Safer Internet Programme
http://ec.europa.eu/saferinternet

Assessment report on the status of online safety education in schools across Europe

European Commission

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Executive Summary

The main objectives of the Safer Internet Programme for 2009-2013 are to promote safer use of Internet and other communication technologies, especially by children, and to fight against illegal and harmful content and conduct online[1]. As one measure towards implementation of the Programme, the European Commission is seeking to identify how national education systems approach online safety issues faced by children.

This background report has been drafted by an external expert[2] appointed by the European Commission to assist in the preparation of the Safer Internet Forum. Primary research was conducted by means of two questionnaires, national events in 24 countries and focus group meetings. Secondary desk research was conducted to explore and establish the broader context of the issue.

This broad and targeted consultation with a range of stakeholders has one overall recommendation: <u>Online Safety should be taught in schools as a horizontal subject and from as early an age as possible.</u>

As Internet penetration and use continue to increase across Europe, the new technologies available become ever more sophisticated and personal and Web 2.0 applications facilitate spontaneous creation and uploading of content by every user. Additionally the number of young people, particularly the younger children, accessing and using the Internet has increased significantly over recent years. The use of computers and the Internet can enhance the education, experience, creativity and development of millions of young people and thereby contribute to the pan-European aims of making Europe the most competitive economy in the world.

However, the development of technology and its use by children and young people continues to pose risks and present challenges to them, as identified and addressed through successive Safer Internet programmes over the past ten years. A range of stakeholders has a role to play in addressing various aspects of these risks and challenges, including the education sector and individual schools.

The EU Kids Online research project notes in its 2009 final report[3] that "Schools are best placed to teach children the digital and critical literacy skills required to maximise opportunities and minimise risks. Schools are also best placed to reach all children, irrespective of socio-economic status and other forms of inequality." Parents and young people themselves are also keen for online safety information to be provided at school. In some countries, legal requirements exist for teachers and school management to promote and protect the safety and welfare of their pupils, and these are also relevant in this regard.

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1 http://ec.europa.eu/information_society/activities/sip/policy/programme/current_prog/index_en.htm
2 See biography in Appendix C
3 http://www.lse.ac.uk/collections/EUKidsOnline/Reports/EUKidsOnlineFinalReport.pdf

According to a recent Eurydice study the specific subject 'Internet safety' is currently included in the school curriculum in 23 education systems across Europe. In all of these, the issue is covered in the secondary school curriculum while in most of them elements of Internet safety are also included as a cross-curriculum theme at primary level. It would appear that although the topic of online safety may be formally included in the curriculum, the implementation is not consistent in all schools or for all teachers and there is therefore an ongoing need for further development and evaluation. The Youth Panel in the Safer Internet Forum 2009 reported that most of the participants had never been taught about online safety at school.

Where online safety is taught in schools it appears in a range of different subject areas. In primary schools it is more linked to general topics, while in secondary it is included more often within ICT alongside other areas such as citizenship, personal, social and health education, or media and communication. In the majority of the European countries issues related to online safety also appear horizontally across the curriculum as elements within many other subjects.

The increasing trend towards decentralisation and school autonomy in all EU Member States gives individual schools, and in some cases individual teachers, the opportunity to incorporate online safety issues in a flexible and creative way. Educational initiatives should be underpinned by robust acceptable use policies and reliable technical infrastructure.

Within this framework, research and feedback on teachers' needs indicate that they need more information on practical ideas for classroom activities and for informal activities as well as validation of both methods and resources for teaching about online safety. Appropriate resources take many different online and offline forms, and a variety of resources already exists, many of which have been developed by the Safer Internet Centres supported by the Safer Internet Programme. Feedback suggests that the most effective materials and methods are those which are based on examples or scenarios from the 'real' world and those which engage pupils interactively with the material.

Peer education can be very effective within both the student and staff communities. A variety of approaches is appropriate in this area – there is no 'one size fits all' solution. A range of resources can support clear and coherent progression through the school lifecycle mapped to learning outcomes so that pupils can develop their understanding of the issues.

Online safety should not be the sole responsibility of the ICT department. Rather it is essential to equip all teachers with the skills and knowledge necessary to help, guide and protect every pupil. Initial training and continuous professional development on issues of online safety are therefore crucial in order to ensure that teachers are equipped with knowledge and confidence on this topic. Time pressures and a plethora of other demands on school staff can make it difficult to set this issue high on the agenda. It is therefore important to motivate teachers to engage with online safety. External agencies and experts can play an important role in working with school staff.

Although there is a wide range of initiatives and resources across Europe addressing the need for online safety education in schools, there appears to be a general absence of consistent evaluation of how effective these are. Consistent systems of external and peer/self evaluation should be put in place to ensure that learning outcomes are achieved in the short, medium and long term.

Recommendations to policymakers

Online safety should be included in the statutory school curriculum for primary and secondary schools. This should begin from the age of 4-6 years and continue throughout a pupil's school career, with appropriate learning outcomes identified at different stages.

Online safety education should be embedded broadly across various subjects within the curriculum, rather than contained within ICT or computer science, and preferably as an overarching topic.

Online safety education should address a broad range of issues and be flexible to incorporate new challenges as they arise. It should incorporate a balance between technical and behavioural knowledge and understanding.

Governments should make sure that online safety education is provided, even when it is not formally included in the curriculum.

Government should validate resources for teaching online safety in order to assist teachers in identifying the most appropriate materials and approaches for delivering online safety education to their pupils.

National and regional authorities should ensure that appropriate provision of online safety education is made available to children who are in any way disadvantaged, vulnerable or hard-to-reach.

All teachers and headteachers should be given training on how children and young people use the Internet and the opportunities and possible risks this may create. Such training should be made compulsory for new entrants to the profession and through continuous professional development (CPD). In the meantime national and regional authorities should promote and support incentive schemes to encourage participation in CPD sessions regarding online safety.

Where provision of ICT equipment is made this should be accompanied by education in online safety to ensure the safe use of these technologies. Governments should also review their approach to filtering and banning the use of certain services (eg mobile phones and access to social networking sites) so that online safety education can be taught in the most effective way.

In order to assess how effectively children and young people are being taught about online safety this issue should be included in national school inspection systems as well as peer or self-evaluation.

Recommendations to schools

Teaching about online safety should be embedded in a holistic way as an overarching topic and within a comprehensive strategy including the provision of a reliable IT infrastructure, robust acceptable use policies and consistent evaluation.

Filtering or banning of applications and devices such as social networking sites and mobile phones, which children and young people use extensively outside school, can be detrimental to both pupils and teachers in addressing issues related to these applications. Schools should review their policies to consider allowing supervised use of these technologies within the classroom in order to address online safety issues that may arise.

School managers should ensure that sufficient time and space are available for teachers to develop their skills and knowledge in the area of online safety and to plan and prepare lesson plans and resources. Schools should encourage the use of innovative and interactive teaching methods and material in order to ensure the most effective education about online safety.

Schools should not wait for formal inclusion of online safety within the curriculum before addressing the topic, but rather should explore ways of including it within existing subjects and structures. This may include partnerships with Safer Internet Centres and other specialist agencies. Where external experts deliver lessons in school on online safety, teachers should be present and actively involved in order to reinforce and enhance their own learning.

Schools should also make efforts to involve the parents in discussing online safety, since the topic includes issues which reach beyond the school environment. Existing networks and events should be used to disseminate online safety messages to parents.

Recommendations to industry

Where computing equipment is provided for schools, teachers or pupils, it is essential to provide information and support on safe and responsible use along with the hardware.

Industry should develop collaborative relationships with schools to provide expert input and support on the issue of online safety and to help identify new technological trends and their implications for safe and responsible use by children and young people.

Recommendations to the European Commission

The European Commission should continue to support the network of Safer Internet Centres in raising awareness of online safety issues among a range of stakeholders, including schools, and developing and disseminating resources.

The European Commission should continue to foster and facilitate the exchange of online safety knowledge and resources between Member States, for example through eTwinning, TeachToday and the INSAFE network.

The European Commission should promote and support incentive schemes to encourage participation in teachers' continuous professional development (CPD) sessions regarding online safety.

The European Commission should explore ways to provide online safety education to children who are in any way disadvantaged, vulnerable or hard-to-reach.

The European Commission should conduct further research in order to identify indicators for evaluating online safety education in the short, medium and long term.

1. Introduction

Significant progress has been made on tackling issues of safer Internet over the ten years since the start of the European Commission's Safer Internet Action Plan in 1999[4]. The current Safer Internet Programme for 2009-2013 builds on a succession of previous Programmes. The final review of the Safer Internet Plus Programme (2005-2008) noted that:

> "[The Safer Internet Plus Programme] has contributed to achieving a Safer Internet through a range of interventions, and has not only achieved almost pan-European coverage of hotlines and Safer Internet Centres, but has also exercised considerable influence on policies and practices in the area of online safety further afield. Safer Internet Plus has therefore been instrumental in helping to protect and empower Internet users within Europe and on a broader international level and is acknowledged as a model of good practice."[5]

The objectives of the current programme are to promote safer use of Internet and other communication technologies, especially by children, and to fight against illegal content and harmful conduct online[6]. The main target groups for the Programme are children, parents and teachers.

The Programme has received clear recommendations that Online Safety should be a part of the education children and young people receive in school, both through the 2007 Public Consultation on online technologies for children[7] and in the 2008 European Safer Internet youth panel[8]. As part of the implementation of the Safer Internet Programme, the European Commission has therefore been seeking to identify how national education systems approach online safety as a topic to be taught in schools. This was the topic of the Safer Internet Forum in October 2009[9].

This assessment report has been drafted by an external expert[10] appointed by the European Commission.

1.1. *Children learn about Internet use and safety from siblings or friends*

According to a recent study,[11] 42 % of European 6-year-olds are already using Internet. The 2007 qualitative Eurobarometer survey showed that young people learn about using Internet and mobile phones, and also about online safety, from friends and siblings. While the

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4 http://europa.eu/legislation_summaries/information_society/l24190_en.htm
5 http://ec.europa.eu/information_society/activities/sip/docs/prog_evaluation/report_sip_en_2005_
2008.pdf
6 http://ec.europa.eu/information_society/activities/sip/policy/programme/current_prog/index_en.htm
7 http://ec.europa.eu/information_society/activities/sip/policy/consultations/onlinetech_child/index_en.htm
8 http://ec.europa.eu/information_society/activities/sip/docs/summary.pdf
9 http://ec.europa.eu/information_society/activities/sip/events/forum/index_en.htm
10 See biography in Appendix C
11 http://ec.europa.eu/information_society/activities/sip/surveys/quantitative/index_en.htm

younger children would go to their parents for getting help, the older children prefer to talk to friends about problems, or to handle them themselves.[12]

The Ofcom Media Literacy Audit (2006)[13] shows similar results: children aged 8-11 are significantly more likely to prefer to learn from school (48%) and from their parents (45%) than those aged 12-15. For children aged 12-15 learning from school is the second most popular source (41%).

According to the National Centre for Technology in Education (NCTE) Survey of Children's Use of the Internet in Ireland[14] teenagers express a greater preference for getting their online safety information from school than their parents and younger children are more likely to express a preference for receiving online safety information from their mother.

All young people need to be empowered to recognize risks and protect themselves so that they can use ICTs to the full potential and benefit from the possibilities in the information society.

1.2. ICT use in the European setting

Children and young people's use of Internet is the prime topic of the Safer Internet Programme. However, a number of European Union initiatives exist that also deal with the use of ICT, and which therefore to some degree complement the Safer Internet programmes.

This report aims to explore these other aspects to the degree that they impact on safe and responsible use of new technologies by children and young people.

The Lisbon Strategy aimed to make the EU the most competitive economy in the world and achieve full employment by 2010.[15] The strategy includes a commitment to improving the quality of education and highlights the need to adapt constantly to changes in the information society.

The i2010 initiative, which outlined how to achieve the Lisbon Strategy goal, states that "citizens must be digitally literate - equipped with the skills to benefit from and participate in the Information Society. This includes both the ability to use new ICT tools and the media literacy skills to handle the flood of images, text and audiovisual content that constantly pour across the global networks"[16] and subsequently aimed to promote digital literacy through the reform of school curricula, training, on-line libraries and knowledge resources.

12http://ec.europa.eu/information_society/activities/sip/docs/eurobarometer/qualitative_study_2007/summary_report_en.pdf

13 http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/children/children.pdf

14 www.webwise.ie/GenPDF.aspx?id=2935

15 http://europa.eu/lisbon_treaty/index_en.htm

16 http://ec.europa.eu/information_society/tl/edutra/skills/index_en.htm

Digital literacy as defined by i2010 involves the confident and critical use of ICT for work, leisure and communication underpinned by basic ICT skills: the use of computers to retrieve, assess, store, produce, present and exchange information and to communicate and participate in collaborative networks via the Internet.

The European Framework on Key Competences for Lifelong Learning[17] highlights the role of education in ensuring that citizens acquire the competences they need to adapt flexibly to a rapidly changing and highly interconnected world. <u>Digital competence</u> is one of these eight key competences, along with interpersonal, intercultural, social and civic competences and cultural awareness and expression.

Digital competence, as defined in the European Commission Recommendation on Key Competences[18] involves the confident and critical use of ICT for employment, learning, self-development and participation in society. This broad definition of digital competence provides the necessary context (i.e. the knowledge, skills and attitudes) for working, living and learning in the knowledge society.

<u>Media literacy</u> is defined as "the ability to access the media, to understand and to critically evaluate different aspects of the media and media contents and to create communications in a variety of contexts. Media literacy relates to all media, including television and film, radio and recorded music, print media, the Internet and all other new digital communication technologies. It is a fundamental competence not only for the young generation but also for adults and elderly people, for parents, teachers and media professionals."[19] Critical skills can be helpful in empowering children and young people to make informed assessments of information they are given online.

<u>e-Inclusion</u> refers to the actions to realise an inclusive information society, that is, an information society for all. The aim is to enable every person who so wishes to fully participate in the information society, despite individual or social disadvantages. In relation to online safety, it is important to also consider the marginalised and vulnerable groups when dealing with online safety issues in the school setting, as children belonging to these groups may be at particular risk of harm.

1.3. The benefits and risks to young people as users of online technologies

Internet and mobile phones can be of particular benefit to young people. The 2007 Eurobarometer[20] survey explored how children and young people across Europe were using

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17 http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11090_en.htm
18 http://ec.europa.eu/education/policies/2010/doc/keyrec_en.pdf
19 http://ec.europa.eu/enterprise/ict/policy/ict-skills/ict-skills_en.htm#introduction
20http://ec.europa.eu/information_society/activities/sip/docs/eurobarometer/qualitative_study_2007/summary_r eport_en.pdf

the Internet and mobile phones and included boys and girls of 9 to 10 years old and 12 to 14 years old.

The survey revealed that the two most frequent uses were for recreation and entertainment: online games, which were popular with younger children and continue to appeal to older boys; and looking for information on subjects that are of interest or browsing for fun. Children and young people also frequently used the Internet for their homework. The communication functions, such as instant messaging, having chats with friends and emailing, were used more by older children, particularly girls. Downloading (of music, films, videos, games, etc.) was also more widespread among the older groups, particularly among boys.

For the mobile phone, just as for the Internet, there was considerable homogeneity across Europe: primarily making and receiving (voice) calls and, increasingly with age) sending and receiving text messages. Taking photos/images was relatively widespread but not used by the majority and sending photos/images seems to be relatively rare. Only small minorities use the mobile phone for listening to music, playing games and – even less so – connecting to the Internet by mobile phone (mainly due to the cost).

The youth panel at the Safer Internet Forum 2009 noted the following points about the ways in which they and their peers are using online technologies:
- there were no big differences between nationalities concerning the amount of time they spent using the Internet (1-3 hours a day): however, between the sexes, there is a difference in the average time of daily internet use:
- the boys (Sweden: 6 hours, Greece: 7 hours) spend much more time online than the girls;
- young people in some eastern European countries, for example in Romania, have far higher numbers of 'friends' on their social networks than their peers elsewhere in Europe. In reality the number of actual close offline friends included in their 'friends' list is actually more likely to be below five.

Alongside the opportunities presented by the increased use of ICT in general and the Internet in particular there are concerns about issues and risks related to children's and young people's online activity.

The EU Kids Online project has outlined the main opportunities and risks to children. The five most common risks across Europe are described as:[21]
- **Giving out personal information** is the most common risky behaviour, affecting around half of online teenagers
- **Seeing pornography online** is the second most common risk (around 4 in 10 teenagers across Europe).

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21 http://www.lse.ac.uk/collections/EUKidsOnline/Reports/08_0699EUKidsOnlineReport_Web.pdf

- **Seeing violent or hateful content** is the third most common risk, experienced by approximately one third of teenagers.
- **Being bullied (ie 'cyberbullied)** comes fourth, affecting some 1 in 5 or 6 teenagers online, along with receiving unwanted sexual comments
- **Meeting an online contact offline** appears the least common though arguably the most dangerous risk.

Table 1[22]

		Content: Child as recipient	Contact: child as participant	Conduct: child as actor
OPPORTUNITIES	Education learning and digital literacy	Educational resources	Contact with others who share one's interests	Self-initiated or collaborative learning
OPPORTUNITIES	Participation and civic engagement	Global information	Exchange among interest groups	Concrete forms of civic engagement
OPPORTUNITIES	Creativity and self-expression	Diversity of resources	Being invited/ inspired to create or participate	User-generated content creation
OPPORTUNITIES	Identity and social connection	Advice (personal/ health/sexual etc)	Social networking, shared experiences with others	Expression of identity
RISKS	Commercial	Advertising, spam, sponsorship	Tracking/ harvesting personal info	Gambling, illegal downloads, hacking
RISKS	Aggressive	Violent/ gruesome/ hateful content	Being bullied, harassed or stalked	Bullying or harassing another
RISKS	Sexual	Pornographic/harmful sexual content	Meeting strangers, being groomed	Creating/ uploading porn material
RISKS	Values	Racist, biased info/ advice (e.g. drugs)	Self-harm, unwelcome persuasion	Providing advice e.g. suicide/ pro-anorexia

The risks as identified by teachers, young people and other stakeholders contributing to this report reflect the findings of this EU Kids Online research. However, other issues were also reflected: stalking, harassment, privacy abuse, downloading and copyright, sending sexual text messages or photos ('sexting'), inappropriate or unfair advertising, violation of children's rights, uploading of pictures and videos, addiction, technical issues like phishing, viruses and protection of computers and user accounts, critical assessment of information and sources of information online, information about eating disorders and unsafe, irresponsible or illegal behaviour by children and young people themselves.

The Youth Protection Round Table project has also developed a matrix[23] of risks and threats. The risks are grouped in two categories, those related to online content and those related to online contact. In both areas, some risks result from the users' own conduct, while other risks result from the conduct of other users.

In view of these various types of potential risk associated with use of the Internet, mobile phone and other digital technologies by children and young people, it is important to continue

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22 Table of Risks and Opportunities. From Livingstone, S., & Haddon, L. (2009) EU Kids Online: Final report. LSE, London: EU Kids Online.

23 http://www.yprt.eu/yprt/content/sections/index.cfm/secid.84

addressing these concerns. This includes developing and disseminating advice and guidance through the most appropriate channels in order to protect young users and enhance their online experience.

2. Broad consultation on Online Safety in Schools

In order to assess the status of Online Safety taught in schools in Europe, to identify the challenges and to suggest recommendations for the different stakeholders involved, the European Commission has carried out consultations with a number of stakeholders:

2.1. Focus Group

A Focus Group, gathering representatives from awareness centres, teachers, government officials, industry as well as members from different parts of the European Commission met twice in 2009. Constructive discussions in this Focus Group have given useful information on best practices.[24]

2.2. Eurydice survey

An exploratory survey was carried out in February-March by the Eurydice Unit of the Education, Audiovisual and Culture Executive Agency (EACEA) related to DG Education and Culture about the Education of Internet Safety in schools. This study about education on Internet Safety in schools across Europe includes issues such as school curriculum, methods for teaching, teacher training and qualifications available. Additional information was collected on the potential partnerships between educational authorities and public or private organisations in the field. The data collection for this report was coordinated by the European Eurydice Unit with the collaboration of the 35 National Eurydice Units established in 31 countries. The data was collected from 34 Education Systems representing 29 countries, covering the 2008/2009 school year.[25]

2.3. National events

This information on the national situation was complemented by replies to a questionnaire that DG Information Society sent directly to the 27 Safer Internet Centres co-funded by the Safer Internet Programme. 24 of the Safer Internet Centres also arranged national events gathering relevant stakeholders for discussions around Online Safety in schools. Through these events it was possible to identify relevant best practices and competent speakers for the Safer Internet Forum. The national events to a range of different forms, from large conferences, series of different meetings for different sectors and smaller advisory board brainstorming sessions.

The Online Safety Youth panels run by the Safer Internet Centres were represented at most of the events while in some they took an active lead. In Denmark, the Youth panel met directly

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24 List of experts can be found in Appendix B
25 http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/121EN.pdf

with the Minister of Education to communicate and discuss their ideas. In Romania almost 80 children guided by 20 volunteers participated in six workshops, developing their own projects on topics such as reporting online abuse, legal issues, preventing violence, professional abilities, etc. Each group designated a spokesperson to present the project to the authorities and media in order to establish partnerships with the governmental institutions.

2.4. Safer Internet Forum

The Safer Internet Forum, which took place on 21-23 October 2009 had as an overall topic "Promoting Online Safety in Schools". The audience included close to 300 participants; young people, teachers, governments and policy makers, industry and NGOs. The forum discussed how to best integrate online safety into schools, giving a boost to involving schools and teachers in awareness-raising activities aimed at children, gathering experiences and identifying innovative methods for teaching online safety, identifying the challenges and the recommendations for future actions.

The first day of the Forum, a pan-European youth forum and teachers' panel took place in parallel. The Youth Forumbrought together 52 young people, aged 14 to 17, chosen by the national Safer Internet Centres and coming from 26 member countries (Portugal was the only country not represented). The aim of the meeting was to discuss issues related to the young people's use of online technologies and to investigate whether and how they would like to learn about online safety in schools. The teachers' panel gathered teachers from 27 countries discussing their views on online safety education. The results were shared in the plenary sessions during the following two days.[26]

2.5. Desk research

In addition to the primary research methods outlined above, secondary desk research was conducted by the external expert to explore the broader context of the issue.

3. Status of online safety in curriculum across Europe

3.1. Online safety in current curricula

The Eurydice[27] survey revealed that the specific subject 'Internet safety' is included in the school curriculum in 23 European countries and regions[28]. In all of these the issue is covered in the secondary school curriculum while in most of them elements of online safety are also included as a cross-curriculum theme at primary level.

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26 Details from the Forum, youth panel and teacher's panel can be found in the Report from Safer Internet
 Forum: http://ec.europa.eu/information_society/activities/sip/docs/forum_oct_2009/forum_2009_report.pdf
27 http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/121EN.pdf
28 See Figure 1, Appendix A

There are 11 countries/regions that do not currently include this subject in their school curriculum at central level. However, four of these were planning to incorporate online safety with effect from the 2009/2010 school year (Belgium-German speaking community, Greece, Romania and Iceland).

Of the remaining seven countries, Denmark is currently using a group of experts to review mandatory learning objectives of primary and lower secondary school, although not specifically in relation to online safety, while the others may include the topic on an individual school basis or incidentally within other subjects if decided by the headteacher or local education authority.

It is important to note that information from INSAFE, national Safer Internet Centres and other sources appears to suggest that although the topic of online safety may be formally included in the curriculum the implementation is not consistent in all schools or for all teachers. Most of the participants in the youth panel at the Safer Internet Forum 2009 reported that they had not been taught about online safety in school. There is therefore an ongoing need for further development and evaluation.

3.2. National approaches to online safety

By way of complementing Eurydice's formal curriculum analysis, it is useful to consider research from 2007 by European Schoolnet, a network of 31 Ministries of Education in Europe, into online safety policies and initiatives[29]. This identified several different types of approach:

- state intervention, where Internet safety is explicitly tackled within national information society policies or ICT in education policies;
- shared responsibility and joint action, where policy aims increasingly to include a variety of actors to address safety issues through collaboration between local, regional and national authorities and professional organisations;
- focus on knowledge sharing;
- non-governmental organisations;
- educating the responsible user;
- the bottom-up approach.

3.3. Autonomy and decentralisation in schools

Research by Eurydice on 'Levels of Autonomy and Responsibilities of Teachers in Europe'[30] indicates that there has been an increasing trend towards decentralisation and school autonomy in all member states. "Entirely centralised school curricula have disappeared to make way for curricular content devised at various levels at which schools and teachers have a significant part to play." This takes three main forms:

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29 http://insight.eun.org/shared/data/pdf/esafety_paper_final_april_2008.pdf
30 http://eacea.ec.europa.eu/ressources/eurydice/pdf/094EN/094EN_013_ACK.pdf

- In some Nordic and central European countries, the central authority establishes a general framework providing a broad outline of curricular content which is then filled out by local authorities and teachers.
- In some other countries, notably the Netherlands and Sweden, central government specifies the goals for each main stage of education and leaves schools with substantial scope to determine the actual curricular content.
- School curricula established by central government exist alongside curricular content devised by local players. However, teachers have little say in determining the content of the compulsory minimum curriculum, which in two thirds of countries is drawn up at central level.

It is interesting to note that although increasing autonomy on the part of schools and teachers allows scope for topics and resources to be included at local level this is not necessarily universally perceived as advantageous. An Education Ministry representative at one of the national events noted that giving too much leeway for decision-making by teachers who are not familiar or confident with the issues of online safety can in fact be negative.

3.4. National cooperation with Safer Internet Centres

Safer Internet Centres in each Member State are responsible for developing and disseminating material and resources about online safety to a range of different stakeholders, including children and young people, teachers and parents. In many cases there has already been effective collaboration between the Safer Internet Centres and the national Ministries of Education as well as local schools.

Examples include (but are not limited to) the following:
- In Spain the Protegeles organisation running the national Safer Internet Centre has been visiting schools since 2004. Between March 2008 and February 2009 they visited more than 220 secondary schools throughout the country. Protegeles also produces online and offline resources for teachers and pupils.
- The French Safer Internet Centre, Internet Sans Crainte, does not visit schools but provides online resources for teachers and assistance by phone and email. The resources they produce are widely used in schools – for example, an average of over 300 Vinz & Lou workshops are organized each month by teachers in primary schools.
- Online safety education in Slovenia is mainly delivered by teachers using resources designed and provided by the Safer Internet Centre. Additionally the Centre is invited by individual schools to participate in lessons and it is involved in teacher training on the issue of online safety in co-operation with the Ministry of Education and Sport.
- The Italian Safer Internet Centre runs Internet Safety Weeks within schools for pupils aged between 7 and 14. During the last school year they organised events in 70 schools in 10 regions across Italy.
- In the Czech Republic the Safer Internet Centre is working with the Union of ICT Teachers and Ministry of Education to consider going school and curricular reform.

3.5. Challenges

3.5.1. Gap between home and school use:

A challenge identified by the current consultation process is the discrepancy between the applications used by children and young people at home and those available to them at school. This is particularly true of social networking sites and mobile phones. Consequently pupils are 'powering down' when they go into school. In its report 'Security Issues and Recommendations for Online Social Networks'[31] ENISA recommends "that schools and education policymakers should carefully consider the consequences of banning Social Networking Sites since this acts as a disincentive to the reporting of bullying. It also means that teachers and adults are less likely to learn the skills needed to mentor and monitor young people in this area. Finally it also means that a valuable educational resource is lost." In this respect the use (within appropriate lessons) of mobile phones may also be considered – the Mediappro report notes that currently these are strictly regulated or banned in schools across Europe.

This theme is echoed by Becta, which notes that "Now that most children have home access, safe behaviours are essential, but a strongly protected online environment at school may not provide the opportunity to learn these."[32] In a recent report from the United States, Online Safety 3.0[33], it is noted that because young people are increasingly engaged in authentic learning outside of school with social media, there is a growing gap between formal learning and informal learning, which increasingly compromises the meaningfulness of school for many young people. The report's authors, Anne Collier and Larry Magid, conclude that this is:

> "at the very least a tremendous missed opportunity for education, for young people, and for the teaching of safe media use. Right now, young people are pretty much on their own with today's media. School not only has little input in their use of social media, it's blocking that use because of online safety concerns. For generations, educators have enriched students' experience of the media of their times, increasing the media's value for youth as well as society by highlighting the best in literature, governance, art, activism, and citizenship. What today's schools are too worried to consider is that, in the process of adding the value of formal education to social media, they can bring to students' use of those media the very skills that ensure constructive and productive writing, producing, and collaborating with social media."

Participants in the youth panel at the Safer Internet Forum 2009 suggested that pupils and teachers should use sites such as Facebook and Youtube together in the classroom, sharing their personal experiences. This would help the teachers learn about the technology whilst at

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31 http://www.enisa.europa.eu/act/res/other-areas/social-networks/security-issues-and
-recommendations-for-online-social-networks
32 http://partners.becta.org.uk/upload-dir/downloads/page_documents/research/web2
_onlinesafety.pdf
33 http://www.connectsafely.org

the same time equipping young people to cope with the challenges and risks they may face in using these areas of the Internet.

3.5.2. <u>Equipment and connectivity:</u>

Equipment and connectivity issues affect how (and how well) online safety lessons can and should be delivered in schools. Problems in this area can be a disincentive for teachers and school management to integration of online or digital resources into the classroom. The Mediappro survey identified lack of equipment in schools as a common barrier to schools adopting a positive and inclusive attitude towards uses of new media in schools in order to capitalize on the innovative potential of these technologies. For example input from Portugal[34] indicated that there are usually many pupils needing to use a small number of computers, which are usually old with a slow Internet connection. In Denmark teachers report problems getting the ICT equipment to function properly, and many teachers therefore experience a lack of access to well-functioning ICT. This has a negative effect on their use of ICT, and ultimately causes some teachers to refrain from using it altogether. Feedback from Greece to the INSAFE questionnaire highlights the same issues, as does the discussions in the Safer Internet Forum teachers' panel.

The number of computers in schools varies considerably between countries and indeed between schools. Some schools, including specialist e-schools, may have a very high ratio of computers to pupils, while in others there may be just a few computers in a lab available for the whole school. However, PISA research indicates that it is the availability of computers at home - not at school - which improves performance at secondary level, while for primary school pupils it is the other way round.[35] The speed and reliability of Internet connections can also be variable.

3.5.3. <u>Provision of laptops and other hardware:</u>

Several initiatives provide laptops for teachers and for children for use at schools or at home, in pursuit of the Lisbon targets[36] of making the European Union (EU) the most competitive economy in the world and achieving full employment by 2010, as well as achieving the Lisbon Treaty (eEurope) aims[37] of:
- bringing every citizen, home and school, every business and administration, into the digital age and online;
- creating a digitally literate Europe, supported by an entrepreneurial culture open to information technology;
- ensuring that the information society is socially inclusive.

For instance:

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34 http://www.mediappro.org/nat_init_por.htm
35 http://www.oecd.org/dataoecd/28/4/35995145.pdf
36 http://europa.eu/scadplus/glossary/lisbon_strategy_en.htm
37 http://europa.eu/scadplus/glossary/eeurope_en.htm

- Through the Portuguese scheme two computers are made available to pupils: one is used in school and controlled by the teacher, the other is used at home and controlled by the parents (or the pupil him/herself if the parent does not take charge).
- The president of Spain has promised laptops for all pupils in secondary school. This is a challenge but also an opportunity to discuss the need to include this subject on the curricula of schools.
- In Sweden the PIM programme provides laptops for teachers – if these are used successfully the teachers can keep them, otherwise they have to be returned.
- All 13 year old pupils in Greece are being given laptops with online safety lessons preloaded
- In the UK, disadvantaged children are given a laptop and a 3G dongle.

Although there are clear advantages to providing computer equipment through such schemes in respect of tackling the digital divide, there is some concern that unless online safety information is provided consistently along with the hardware, as happens in the Greek example, those children in receipt of the computers may in fact be made more vulnerable from the point of view of online safety.

A possible example may be children within traveller communities who are given laptops because they cannot attend mainstream school regularly – however, this in turn means that they miss out on lessons teaching them about how to use the equipment in a safe and responsible way. This presents a complex challenge for those seeking to educate pupils who for some reason are detached from the main school community.

In addition, a contributor to this report notes that a significant number of teachers do not allow the pupils to bring the laptops into class because they (ie the teachers) are not confident or skilled in how to use them. If computer equipment is provided, the pedagogical use and safety implications should be addressed from the outset.

4. Should online safety be taught in schools?

4.1. The role of schools in online safety

The role of schools in addressing these ongoing concerns has been identified through various surveys and studies over a number of years. EU Kids Online notes in its 2009 final report[38] that:

> "Schools are best placed to teach children the digital and critical literacy skills required to maximise opportunities and minimise risks. Schools are also best placed to reach all children, irrespective of socio-economic status and other forms of inequality. For both these reasons, schools have a key role to play in encouraging and supporting creative, critical and safe uses of the internet, crucially throughout the curriculum but also at home or elsewhere."

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[38] http://www.lse.ac.uk/collections/EUKidsOnline/Reports/EUKidsOnlineFinalReport.pdf

This view is also supported by a number of other studies.

EU Kids Online also highlights the educational value of fostering media literacy, of which some elements are relevant to online safety, within the school environment. The final report[39] noted that:

> "Greater internet use is associated with higher levels of education, so educational achievement may be expected to increase the extent and sophistication of internet use. Further, gaps in ICT provision and insufficient or outdated provision of ICT in schools should be addressed, and media education should be recognised and resourced as a core element of school curricula and infrastructure."

4.2. Public opinion and parents' opinion

The summary report of the European Commission's Public Consultation on Safer Internet and Online Technologies for Children (2007)[40] noted the general consensus that:

> "Education systems and teachers play an important role in educating on internet use and its risks. Schools have done a good job so far, but education authorities, in particular ministries, could be more active as they appear currently to be mainly occupied with access and technical security and less with the educational and awareness issue. Teachers [should] combine education on internet use with developing an understanding of its risks, with appropriate support and training to fulfil this task."

The conclusions of the report included a recommendation that online safety education should be embedded in school curricula from six years of age, and parents should also be educated in these areas.

There is significant public expectation across much of Europe that schools will play a role in teaching children about staying safe online, although the level of expectation varies between Member States. The Flash Eurobarometer survey of 2008[41] revealed that parents (88%) most often thought that a greater amount and better quality of teaching and guidance about Internet usage in school would contribute to its safer and more effective use by children.

However, the inclusion of online safety within the curriculum is not necessarily seen as an immediate and comprehensive solution in itself. The Irish Internet Advisory Board's contribution[42] to the 2007 Public Consultation noted the following:

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39 http://www.lse.ac.uk/collections/EUKidsOnline/Reports/EUKidsOnlineFinalReport.pdf
40 http://ec.europa.eu/information_society/activities/sip/policy/consultations/onlinetech_child/
 index_en.htm
41 Towards a Safer Use of the Internet for children in the EU - a parents' perspective:
 http://ec.europa.eu/information_society/activities/sip/docs/eurobarometer/analyticalreport_2008.pdf
42 http://ec.europa.eu/information_society/activities/sip/docs/public_consultation_prog/results/

"It is easy to see integration into the curriculum as the silver bullet solution for raising awareness of online safety, this is not the case. National curriculum development can be a slow process when compared with the rapidly evolving educational needs of children arising from their use of emerging technologies. Short to medium term educational goals for the Safer Internet Action Plan should be the development of educational resources that map to existing curricula."

4.3. The views of young people

Young people themselves have also expressed the wish to receive online safety information at school. Although surveys have shown that children and young people learn both use of Internet and online safety from siblings and friends, Irish teenagers in the Survey of Children's Use of the Internet carried out by the National Centre for Technology in Education (NCTE) [43] express a greater preference for getting their online safety information from school than their parents, and younger children are more likely to express a preference for receiving online safety information from their mother. Children of all ages preferred both parents and school to friends as sources for online safety information.

Equally, all the participants in the Safer Internet Day 2008[44] Youth Forum said that the place where they expected to get online safety information was their school. The Youth Forum had participation from 27 young people (12-19 years old) from youth forums run by the Safer Internet Centres in Finland, the Czech Republic, Cyprus, Sweden, UK, Netherlands, Germany, Austria and Iceland. However, none of them had yet received any training on this topic at school.

Following their discussions the Youth Forum formulated the following recommendations to government:
- the need to involve schools in awareness-raising and education
- online safety should be included in school curricula
- teachers themselves need to be trained on these issues
- need for mobile phone regulations in schools
- the importance of having somewhere in school to report abuse.

In June 2009 the Danish Youth panel presented a list of ideas to the Minister of Education, based on discussions they had had with other children at their respective schools. Relevant to the issue of online safety are the following points:
- Let students teach other students about the Internet and make children share their good/bad experiences with each other, their parents and their teachers

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iabi_a439084.pdf
43 www.webwise.ie/GenPDF.aspx?id=2935
44 http://ec.europa.eu/information_society/activities/sip/docs/summary.pdf

- All teachers at all schools must have a course in the possibilities of the Internet and computer skills, and the teachers on the schools must use the internet more in their teaching
- Make more subjects in online safety about:
  - use of IT equipment and securing one's computer against misuse
  - responsible behaviour and communication online
- everyone should have an IT and online safety class 4 times a month every six months – three times during primary and lower secondary school
- make a rule that teachers can't be 'Facebook-friends' with students and the other way around.

The 2006 Mediappro[45] survey also revealed that young people consider school to be an important resource for responsible Internet use, particularly in the area of evaluating the quality and reliability of online content. The majority of the young people who took part in the survey thought it was important or very important that the school teach them how to find useful sites (52%) and to help them evaluate the information they find on websites (62%).

The Youth panel at the Safer Internet Forum 2009 also reflected this view: the participants saw education on online safety as a crucial way to empower children on how to take advantage of the opportunities offered by the Internet and minimize the risks.

4.4. Teachers

Participants in the teachers' panel at the Safer Internet Forum 2009 expressed the view that teachers have a role to play in educating children about online safety since they bring extensive experience and life skills to the issue.

Many teachers feel under-confident in addressing a topic about which their pupils may seem to have more knowledge and understanding. They need to be willing to learn from the skills and expertise their students already possess and to learn new things together with their class – this is a horizontal method of teaching rather than the traditional vertical approach. However, this does require a significant shift in the mindset of teachers, who are used to knowing more than their pupils about the subjects they teach.

It was felt that teachers need to understand (or at least be aware of) what children and young people are doing online in order to be able to support and guide them in using the technology in a safe and responsible way. The role played by teachers should not replace the engagement of parents with this topic in order to support their own children at home and elsewhere.

4.5. Rising political interest

Across Europe, the increasing number of countries including Online or Internet Safety on the curriculum for primary and secondary schools shows that there is increasing political will for

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45 http://www.mediappro.org/publications/finalreport.pdf

schools to engage more consistently and actively with the topic of online safety both as it affects children within the school environment and in their use of new technology at home.

In **Iceland** government policy acknowledges the need to develop secure networks and information systems for education as well as other areas of society[46]. The Icelandic Policy for ICT in education, science and culture 2005-2008, Risk with responsibility[47], has a special chapter on ethics and safety. This sets out a number of objectives and proposed actions to protect children online, including a commitment to instruct pupils on responsible use of the internet as part of their information literacy and computer skills courses.

The Norwegian Ministry of Children and Equality and the Ministry of Culture and Church Affairs are responsible for a joint action plan on safer use of the Internet for children and teenagers, co-ordinating the activities of government, industry, individuals and voluntary organisations to promote safer use of the Internet[48].

The Byron Review on Children and New Technology (2008)[49] called on the UK government to implement a number of recommendations, including:
- the mainstreaming of online safety through schools' learning, teaching and other practices
- the provision of training on online safety through the teacher training colleges for new entrants to the profession and through continuous professional development for all teachers and the wider school workforce
- consistent evaluation and assessment of online safety education within schools.

It has subsequently been announced that online safety lessons will become a compulsory part of the curriculum for primary pupils in England from 2011. This is one element of a new government strategy entitled 'Click Clever, Click Safe' which also encourages children to block and report inappropriate content.[50]

4.6. Legal requirements

However, there are also other factors which contribute to an obligation on the part of schools to engage with this topic. In some European countries it is a legal requirement for teachers to promote the general well-being of individual pupils and groups of pupils. For example, in Niedersachsen in Germany the state law prescribes that school should offer a place of safety and trust to pupils and that the responsibility of ensuring this is shared between pupils themselves, school management and board, teachers and parents. The legal text also recommends that schools, police and the judiciary should work in partnership to ensure the

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46 http://pfs.is/upload/files/fjarskiptaaetlun-ensk.PDF
47 http://bella.stjr.is/utgafur/risk.pdf
48 http://insight.eun.org/shared/data/pdf/esafety_paper_final_april_2008.pdf
49 http://www.dcsf.gov.uk/byronreview/
50http://www.dcsf.gov.uk/ukccis/download-link.cfm?catstr=research&downloadurl=UKCCIS Strategy Report-WEB1.pdf

safety of pupils at school and to prevent criminal behaviour within school and on the part of pupils outside school[51].

In Finland the responsibilities of schools in educating children and promoting their well-being are regulated by legislation in the Basic Education Act, the Primary Health Care Act and the Child Welfare Act:

- The pupil has a right to a safe learning environment and student welfare.
- Pupil/student welfare is the responsibility of all those working in school and in student welfare services (school nurse, school doctor, school counsellor, school psychologist) and is implemented in cooperation with families. Student welfare refers to the promotion and maintenance of good learning, good mental and physical health and good social well-being of students. It includes student welfare in accordance with the curriculum approved by the provider of education and student welfare services, which is part of the school health care referred to in the Primary Health Care Act (school health nurses and doctors); and support for upbringing referred to in the Child Welfare Act (school social workers and school psychologists).
- In general and vocational upper secondary education, the education provider shall ensure that students are given information about health and social services and that they are guided to seek these services.
- The headteacher is recognized as the pedagogical leader of the school, which includes a responsibility for matters of student welfare. He or she is also responsible for the functioning of the student welfare group, which is the key multidisciplinary cooperation group in the school working on pupil/student welfare.

In the UK the legal responsibility of teachers includes ensuring as far as possible that pupils are free from bullying and harassment. UK law also empowers head teachers, to such extent as is reasonable, to regulate the behaviour of pupils when they are off the school site. In practice, however, defining the limit of this responsibility can be difficult.

Other recent research views the issue of teacher accountability from a cultural perspective and notes that different levels of culture of cooperation and sense of collective responsibility exist within schools in different countries across Europe, as well as teacher autonomy[52] (although this in no way implies lack of individual concern for the needs of students).

4.7. Hard-to-reach and vulnerable children

There may be specific issues surrounding online safety issues for hard-to-reach or vulnerable children. It appears that 'looked after' children may be particularly at risk of cyber-bullying[53]

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51 http://www.nds-voris.de
52 "On the geography of accountability: Comparative analysis of teachers' experiences across seven European countries" (2009) in Journal of Educational Change, Springer Netherlands
53 A 2008 survey by the UK Children's Rights Director of more than 300 children who live away from home revealed that over a third of them had experienced some form of cyber-bullying: http://www.ofsted.gov.uk/content/download/1566/10895/file/Children%20on%20bullying%20(PDF%20format).pdf

and children with special educational needs or particular vulnerability may be particularly vulnerable to online safety risks due to their different levels of understanding or their expression of emotional or behavioural difficulties.

The definition of 'vulnerable' in the context of online safety can be complex – it may also include children who had very early access to the Internet and those adopting the technology very late (relative to their peers). Cultural and linguistic factors should also be considered in developing an approach to online safety within schools. If teachers are trained in understanding online behaviour and risks, they can play an important role in identifying vulnerable children within the school community. Young people who drop out of school may also be particularly vulnerable.

Summary – Should online safety be taught in schools?

1) Status

Schools are uniquely placed to be able to communicate and engage with most children. Already in many schools across Europe online safety is being addressed as an issue, either through the formal curriculum, through the interests and efforts of individual teachers or through the involvement of external partners. However, inclusion of online safety in the school curriculum varies considerably across Europe and the implementation of curricular elements is also inconsistent. Nevertheless, public opinion, including that of parents, young people and teachers, political will and legal obligations are all factors contributing to the expectation that schools will play a significant role in educating young users about safe and responsible use of the Internet.

2) Challenges

It should not be assumed that formal inclusion of online safety in the curriculum ensures that all children consistently receive lessons on this theme. Nor should it be assumed that the absence of online safety from the formal curriculum means that the topic is never addressed within schools.

Curriculum development can be slow to agree and to implement, whereas the pace of technological advance is extremely fast. It is therefore important to build on existing resources and practices in order to ensure that children and young people will be adequately protected and empowered whilst this development is ongoing.

The strict filtering in place in two-thirds of schools across Europe creates a discrepancy between children's use of the Internet at home and at school. Applications and platforms such as social networking sites and mobile phones are not permitted in the classroom, although it is on these technologies that young people are most likely to encounter problems such as cyber-bullying.

Conversely, if filtering were not in place schools may be less willing to allow pupils to access the Internet, primarily for legal reasons, and teachers may be less confident in using online technologies within the classroom.

The provision of laptops and other equipment to pupils can create problems and risks in relation to online safety if appropriate guidance is not also provided about how to use the hardware in a safe and responsible way. Where laptops are provided for classroom use, they can only contribute effectively to learning if teachers have sufficient knowledge and understanding to allow them to be used in an appropriate and constructive way.

A lack of reliable equipment and infrastructure can disrupt learning and adversely affect the confidence of teachers seeking to communicate online safety issues to their students.

Children who are hard-to-reach or vulnerable in various ways may not necessarily be able to access or understand online safety education within the mainstream school context. This creates the risk of them becoming further isolated or more vulnerable in the online environment.

3) Recommendations

In order to ensure that children and young people are adequately protected and empowered throughout Europe, the issue of online safety should be included in the school curriculum for primary and secondary schools.

Schools should not wait for formal inclusion of online safety in the curriculum before seeking to address the issues on a local 'bottom-up' basis. Schools, Ministries and NGOs should develop educational resources that map to existing curriculum areas.

Gaps in provision of ICT equipment and infrastructure should be addressed in order to encourage consistent and confident use by pupils and teachers.

Where laptop schemes (or similar) are implemented to promote equal access for otherwise potentially disadvantaged students, it is essential to provide information and support on safe and responsible use along with the equipment.

Schools should carefully consider their policies and provision in respect of filtering and banning certain applications and platforms in order to achieve a balance between protecting young users in their care and empowering them to protect themselves and manage their own online experience.

Collaboration with other relevant agencies is necessary in order to ensure that hard-to-reach and otherwise disadvantaged or vulnerable children are informed appropriately about how to

use the Internet in a safe and responsible way. Cultural and linguistic factors should be taken into account in developing curriculum content.

Sufficient time should be made available within the school curriculum for teachers to gain and embed the necessary skills and knowledge to incorporate online safety into their lessons.

Schools should have ready access to appropriate and validated resources to support teaching on online safety issues.

5. What should be taught in schools on the issue of online safety?

ICT has been widely recognised as a positive tool within the educational context. For example the Norton Online Living Report (2009)[54] revealed that overall, adults, parents and children agree that the Internet makes learning easier for children and about a third of adults agree that the Internet makes it easier to educate children.

Research by European Schoolnet and other organisations across Europe reinforces this positive message about the importance and impact of ICT in schools and the longer term effect is evidenced in the Commission's "Digital Europe" report[55], released in August 2009, which shows that Europeans are becoming more skilful internet and computer users, with 60% "digitally literate".

A similarly positive picture emerges from a project carried out by the Danish Ministry of Education exploring how schools and municipalities have experienced the implementation and use of ICT in the Folkeskole (primary school). The results of this project were published in June 2009. The study showed that pupils, teachers and head teachers all felt that they benefit from the use of ICT for teaching purposes. They especially emphasize the Internet, which provides faster and easier access to information.

Young people themselves note the positive benefits of the Internet: participants in the Youth panel at the Safer Internet Forum 2009 mention in particular the global perspective, access to information, developing social and language skills, creativity and increased participation in different projects.

According to the Office for Standards in Education (OFSTED) in the UK, "using ICT contributes positively to the personal development and future economic wellbeing of pupils and students."[56] The same report notes that ICT can be a particularly valuable tool in

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54 http://nortononlineliving.com/documents/NOLR_Report_09.pdf
55 http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1221&format=HTML&
aged=0&language=EN&guiLanguage=nl
56 The importance of ICT: information and communication technology in primary and secondary schools, 2005/2008

engaging with disaffected young people: "using ICT engaged and motivated pupils including in one of the schools, for example, pupils identified as at risk of exclusion."

As Internet penetration and use continue to increase across Europe, the new technologies available become ever more sophisticated and personal and Web 2.0 applications facilitate spontaneous creation and uploading of content by every user. Additionally the number of young people – particularly primary school age children –accessing and using the Internet has increased significantly over recent years. As identified through EU Kids Online research:

> "Children's use of the internet continues to grow. In 2005, 70% of 6-17 year olds in the EU25 used the Internet. By 2008, this rose to 75% on average, though there was little or no increase in use among teenagers. The most striking rise has been among younger children – by 2008, 60% of 6-10 year olds were online."[57]

The range of concerns related to children's and young people's use of the Internet is very broad. Feedback from children and young people themselves, most recently in the Youth panel responses to the questionnaire for this report, reveals that cyber-bullying is of great and immediate concern to them. The qualitative Eurobarometer survey from 2007[58] on children and young people's perception of their own use, including risks and how to deal with them, showed that in many cases, young people know all the rules, for instance about not to meet strangers online, but they do not necessarily understand why they need to follow them. It is therefore important to adopt awareness-raising strategies that take this into account.

The Connected Children report on Italian pre-adolescents and new media stressed that "the effort we must make is to equip boys and girls not with a fear of strangers, but rather the competence needed to be in a position to read, decipher and respond on their own in a safe and effective way to online solicitations."[59] Online safety education within schools should reflect and address a broad range of issues and be flexible enough to adapt to and incorporate any new challenges which may arise as technologies and the way they are used develop.

There may also be specific national, regional or cultural issues which schools in individual countries may need to cover under the banner of online safety. For example, respondents from Slovenia have identified the problem of online hate speech.

It is also important to note that there are certain subjects which young people may not want to discuss at school – sex, for example – and approaches to online safety education should respect this. Participants in the Safer Internet Forum youth panel emphasized that they would rather get information about such sensitive or potentially embarrassing topics from the Internet – it is therefore important to guide pupils to reliable and accurate sources of information.

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57 http://www.lse.ac.uk/collections/EUKidsOnline/Reports/EUKidsOnlineFinalReport.pdf (p6)
   58 http://ec.europa.eu/public_opinion/quali/ql_safer_internet_summary.pdf
59 http://www.easy4.it/wp-content/uploads/2009/09/connected_children.pdf

5.1. Elements of online safety education currently included in curricula in Europe

The Eurydice survey of Internet safety within school curricula across Europe identified six main elements of online or Internet safety currently covered by existing curricula in the Member States where online safety is currently formally included:

- safe behaviour online
- privacy issues
- cyber-bullying
- download and copyright issues
- safe use of mobile phones
- contact with strangers.

All the countries which have online safety within the curriculum include safe behaviour and download and copyright issues, and in almost all those countries privacy is included. In about 80% of the countries with online safety on the curriculum pupils are taught about contact with strangers on the Internet. Cyber-bullying is included in some countries although safe use of mobile phones is not generally found as a curriculum topic.

In many countries the online safety curriculum includes other topics such as cybercrime and computer games addiction (Latvia) or online shopping (Germany). Some other countries include Internet security issues such as viruses. In some countries, for example Ireland and Germany, the national Safer Internet Centres are involved with curriculum development and can play a useful role in identifying issues for inclusion as well as appropriate resources and methodologies.

Even if online safety is not formally included in the curriculum, it should not be assumed that the topics above are not included – for example in the German-speaking community in Belgium elements such as safe online behaviour, privacy, download and copyright issues and contact with strangers are included in various other subjects. Other issues which arise within the broad context of online safety include children's rights and commercial/financial concerns, particularly in relation to mobile phones.

The youth panel at the Safer Internet Forum 2009 highlighted the issue of pupils' right to privacy in their use of the Internet at school. The youth panel also identified the following three areas of competence which should be included in online safety education within schools:

1. competence to use the media in different ways, eg creative use of Web 2.0, critical assessment of sources;
2. competence to present oneself on new digital media, eg privacy, image management;
3. social and ethic competence eg how to treat others online, what to do in the event of encountering harmful content or conduct.

5.2. Connecting and communicating

In teaching online safety it is important to focus on how the technology is used, rather than on how the technology works, how to connect etc. Feedback from some young people, such as in the National Centre for Technology in Education (NCTE) Survey of Children's Use of the Internet in Ireland[60], indicates that the latter has often been the case within ICT teaching. However, contributions to this report has noted that it is also important not to make assumptions about children's and young people's knowledge about the Internet – for example in order to understand the importance of creating strong passwords and keeping them private they need to been taught the reasons why.

A balance is therefore needed between technical and behavioural knowledge and understanding. This was also reflected by the Safer Internet Forum Youth panel, who highlighted the importance of linking up the use of Internet and mobile phones with the consequences of the use, for themselves and for other people. Their "wish list" also included: prevention (in particular related to meeting online contacts offline), use of MSN and Social networking services, bullying, online personal image and identity management, protection of privacy (including posting images and information and setting passwords), addiction, downloading music and other material, where to get help and how to deal with harmful content. In addition, they requested more hands-on technical knowledge, for instance a number of "how to" sessions which would allow for treating both positive and negative sides of their use of Internet and mobiles, including "what happens to my data" etc.

5.3. Emotional aspects

A useful approach to the issues in online safety can be to lay a general educational foundation on themes such as self-esteem, risks and consequences, identity and respect for oneself and for others in order to underpin more specific messages as pupils progress through their school career.

Some projects specifically emphasize the importance of addressing young people on an emotional rather than a technical level so that they can empathise with victims of cyber-bullying – this is seen as an effective way to prevent and discourage the development of bullying behaviour. For example CASES in Luxembourg have a game[61] designed for use by children and teachers exploring the effects of conversations and comments on different people. The Italian awareness centre also highlights this aspect of online safety and notes the following elements in the use of new media[62]:

- Emotional and relational (emotions, motivations, sociability, needs)
- Cognitive (technical understanding of and competence in using the tool)
- Value- and civic-based (values and moral principles that guide individuals, social responsibilities, sense of citizenship)

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60 www.webwise.ie/GenPDF.aspx?id=2935
61 http://www.cases.public.lu/fr/actualites/actualites/2009/10/12_SR/index.html
62 http://ec.europa.eu/information_society/activities/sip/docs/forum_oct_2009/elizabetta_pappuzza.pdf

Recent research in the United States, quoted in the 2009 Online Safety 3.0 report[63] also highlights the importance of addressing the emotional and psychological background to online behaviour. The research identifies the phenomenon of 'online disinhibition'[64]:

> "...the effect on people's behaviour of not having visual cues and voice inflection from the people to whom that behaviour is directed. Inhibitions break down, which can be good but also bad. It can have the effect of reducing empathy and civility. Lessons in citizenship, ethics, and critical thinking about behaviour are therefore essential throughout the grade levels, curriculum, and school day, ideally using the very social media and technologies so much in use outside of school."

5.4. Critical skills

Although online safety cannot be synonymous with media education, critical skills are nonetheless one element of education on this topic. In many countries these skills are often already taught within media studies and related subjects. An example of this is the approach taken by the Swedish National Agency for Education, which hosts a special website for a project called Kolla källan![65] ('Check the source'). This project collects and develops resources that support teaching about information retrieval, source evaluation and online safety for children.

5.5. Respect and responsibilities

Two specific issues arise in relation to dangerous or abusive use of the Internet by children and young people themselves. The first is the role of some children as perpetrators towards other children. A survey on cyberbullying amongst youngsters was carried out by the University of Antwerp in 2005[66]. A total of 636 primary school children and 1,416 pupils from secondary schools in Flanders completed a (paper) questionnaire on their use of the Internet and mobile phones and their personal experiences of traditional and cyberbullying. The main findings of the survey include the following points:

- There is a strong link between cyberbullying and classic bullying.
- Young people who are perpetrators of cyberbullying have in many cases also experienced cyberbullying as victims or bystanders.
- The amount of time that youngsters spend on the Internet and the degree of Internet dependency they exhibit may be an indication of their involvement in cyberbullying.
- Knowledge of complex Internet applications is not required for cyberbullying, although it does provide the bully with a broader range of tools.
- Youngsters who take risks on the Internet (e.g. online posting of personal information, chatting with strangers, lack of caution with regard to passwords, etc.) are more likely vulnerable to certain types of online bullying.

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63 http://www.connectsafely.org
64 John Suler, The Psychology of Cyberspace: http://www-usr.rider.edu/~suler/psycyber/disinhibit.html
65 http://kollakallan.skolverket.se/
66 http://www.viwta.be/files/executive%20overview%20cyberbullying.pdf

- Parents' lack of expertise and involvement in their children's Internet activities means that youngsters are often able to experiment unsupervised in cyberspace. It is, therefore, also an environment where they can bully freely.
- Youngsters who are more likely to be bullied in real life often seek refuge in cyberspace (even though this environment appears not to be safe too).
- Cyberbullying is related to gender, type of schooling and age. Perpetrators are more often boys than girls.
- Internet and mobile (cell) phone activities, which in the survey were considered to be potentially offensive, are not always perceived by the youngsters as "bullying".

A recent report by the Internet Technical Safety Task Force in the United States reflects that the biggest threat to children's safety online comes from other children:

"Youth report sexual solicitation of minors by minors more frequently, but these incidents, too, are understudied, underreported to law enforcement and not part of most conversations about online safety..... Bullying and harassment, especially by peers, are the most frequent problem minors face both online and elsewhere."[67]

The second issue relates to the bullying of staff by pupils. Individual teachers, schools and teaching unions are concerned at the abuse of technology, particularly mobile phones, emails and social networking sites, to harass teachers and in some cases to make false allegations against them. Guidance produced by the Department for Children, Schools and Families[68] in the UK highlights the importance of promoting the positive use of technology to support self-esteem, assertiveness, participation and the development of friendship as tools to combat all forms of cyber-bullying, whether between peers or directed at adults.

Here the role of teaching unions should be noted as significant both in representing the needs and concerns of teachers and as a channel and multiplier for communicating online safety information to their members. In the Czech Republic the Safer Internet Centre is working with the Union of ICT Teachers and the TeachToday[69] project is collaborating with teaching unions in a number of countries across Europe.

The problem of children and young people bullying or harassing each other and their teachers is relevant for inclusion in online safety education, particularly for older children, in order to emphasise their own responsibilities in relation to the technology and fellow users. A key message in trying to tackle these issues is that of treating other people with respect. Robust policies about acceptable use are an important factor in supporting this aim. In France, for example, all schools are required to devise and implement an ICT Charter stating rules of good conduct in relation to Internet use. As of May 2009 charters had been implemented in

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67 http://technology.timesonline.co.uk/tol/news/tech_and_web/the_web/article5515188.ece
68 http://publications.teachernet.gov.uk/eOrderingDownload/cyberbullying-staff.pdf
69 www.teachtoday.eu

26.7% of the nursery schools, 46.7% of the primary schools, 84% of the middle schools and 88% of the high schools.

The youth panel at the Safer Internet Forum raised the issue of how to deal with problematic or abusive situations. It can be difficult for young people to share their concerns or experiences, particularly when these are of a sexual nature, with teachers or parents. It is important that children and young people know how and where to report concerns or incidents and this information should be included in online safety education. Possible barriers and disincentives to reporting were also identified, including embarrassment, fear of punishment and fear of having access to the technology taken away.

5.6. Data protection and privacy

Another issue which is being specifically addressed within schools in some countries as an online safety topic is that of personal data and privacy. For young people themselves this is the most important topic – participants in the youth panel at the Safer Internet Forum 2009 noted that many young users don't understand privacy settings or the risks they take in uploading personal information and images.

In Norway the Dubestemmer (You Decide) campaign[70] is a joint project between the Norwegian Board of Technology, the Norwegian Data Inspectorate and the Norwegian Directorate for Education and Training which aims to increase young people's awareness of privacy issues and to inform the choices they make when using digital media such as the Internet and mobile phones. It consists of teaching material for a) upper primary, and b) secondary pupils with written material and short films designed to prompt discussion. The Dubestemmer resources have been translated into a number of other languages for use elsewhere in Europe and beyond.

In Slovenia the Information Commissioner launched an initiative in 2007 to raise awareness as regards personal data protection on the internet amongst children and youth.

5.7. Health-related issues

Recent research by European Schoolnet[71] into teachers' concerns about the Internet identifies more general Internet-related health issues as an area of concern. These issues range from ergonomics to the influence of social communities on the social development of teens, along with the risks of excessive time online or gaming, leading to low fitness levels, a distorted view of reality and inappropriate asocial behaviours.

5.8. Summary - What should be taught in schools on the issue of online safety?

1) Status

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70 www.dubestemmer.no
71 http://www.eun.org/

The Eurydice survey indicates that online safety as currently taught across Europe includes the following topics: safe behaviour online, privacy, cyber-bullying, copyright issues, safe use of mobiles, contact with strangers. Financial and commercial concerns are also covered in some lessons. Critical skills are often already taught within media education or media studies. Where online safety is included within ICT, it often focuses more on technical and security aspects rather than behaviour. In some cases the topic is set within the context of health or emotional educational.

2) Challenges

Online safety encompasses a wide range of issues and topics which may fit within different subjects of the school timetable or curriculum. It is important for schools to adopt a joined-up and well-documented approach in order to ensure that important themes are not missed between different subjects and teachers.

Although online safety education needs to address a broader range of issues than meeting online contacts offline, these risks should not be omitted from online safety education since they pose a potential danger to children's and young people's personal safety.

Current approaches to ICT and the Internet within schools often focus more on improving access and ensuring security through technical solutions than teaching students about safe and responsible behaviour and use.

Since children and young people appear to be very adept in the use of ICT and online technologies, it is easy to assume that their level of knowledge and understanding about relevant online safety measures is also high, and that they therefore do not need extra education.

Children and young people can be initiators of inappropriate or even illegal activity towards their peers and teachers. It is important to cover issues relating to pupils being perpetrators of online bullying, defamation or other problems as well as the risks they may face from others.

3) Recommendations

Online safety education should address a broad range of issues and be flexible to incorporate new challenges as they arise. It should incorporate a balance between technical and behavioural knowledge and understanding, ie not just how technology works, but also how it is used.

Education about online safety should encompass various areas of competence, namely to understand and use the media creatively, to protect and manage the way one is presented and perceived online, and to treat others with respect and deal appropriately with harmful content or conduct.

Lessons on safe and responsible use of the Internet should maintain a focus on risks to young people's personal safety, whilst also encompassing a broader range of behavioural, emotional and critical aspects, including (but not limited to) privacy, download and copyright issues, critical skills and financial and health issues.

Issues relating to young people as perpetrators of cyber-bullying should be included in online safety education.

6. When should online safety be included in the school curriculum?

6.1. Pre-school and primary

The Eurydice survey of online safety education across Europe indicates that it is at secondary school level that online safety is most consistently included in the school curriculum within Member States[72]. However, there is a wide consensus of youth, teachers and experts, including in the Safer Internet Forum, for the need to start online safety in schools as early as possible, generally around the age of 4-6 when most children are in full-time formal education and have started to use computers and the Internet.

Internet use among children younger than six is becoming increasingly widespread, with children in the UK as young as two going online, while one in five children aged five to seven is accessing the Internet without supervision[73]. A 2008 Eurobarometer survey shows that 75% of Europe's youngsters and 42% of 6 year olds are online, 52% of 10 year olds have their own mobile phone[74].

In developing ways of reaching very young children with online safety messages it is important to recognise the limitations of children in terms of brain development – since the brain continues to develop until the age of about 24 years children should not simply be addressed as small adults.

6.2. Progression and outcomes

Within the twelve or more years of compulsory education, clear and coherent progression can be built into the educational cycle for online safety as for other subjects. Learning outcomes and milestones should be identified and monitored for different ages and stages.

These learning outcomes can in many cases already be mapped to learning outcomes for related subjects. The online safety issues can also be presented in pedagogical terms and

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72 See Figure 2, Appendix A
73 http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/uk_childrens_ml/
full_report.pdf
74 Eurobarometer 2008:
 http://ec.europa.eu/information_society/activities/sip/surveys/quantitative/index_en.htm#2008

forms with which teachers are familiar and comfortable. This can be helpful in encouraging teachers to incorporate online safety aspects into an already crowded timetable.

The NetSafe initiative in New Zealand has designed a useful grid[75] indicating topics for young people to consider at different ages, along with associated resources.

The youth panel at the Safer Internet Forum 2009 considered that by the age of 11 all children should have been taught all the main messages about privacy, passwords and identity. More specifically, they recommended the following important topics and messages at different ages:

First age group: up to 8 years
- basic information about the Internet and the opportunities it offers
- the risks associated with Internet use and the importance of knowing how to be safe
- how to protect their personal information
- how to use the Internet in an age appropriate way

Second age group: from 9 to 11 years
- further information about privacy, since this is the age when children tend to share everything online
- the importance of not adding strangers to 'friends' lists on MSN or elsewhere
- how to use chat rooms properly

Third age group: over 13 years
- how to use social networks safely and responsibly
- the risks associated with using webcams

6.3. Summary – When should online safety be included in the school curriculum?

1) Status

Internet use among younger children is becoming increasingly widespread, including among pre-school children. The purpose for which children and young people are going online varies for different age groups. In those countries where online safety is in the curriculum, it is most frequently found in secondary schools, although a number of countries do include it also at primary level. Even where it is not formally on the curriculum, content related to the theme of online safety is being delivered in many schools at various stages of a pupil's school career.

2) Challenges

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75 http://www.thegrid.org.nz/

It is important when developing education material for children and young people to recognise brain development issues. Since the brain continues to develop until the age of about 24, there can be no 'one size fits all' approach for different age groups, since children and young people do not yet have the same cognitive and comprehension skills of adults.

3) Recommendations

Online safety should be included in the statutory school curriculum for primary and secondary schools. This should begin from the age of six years and continue throughout a pupil's school career.

As for other school subjects it is necessary to identify appropriate learning outcomes in the areas of online safety at different ages and stages in order to ensure that children's knowledge and understanding develop in parallel with their use of the technology.

7. Where does online safety fit in the school curriculum?

7.1. Cross-curricular approach

Already across Europe where online safety is taught in schools it appears in a range of different subject areas[76]. In primary schools it is more linked to general topics while in secondary school it is included more often within ICT. On average about 10 hours per year are spent on ICT, although this can be difficult to assess when online safety is included in different subjects. The Eurydice survey of online safety within the curriculum shows that in many countries, elements of online safety are included in the list of skills for ICT.

For example in the Flemish community of Belgium, online safety is incorporated within the new ICT curriculum and requires a wide range of competences and attitudes such as: working in a rigorous and careful way; taking care of equipment and software; vigilance about harmful or discriminatory content; being aware of viruses, spam, pop-ups and recognising unusual and unreliable messages. In Spain online safety is covered under the more general key skill requirement called 'information process and digital competence'. Elsewhere, for example in Finland and the United Kingdom, elements of online safety are included within media and communication skills.

In order to incorporate all the behavioural and thematic elements identified as part of online safety (eg safe behaviour online, privacy issues, cyber-bullying, download and copyright issues, safe use of mobile phones, contact with strangers etc[77]) it is important not to view it as an ICT issue only.

At one level online safety is essentially a child protection issue, although there is a balance to be struck with empowerment of children to gain full benefit from the opportunity to acquire information and exercise self-expression. Feedback from most youth panels indicates that they feel that online safety should be seamlessly incorporated into all other subjects on a cross-curricular basis, just as is the case increasingly with ICT, rather than being treated as a separate issue.

In France online safety is taught within "domaine 2" of the B2i[78] (certificate for ICT skills), which is determined by the Ministry of Education and includes responsible and safe use of the media by pupils. This is a broad ICT course which includes aspects of security, safety and responsible online behaviour within the citizenship module. All school leavers have to complete the B2i in order to achieve their school-leaving certificate. It is a cross-disciplinary programme, different versions of which have been developed for nursery, primary, middle

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76 See Figure 3, Appendix A
77 See chapter 5 above
78 http://www.educnet.education.fr/en/training/b2i

and high schools - each of them allows scope for teachers to add additional material according to their specific subject area. The national education system includes a requirement to provide each future citizen with training in the use of information and communication technologies.

7.2. Personal, social and citizenship education

Online safety issues may also be considered within a range of other subjects developing personal, social, health and economic competences, such as citizenship, PSHE (Personal, Social and Health Education) or religious, ethical and philosophical studies. In the Czech Republic, for example, they are included in programmes with a broader scope and the aim of preventing xenophobia and racism. In the Netherlands pupils are taught how to take care of themselves, others and the environment and how to promote and protect their personal safety in different circumstances.

Elements of the topic are present in ICT lessons but also in a broad range of other subject areas dealing with personal, social, health and economic education. An interesting approach is taken in Singapore where baseline ICT standards include a so-called 'cyberwellness' strand, covering critical areas and issues associated with ethical and legal as well as safe and responsible use of ICT. Some countries approach the subject within the context of ethical and moral education. In Latvia, online safety appears within politics and law and another contributor to the Childnet evaluation of teacher training materials[79] noted that it is covered within English language lessons.

7.3. Health-related approach

Several countries incorporate online safety specifically as a health-related topic. For example in Greece, it is delivered within the framework of the Adolescent Health Unit who are conducting a pilot programme with teachers from 20 schools looking specifically at suicide and addiction issues related to the Internet. In his paper 'Online Safety: Issues For New Zealand Primary Schools[80] John Hope notes that children at primary level more often accept programmes promoting positive health attitudes than adolescent secondary school students, as evidenced by many other health oriented programmes such as anti-drug programmes pitched at primary level.

7.4. Flexibility for individual schools and teachers

The increasing autonomy of schools and of individual teachers in many countries gives scope for innovative approaches to including online safety. Generally individual schools are responsible for allocating how many hours will be devoted to the theme and how exactly it will be integrated in or distributed between other subjects. In the majority of the European countries issues related to online safety do appear across the curriculum as part of many other subjects. For example, one trainee teacher in the UK noted that "As an English teacher I

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79 http://childnet-int.org/downloads/exec_sum.pdf
80 www.cs.auckland.ac.nz/~john/NetSafe/Hope.pdf

could work it in to any scheme of work which deals with difficult human issues in literature. Manipulation and deceit are themes that can be found in literature where this topic could work in nicely."[81]

In Germany approximately two-thirds of the curriculum is fixed, allowing considerable scope for individual schools to decide how to use the remaining time. The youth panel at the Safer Internet Forum 2009 suggested that this offers an opportunity to involve pupils, particularly since they are probably more in touch with current and relevant Internet topics than the pedagogical and educational professionals who usually design the curriculum.

In Bulgaria a new scheme provides schools with substitute teachers (in the event of staff absence) who cover lessons by delivering sessions on 'virtual violence' within the framework of a course which has been validated by the University of Sofia and the Bulgarian Ministry of Education. The lessons are delivered during 'free' periods, which means that there is no conflict with other subject areas or additional pressure on time[82].

Even where there is currently no place for the topic within the school curriculum, opportunities exist to include online safety in voluntary subjects or within extra-curricular activities such as after-school clubs. In Slovakia it is taught on the occasion of 'open door' days where the normal curriculum and timetable are suspended to make space for lifestyle issues such as drugs education. This may indicate that there is scope for learning from awareness raising activities on other lifestyle issues, such as drugs education[83].

7.5. *Embedding online safety within a holistic approach*

There are several elements to promoting successful delivery of online safety within schools. Firstly it needs to form part of a comprehensive strategy for online safety within the wider school community such as that represented by the Becta PIES model: policies and practices, infrastructure and technology, education and training, all underpinned by standards and inspection. The European Schoolnet study on online safety policies across Europe also recommended a multi-faceted holistic approach[84].

A similar holistic approach can be seen in the Netherlands, where the policy framework underpinning online safety issues enables schools to adopt appropriate procedures, including filtering. The organisation Kennisnet ICT op School provides guidance and questionnaires so that schools can analyse their filtering requirements. They have also been instrumental in developing a Diploma in Internet Safety for pupils, complemented by acceptable use policies, workshops for teachers and awareness campaigns for students, parents, staff and management.

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81 Online safety: evaluation of Key Stage 3 materials for initial teacher education – http://childnet-int.org/downloads/exec_sum.pdf
82 http://www.safenet.bg/index_en.php
83 For example see principles in http://www.dest.gov.au/NR/rdonlyres/E5C02014-8B22-4DBE-AB6B-FC2F4D76155D/7602/PrincSchoolDrugEd_Brochure.pdf
84 http://insight.eun.org/shared/data/pdf/esafety_paper_final_april_2008.pdf

In New Zealand a comprehensive online safety campaign is run by NetSafe[85], a multi-stakeholder partnership including partners from government, the education sector, law enforcement, industry, parents and caregivers, children and young people and NGOs working on issues such as suicide, rape and eating disorders. Specifically for schools NetSafe has produced a kit which includes three key components:

- An infrastructure of policies, procedures and use agreements
- An effective electronic security system
- A comprehensive cybersafety education programme.

Key to the NetSafe model is the establishment of a comprehensive cybersafety framework first of all, often in the form of an Acceptable Use Policy, then integration of the topic into the school curriculum supported by training for those in specialist roles.

As for other school subjects, a comprehensive approach to online safety education includes the following elements: knowledge, skills, values and attitudes[86]:

- Knowledge will encompass some of the more technical aspects of how computers, mobile phones and the Internet actually work;
- Skills include specific aspects such as how to create strong passwords and protecting personal data;
- Values encompass behaviours and understanding of what is right and wrong in the offline as well as the online world.

Attitudes need to reflect this understanding and requires a balance between developing a positive view of the opportunities offered by online technologies whilst recognising the risks.

7.6.   Summary – Where does online safety fit in the school curriculum?

1) Status

Topics related to online safety currently appear in range of different subject areas. In primary schools it is usually included in the general curriculum, whereas at secondary level it is more often found in ICT as well as other areas such as personal, social and health education or citizenship. There is a trend across Europe towards increasing autonomy in individual schools and for individual teachers, which allows considerable flexibility as to where to include the topic.

2) Challenges

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85 http://www.netsafe.org.nz
86 http://www.unicef.org/teachers/learner/ksav.htm

Online safety should not be perceived as an ICT issue only – schools need to develop and promote an understanding of the topic as cross-curricular and therefore the responsibility of teachers from all subject areas and disciplines.

The increasing autonomy of individual schools and teachers, as well as existing flexibility within some curricula, means that online safety may be covered in a range of different subject areas. A joined-up and co-ordinated approach may therefore be required within individual schools in order to ensure that elements are not missed in the overlap between subjects.

It is important that online safety is not merely 'bolted on' to existing curricula without ensuring that it is embedded within a holistic approach to the use of digital technologies within schools, ie including infrastructure, policy and evaluation.

3) Recommendations

Online safety should be embedded across the curriculum at both primary and secondary level. It should be included in a range of different subject areas rather than isolated within ICT or computer science. The theme should be an over-arching topic which is considered throughout the curriculum.

Schools should develop online safety education within the context of a holistic approach to ICT and Internet use within the classroom, incorporating robust policies, infrastructure and evaluation.

8. How should online safety be taught in schools?

8.1. Innovative methods and interactive participation

Within a holistic context as described above, lessons need to be creative and practical, rather than theoretical. Pupil participation also contributes to ensuring effective learning. Feedback from young people and teachers during Safer Internet Forum 2009 indicates that the most efficient methods include learning by doing, participation and creation. The summary of responses to the Public Consultation on Safer Internet and Online Technologies for Children 2007[87] indicates that:

> "a combination of education and awareness raising measures, working in schools and with a wide range of media, enables children to deal with negative aspects in self-confident and responsible ways. Innovative methods are needed to reflect the real and virtual spaces which children and young people inhabit, using their evolving languages to reach them."

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87 http://ec.europa.eu/information_society/activities/sip/policy/consultations/onlinetech_child/ index_en.htm

Feedback from Safer Internet Centres is generally consistent in recommending an interactive approach to teaching online safety, for example through quizzes, group work and discussion. In Poland a blended learning approach is taken, combining traditional teaching methods with e-learning.

8.2. Flexible and effective learning styles

A variety of approaches to teaching are appropriate in this area and there is no 'one size fits all' solution. Educational approaches and resources should take account of effective learning styles from other subjects, such as those identified in the OECD Programme for International Student Assessment (PISA). It is also necessary to recognise the need to be culturally relevant and adaptable, since a 'best practice' approach working well in one country or region may not be effective elsewhere.

The Youth panel at the Safer Internet Forum 2009 suggested that older pupils (13 plus) could be involved in creating online safety materials for younger children. This increases the learning experience for the older students whilst providing relevant content for those in earlier stages of education.

8.3. Learning through interacting with the media

Games can be a particularly effective way of teaching children and young people about online safety. The European Schoolnet survey of teachers' needs concluded that gaming offers an excellent opportunity to keep pupils' interest and attention while teaching. This view was reflected in the view of the youth panel at the Safer Internet Forum 2009 who highlighted games and films as the most enjoyable and effective ways to approach this topic. However, teachers feel that they need more information about how to use games within a structured pedagogical framework and how to identify suitable games to use within the classroom[88].

Within the new Curriculum for Excellence Learning and Teaching Scotland has developed the Consolarium[89], otherwise known as the Scottish Centre for Games and Learning. This is based on the premise that computer games can help establish communities in which learners develop a sense of ownership and belonging and engage learners with complex worlds that require them to look at the wider facts and issues before they make informed choices.

8.4. Examples of classroom resources

Research on teachers' needs indicates that they need more information on practical ideas for the classroom and for informal activities. There is a wide range of resources available to schools across Europe for teaching online safety, many of which have been produced by national Safer Internet Centres funded under the Safer Internet programmes. These resources

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88 http://games.eun.org/research_results/
89 http://www.ltscotland.org.uk/ictineducation/gamesbasedlearning/aboutgbl/consolarium.asp

are available in various formats, both online and offline. The INSAFE website[90] hosts a compilation of resources for use in education in online safety from across Europe, which are suitable for validation by national governments.

Available resources take different forms, including printed material for different age groups, websites and portals, audio and video clips, face-to-face workshops, theatre and drama, quizzes, games, comics and books. Feedback from youth panels and Safer Internet Centres suggests that the most effective methods are those which are based on examples or scenarios from the 'real' world and those which engage pupils interactively with the material.

There are many examples of good and effective resources across Europe and indeed some materials, such as the German 'Wo ist Klaus' film, have been translated into other languages for use more widely. Other examples include the following:

- The Slovenian Safer Internet Centre has produced an interactive online quiz aimed at 10 to 12 year olds which prompts discussion of children's own experiences.
- A theatre project called Online4ever is being used very successfully in Denmark – this is aimed at 12 to 15 year old pupils and considers topics related to ethics and social networking sites, cell phones, cyber-bullying and online gaming. The drama is presented by child actors of the same age as the audience and some plot lines evolve according to input from the audience, prompting lively discussion of every theme.
- The Safer Internet Centre in Germany is also working with theatre companies who go into schools to present dramas about cyber-bullying and other related topics.
- In France the Vinz and Lou cartoons are suitable for children aged 7 to 12 and address a wide range of different themes in short animated episodes
- The Deutschland Sicher im Netz campaign includes 'Die Internauten'[91] following the adventures of a group of cartoon characters.
- Computer generated animations have been produced by the Norwegian Safer Internet Centre on the topics of strangers, spam, pornography and gambling.
- In Italy online safety weeks are held in schools by the Safer Internet Centre working face to face with pupils and teachers
- The Latvian Safer Internet Centre is planning to create an online safety character specifically designed to appeal to pre-school children who will visit kindergartens and present a play on a simple theme related to the topic.
- The Polish awareness centre has developed a project[92] based on the adventures of cartoon characters called Sieciaki, ie children who know how to use the Web in a safe way. The main task of Sieciaki is to promote information about safe, effective and constructive Internet use. By engaging with the cartoon characters and stories children are encouraged to become Sieciaki themselves.

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90 http://www.saferinternet.org
91 www.internauten.de
92 http://sieciaki.pl/

A number of these examples use humour and in some cases a degree of 'shock factor' – feedback from youth panels indicates that these are effective tools to convey online safety messages.

The Safer Internet Forum youth panel proposed various ideas for resources for different age groups. These included:
- the creation of a desktop character called Mr Blinkie, similar to the Microsoft Office paper clip, who would guide children on every site they visit, giving them advice regarding online safety and tips on better use of the Internet
- role play sessions on issues such as cyber-bullying
- making up songs with a message so that young children can learn about the issues in a memorable and fun way
- using fun games to communicate online safety information.

With the support of Liberty Global[93], INSAFE[94] has produced the "Family e-safety kit" (launched on Safer Internet Day 2008), a toolkit containing stories and activities for 6-12 year olds and a guidebook for parents. This is based on a collection of best practice activities and models from the INSAFE members which are then incorporated into a story. Twenty thousand kits were requested in the past year, mainly in English, French, Dutch and Flemish. An online toolkit has since been published – this contains one-page activities and lesson plans for teachers. The toolkit has been translated into more than ten European languages.

The Council of Europe has published an Internet Literacy Handbook[95] containing factsheets on various Internet issues such as security, bullying, privacy, chat and online searching. Each factsheet describes the issue, gives advice how to deal with it, covers ethical and safety issues, gives ideas for classroom work, outlines best practice and provides links to further information.

From the international arena, the NetSafe initiative in New Zealand offers a range of materials designed for different age groups, including the Netbasics series of animated films and the Hector's World cartoon resources for younger children, developed in partnership with Microsoft, the Ministry of Education and the police. These include lesson plans, flash cards and other visual material, songs and story books.

Hector's World was initially aimed at children aged 4 to 10, but in response to changing patterns of children's use of the Internet, this target group was re-defined as being 2 to 9 years. The learning objectives encompass media literacy, information literacy and digital literacy under the heading of digital citizenship. The key to the success of Hector's World is the creation of characters with whom young children can identify, in the same way as they do with Disney characters.

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93 http://www.lgi.com/europe.html
94 www.saferinternet.org
95 http://www.coe.int/t/dghl/standardsetting/internetliteracy/Source/Lit_handbook_3rd_en.swf

The Hector's World resources are also being used in other countries, including the United Kingdom and Australia. NetSafe also produces a full Digital Citizenship Week programme including a certificate for pupils, awarded on completion of the activities.

The CyberSAFE[96] (Cyber Security Awareness for Everyone) initiative is **Malaysia**'s initiative to educate and enhance the awareness of the general public on the technological and social issues facing Internet users. A wide range of activities and resources is available, such as awareness talks, train the trainer sessions, online awareness days, roadshows, games, newsletters, cartoons and videos, featuring the characters Nic and Pxl[97].

8.5. Need for official validation of resources and teaching methods

The teachers taking part in the Safer Internet Forum felt that although a vast number of resources exists, a serious challenge is to select appropriate resources for teaching about online safety. Concern has been expressed by a number of contributors about the lack of official validation of resources – teachers would be more confident in choosing suitable materials if some kind of validation were available, perhaps from Education Ministries. Teachers also express a need for validation of teacher training courses and validation of experts whom teachers can invite into school to speak about online safety either to their students or to themselves. In Luxembourg a database of targets for safety and security courses is currently being prepared with a view to producing a label to help identify good appropriate resources.

8.6. Summary – How should online safety be taught in schools?

1) Status

A wide range of online and offline resources is available across Europe, many of which have been translated into other languages. Feedback from young people indicates that the most effective resources are those using scenarios from the real world and encourage pupils to participate interactively with the materials and the issues. Games can be particularly useful in engaging children's interest and enabling them to explore issues in a safe and fun environment. In several countries computer equipment is provided for pupils and/or teachers in order to ensure inclusive access and address digital divide issues.

2) Challenges

Although there are plenty of resources available, teachers need more information about practical ideas to use in the classroom and how to use games within a structured pedagogical framework.

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96 http://www.cybersafe.my/video_corp.html
97 http://www.youtube.com/watch?v=8igmjYm1UuY

Given the extensive range of available resources on the topic of online safety, the lack of official validation can make it very difficult for teachers to select quality and age-appropriate materials for their pupils.

3) Recommendations

Online safety education within schools should be embedded within a holistic approach including robust policies, infrastructure and evaluation.

Governments should validate resources for teaching online safety in order to assist teachers in identifying high quality and age-appropriate materials and approaches for their pupils.

Innovative resources and teaching methods, including the pedagogical use of games and peer-to-peer training, should be further developed and employed in order to foster creative, practical and interactive engagement of pupils with the issue of online safety. Such resources and methods may include (but are not limited to) the use of material linking issues and experience in the online and offline world, practical and realistic examples and scenarios, videos and e-learning.

9. Who should deliver online safety lessons in schools?

There has been considerable debate on the question of who is best placed to educate children within schools on the topic of online safety. During the past decade much of the education and awareness work on this issue has been undertaken by NGOs and other external agencies, promoted and funded to a great extent by the Safer Internet programmes of the European Commission, such as the Safer Internet Centres.

9.1. Role of teachers and other education professionals

There is clearly an important role to be played by teachers. The 2009 Eurydice report on online safety in school curricula across Europe notes that the responsibility of teaching the topic in the curriculum is shared in the majority of the European countries between the ICT teacher and other teachers[98]. In Bulgaria, Cyprus, Latvia, Lithuania and Poland only the ICT teacher is responsible for the teaching of that content. In the countries where online safety elements are taught as part of other subjects, teachers (and school heads) are responsible for the methods and content. When online safety is taught as an integrated subject within primary school it is the responsibility of the classroom teacher. In some countries, external experts assist teachers within the framework of projects or working groups.

The general view from relevant research and from questionnaire responses is that just as online safety should not be the sole responsibility of the ICT department, nor should it be left just to computer science or ICT teachers to teach. Rather it is essential to equip all teachers

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98 See Figure 4, Appendix A

with the skills and knowledge necessary to help, guide and protect every child, while ICT specialists have a specific role to play in addressing technical issues as they arise.

Class tutors are particularly significant in this context, since they generally have a holistic, more personal involvement with groups of pupils, although some concern was expressed by one young person that 'they already know too much' and pupils may therefore be reluctant to confide in them. One youth panellist suggested that exchange of teachers between schools may be an effective approach to this issue.

Others within the school community, such as teaching assistants, librarians, governors and managers, also need to understand the issues around online safety. In Poland, for example, school librarians are often responsible for teaching ICT to pupils at a range of different ages and levels.

Eurydice reports that in Europe, the most strongly represented age groups of teachers in primary education are 30-39 years old and 40-49 years old. In the majority of countries teachers in secondary education are older than those in primary education. Some feedback from pupils indicates that they prefer young teachers to deliver online safety training, since they are likely to be familiar with the technology and to have faced some of the same online situations.

However, other feedback from some youth panels indicates that the age of the teacher is not relevant in itself – the important factor is that children want to hear from someone who speaks their (digital) language and is knowledgeable. It was pointed out in the Safer Internet Forum that older teachers have a wealth of professional and pedagogical experience with which they are well equipped to find creative ways of teaching the themes and topics included in online safety.

9.2. Gaps in teachers' confidence and competence

The Mediappro report notes that a significant barrier preventing schools from taking a positive and inclusive attitude towards new media consists in the lack of teachers' competence with the technology. There is often a gap between what teachers know and can do themselves and what they need to teach. Even for teachers who are familiar with computers, the complexity and sophistication of the way they are using technology can vary. In addition, non-specialist teachers may feel undermined or intimidated by what they perceive to be superior knowledge and understanding of online technologies on the part of their pupils.

In its ICT Impact Report (December 2006) European Schoolnet noted that teachers' basic ICT skills had increased dramatically but there is nevertheless a growing gap between high and low e-confident teachers and schools."[99] The research concludes that if teachers are expected

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99 insight.eun.org/shared/data/pdf/impact_study.pdf

to teach safety and set school standards, they need to be provided with the resources to do so (i.e. teaching resources, school-level acceptable use policy, etc.). Currently they are taking risks using their own material or asking non-approved bodies to come into the class to talk about safety.

Teachers also want to have a better understanding of their own legal accountability if Internet-related problems arise in class. Also relevant here is the need for guidance for teachers on how they should use pupil information online and how they should (and should not) interact and communicate with students over the Internet, particularly on social networking sites such as Facebook.

Participants in the teachers' panel at the Safer Internet Forum 2009 noted the following points in relation to teachers' knowledge of the Internet and other digital media:

- It is important that teachers are equipped and enabled to overcome their fear of the technology and not to be intimidated by the skills and confidence some of their pupils may have in using new media
- A fundamental message for teachers is that they do not need to panic when dealing with Internet issues: none of the behaviours or risks is new, but merely emerging in a different context
- Teachers need to understand the implications of their own use of the Internet and should set a good example through their own content and conduct online.

9.3. Importance of teacher training

Provision of continuous professional development (CPD) is crucial in order to ensure that teachers feel up-to-date and are given both the knowledge and the confidence to approach online safety issues with their pupils. The Eurydice report notes that in all European countries, the teachers responsible for online safety issues must have a general teaching qualification and in many cases specific additional training on ICT issues. Feedback from INSAFE and other sources, however, suggests that teachers do not consistently receive this specialist training. If online safety issues are included in the school curriculum, teachers may receive some form of specific training on similar topics but in almost all cases these courses are voluntary.

9.4. Train the Trainer schemes

Train the Trainer schemes and information exchange between teachers are very effective ways to empower and educate teachers. INSAFE has been instrumental in providing training in this area. E-Twinning[100] can also facilitate joint projects as well as provide recommended resources on their sites. They already have a network of 'teacher ambassadors' who could be a useful model for developing a specialist pool for online safety.

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100 http://www.etwinning.net

Other Train the Trainer schemes are in place across Europe, often delivered at least in partnership with the national Safer Internet Centres. For example more than twenty 'Competence Centres' across Portugal have the responsibility of supporting schools in their local region by providing informal training workshop, including on the theme of online safety. The centres train two teachers in each school cluster who in turn train other teachers. The Czech Safer Internet Centre is providing online safety training to public librarians and the Portuguese Safer Internet Centre is training school librarians.

In Germany a national training campaign is scheduled for 2010 to educate multipliers on the issue of safe and responsible use of the Internet. There is funding available to run 120 training sessions over 2 years (reaching about 10 people in each session). In the UK the Child Exploitation and Online Protection Centre (CEOP) operates a cascade model for its training, providing it to individual teachers (and other stakeholders) and then monitoring the extent to which they are involved in passing on their knowledge to colleagues and pupils.

Amongst trainee teachers, face-to-face methods have been identified as most popular and most effective in a recent UK study[101]. However, time pressure is cited as a barrier to taking advantage of such training. For example, the Dutch Safer Internet Centre is soon to launch a Train the Trainer initiative using Web 2.0 as the platform.

Participants in the Youth panel at the Safer Internet Forum 2009 highlighted the role that pupils themselves can play in training teachers about how children and young people use online technologies, and one member of the Teachers' Panel noted that she has a whole classroom of experts available to advise her on this topic.

9.5.   E-learning and online resources

Online resources include the new Internet safety awareness certificate within the European Pedagogical ICT Licence (EPICT). This is a comprehensive in-service training course currently used in at least seven European countries introducing a quality standard for the continued professional development of teachers in the pedagogical integration of information, media and communication technologies (ICT) in education.[102] The Austrian Safer Internet Centre is involved in delivering EPICT training at pedagogical universities as well as developing a network of teacher peer mediators and working directly with pupils in schools.

The European Computer Driving Licence[103] now makes reference to "[identifying] some risks associated with online activity like: unintended disclosure of personal information, bullying or harassment, targeting of users by predators." In the UK an online tertiary level qualification is available - the University Certificate in Child Safety on the Internet is a 14-

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101 http://www.childnet-int.org/downloads/exec_sum.pdf
102 http://www.epict.org/files/EPICTsyllabus.pdf
103 www.ecdl.com

week online course offered by the Cyberspace Research Unit at the University of Central Lancashire[104].

The Polish awareness centre[105] awards certificates to teachers who have used their e-learning resources (lesson plans etc) in classroom, and also to children who completed e-learning course. For the teachers these certificates can be a useful incentive to engage with online safety as a topic. Additionally, schools across Poland can apply for a free "School of Safe Internet" certificate if they fulfil certain criteria, which include offering training about online safety to pupils, staff and parents, and encouraging pupils to participate in activities exploring the topic[106].

In Germany an e-learning platform is also being created in cooperation with the company running the European Computer Driving Licence. All 9 modules of the teachers' handbook will be available on Moodle[107], including an online safety certificate which has been produced as an add-on to the ECDL.

In Ireland a number of pilot modules are being developed for teacher training and running on social networks. In some cases these are being produced in partnership with other organisations such as the Irish Council for Civil Liberties – in this case the module deals with online behaviour, rights and responsibilities.

E-Twinning is developing two new initiatives, a new web-based group on online safety and a learning event (with a course due to run in 2010). There will also be resources which can be downloaded from the E-Twinning portal. E-Twinning aims to double the number of learning events in 2010 – these interactive and practical sessions last 7 to 10 days and can have up to 120 participants.

9.6. *Printed material and other teacher training approaches*

Teacher training courses and material are provided by many organisations across Europe – some examples include:

- a training manual for teachers prepared by the Italian Safer Internet Centre, "Education and New Media"[108], of which 15,000 copies have been distributed. This resource includes a wide range of class activities tested within the classroom. A parallel guide for parents is currently in preparation. This will include contributions from parents, teachers and Save The Children.

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104 http://www.fkbko.co.uk/root/Resources/Introduction.htm

105 http://www.saferinternet.pl

106 http://www.saferinternet.pl/konferencja_en/speakers_2009/magdalena_ciolek_kidprotect.pl_foundation_poland.html

107 A free web application for use by educators to create online learning sites: http://www.moodle.org

108 http://www.easy4.it/wp-content/uploads/2009/11/guidagenitori.pdf

- Know IT All materials for teachers and trainees is produced by Childnet International[109]
- The Webwise project in Ireland offers a practical skills-based course, "Integrating Internet Safety into Teaching and Learning", through the NCTE's Teaching Skills Initiative delivered through regional education centres. The course includes thirteen Internet safety lessons focusing on personal safety issues and the Internet, as well as Internet literacy[110].
- Since 2007 all teacher training courses in the Catalonia region of Spain have included legal notices and questions related to ethical and legal uses of Internet as well as examples of good practice.
- The Safer Internet Centre in Slovakia is working directly with teachers in schools and also uses a fortnightly national teachers' magazine to disseminate information about online safety.
- In Luxembourg workshops have been held for primary school teachers about Twitter, Facebook and Flickr, so that they have enough knowledge to intervene in cases of cyber-bullying. It is planned to translate the website into Portuguese as there is a large Portuguese community in Luxembourg.

Teacher training is also gradually being included in pedagogical institutions and in Continuous Professional Development (CPD) programmes across Europe. For example in France it has been a requirement since 2004 for all teachers from nursery to secondary levels to take an ICT course as part of their initial training and have to obtain the C2i qualification before starting their teaching career. The C2i has been designed to ensure that all teachers acquire the necessary pedagogical competencies both to use the Internet safely and effectively in their own classes and to teach B2i competencies to their pupils. For teachers who started before 2004, ICT training is available on a voluntary basis via autonomous e-learning programs offered on the ministerial e-training platform. Internet security and online safety are not treated as a separate subject area: rather, the idea is to approach ICT within the broader framework of general competencies and to teach it in a contextualized way. For example, questions of privacy and data protection are taught in the context of the use of blogs in teaching creative writing.

9.7. Incentives to participation

The inclusion of online safety within teacher training is still inconsistent and in the case of CPD often only voluntary. Although continuous professional development is considered a duty for teachers in more than twenty countries, there appear to be few incentives for encouraging participation by teachers or penalties for failure to participate. Teachers mention lack of time and the pressure of other demands on them as barriers to taking up such opportunities. As one contributor to this report put it, "teachers have to act as educators, social workers, careers officers etc. What could be done to motivate them to take on a further

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109 http://www.childnet-int.org/kia/
110 http://www.ncte.ie/InternetSafety/

role as some kind of "media literacy trainer"?" Feedback indicates that if online safety were formally in the curriculum teachers may be more likely to accept and adopt the topic and there would be a greater impetus and incentive to develop the skills and knowledge necessary to deliver the subject to their pupils.

The Danish Ministry of Education survey on the implementation and use of ICT in primary schools indicates the ongoing need to focus on teacher qualification development and support. There is an immediate demand among teachers for ICT courses and the study identifies a need for new qualification development models that focus on integrating ICT into individual subjects and are more use-oriented, as well as being based on the teachers' specific needs. One solution suggested by teachers and head teachers is to base qualification development, inspiration and ICT implementation support in existing school structures which already promote the development of subject specific didactic practices, such as subject teams.

This highlights the importance not only of including specific online safety information in teacher training and development, but also embedding this within the broader context of enhancing teachers' skills in integrating new pedagogical approaches into their overall teaching methodology using online technology, applications and platforms.

Incentive schemes such as certificates for individual teachers – ideally linked to career progression – or award schemes for classes or whole schools could be very effective in encouraging more engagement:

- The Portuguese scheme of e-portfolios for children aged 13 years, which enables them to earn points and win prizes donated by industry partners for their schools, will be extended to be available for all teachers by 2010.
- Teachers in Poland can gain certificates from the Safer Internet Centre by submitting an online evaluation form survey stating which lesson plan was used, the number of students involved, the type of school, the date of the lesson, feedback received from pupils, feedback from the teacher and suggestions for improvement of the lesson plan. Through this system nearly 190,000 pupils are reported to have been trained in online safety.

A more punitive approach is taken in the United States where Congress recently made changes to the E-Rate (Universal Service Fund) programme, which helps schools get Internet connections. Schools that receive E-Rate funds are now required to provide online safety education to pupils and funding can be withheld for schools and libraries which fail to do so.[111]

9.8.   Peer education

Peer education can play a significant role in educating young people about online safety. This was highlighted in many of the responses to the INSAFE questionnaire and at national

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111 http://www.pointsmartreport.org/PointSmartReport.pdf

events. Young people at the Safer Internet Forum 2009 also emphasized that peer education and peer support can be effective tools for information and protection, both face to face and in an online context. Older siblings and friends already play an important role in communicating safety messages to younger children.

The UK think-tank Demos underlines this theme in its 2007 report 'Their Space – education for a digital generation':

> "When it comes to technology, young people learn best from one another. Our conversations with children confirmed that the majority had accumulated their repertoire of skills from their family or friends, and only rarely from ICT classes. Children are already exchanging knowledge in this way every day; school leaders should start to recognise that this expertise is at their disposal."[112]

The Mannerheim League for Child Welfare (MLL)[113] started peer student activities in Finland in 1972. Since then the peer support system has developed into a broad national multi-layered network encompassing some ten thousand peer students, 700 peer student instructors and 60 trainers. At the moment there are peer student activities in some 90% of the secondary schools in Finland. There are also mentoring activities in grades 1 to 6 of primary schools and peer tutoring in senior secondary schools.

In exploring how children and young people appropriate new media, Mediappro[114] recommends that schools promote "peer-to-peer" learning since "an "older peer" (in terms of age or experience) often acts as an initiator. He or she is the initiator par excellence, all the more so as young people generally do care about the security of the weaker."

There are a number of other good examples of the use of peer education:
- In the Czech Republic the Safer Internet Centre is developing a scheme of Safer Internet ambassadors in collaboration with its Youth panel.
- Save the Children Romania is developing peer to peer education and using volunteers from the Youth panel to visit schools.
- In Latvia the Safer Internet Centre is planning a campaign for teachers where roles are reversed and their students provide online safety lessons for them.
- Ireland, Finland and Germany are among other countries where peer mentoring schemes are in place.

The Youth Protection Round Table also emphasises the importance of young people being involved in the design and development of materials and resources as well as in their delivery. One such example is in Cyprus where university students are tasked with creating videos on online safety for use by children in schools.

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112 http://www.demos.co.uk/publications/theirspace
113 http://www.mll.fi/in_english/
114 http://www.Mediappro.org

The youth panel at the Safer Internet Forum 2009 also highlighted the effectiveness of pupils creating films and other content for young pupils, their peers and for parents. They also suggested setting up joint classes with pupils from different schools in order to share their personal experience. This would also help teachers to understand the range of problems and possibilities encountered by young people online.

9.9. The role of industry

Industry can also play an important role in developing and delivering online safety resources within schools. Public-private partnerships between schools and commercial companies are a relatively new phenomenon but in many cases have proved to be highly effective. One such initiative which exists in a number of European countries is the TeachToday[115] scheme led by industry which provides information and advice for teachers, head teachers, governors and other members of the school workforce about the positive, responsible and safe and responsible use of new technologies. TeachToday was developed by some of Europe's leading internet, social networking and mobile companies in association with organisations including European Schoolnet, the teaching unions and the UK National Association of Head Teachers.

As well as collating and providing access to a wide range of teaching and learning resources, TeachToday also publishes case studies, some of which are real and some of which are fictitious (but based on actual situations). These highlight some of the issues around bullying of teachers and also how teachers should use new technologies responsibly themselves, for example by exercising caution in uploading photos to social networking sites, not adding pupils as 'friends' and not making too much personal information public on applications such as Twitter.

The need for more case studies was highlighted among the key findings of the 18-month Study of the Impact of Technology in Primary Schools (STEPS)[116] which were presented at a validation workshop held on 25 June 2009: "case studies have been found very valuable in providing interesting insights and it would be useful to do more in the future and make them accessible in a database."

As well as their involvement in the TeachToday initiative, several major industry players are involved in delivering safety education within schools through bilateral partnerships within different countries:

- Microsoft and Orange operate employee volunteer programmes, where one option available to staff is to visit local schools to help teach children about safety on the Internet and mobile phones.
- In the UK Orange has trained 120 staff 'ambassadors' to deliver online safety lessons within secondary schools. Volunteers are able to work towards a BTEC Level 2

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115 http://www.teachtoday.eu/
116 http://insight.eun.org/ww/en/pub/insight/minisites/steps.htm

qualification in 'Communicating effectively to school or community groups'[117]. During 2009 Orange ambassadors have visited 93 schools and reached approximately 7400 pupils. Orange has also produced films and training resources on text bullying and web safety which are being used in 67% of UK secondary schools.

- In Poland the Orange Foundation runs an employee volunteer programme, 'Education with Internet', which offers classes for primary school pupils. During the twelve months up to March 2009 over 600 pupils were reached in this way.
- Microsoft is working in a number of countries across Europe as well as producing printed and web-based resources. For example, in Slovenia they helped to promote a 'Letter to Santa' competition for schools for which the prize was a workshop for pupils on the topic of online safety. Microsoft has also recruited around 35 volunteers from other Slovenian IT companies to work with their own pool of about 40 volunteers.
- The Spanish Safer Internet Centre is working with Orange to deliver online safety education through the use of employee volunteers under the company's corporate social responsibility programme. Protegeles trains the volunteers on issues of safe and responsible Internet use.

Other companies are working locally with Safer Internet Centres or directly with schools on the topic of online safety. In some cases their involvement takes the form of provision of software or equipment, sometimes as prizes in order to motivate pupils – and/or teachers – in their safe and responsible use of ICT.

Feedback from teachers indicates that industry can also play an important role in highlighting future technological developments and helping to identify any implications for safe and responsible use by children and young people.

9.10. Other agencies and individuals

The Eurydice survey[118] indicates that in most countries there is some kind of public/private partnership involved in delivering online safety education within schools, with a high degree of cooperation with Safer Internet Centres funded by the European Commission. They play a crucial role in many countries across Europe, as do NGOs and other experts. As repositories of a great deal of knowledge about online safety issues they are well placed to deliver information to schools and through them to parents. In many Member States the Safer internet Centres are already actively involved in delivering online safety lessons in schools as well as providing online and offline resources. Since the Safer Internet Centres also have the support of and in many cases direct input from the key stakeholders within their national context, such as police, government and child welfare, they also represent a highly trusted source.

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117 http://hsc.edexcel.org.uk/VirtualContent/89598/Custom_Framework.pdf
118 http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/121EN.pdf

Youth panel participants at the Safer Internet Forum 2009 were positive about having input from people other than their teachers. They suggested that the best teachers would be university students who are concerned with the topics and not much older than themselves.

In a number of countries the police are involved in delivering online safety lessons in schools, with varying feedback from young people – some believe that the involvement of police can be too frightening or alarmist while others feel that it is useful to highlight the possible consequences of irresponsible or illegal online behaviour.

Celebrities are sometimes involved in delivering online safety messages to children, either through films, printed materials or (rarely) personal visits to schools. One such example is the involvement of a well-known rally driver with the Nobody's Children Foundation in Poland in the production of their resources for schools. The youth panel at the Safer Internet Forum 2009 endorsed the effectiveness of this approach, particularly when celebrities are able to visit schools and talk to pupils face to face.

Feedback to the INSAFE questionnaire suggests that in a significant number of cases where Safer Internet Centres or other experts are delivering online safety lessons, the teacher is either not present or is there simply to observe. It was pointed out in the Safer Internet Forum that, where possible, the expert lesson should be seen not only as a learning opportunity for the pupils but also for the teacher, who can develop both skills and confidence through being directly involved with the lesson alongside the external contributor.

9.11. Engaging with parents

In this regard it is essential not to forget parents. Parents are an important audience themselves for online safety messages and can be useful channels of those messages to their friends and wider families. However, it was noted in contributions to this report that schools cannot be expected to take on full responsibility for educating parents as well as the pupils in their care.

The teachers' panel at the Safer Internet Forum noted the difficulties in encouraging parents to engage with the topic of online safety, particularly the parents of children who are 'hard-to-reach'. It was suggested that existing events such as parents' evenings could be used to communicate information about safe and responsible use. These can be complemented by printed and online material provided by the school. Involving pupils in reaching their own parents can also be an effective approach.

Several Safer Internet projects work with pupils, teachers and parents to provide and reinforce online safety messages to and through the different target groups:
- In Iceland seminars are held with students aged 13 to 18, parents and teachers – these consist of a short presentation followed by discussion.
- The Safer Internet Centre in Austria is running a 'vaccination' campaign which consists of talking to pupils, teachers and parents on the same day.

- The NCTE project in Ireland is working with the National Parents Council to disseminate online safety information.

The Mediappro report suggests organising training sessions in schools and through parent associations and creating discussion groups where parents can exchange experiences about the use of new media. The challenge is to encourage parents to participate – if specific events on online safety do not attract a significant number of parents, the topic could be introduced within the context of other activities or events, for example meetings for the parents of new pupils.

The role of parents' and parent-teacher associations can be useful in communicating with and co-ordinating parents and they should be informed of and where possible involved in online safety initiatives in schools:

- In Denmark 'parent instructors' are being trained by the Safer Internet Centre in conjunction with the parents' association to pass on safer Internet guidance within their communities.
- In the Netherlands the Cyberouders[119] initiative trains parents on issues of online safety and provides them with resources in order to support and guide other parents at their children's school and within the local community. Parents work closely with others in the Cyberouders network and with the ICT coordinator and other staff at school.
- The Spanish Safer Internet Centre Protegeles has worked extensively with parents in the development and endorsement of the Framework Convention on Collaboration for the Promotion of a Safer Use of Internet by Youngsters. This agreement has been ratified by the main Spanish parent-teacher associations (CEAPA and CONCAPA).

In his research on Internet safety in New Zealand schools John Hope notes that "parental involvement with the school is usually greater with young children than with teenagers. …. This provides an ideal opportunity for parent education programmes about online safety to be effectively delivered to a number of homes."[120]

9.12. Summary – Who should deliver online safety in schools?

1) Status

Where online safety is included in the school curriculum, responsibility for delivering this is currently shared between specialist ICT teachers and other subject or class teachers. Online safety is beginning to be included as a theme in initial teacher training and as a voluntary topic for continuous professional development in some countries as well as incentive schemes for teachers to take part in these courses. There is considerable input from NGOs and other

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119 http://www.cyberouders.nl/
120 http://www.cs.auckland.ac.nz/~john/NetSafe/Hope.pdf

external agencies including Safer Internet Centres, as well as from industry initiatives such as TeachToday. In several countries schemes are in place for peer mentoring and support.

2) Challenges

There is often a skills gap between teachers and pupils as well as between more and less Internet-literate members of the teaching staff. Where online safety is included in subject areas not specifically related to ICT, teachers may feel that they do not have the skills or knowledge to deal with the issues. This is often exacerbated by a lack of confidence among teachers who are not used to teaching a subject about which they feel their pupils have superior knowledge.

Professional training programmes, where they exist, tend to focus exclusively on teaching staff. However, other members of the school community, such as librarians, classroom assistants, headteachers and school boards, also need to have an understanding of online technologies and issues of safe and responsible use.

Acquiring new skills and knowledge in issues of online safety, as well as preparing lessons in a relatively unfamiliar subject, places a considerable burden on teachers, who already have many demands on them in terms of their time and competences.

Although online safety courses are available in many countries as an element of continuous professional training, this is generally optional and voluntary and it can be difficult to motivate teachers to engage with the issue.

There is a widespread lack of understanding among teachers, even those familiar and comfortable with the technology, about legal and ethical issues concerning their own use of applications such as social networking sites and the use of their own equipment in the classroom.

Schools are uniquely placed to reach parents with online safety guidance to complement what their children are learning in school. The expectation on many schools to raise awareness of online safety issues among parents as well as among the immediate school community can be onerous and it can be extremely difficult to persuade parents to participate.

3) Recommendations

Online safety should be included on a compulsory basis in all initial teacher training programmes and as a continuous professional development (CPD) topic. In the meantime, effective incentive schemes should be employed to encourage teachers to attend CPD sessions.

All teachers, regardless of age or subject specialism, should be equipped with the knowledge and skills on an ongoing basis to guide the pupils in their care to go online safely and

responsibly. This knowledge should include basic information about how the Internet works and how young people are using online technologies as well as the opportunities and risks which this creates.

Teachers should also be given clear practical and pedagogical information and guidance as to how to deliver the online safety content.

Teacher training should also cover legal and ethical issues of teachers' own use of online technologies, and how their own online behaviour can impact on their pupils or on the educational community within which they work.

There should be external validation of teacher training resources on the theme of online safety. External agencies and experts should also be validated in order to give schools confidence in selecting and inviting appropriate people to deliver online safety lessons within the classroom.

In order to encourage non-specialist teachers to engage confidently with the theme of online safety, it is important to highlight the fact that in order to keep safe online children and young people need to be aware of a wide range of social and behavioural skills which non-specialists are more than equipped to teach them.

The skills and knowledge of pupils should be harnessed through peer education schemes and within the classroom in order to enhance their learning and understanding and that of their teachers.

Similarly, where external experts come into schools to deliver lessons on online safety, it is desirable for teachers to collaborate proactively with the experts in order to reinforce and enhance their own learning.

10.   How well is online safety being delivered in schools?

Although there is a wide range of initiatives and resources across Europe addressing the need for online safety education in schools, there appears to be a general absence of consistent evaluation of how effective these are. According to Eurydice data about evaluation and inspection across Europe, very few schools had evaluated the effectiveness of their online safety measures, and the Eurydice survey on Internet safety in schools notes that since this topic was generally included in national school curricula very recently (during the last three years in 70% of countries) there are as yet no evaluations of the impact on the pupils' performance and behaviour.

In its report on levels of autonomy and responsibility across Europe[121], Eurydice notes that new types of evaluation have developed over the last 20 years, including school self-

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121 http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/094EN.pdf

evaluation and internal evaluation by the head or by peers. The emphasis in evaluation is tending to shift from processes to outcomes, which is more appropriate in the context of online safety education since the aim is to bring about behavioural change as well as to raise knowledge and understanding.

The Eurobarometer surveys, as reported in the final evaluation of the Safer Internet Plus Programme, appear to indicate that in the 'old' Member States awareness levels rose significantly during the period of the Programme and its predecessors, while this is less true of the new Member States. However, this does not make any assessment of individual awareness initiatives.

10.1. Need for consistent evaluation

Various forms of evaluation are relevant and valid in this context. Statutory assessment and inspection of education systems is in place in many countries and online safety should be included as an element in this process. Internal evaluation by teachers, management and pupils can also be very effective in highlighting areas of good practice and aspects requiring further development or improvement. For example, in Latvia an Internet safety test has been developed for all children in 6th grade – this will serve both as a survey of what children know and a guide to what needs to be improved.

Even when using both types of evaluation it is difficult to assess the long term impact of online safety training in terms of whether or not it actually changes behaviour as opposed to merely imparting knowledge. Further research would be useful in this area.

Any such evaluation should be qualitative as well as quantitative, assessing the impact as well as for instance the number of pupils reached or, in the case of Train the Trainer, teachers and other professionals. For both approaches it is necessary to identify primary and secondary indicators for assessment and evaluation.

Another factor which makes it difficult to evaluate online safety training is the otherwise welcome trend of embedding this topic in all subjects across the curriculum and mapping it to the learning outcomes of the relevant subjects. It can therefore be complex to 'unpick' the online safety element from the subject-specific content being evaluated.

10.2. Summary – How well is online safety being delivered in schools?

1) Status

The Eurydice survey on Internet safety in schools notes that since this topic was generally included in national school curricula very recently (during the last three years in 70% of countries) there are as yet no evaluations of the impact on the pupils' performance and behaviour. In a few countries online safety has recently been included in statutory inspection

schemes and self-evaluation frameworks exist to assist schools in evaluating their own provision.

2) Challenges

Currently the evaluation of online safety teaching in schools is insufficiently widespread and inconsistently implemented. There is a lack of robust indicators by means of which short, medium and long term outcomes can be measured.

The use of quantitative evaluation alone can be misleading at best or meaningless at worst. Although it may give some indication of how many teachers and/or pupils have received online safety training or resources, the extent, quality and impact are not measured.

3) Recommendations

In order to assess how effectively children and young people are being taught about online safety this issue should be included in national school inspection systems as well as peer or self-evaluation.

Further research is required in order to identify longer term indicators for assessing behavioural change as a result of online safety education.

11. Conclusions

One of the young people who gave evidence to the Byron review of online safety made this observation[122]: "Kids don't need protection, we need guidance. If you protect us you are making us weaker... don't fight our battles for us, just give us assistance when we need it." The youth panel at the Safer Internet Forum 2009 concluded that empowering children and young people through online safety education is the best way to promote safe and responsible use of the Internet. This highlights the importance of education for every child and young person in order to empower them to manage their own online experience, supported as appropriate at different ages and stages by tools such as filtering and policy.

Schools have a crucial role to play in reaching the majority of children and young people in society, and the result of consultations and indeed the Safer Internet Forum itself suggest that online safety education should be included in the formal curriculum for all pupils from the age of six, or from the beginning of primary school.

Appropriate learning outcomes and milestones should be identified at different stages to ensure that young people's knowledge and understanding develop in line both with their cognitive ability and with the ways in which they are using technology.

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122 As quoted in the Microsoft publication: Online safety in and outside the classroom

Rather than restricting online safety education within the scope of ICT teaching, the topic should be embedded across the curriculum in a range of different subjects, reflecting the ubiquitous use of the Internet and the breadth of technical and behavioural aspects that need to be covered in order to foster safe and responsible use. Complementary input from pupils themselves as well as external agencies and experts can enhance the content and credibility of lessons and help to develop the knowledge and skills of teachers.

A broad range of approaches and resources is available to support online safety education. These include online and offline resources and are produced by various agencies and organisations, in some cases with input from young people themselves. Teachers highlight that some form of official validation of high quality resources would be very useful in helping teachers to select material appropriate for delivering online safety education to their pupils.

In order to ensure that this approach to online safety education is as inclusive and far-reaching as possible, it is essential that the professionals working with children have sufficient knowledge, skills and understanding to facilitate and deliver the learning. According to John Hope, the Director of Primary Teacher Education at the University of Auckland, "if we wish every child to be Internet safe, then every teacher must be Internet literate. Teachers are at the interface between the child and the machine, it is they who model safe procedures, it is they who do the day to day monitoring and it is they who inspire positive attitudes to safety. Ensuring every teacher is Internet literate must surely be a priority for local and national staff development.[123]" Training in how children and young people use the Internet and the opportunities and risks which this creates should be compulsory for teachers of all subjects, stages and ages.

The inclusion of online safety in the curriculum from an early age and across a range of subjects, taught by teachers who are familiar with the technology and the issues and using a variety of high quality resources, must be underpinned by robust evaluation, in particular of the short, medium and longer term impact.

In this way the consistent, comprehensive and effective teaching of online safety across all Member States can and should be a priority within Europe and particularly for the new Safer Internet Programme as it continues its work to foster safer use of Internet and other new technologies and to promote the development of a safe online environment.[124]

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123 http://www.cs.auckland.ac.nz/~john/NetSafe/Hope.pdf
124 http://ec.europa.eu/information_society/activities/sip/policy/programme/current_prog/index_en.htm

Appendix A: Overview of Internet Safety in national Curricula across Europe

Figure 1: Internet Safety education in the school curriculum (primary and secondary education), 2008/09
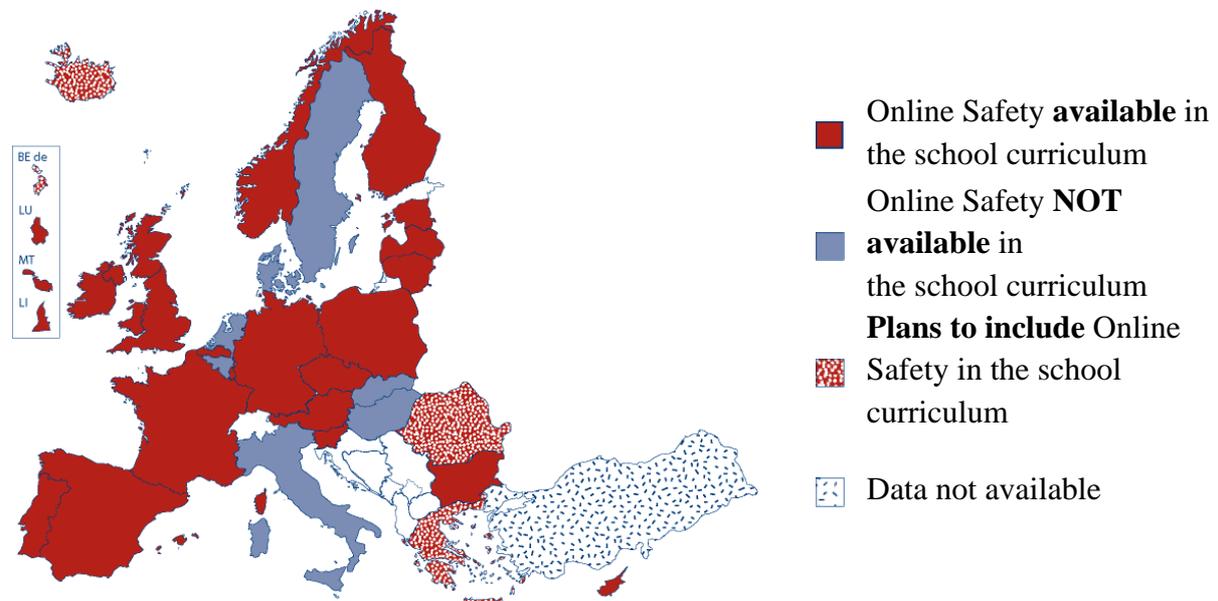

Online Safety **available** in the school curriculum

Online Safety **NOT available** in the school curriculum

Plans to include Online Safety in the school curriculum

Data not available

Figure 2: Online Safety as part of the school curriculum in primary and secondary education), 2008/09

Online Safety included in **Primary Education**

Online Safety included in **Secondary Education**

Online Safety not included

Data not Available
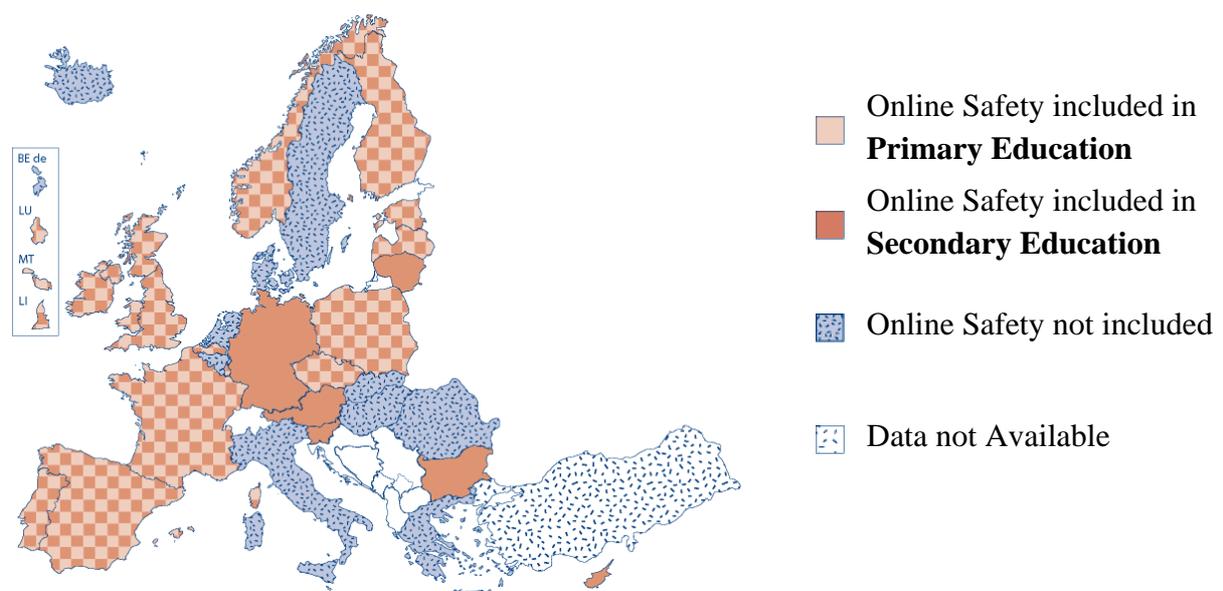
Figure 3: Means by which Online Safety is taught in schools, 2008/09

Online Safety is part of ICT/Technology subjects

Online Safety is mainly part of ICT/Technology subjects, as well as other subjects

Online Safety is an horizontal theme in a wide range of subjects

Online Safety is not included

Data not available
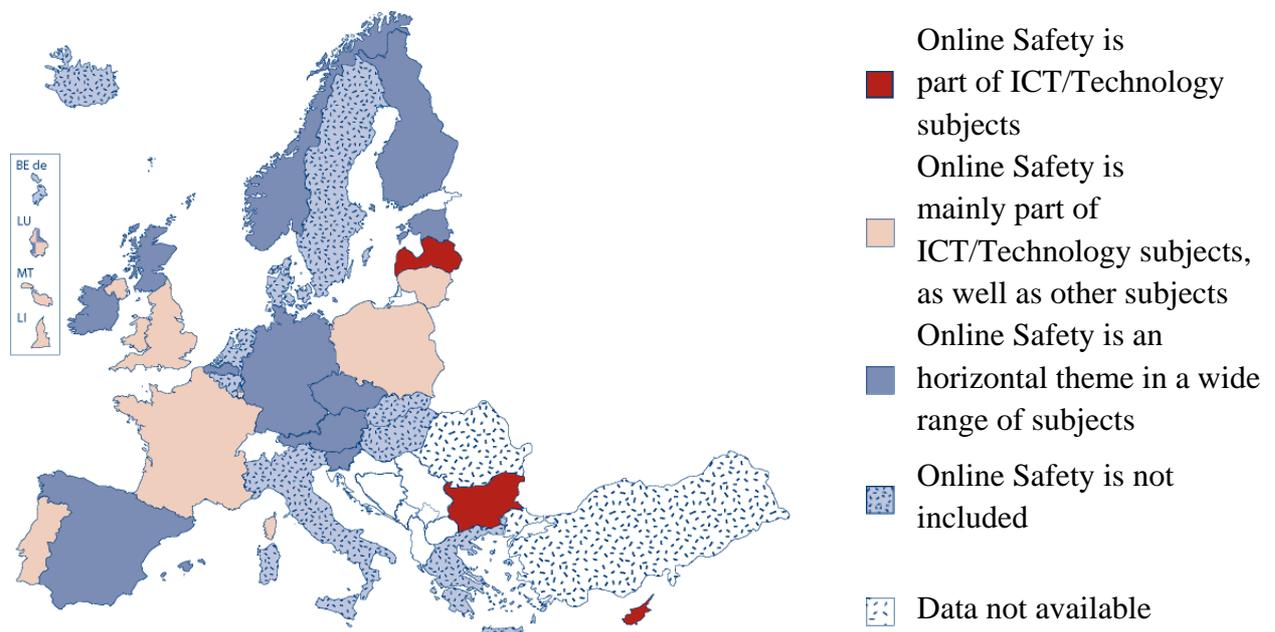
Figure 4: Teachers responsible for Online Safety in schools, 2008/09

ICT Teacher

Different Subjects Teachers

Not included

Data not Available
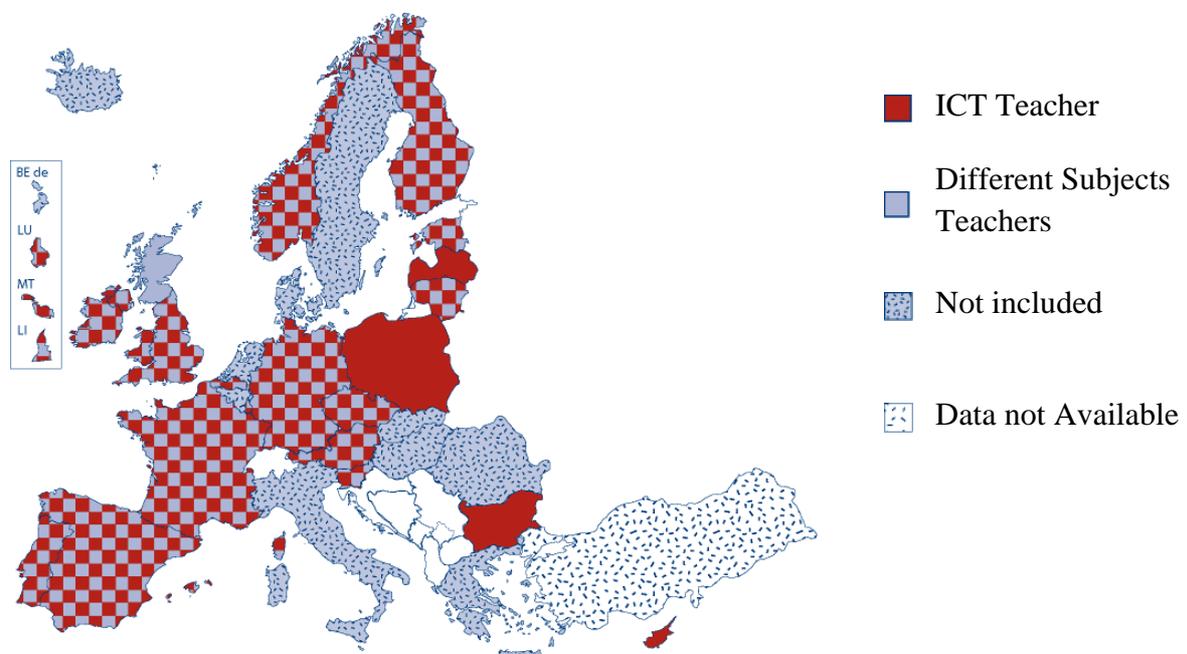
Appendix B: Members of Focus Group

Jorge Borges   Internet Segura
Barbara Buchegger   Saferinternet.at
Trish Church   Orange
Yutta Croll   YPRT
Anne Gillern   Teachers' representative (e-Twinning)
Karl Hopwood   Teachers' representative
Maria Elisa Marzotti   EASY (Italy)
Annie Mullins   Vodafone
Brian O'Neill   EU Kids Online
Kirsten Panton   Microsoft
Stanislav Ranguelov   EACEA (Eurydice)
Gabi Rapp   CASES
Janice Richardson   INSAFE
Eugenio Riviere   DG EAC
Stephan Stengel   Klicksafe.de
François Thill   CASES and Safer Internet Committee
                             member (Luxembourg)

In attendance:
Ruth Harris   External expert
Pia Lang   DG Infso
Evangelia Markidou   DG Infso
Manuela Martra   DG Infso
Richard Swetenham   DG Infso

Appendix C: Bibliography of external expert: Ruth Harris

After gaining a 1st Class Honours degree in Classics and Modern Languages from Somerville College, Oxford, Ruth has worked extensively in the field of Internet safety and policy. She was responsible for managing and developing the Internet Watch Foundation hotline from its launch in 1996 and was elected inaugural president of the INHOPE Association from 1999 to 2001.

Ruth has extensive and recognised international experience in the area of Internet policy and education within a wide range of sectors. Examples include chairing the UK Internet Crime Forum's 'Chatwise Streetwise' sub-group and preparing the report for publication in 2001; developing and delivering courses on Internet crimes and investigations for the UK National Specialist Law Enforcement Centre; membership of the Home Secretary's Task Force for the Protection of Children on the Internet and its various sub-groups, including Public Awareness, Industry Standards and Child Safety; and presenting regular seminars on children and Internet for social work and education professionals.

Ruth has been involved with the Safer Internet Action Plan since its inception in 1999 as a project partner and co-ordinator (IWF and INHOPE) and as an evaluator, reviewer and rapporteur for a wide range of proposals and projects in the hotline and awareness action lines. She was a member of the expert Panel for the mid-term review of the 1999-2002 Programme and Chairman of the expert Panel for the final evaluation of the Safer Internet Plus Programme (2005-2008).

Ruth is co-founder and director of E-ngage Development, which delivers interactive online events connecting children and young people via the Internet with professional agencies to explore citizenship and safety issues through the medium of online role-play scenarios. E-ngage was awarded the Global Junior Challenge Prize 2007 in the category for Youth Education Projects and was shortlisted for the Stockholm Challenge in 2008 in the education category.