teaching’). In addition the Teaching Associations, the Teacher Training Agency (TTA) and trade unions provide various support services for teachers. Of relevance here is the provision of:

- in-service training (INSET) days on specialist subjects and other professional development opportunities;
- INSET training for H&S
- commissioned research;
- the production of subject relevant publications;
- H&S registration and accreditation schemes;
- advice and other support.

The following Teaching Associations all provide some level of support for their members and subject teachers in general:

- 1-National Society for Education in Art and Design (NSEAD)
- 2-Design & Technology Association (DATA)
- 3-The Physical Education Association of the United Kingdom (PEA)
- 4-The Association for Science Education (ASE).

Under health and safety law teachers have a duty of care for pupils and are expected to protect them and themselves from any risks that may arise during the school day. The teacher is expected to teach safely *and* teach safety. In addition, teachers are expected to teach pupils about other risks that they may face in other contexts, through for example, Personal and Social Education. Much of the risk education delivered pertains to inherent hazards associated with that subject area, although not always apparent to the pupils, the associated risks will be well understood by teaching staff. There are, however, some high-risk school activities for which teachers require specific training or certification to demonstrate skills, knowledge, understanding and competence. For example, certificates may be awarded to indicate that a teacher is able to plan, deliver and evaluate a programme of work for lessons that have known inherent dangers (e.g. lessons that include swimming, trampolining and the use of power tools). Teaching Associations (and LEAs or Higher Education Institutes) will often provide Training and support in these respects. This type of training may be broadly considered to relate to health and safety. There is significantly less advice and training available for curriculum related risk education.

8.2 LOCAL EDUCATION AUTHORITIES

In this section we provide a brief overview of the Local Education Authorities²² (LEAs) contribution to teaching and learning within schools. Each LEA has government set education targets to meet for the aggregate of schools in their area. The performance of schools is judged against targets which include measures of pupil performance and the realisation of other performance and quality criteria that is assessed by the school inspectorates. The core priority for LEAs is raising or maintaining standards in order to meet government targets (DfEE 2001). LEAs are therefore actively involved in monitoring the performance of schools within their region, in order to identify any shortfalls in performance and to identify support that may be required. To ensure the delivery of better education standards the LEAs maintain close contact with schools.

In addition to the LEAs' monitoring role, each has responsibility for supporting schools with the delivery of teaching. Support often comes from LEA teams of education consultants that have expertise in particular subject areas. The LEA support services provide general curriculum support that is delivered via written documentation, telephone or personal visits. More concentrated forms of support come through educational support during teacher INSET (In-Service Training) days and other training sessions where practical advice can be provided on issues relating to the delivery of the National Curriculum and meeting achievement targets. Overall this service is intended to offer support to teachers, to align the school's achievement with the LEA's Development Plan, and to ensure that school's are equipped to accommodate any changes to the National Curriculum. The level of this support will vary between LEAs.

The LEA was traditionally the main provider of curriculum support. In the current climate the responsibility of support funding has been partially devolved to the school. Under these arrangements each school governing body has its own education budget. Responsibility to assess and prescribe the level of, for example, curriculum support from external sources is increasingly in the hands of individual schools²³. With the responsibility to prioritise budgets, the schools may seek alternatives to the support provided by the LEAs - often from independent consultant curriculum advisors.

The LEA – or other external consultants - have a role in assisting with the delivery of the National Curriculum. Their inclusion appears to vary across Local Authorities and between schools²⁴. Their influence over the content of classroom lessons may be considered marginal in most cases. From initial findings, the LEAs' curriculum support services do provide advice on risk, health and safety content of the curriculum. This tends to be orientated to compliance with regulations and is not specifically intended to be a risk education curriculum support.

The LEAs do not have any specific role in shaping the National Curriculum. They may be consulted during reviews of the curriculum (as discussed above), although there appears to be no formal structure to this process. The LEAs are primarily concerned with assisting schools in the delivery of high levels of education. Part of that objective will focus on the delivery of the National Curriculum. If risk education were a prominent focus of school achievement targets

²² Sometimes referred to as 'Local Authority'.

²³ The target set for 2002/3 is that 90% of the education budget will be delegated to the schools.

²⁴ This insight has been gathered through several conversations with LEA employees. Variation would be expected as there are no target requirements for the level of co-operation between school and LEA. Levels of co-operation will presumably depend on various factors, including the cost of services that can be found elsewhere and the priorities of the school or LEA.

and school inspections, it might be anticipated that both LEAs and schools would pay more attention to these matters.

Although the control of budgets for most education matters has been delegated to schools, the LEAs' statutory responsibilities to ensure health and safety are unaltered. The LEA retains funding for these related services. The LEA holds statutory responsibility as the employer under the Health and Safety Act. The LEA employed safety officers may have some impact on the organisation and planning of lessons where risk assessment are required or where specific safety issues arise.

8.3 OTHER SCHEMES AND GOVERNMENT INITIATIVES

In formal classroom situations the 'personal, social and health' related subjects encompass many health and safety topics. In order to deliver these subjects of the National Curriculum many schools become involved with external institutions or agencies that have expertise in the promotion of health, safety and risk education. These initiatives often involve high profile stakeholders, not always traditionally associated with school education (e.g. DETR, HSE, RoSPA and UK Police Services). Some related schemes are promoted by private companies and other not for profit organisations (e.g. Rail Track, The Salvation Army and Welsh Traffic Education Programme). Many of these initiatives can be considered extra-curricular activities and are often based on 'whole school' approaches²⁵. In general, they will compliment the National Curriculum and will be adopted as teaching resources or general guidance for better, safer and healthier lifestyles. The initiatives may concern any number of issues from road safety, drug and alcohol abuse to work placement safety.

In this section we provide a brief overview of the 'National Healthy School Standard' (NHSS) initiative²⁶, a collaboration between the DfES and DoH. It aims to make teachers, parents and pupils more aware of the opportunities available for improving health. The initiative is made up of a series of programmes which are accredited to a national standard. The programmes overlap with some aspects of the National Curriculum but the primary aim is (following the Government White Papers on *Excellence in Schools* (1997) and *Saving Lives: Our Healthier Nation* (1999)) to help all schools improve health and education. The DfES and DoH jointly fund the scheme. They provide approximately £5M annually to local education and health partnerships.

The NHSS is a guidance scheme for local education and health partnerships. Nationally there are 150 partnerships, primarily consisting of LEAs and Primary Care Trusts. Local programmes can become accredited to the national standard thereby providing credibility and status. The programmes provide support to the schools, this might include guidance on leadership and managing change; staff professional development; school culture; policy; pupil, parent/carer and local community involvement; curriculum planning; teaching and learning and working with external agencies in a range of contexts such as 'Personal, Social and Health Education' and 'Citizenship'. The NHSS guidance provides the criteria for assessing schools achievement under a series of themes. Amongst the themes is a focus on local and school priorities and school safety. All LEAs are signed up the NHSS and over 14,000 schools have accessed training and help from local healthy schools programmes. The impact of this and similar initiatives will be variable and will relate to the priorities of the school.

²⁵ Whole school approaches aim to incorporate wider communities in school initiatives; get on board the views of pupils; promote the development of pupil's personal, social and health education; develop school policies; and to link classroom activities with wider social events and concerns.

²⁶ For further information and related resources see, <http://www.wiredforhealth.gov.uk/menu2.html>.

9 MAIN FINDINGS

- 1) There are many actors influencing the shape of education and the National Curriculum (see e.g. Figure 1). On a day-to-day basis schools are directly responsible for interpreting the National Curriculum and delivering a school curriculum that is relevant to their particular context. The National Curriculum acts as policy guidance and is by no means a constraint on education practice. Indeed, each National Curricula encourages schools to adapt lessons in relation to the availability of local skills, interests and resources. In addition to the influence that the teaching staff have over the delivery of the National Curriculum, it is also likely that the pupils' background and their parents' expectations will shape the delivery of the National Curriculum (Galloway 1990).

At a policy level, perhaps the most apparent means for influencing the shape of the National Curriculum is through the curriculum review process (i.e. the Curriculum Authorities' programmes of curriculum monitoring and evaluation, see section 4.2). Engagement within a review will depend on the actors conducting or commissioning the review, their criteria for selecting relevant participants and the designated scope of the review. More proactive forms of influence over the curriculum could presumably be achieved by contacting specific branches of the curriculum authorities, and registering an interest in the shape and direction of the curriculum. HSE has already engaged with the curriculum authorities and the national departments for education. The outcome, as documented here, has been a comprehensive inclusion of health and safety issues throughout the curricula literature and related materials. Although significant progress has been made, there is scope for further work in this area.

- 2) There are no mandatory requirements within the National Curricula guidance documents for schools to teach risk education. The strongest endorsement for health and safety education was found in the English National Curriculum where there was a health and safety statement for education; roughly summarised, the statement held that pupils 'should be taught' about risks and hazards associated with certain activities (e.g. QCA 2000b, p.39). There were similar endorsements for health and safety education within the National Curricula literature for Scotland and Wales. These curricular requirements have some clear overlap with the statutory requirements for health and safety.

The three nation's National Curricula guidance documents provide a large number recommendations for lessons that include opportunities for pupils to learn about subject related risk, health and safety issues. The documents also include more specific recommendations for topics (for example see tables 8 to 11) through which pupils can explore related risks and learn about safe and healthy practices. This literature does not, however, provide teachers with detailed lesson plans prescriptions or 'recipes' for best practice in risk education topics. Given that National Curricula documents do not provide any substantial guidance on best practice in risk education, we anticipate that for most risk-related topics the risks are not considered to present any special challenges to schools and their teaching staff. Where specific risks are recognised, teachers are recommended to refer to standard procedures or regulations, or may require accredited qualifications (especially in the case of PE and D&T). Within 'personal, social and health' related subjects, outside experts are frequently invited to attend schools and address pupils.

- 3) Within the curriculum literature, risk is regularly treated as a universal or, in the education context, a cross-curricular theme. For example, understanding risks is equally important in most subject areas, and it is understood that rules can be learned and applied across contexts. However, there is much uncertainty surrounding the application of abstract 'risk principles'

from one situation to the next, and whether learned risk principles hold any relevance beyond a context of learning. Applying what is learned in the classroom (or the factory, or other contexts) will not necessarily *transfer* to the next place of practice. Between different settings skills are not always transferable, often there is a tacit aspect of learning associated with the locality (Warden et al 1997). The National Curriculum's rendering of risk education is particularly vulnerable to these criticisms.

Teachers may benefit from additional practical advice on best practice for risk communication in education contexts. From evidence gathered, although there is a notable literature on suitable subject matter, there is little guidance for delivering risk education (from curriculum authorities, teacher training institutions and subject associations). In addition to providing useful lists of risk education topics, advice on best practice for risk communication may prove valuable for teaching staff; such material should draw on current understanding of the nature of risk communication (see for example Weyman & Kelly 1999) but be adapted for teachers. Plausibly, information on these issues would have greatest impact if directed through the institutions and companies that provide teaching resources and lesson plans. The support would, in this scenario, directly relate to a subject topic or subject module. A recent publication by DfES (DfES 2001) provides some useful guidance on risk communication, although it is not related to practical activities.

Although this report is not intended to be a comprehensive review of the risk communication literature, it is apparent that little useful guidance is available on the subject for schoolteachers and there remains much to be learned about risk communication within school contexts.

- 4) Given the nature of risk learning we feel that education through topics - particularly practical topics or role-playing scenarios - is likely to constitute an effective way to sensitise pupils to the construction of risk during activities and 'real-world' situations²⁷. In a few instances related approaches to risk education are promoted through the National Curriculum guidance materials (see for example LTS 2000f, p.23). Clearly, there are some topics covered by the National Curriculum that can only be approached in the abstract; for example, the risks associated with sexual intercourse and drug-taking (although role playing scenarios are often used on similar subject matter). Where possible, it is best to avoid introducing pupils to abstract risk concepts, or codes of conduct, as there is no reason to assume that pupils will readily 'activate' such knowledge in real-world settings (Lynch & Klein 2000). Furthermore, idealised or generic concepts often create tensions, and promote confusion, rather than clarity, unless they are firmly linked with specific risk taking activities. Drawing on the evidence from this study, the National Curricula and, in particular, the *Schemes* or *Guides* recommend a number of methods for addressing risk education; these include learning through case studies, vignettes and practical activities. The most appropriate method is likely to depend on the curriculum subject and the topics that are being addressed. Although teachers are well equipped to impart knowledge to their pupils, some additional guidance on topic based risk communication may prove useful. The impact of such guidance would be greatest if integrated into existing published teaching lesson plans, schemes or guides – where such guidance is generally absent.
- 5) Where risk education does feature in the teaching *Schemes* or *Guides* (along with other published lesson planning materials) it is mostly treated as a sub-topic and rarely constitutes the main motivation for the lesson. We believe that that the school curriculum could include more topics with risk education as a principal focus. The 'personal and social education'

²⁷ This point of view is supported in much of the literature on risk communication within education contexts (see e.g. Pawson & Myhill 2001, Warden et al 1997).

subjects are one exception as topics covered tend to have a high profile for risk issues. Decisions about the balance or nature of the school curriculum are left to the discretion of the school and its teachers. However, teachers often take a lead from published *Schemes* or *Guides*, therefore, one way of influencing the balance of the curriculum would be to give a higher profile for risk education within these teaching resources.

A good example of a lesson plan that gives a high profile to risk education is the RoSPA lesson module for Key Stage 2 Design & Technology (see RoSPA 2002). The module concerns fire safety and the design of personal protective equipment. The module specifically aims to develop pupil's knowledge (and transferable skills) of risk control, whilst addressing National Curriculum attainment requirements. The opportunity to deliver risk focused topics will depend on the nature of the subject²⁸. For example, PE topics will presumably work best where safety education is an integrated sub-topic of every lesson.

- 6) Although there are some important differences in the structure of the National Curricula of England, Scotland and Wales, the risk education content is of a similar nature. For this reason, there is scope for future, HSE led, interventions in the 5-16 year old curricula could be applied across the National boundaries without the need for any regional adjustments or variations to the content²⁹. This point is supported by the fact that the National Curriculum (and related school curriculum) is intended to be flexible, to accommodate new topics and innovative methods of teaching. Any future risk education interventions would fit smoothly into place especially if they align with existing themes across the curriculum (of relevance here are issues of 'key skills' and 'continuity and progression across the school years').

However, the flexibility of the National Curriculum may result in variable patterns of risk education implementation. As National Curriculum guidelines for teachers are not mandatory specifications for teaching, there is little reason to assume that schools or teachers single out risk education issues or prioritise them above other curriculum issues³⁰. The relevance of risk education in classroom contexts is open to interpretation by schools and teachers. We will be better placed to comment on related issues following the case study work of this project (see Shearn & Weyman 2004).

- 7) Though the National Curriculum sets out what pupils should be taught and is the main policy document that shapes programmes of teaching and learning within schools, there are other channels that provide guidance and may claim to have an impact on pupils' learning, understanding and skills. Within this report we have identified health and safety guidance publications, school inspections, LEA support, 'health and safety schemes' and exam/assessment processes as contributors to the shaping of risk education within schools. Each is discussed here:

- The Examining Bodies' coursework guidance documents have a similar structure as the Curriculum Authorities' *Guidelines*. Teachers will draw heavily on these resources when developing the school curriculum and preparing lesson plans. The Curriculum Authorities, directly or indirectly, influence the shape of the examination syllabus and have the potential shape the content of related coursework guidance.

²⁸ There may be various reasons preventing risk focused approach (some related evidence will be picked up during the teacher interviews).

²⁹ There will be some regional variations in that 'rail safety' or 'farm safety', etc. will be of relevance in certain areas and not others.

³⁰ Presumably, teachers will be aware of (subject related) risks that pupils face. And they will adapt lessons according to various mitigating factors, safety being one of those factors.

The formal examination process appears to have little potential for impact on risk teaching and learning. From the content analysis of exam papers and related documentation, we found that the documents rarely provide any subject relevant questions about risks and hazards. However, given the small sample that was used, we are not able to comment more generally about the content of exam papers.

Another point to consider, following from contemporary commentaries on risk communication, examinations are not necessarily a good vehicle through which individuals may demonstrate practical knowledge of risk issues. Many critics claim that there is a gap between safety knowledge learned in the abstract – as suggested by the examination process – and the application of the safety rule. If examinations were devised to test risk understanding they may be more effective where related to actual experiences (or case scenarios). Indeed, the coursework pamphlets supplied by the examining boards were more likely to contain risk education content or recommendations than the exam papers.

However assessment is an important part of teaching and learning. Despite examinations being considered by some to be a poor mechanism for learning about risk management or demonstrating practical insight of risk management, the coursework that prepares pupils for exams will presumably be shaped by the actual or anticipated exam content. It is likely that a higher requirement for risk education knowledge within exams would be reflected in the content of practical class work, and it is arguably through the practical task that the pupil is most likely to develop knowledge of risk management.

- Health and safety guidance publications, health and safety regulations and related school health and safety policies are likely to have some impact upon pupils' risk education and understanding. On the one hand, through being in an environment where safety rules are developed and applied, pupils learn through an informal school curriculum about safety cultures and regulations of schools. On the other, through more formal mechanisms, pupils may be directly involved in carrying out regulatory safety checks or ensuring that protective equipment is properly used, etc. There is much overlap between the National Curricula and health and safety regulations / guidance publications. On the whole the National Curricula and school health and safety publications are mutually supportive. The National Curricula make recommendations for safe practice and risk education topics, conversely the health and safety publications provide curricular related guidance on safe practice, etc. The publications reviewed (see section 7) provide much useful guidance on safe practice in subject areas. These publications, however, have little to say about risk communication and risk education for pupils.

- School inspections have an impact on the ways that schools are organised and managed. They encourage schools, albeit periodically, to focus on issues of health, safety and regulatory compliance. The review of inspections reports highlights the importance of health and safety within the inspection remit. Where the inspection focuses on health and safety, checks for compliance with regulations is more likely to feature over and above assessments of risk education. Nevertheless, (as noted above) compliance with regulations has potential to have an impact upon pupils' risk education experience.

Where inspections do focus on risk education within schools, the reports normally identify significant improvements or deficits in performance. These reports, therefore, give only a partial view of the terrain. There is potential to monitor risk education through the inspection process, although it may be argued that inspections are already making an important contribution in this respect, and that risk education is one of many other important

education issues covered. Inspections do incorporate particular points of interest, there may be scope for HSE's priorities to be included.

- Although LEAs have a responsibility to work in partnership with schools, their contribution to the everyday teaching of pupils is very limited. In some cases, the LEA will intervene in the running of schools if education targets are not met (some support of this viewpoint was gained through school case studies). Usually they will provide optional services that the schools can buy-in at their own discretion. Their contribution to the shaping of risk education can be considered marginal. The degree to which the LEA take a proactive stance on risk education is likely to be variable, and will depend upon the current priorities and available resources. The LEAs are often consulted during the development and evaluation of the National Curriculum. Their inclusion in this process will vary across evaluations and between LEAs.
 - School related 'health and safety initiatives' have a number of overlaps with HSE objectives and priorities. Typically based on certain themes (e.g. rail safety, farm safety, etc.), these initiatives have the potential to impact upon the curriculum and are, in many cases, designed to support curriculum objectives. Ultimately, they are designed to impact on pupils' knowledge, attitudes and behaviour. The initiatives often depend on additional support or funding from the local community, local support agencies and government departments. Initiatives of this type often overlap with aspects of the 'personal and social education' curriculum. Some of the popular initiatives originate from, The Police Service (road safety, street wise, etc.), The Fire Service (fire safety), Drug Information Agencies (drug awareness/safety) and Electricity Companies (electrical safety). Many of these initiatives overlap with HSE's risk education interests.
- 8) The existing 'National Healthy Schools Scheme', a collaboration between DfES and DoH (amongst others), is an exemplary case of integrating health-related cross-curricular themes through curricula programmes. Similar project(s) could be developed with HSE related issues in mind – or indeed integrated with this scheme. Health Education is increasingly covered in PE, PSE and Citizenship courses. Presumably health and safety projects with cross-cutting curriculum agenda that build on the already existing health and safety recommendations for the five English curriculum subjects identified above (and related versions for the Welsh and Scottish curricula) would generate relevant education commitment and resources. For example, the Healthy Schools project focuses on learning about health, especially issues that are associated with the DoH (e.g. safe sex, healthy eating, alcohol/drug consumption). A 'Health and Safety at School - Health and Safety at Work' scheme could aim to educate school pupils about issues relevant within schools and in the world of work (falls from height, hazardous substances, musculoskeletal issues, psychosocial stress etc.). Such an initiative is likely to come into its own during work placement schemes.

Another, perhaps less ambitious, endeavour would be the development of teaching materials, or guides, that cover issues from the HSE priority programmes or other contemporary health and safety concerns (e.g. rail safety). We would recommend that this work does not duplicate the important work of other government bodies or institutions (e.g. DoH or RoSPA). There already exist many risk education materials which are focused on DoH related issues (e.g. 'safety in the sun', 'healthy eating', etc.). From the literature, there are fewer risk education projects based on *occupation* related health and safety issues.

9) We feel that there are some ambiguities surrounding the HSE as a promoter of risk education in the National Curricula of England, Scotland and Wales. HSE is traditionally

associated with the promotion of risk education for workers in occupational environments. The current interest in school pupils' risk education indicates a new focus. The justification for using HSE resources for the development of risk education within schools is intuitively straightforward, children are the future workers and it may be cost-effective to raise young peoples' risk awareness before bad habits are formed. There are a number of other justifications, not least that that young people have a right to risk education, especially given they are likely to be ill equipped with risk management skills. Although there are many antecedents to risk avoidance behaviour, formal school based risk education programmes may contribute to improved patterns of safe behaviour and risk management.

However, the National Curricula (and the school curriculum) cover a wide range of risk topics, many of which do not relate to HSE programmes. For example, education programmes for 'healthy eating', 'drug taking behaviour' or 'stranger danger' represent a departure from HSE's traditional concerns³¹. Although risk knowledge relating to all topics is important for school pupils, HSE may wish to address whether risk knowledge and behaviour relate across domains (e.g. whether safe sex education bears any relation to manual handling education, and so on).

There already exists much school risk education curriculum support from other agencies, institutions and government departments (e.g. Department of Health, RoSPA and DATA). Having identified relevant curriculum topics, HSE would also need to consider which risk topics are currently under represented in the school curriculum, and which topics require promotion through some form of intervention.

- 10) If HSC/E interventions result in any changes to teaching practices, etc. care should be taken where assessment is concerned. Teachers have widely reported assessment as the most serious burden on their workload (QCA 2001); they often view this work negatively. Any interventions may gain a more positive response if they are associated with assisting teaching staff in meeting curriculum objectives.

³¹ This catch-all treatment of risk education appears to be based on an assumption that risk knowledge can be treated generically.

10 CONCLUSIONS

The National Curriculum is a comprehensive framework for teaching and learning. It is regularly assessed and feedback sought to ensure that it is manageable and fulfilling its objectives. Overall, the Curriculum Authorities' guidance provides good coverage for risk education related topics and issues. Whether the curriculum guidance prompts teaching staff to include risk education topics within their school curriculum remains uncertain; a series of case studies are being undertaken and are likely to provide some insight to this issue.

One of the main ambitions of the school curriculum is to enable pupils to develop the knowledge and skills required to become workers and members of society. The traditional concerns of the HSE, i.e. health and safety in the workplace, have some overlap with many areas of the curriculum. Notably, the curriculum has the potential to raise pupil's awareness of health and safety issues through various activities and encourages pupils to comprehend and assess risks that they may face.

The opportunities for learning about risk, health or safety issues could be improved through the provision of further topic based learning resources where risk concepts are the primary focus. As the curriculum currently stands, most opportunities to learn about risk concepts are a secondary concern (i.e. a subtopic). That is not to say risk education is overlooked within schools, but the emphasis on risk education as a topic in its own right, and deserving focused attention, are few.

The notable exception is the curriculum for 'personal, social and health education' modules. The English, Scottish and Welsh curricula for 'personal, social and health' subjects provide many topic related opportunities to learn about risks and risk management. However, many of these topics veer away from HSE's focus on occupational health and safety.

There are numerous influential stakeholders that have the potential to shape the content of the school curriculum. Notably, the examining boards have a significant influence over the curriculum for 15 to 16 year-olds. The teaching guidance provided by the examination boards (which is tightly regulated by the curriculum authorities) structure the school curriculum in a similar way to the National Curriculum *Guidelines*³². Other stakeholders, such as LEAs, National Inspectorates and Teaching Associations, will have some impact on teaching and learning outcomes but their influence is likely to be variable and disconnected.

Through this report we have identified and described a number of potential sources influence over school pupil's risk education. Ultimately, the decisions about what sources of guidance are most relevant and what pupils should learn are made within the school context, and will relate to local knowledge, priorities and available resources.

³² There are various teaching guidelines and templates produced by private companies, although not formally reviewed, and effectively beyond the scope of the current review, these resources are widely used by teaching staff and are likely to have a considerable impact on day-to-day teaching and learning.

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