

Internet Safety: Issues For New Zealand Primary Schools

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Abstract

Internet safety has not been well addressed in many New Zealand primary schools. Nor is it a simple matter to obtain information about this internet safety in primary schools. This paper outlines statistics with relevance to the problem, identifies issues that contribute to the problem and suggests possible solutions.

Introduction

The New Zealand primary school sector embraces the first eight years of compulsory schooling, educating students from age five to age 12, with the last two years often being completed at an intermediate school. Large, urban primary schools such as those familiar to citizens of Auckland are an exception to the rule in New Zealand, the average primary school is found in a rural or small town setting and has less than 200 children and seven teachers (Ministry of Education, 2000a). The discussion that follows must be conceived within this school demographic framework.

Participants at this symposium will have heard other speakers outline the nature and extent of the issue of internet safety in schools, so it will be assumed that the scale and seriousness of the issue is known. The majority of New Zealand research about internet safety has been conducted with adolescents in secondary schools, for example Girls on the Net Survey (Internet Safety Group, 2000) and the Bullen and Harre (2000) research examining the implications of the internet for adolescents. What may not have been noticed is that some of these surveys cover students from age ten, hence the research results include three years of primary education. Although no New Zealand research has been cited, some teachers have found anecdotal evidence of deliberate and sometimes sophisticated attempts to use the internet in an unsafe manner, both at home and at school, by students as young as seven. It is my belief that internet safety is just as much an issues for primary schools as for secondary schools, and further, that the opportunities to develop a student/parent/caregiver mindset towards safe internet practice are greater in primary than secondary schools.

Major issues in technology are not new. The table below illustrates the eternal nature of the problem.

Parents and New Technology: The Last 110 Years	
Year	Parental Question
1890s	How can I afford a telephone at home?
1900s	Why do my children know more about automobiles than I do?
1910s	Should I take my children to the moving pictures?
1920s	Why do my children know more about radio than I do?
1930s	Are radio programs too violent?
1940s	Are comic books a bad influence on my kids?
1950s	What are my children learning from rock and roll?
1960s	Is TV good for my child or not?
1970s	Are TV programs too violent?
1980s	Is my child playing too many video games?
1990s	Is being online safe and beneficial for my child?
2000s	Why can't I understand my child's cellphone text messages?

Adapted from Magid (1997)

Internet safety is as much a major issue for all parents/caregivers and teachers in the 2000s as it was in the 1990s, its just that cellphones have made it easier for children to transmit undesirable information in unintelligible ways.

The objective of this symposium is awareness of internet safety issues between sectors. Hence this paper is not a critical appraisal of the academic literature, the approach taken is to review the status of ICT in New Zealand primary schools, and highlight issues in regard to internet safety by checking documentation readily available to schools on official “safe” sites, supported by informal comments from principals and primary teachers with responsibility for ICT in their schools.

Current Status of Information and Communication Technology (ICT) in New Zealand Primary Schools

Two major ICT surveys of New Zealand schools were completed in 2001, together providing the most up to date and comprehensive snapshot of ICT in New Zealand schools that has ever been available. The Education Review Office commissioned a survey of a representative sample of 355 (13%) of New Zealand schools while conducting accountability reviews of those schools between July 2000 and April 2001. Not surprisingly, this strategy provided a 100% response rate (ERO, 2001). A second report was commissioned by a trust group, The Learning Centre Trust, with sponsorship from the Ministry of Education, Ministry of Maori Development and private organisations (The Learning Centre Trust, 2001). Their survey of a representative sample of 600 New Zealand schools in July 2001, obtained a 66% response rate. Given their congruency in time, data from both reports has been combined in the list that follows to provide the reader with a more coherent perspective of ICT in New Zealand primary schools in the year 2001. Response rate bias in the Learning Centre Trust report and use of opinion in the ERO report suggest that some findings should be interpreted with caution.

Key points from both reports that are pertinent to this discussion include:

- Excluding computers used for administration, there is a ratio of one computer for every twelve primary students. With administrative computers included there is a ratio of one computer for every 10 students;
- 90% of primary schools have at least one computer in every classroom;
- 98% of primary schools have access to the internet (Note: the remaining schools are likely to have chosen not to have internet access for philosophical or religious reasons);
- 82% of primary **and** secondary schools are taking steps to address safety on the internet with small schools and primary schools less likely to be addressing this issue than secondary schools;
- Schools are likely to have been assisted in addressing internet safety by the Internet Safety Group;
- Student use of the internet is rising more quickly in primary schools than in secondary schools;
- 74% of primary schools are fully or partially networked, but only 18% have 80% or more of their classrooms connected to the internet through a network;
- Consequently, although nearly all primary schools are connected to the internet, usage by staff is lower than might be expected (64% of schools report 25%+ staff usage of the internet on a weekly basis) and even lower by students (45% of schools report 25%+ student usage of the internet on a weekly basis);
- 78% of primary schools use the official government website Te Kete Ipurangi (TKI) at least once a week ([URL:www.tki.org.nz](http://www.tki.org.nz));
- 71% of primary principals have attended a specialised ICT workshop in the last three years;
- 53% of primary principals consult the World wide web at least daily and 81% use the internet for email at least daily;
- 58% of primary schools have 50%+ teachers attend ICT related professional development in the last 12 months, and 34% had 100% attendance;
- Principal's estimates of primary teacher adoption of ICT into the teaching and learning process on a six point scale were awareness level 1%, learning the process 9%, understanding and application of the process 18%, familiarity and confidence 41%, adaptation to other contexts 20%, creative application to new contexts 10%;
- Most primary schools had a strategic ICT plan (81%), ICT policy (74%) ICT specific professional development policy (66%);
- Half of New Zealand households have computers in the home yet only 14% of primary **and** secondary schools had any policy or procedures to link home and school based learning, and only 28% of all schools had policies or procedures to provide school access for students who did not have computers at home, in other words, help bridge the digital divide;
- Technical support in primary schools is provided by warranty 65%, technician employed by school 39%, external support contract 24%, staff member with time allowance less than 10 hours per week 24%, parent volunteers 22% (some schools use multiple strategies);
- Primary school ICT expenditure is devoted to hardware 56%, internet and telephone charges 9%, technical support and maintenance 9%, consumables 8%, teacher professional development 8%, software 6%, teacher release time 4%;
- Perceived barriers to ICT use by primary **and** secondary schools are finance 65%, technical expertise 48%, teacher skill and confidence 36%, insufficient professional development 23%, level of student skill and confidence 10%, lack of leadership 7%.

With internet use increasing at such a rapid rate in primary schools, there must be concern that 18% of all schools have still not addressed the issue of internet safety, and that the proportion of primary schools may be much greater. There must also be concern that we do not yet know the manner in which internet safety has been addressed, how far it has progressed, or the effectiveness of any procedures that have been implemented. What has led to this situation? The remainder of this paper will address a number of issues that may be helpful in defining the problem and identifying ways forward. These include official requirements, awareness, sources of assistance, staff development, pre-service teacher education, time, technical knowledge, financial implications and home/school issues.

Official Requirements for Internet Safety in Schools

ICT's rapid development within society was officially recognised for the first time in 1993 by inclusion within the New Zealand Curriculum Framework and all seven compulsory curriculum statements of the broad aim that; "Students will become competent in using new information and communication technologies..." (Ministry of Education, 1993, p.18).

The Technology curriculum (MOE, 1995), which could have been expected to contain a strong ICT component, has a process focus on technological practice. Within this curriculum, ICT is one of seven areas in which children are expected to carry out technological activities. Only four explanatory lines are devoted exclusively to the ICT area, and the focus is on systems. Teachers are required to cover between four and six technological areas every two to three years, one implication of this being that it is theoretically possible in a poorly managed school that the ICT area may not be taught regularly at all. Nowhere in the curriculum is there any statement of the ICT knowledge and skills that should be taught, there are no achievement objectives addressing ICT directly, and only two of the 45 suggested learning and assessment examples provided have an ICT focus (computers at level 5-6 for 15 and 16 year olds, developments in ICT for 17 year olds). Neither of these is appropriate for primary age children where ICT use is now increasingly common. Internet safety is not mentioned anywhere. The integrative framework within which the curriculum is written does imply that an ICT component could be developed within many of the activities suggested, but the absence of any compulsory ICT achievement objectives suggests that learning in this area is not important.

The statements above should not be interpreted as a criticism of the Technology curriculum per se. It is designed for a different purpose and has merit in its own right.

Beyond the compulsory curriculum there are other statements with relevance to this discussion. There is an implied requirement to ensure that children are protected from unsafe internet influences within the compulsory National Education Guidelines for schools. NAG 5 requires each Board of Trustees to,

- "i provide a safe physical and emotional environment for students
- ii comply with any legislation currently in force or that may be developed to ensure the safety of students and employees." (MOE, 2000b, p.2)

It would not be surprising if some board members did not immediately realise that internet safety might be included within this broad requirement.

The Education Review Office (ERO) is more explicit in its requirements for school inspections. Under the category safety, schools are required to promote a healthy and safe environment as in the Ministry of Education documentation. But ERO goes further. Under the ICT rubric the Board of Trustees will be expected to have health and safety policies and procedures for the use of computers and the internet (ERO, 1998). These statements apply to a regime now deceased, a new system of review involving more school self review being implemented as we speak, and as yet undocumented on their website. However anecdotal comment from a school about to be visited suggests that this requirement will become more stringently applied as suggested within the Internet Safety Group documentation.

There may be requirements in regard to internet safety in other Ministry of Education (MOE) documents, or in other legislation, the point being that apart from ERO requirements, the readily available documentation about teaching and administration is unspecific about this important safety issue. It is my opinion that specific requirements should not be left to ERO and triennial visits, they should be specific, official, Ministry of Education requirements, including compulsory teaching requirements.

Awareness of Internet Safety

In the absence of any official requirement in regard to internet safety, the issue of making schools aware of the potential problems becomes important. The ERO survey described above identified the Internet Safety Group's safety kit as the main source of assistance in regard to internet safety in schools. Comments from principals and ICT teachers verify that apart from some who have looked at websites devoted to this issue, the internet safety kit has been most useful in heightening awareness of internet safety. While the work of the Internet Safety Group is admirable it is unfortunate that it is left to a voluntary group to generate awareness in regard to an important issue loosely implied by a statement requiring schools to provide a safe physical and emotional environment. It seems clear that the present reasonable level of awareness demonstrated by the 82% of schools who are taking steps to address the issue is largely dependent on their work.

Sources of Assistance

In examining sources of assistance the author placed himself in the position of a new principal or Board of Trustee member who was aware that internet safety was an issue and who wanted to know more. Existing school resources were checked first followed by readily accessible internet sources. Two major documents have been issued to all schools, the useful Internet Safety Kit already mentioned, and a large folder titled Learning Technology Planning Guide for Schools (Ministry of Education, 1999a). Prepared by the Australian state of Victoria Education Department and the New Zealand Ministry of Education, this comprehensive document is written to advise principals and boards how to identify and address major issues relevant to the use of ICT in schools. Its index does not contain any reference to internet safety, the reference to safety being a discussion of security. However perusal of the internet chapter of the document revealed a two page section covering internet safety under the section heading Managing Internet Use in Schools. Developing an internet code of practice, limiting access to unsuitable materials and school publishing on the internet are covered in very general terms but there are no references to further information leaving the reader more informed by the Internet Safety Group document than this publication. Its status is that of a

guide. As such it is not compulsory, stating that, “ every school should address these (internet safety) issues”(MOE, 1999, p.5-31), rather than schools must.

A final document, the recently released draft Information and Communication Technology (ICT) Strategy for Schools 2002-2004 (Ministry of Education, 2001), contains no references to internet safety other than a reference to an existing project called the Safe Schools initiative where a package of guidelines, standards and training materials for boards of Trustees, principals and teachers will be delivered. This initiative could well include internet safety material but information could not be found in the schools contacted.

Perusal of the Ministry of Education website, <http://www.minedu.govt.nz>, was even less helpful. A search under “internet safety” produced no hits. The single most useful aspect of the Ministry site in regard to the matter under question is a link to the TKI website, <http://www.tki.co.nz> where a similar search provided eighteen hits. These covered a wide variety of national and international sites, from the FBI Internet Safety Advice to Parents site, to the University of Otago on-line safety in New Zealand schools site. A great deal of extremely useful information relevant to schools can be found here, but a good few hours are required to evaluate and download suitable material.

In summary, most of the information about internet safety that a school might want is available with persistent searching, but it takes many hours to find and synthesise relevant information, together with knowledge about where and how to look that might not be available to a Board of Trustee member.

Staff Development

In common with many other developed countries New Zealand primary school teachers form a mature, predominantly female workforce with an average age in the mid forties (Ministry of Education, 1999b). Most of these teachers completed their pre-service education 20 years before the key information and communication technology machine, the computer, began to appear in classrooms; their ICT training being limited to untangling and re-threading yards of uncontrollable celluloid in order to win a licence to run a 16mm movie projector.

Computers are now found in almost every New Zealand classroom yet most teachers have not had any pre-service training in their educational use. This is reflected in teachers’ perceived need for in-service teacher education. A study across three local authority districts by the statutory school inspection agency, the Education Review Office (ERO) found that the top teacher priority for in-service education was ICT at 59% of responses, the next highest being English at 36% of responses (ERO, 2000).

The Ministry of Education has given high priority to ICT staff development during the last three years and intends to continue a similar emphasis over the next three year period. Encouraging statistics such as the 71% of primary principals who attended an ICT workshop in the last three years and 34% of primary schools where all teachers had attended ICT professional development in the last year are testament to the results of this policy.

The positive statements above are based on the presumption that the principal workshops and staff development programmes currently available include internet safety. While there can never be guarantees, these issues are expected to be covered in Ministry of Education

programmes, the 82% of primary schools already addressing internet safety issues being confirmation of either use of official staff development programmes, internet searching or the safety kitset. Of more concern are the low rates of ICT competence and confidence identified by principals in 28% of their teachers. The low connection rate of primary classroom computers to the internet identified above may be a blessing in disguise given that one quarter of the primary teacher workforce is still coming to grips with ICT, and therefore most likely to lack knowledge about internet safety.

Pre-service Teacher Education

Pre-service teacher education is a relevant issue for primary schools as most schools employ one or more beginning teachers each year, often with the expectation that they will bring to the school the latest and greatest in any new area, ICT in particular. The official requirements for New Zealand teacher education institutions are found in the soon to be retired Teacher Registration Board regulations. These requirements are very general, with a focus on inputs of staffing, accommodation and the like, and an expectation that graduating students meet the general character and knowledge requirements for teacher registration under the rubric fitness to be a teacher. No curriculum is specified, and of course internet safety is not mentioned. Thus it is up to the initiative of each institution to decide what they will teach, leaving the possibility that internet safety may not be taught at all. It is my understanding that internet safety is taught in most pre-service institutions, but without specific graduation standards, schools will not necessarily be employing a new teacher who knows how to incorporate internet safety into their practice and who appreciates the gravity of the issue. This omission should be remedied.

Time to Address Internet Safety

Unlike secondary schools where subject specialists can concentrate on one or two curriculum areas, teachers at most New Zealand primary schools are generalists. They teach every subject, often by integrating a literacy and numeracy emphasis around Science, Social Studies and Health content. A few large primary schools have one or two dedicated, or partially dedicated subject specialist teachers and many intermediate schools (years 7 and 8) have some dedicated subject specialist teachers, one of whom may be an ICT specialist. But for the large majority of New Zealand primary schools, every teacher is responsible for ICT, often led by a teacher who has responsibility for ICT across the school in addition to their regular classroom teaching duties. This is a strength when implementing a policy of integrating ICT across the curriculum, but a weakness in that primary teachers can become familiar with all curriculum areas, but master of none, often with ICT at the lowest level of mastery.

When a teacher must teach for five hours of the day, plus do playground or sports duty, attend staff meetings and staff development programmes, and do all their assessment and lesson preparation for all curriculum areas in the other three hours, a curriculum specialisation often becomes a lower priority task to be completed in the evenings or weekends. In many schools staff development programmes now occur in what used to be called holidays, with the ICT leader often having a role in staff development programmes where ICT is integrated across all curriculum areas. ICT enthusiasts also provide a great deal of assistance to other teachers in their own time, and do this willingly, but spending extra time searching for information can be a chore. Professional technical support is often limited by cost so deciding on strategies to

implement internet safety policies, such as deciding which filter to use, are not straightforward. Even when set up, monitoring filters is very time consuming in the circumstances outlined above. Particularly in small schools with few staff to spread the load, the multitude of tasks often given to teachers with responsibility for ICT, from planning staff development programmes to technical implementation issues, creates a situation where lack of time to devote to the responsibility is a major issue.

Technical Knowledge

Technical expertise is the second highest rated barrier to implementation of ICT in schools, and the third highest expenditure category. Machill (2000) lists media competence, codes of conduct, technical controls and sanctions for misuse as components in the quest for internet safety. Technical controls have immediate appeal, but the literature is laced with warnings about the inadequacy of these controls, and even some primary students are known to see a filter as a challenge to surmount rather than a safety device to respect. A good summary of the strengths and weaknesses of filters locally available has been compiled by Fletcher and Hovell (2001). While a teacher with responsibility for ICT may well relish a debate about the need to protect children from unsafe internet exposure versus the importance of freedom of information, the technical issues involved with filters can be massive. Part-time primary teacher ICT leaders often do not have the technical expertise to evaluate the plethora of systems that are available, let alone install and manage the selected system. Expert advice is desirable but expensive, particularly when long term management expertise is required.

Financial Implications of Internet Safety

Provision of an adequate ICT budget is a major concern for New Zealand primary schools who, until recently, were expected to fund all capital and professional ICT expenditure from within an operating budget unchanged from the period before ICT arrived in schools. A regular grant is now provided to cover some operating costs, but it is insufficient to cover all capital expenditure, capital items typically consuming 56% of available funds. Inadequate finance is rated the number one barrier to implementation of ICT in schools. In financially strained circumstances such as this, extra costs for internet safety become an issue. Even a cost as small as \$40 per month for a filter such as Watchdog is subject to intense lobbying when a classroom teacher has a computer but no printer. The same financial constraints limit the amount that can be paid for expensive technical support that currently consumes 9% of the budget, and often this specialised support is highly desirable when technical safety controls are considered. Faced with a choice between network extension and implementation of net security, it is likely that some schools will opt for extension of the network first.

Home and School Issues

With 50% of New Zealand households owning a computer but only 14% of primary and secondary schools having specific policies to link home and school learning, the interface between home and school is sometimes less developed than might be desirable. Nowhere is the potential for harm to the child greater than in the area of internet safety. Even when schools have adequate policy and procedures in place, the Internet Safety Group's study Girls

on the Internet (2000) indicates that 96% of girls use the internet at home, and that 75% of that usage is seldom or never monitored. Some of those students will be of primary school age. Students can obtain material from home computers such as unsafe knowledge and easily share it with other students verbally, objectionable URLs can be passed to others, and even printouts passed about, with little likelihood of a teacher being aware of the problem.

Most research has focussed on adolescent behaviour, yet many primary teachers can quote examples of unsafe behaviour being detected in primary schools. The impossibility of adequately policing circulation of unsafe home produced material suggests that the amount of unsafe material detected is likely to be the tip of the iceberg. Education about internet security is unlikely to occur for parents and caregivers in many homes unless the school takes a proactive role, yet the statistics suggest that this may not be happening in many schools. Lack of awareness of the need, time and financial constraints could all play a part in this omission, but the issue is a large one that needs addressing in all schools.

Conclusion

The discussion above has highlighted issues in regard to official requirements, awareness, sources of assistance, staff development, pre-service teacher education, time, technical knowledge, financial implications and home/school issues, that all limit primary schools in their quest to provide internet safety for their students. The net result is that even though 82% of all schools have taken steps to address safety on the internet, small schools, and primary schools are less likely to have done so. This single statistic is alarming as it suggests that large numbers of children could be at risk. Even when steps are being taken to address internet safety, this may only be policy writing with the implication that development, implementation and staff training in appropriate procedures may still be some way off.

Children at primary level more often accept programmes promoting positive health attitudes than adolescent secondary students, that is why many other health oriented programmes such as anti-drug programmes begin at primary level. The same rationale should apply to internet safety, positive attitudes developed at primary level will greatly assist efforts at secondary level. Similarly, parental control is usually greater for young children than teenagers. Parents of young children attend school more often and want to know more about education until they develop confidence in the school's ability to educate their children well. This provides an ideal opportunity for parent education programmes about internet safety to be effectively delivered to a greater number of homes.

Many unsubstantiated generalisations have been stated in the preceding paragraph. In the absence of objective research evidence they have been generated anecdotally from the observations of a small group of experienced teachers. There is an urgent need for formal research at primary school level to determine the nature and extent of internet abuse by primary students both in homes and at school, how to prevent that abuse, and how to educate parents and teachers in their role. Effective education about, and implementation of procedures to ensure internet safety should be a clearly specified Ministry of Education requirement in every school, as it should be a requirement for pre-service teacher education. If schools had as much financial and technical assistance for internet security as they have had for installing networks, the Girls on the Net research may well have read differently. It would be wonderful if the single biggest parental concern about technology in 2002 was how to read

a cellphone text message from their child rather than whether their child was adequately protected from internet predators.

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