

NCTE 2005 Census on ICT Infrastructure in Schools

Statistical Report

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EXECUTIVE SUMMARY

This report details the findings of the 2005 National Centre for Technology in Education (NCTE) census on ICT infrastructure in schools. The 2005 census is the fourth in a series that began in 1998. It took place at a time when schools were availing of grants from the Department of Education and Science (DES) for the development of computer networks. Some schools had completed networking at the time of the census, while others were in the process of doing so, or were awaiting the completion of building programmes before commencing. The census reflects the situation with regard to ICT infrastructure in schools in May/June 2005.

Ninety percent of primary schools, 81% of post-primary schools and 82% of special schools returned valid census forms in 2005. The pupil-computer ratio in 2005 was 9.1 in primary schools, 7.0 in post-primary schools, and 3.1 in special schools. These ratios are lower than in 2002, when they were 11.3, 7.4 and 3.8 respectively. In 2005, the ratio was better in disadvantaged¹ than in non-disadvantaged schools at primary (7.4 vs. 9.4) and post-primary (6.1 vs. 7.4) levels, and better in vocational schools (5.0) than in community (6.2), comprehensive (7.8) or secondary (9.1) schools. About three-tenths of computers in primary schools, and one-fifth in post-primary and special schools were more than 6 years old, with disadvantaged schools at primary and post-primary levels having greater proportions of older computers than non-disadvantaged schools.

Expenditure on ICTs in 2005 in excess of DES grants was estimated to average €2,129 for primary schools, €11,583 for post-primary schools, and €5,679 for special schools. Of this amount, about one-third at each level was spent on technical support. Fee-paying secondary schools reported spending an average of €22,461 on ICTs, while non-fee-paying secondary schools reported spending an average of €10,557. Both primary and special schools relied on fundraising activities to a greater extent than post-primary schools to support spending on ICTs. Commercial sponsorship accounted for 6% of funding in primary schools, 7% in special schools, and 4% in post-primary schools.

In 2005, 44% of computers in primary schools, and 56% in special schools were located in general classrooms. In post-primary schools, just 4% were located in general classrooms. In contrast, while 58% of computers in post-primary schools were located in

¹ Disadvantaged schools are schools in the Department of Education and Science's Disadvantaged Areas Schools Scheme.

computer rooms, just 27% in primary schools and 15% in special schools were located in such rooms. In primary schools, the average number of computers per classroom in 2005 was 1.3. There were no computers in 8.5% of classrooms.

In 2005, 45% of computers in primary schools, 80% in post-primary schools, and 35% in special schools were networked, while 46% of computers in primary schools, 79% in post-primary schools, and 40% in special schools had Internet access. Between 2002 and 2005, the proportions of networked computers, and the proportions of computers with Internet access, increased in all three sectors. Nevertheless, in 2005, 39% of primary schools, 4% of post-primary schools, and 53% of special schools did not have a network installed. Almost one-half of small primary schools, but only 15% of large primary schools, did not have a network.

In 2005, three-quarters of primary schools, 86% of post-primary schools and 71% of special schools had a designated ICT co-ordinating teacher. In the same year, 79% of primary schools, 56% of post-primary schools and 78% of special schools reported having a School ICT plan. However, among these, just 49% of primary schools, 58% of post-primary schools, and 61% of special schools reported that they updated their plan at least annually. Nevertheless, the proportions of primary and special schools with ICT plans and the proportions of schools in all three sectors that updated their plans annually were higher in 2005 than in 2002.

In 2005, schools attached a high priority to replacing older equipment, acquiring additional computers, and accessing technical support and maintenance. For example, 85% of primary schools, 89% of post-primary schools, and 73% of special schools indicated that accessing technical support and maintenance was either a 'very high' or a 'high' priority. Areas that were prioritised to a lesser degree included accessing advice and guidelines on the purchase of hardware and software, standardising operating system software across the school, and providing online content to students and staff. Whereas in 2002, just 47% of primary schools indicated that developing a school computer network was a priority, 82% did so in 2005.

Thirty-two percent of primary schools, 53% of post-primary schools, and 63% of special schools reported facilitating ICT professional development for staff in the two years preceding the 2005 census. Large primary schools were more likely to have facilitated professional development than medium or small primary schools, while community,

comprehensive and vocational schools were more likely to have done so than secondary schools. Where it was facilitated, professional development typically took the form of whole staff training by an external provider, or a teacher in the school with the relevant skills.

Eight percent of primary schools, 24% of post-primary schools and 17% of special schools had a service contract with an IT contractor in 2005, while 68% of primary schools, 55% of post-primary schools and 44% of special schools used the services of a contractor, but without a fixed contract. Among schools with a fixed contract (usually larger schools), primary schools spent an average of €1,226 per year on technical support, post-primary schools spent €4,379, and special schools spent €1,235. On average, schools with a fixed contract spent more on technical support and maintenance than schools without a fixed contract. Although some principal teachers commented that ICT co-ordinators should not have to provide technical support, 67% of primary schools, 71% of post-primary schools, and 75% of special schools indicated that increasing technical support skills among selected school staff was a priority for their school. About three-quarters of primary and special schools, and two-thirds of post-primary schools indicated that they would like to be part of a centrally provided technical support service for schools, while about one half of schools in each sector indicated an interest in being part a local cluster of schools having a contract with an IT company/contractor. In their comments, some school principals noted that staff did not have the expertise to deal with ICT contractors, and were not always sure that they were getting value for money. Other principals, particularly in rural primary schools, reported difficulty in accessing call-out services due to the remoteness of the area in which their school was located.

Twenty-four percent of primary schools, 64% of post-primary schools, and 26% of special schools reported having a school website in 2005. The corresponding figures for 2002 were 19%, 56% and 21% respectively. Among schools that did not have a website, 32% of primary schools, 54% of post-primary schools, and 34% of special schools indicated an intention to establish a website in the 2005-06 school year. A number of schools, particularly small primary schools, indicated that they did not have the necessary time or expertise to develop and/or maintain a site, and therefore were unable to progress on this issue.

Eighty percent of primary schools, 59% of post-primary schools and 65% of special schools reported having purchased subject-specific content in 2004-05 on CD Rom/DVD. A greater proportion of primary schools (74%) than post-primary (47%) or special schools (47%) reported purchasing reference content in these formats. In contrast, almost 19% of post-primary schools, but only 6% of primary schools and 11% of special schools reported purchasing on-line content. Many respondents to the census expressed an optimism that Broadband would provide greater access to curriculum-based content, but some called for the development of on-line materials specific to the curricula taught in schools in Ireland. Participation in on-line projects in the two years prior to the census was greater among post-primary (30%) and special schools (26%) than among primary schools (18%). A small number of schools indicated that they could not participate in on-line projects because of poor or no Internet connectivity.

In their comments on issues raised in the census, several respondents noted that the arrival of networking and Broadband in schools had led to a need to purchase/upgrade computers, at considerable expense to the schools, in order to benefit from these advances. While welcoming networking and Broadband, schools also expressed a concern that technical support costs would almost certainly increase.

International research, mainly conducted by the Paris-based Organisation for Economic Co-operation and Development (OECD), also indicates a consistent improvement in aspects of ICT infrastructure in schools in Ireland between 2000 and 2003. For example, the average pupil-computer ratio in schools in Ireland attended by 15-year olds dropped from 16 computers to 9 between the two years. However, in 2003, Ireland still lagged behind the OECD country average on the pupil-computer ratio (9 pupils per computer in Ireland vs. 6 pupils across OECD countries), percentage of computers with an Internet connection (67% vs. 78%), and percentage of computers that were networked (36% vs. 68%). In 2003, marginally fewer 15-year olds in Ireland (89%) reported having access to a computer at school than the OECD average (92%). Just 24% of students in Ireland were described as frequent computer users at school, compared to an OECD average of 44%, while 61% in of 15-year olds in Ireland were described as frequent users of computers at home, compared to an OECD average of 74%.

1.0 INTRODUCTION

The NCTE conducted a national census of ICTs in schools on 4 occasions: 1998, 2000, 2002, and 2005. This report outlines the main outcomes of the 2005 census, which focused on the availability and use of ICT infrastructure in schools. Where appropriate, comparisons are made with the outcomes of earlier censuses. As in previous years, the 2005 census was conducted by post. The items on this census were broadly similar across the primary, post-primary and special education sectors, allowing for comparison across sectors. However, each census form also included some items that were unique to the sector. Schools were asked to complete the questionnaires with reference to available infrastructure at the end of the 2004-05 school year.

1.1 Sample

Schools included in the 2005 census were those on the DES databases of primary, post-primary and special schools. However, schools that were closed or amalgamated in 2004-05, and schools that were scheduled to close or amalgamate in 2005-06, were not sent census forms. Forms were sent to a total of 4005 schools in May 2005.

1.2 Response Rates

The majority of questionnaires were returned by July 2005. The overall response rate for the 2005 census was 88% (Table 1). This compares favourably with an overall (final) response rate of 83.0% for the 2002 census.

Table 1: NCTE Census 2005 – Numbers of Responding Schools, by School Sector

	Primary	Post Primary	Special	All Schools
N of responding schools	2825	592	102	3519
N of schools (Databases)	3149	732	124	4005
Response Rate %	89.7	80.9	82.3	87.9

Response rates for schools with various characteristics in the primary and post-primary sectors are given in Table 2. In general, responses rates across specific categories were similar to overall response rates for the sector. Thus, for example, at primary level, where the overall response rate was 90%, the response rates for schools designated as disadvantaged and not so designated were 91% and 90% respectively.

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Table 2: NCTE Census 2005 – Response Rates in Primary and Post-Primary Schools, by School Category

School Category	Primary (%)	Post Primary (%)
Disadvantaged Status		
Yes	91.3	81.8
No	89.5	80.5
School Size ¹		
Large	90.8	78.0
Medium	90.3	83.7
Small	89.0	80.9
School Type		
Secondary	----	81.6
Vocational	----	79.5
Comprehensive	----	75.0
Community	----	82.7
Secondary Fee Paying		
Yes	----	71.4
No	----	83.3
School Gender ²		
Male	91.5	82.1
Female	89.9	83.8
Mixed	89.5	79.6
Urban or Rural		
Urban	89.8	76.2
Rural	89.7	83.3
All Schools	89.7	80.9

¹Size categories at primary level were large (≥ 250), medium (100-249) and small (< 100); Size categories at post-primary level were large (≥ 536), medium (329-535); small (< 329); ²Primary schools were first categorised by gender based on the gender of pupils in the Third to Sixth classes; then the remaining schools were categorised by gender based on gender of pupils in Junior Infants to Second classes.

Although the overall response rates were high, response rates on some questionnaire items were low. N's (numbers of responses) are given in the Tables in the main text, or, where this is not possible, in the corresponding tables in Appendix A. Unless otherwise stated, data in this report (e.g., percentages, average values) are unweighted.

2.0 COMPUTERS/ICT EQUIPMENT IN SCHOOLS

2.1 Numbers of Computers and Pupil-Computer Ratios

In 2005, responding schools reported an overall total (across school sector) of 82,869 working computers. The corresponding weighted estimate (which is based on the assumption that schools not responding are similar to those that responded) is 97,709 (Table 3). The weighted number of computers in schools in 2005 (97,709) is greater than the weighted number in schools in 2002 (84,663) (see NCTE, 2003).

Table 3: Numbers of Working Computers in Schools, by School Sector (2005)

	Primary	Post Primary	Special	All
No. of Computers reported (2005) (Unweighted) ¹	42,936	38,209	1,724	82,869
No. of Computers reported (2005) (Weighted)	48,047	47,566	2,096	97,709

Data on the total number of computers were not available for all schools that completed the questionnaire. N's (2005): Primary = 2814; Post Primary = 588; Special Schools = 102. Weights (2005): Primary: 3149/2814; Post Primary: 732/588; Special: 124/102

Table 4 shows the pupil-computer ratio² for primary, post-primary and special schools in 2000, 2002 and 2005. The 2005 pupil-computer ratio for primary schools was 9.1, while for post-primary schools it was 7.0, and for special schools, 3.1. These ratios represent an improvement over the 2002 ratios of 11.3, 7.4, and 3.8 respectively. Ratios improved more slowly between 2002 and 2005 than between 2000 and 2002.

Table 4: Comparison of Pupil-Computer Ratios, by School Sector (2000 to 2005)

	Primary	Post Primary	Special
2005 pupil-computer ratio	9.06	7.01	3.09
2002 pupil-computer ratio	11.26	7.41	3.79
2000 pupil-computer ratio	16.30	10.92	5.68

See Table A4a (Appendix A) for underlying data for 2005.

Table A4b (Appendix A) provides a breakdown of the pupil-computer ratio for primary and post-primary schools by county.

² The pupil-computer ratios reported in this and subsequent tables in this chapter were obtained by dividing the number of pupils in a category (e.g., in primary schools) by the number of computers in the category. An alternative measure of the number of pupils per computer is outlined in Appendix B.

Table 5 gives the pupil-computer ratios in 2005 for primary and post-primary schools with varying characteristics. Pupils attending small schools (see footnote to Table 2 for definitions of size) enjoyed more favourable pupil-computer ratios than pupils attending medium-sized and large schools. For example, in the post-primary sector, the pupil-computer ratio in small schools was 5.2, compared with 7.0 in medium schools, and 7.8 in large schools.

The table shows that the pupil-computer ratio was marginally better in disadvantaged than in non-disadvantaged schools in 2005. At primary level, the pupil-computer ratio in disadvantaged schools was 7.4, whereas in non-disadvantaged schools it was 9.4. At post-primary level, the ratio was 6.1 in disadvantaged schools, and 7.4 in non-disadvantaged schools.

At primary level, the pupil-computer ratio was lower in all-boys' schools (8.3) compared to all-girls' schools (9.6) and mixed schools (those serving both boys and girls) (9.1). At post-primary level, mixed schools had a ratio of 6.0. This compared favourably with the ratios for all-girls (9.7) and for all-boys (8.9) schools.

At post-primary level, the pupil-computer ratio was higher in secondary schools (9.1) than in other school types. The ratio for fee-paying secondary schools (7.5) was lower than the ratio for non-fee-paying secondary schools (9.4).

Table 5: Pupil-Computer Ratio at Primary and Post-Primary Levels, by School Category (2005)

School Category	Primary	Post Primary
Disadvantaged Status		
Yes	7.4	6.1
No	9.4	7.4
School Size ¹		
Large	11.3	7.8
Medium	9.0	7.0
Small	6.6	5.2
School Type		
Secondary	----	9.1
Vocational	----	5.0
Comprehensive	----	7.8
Community	----	6.2
Secondary Fee Paying		
Yes	----	7.5
No	----	9.4
School Gender		
All-boys (Male)	8.3	8.9
All-girls (Female)	9.6	9.7
Mixed	9.1	6.0
Urban or Rural		
Urban	8.8	6.8
Rural	9.1	7.2
All Schools	9.1	7.0

¹ N's for responding schools, numbers of computers and numbers of students for each cell may be found in Table A5.

2.2 Computers in General Classrooms in Primary Schools

Using the number of general classrooms in primary schools, it was possible to calculate the average number of computers in general classrooms. Across all schools, the average number was 1.3, with fewer computers in classrooms in large schools (1.0) than in medium (1.2) and small schools (1.5) (Table 6). In 10% of small schools, and in 7% of medium and large schools, there were no computers in general classrooms.

Table 6: Average Numbers of Working Computers in General Classrooms in Primary Schools, by School Category (2005)

School Category	Primary ¹	
	Avg. Computers per Classroom (N = 2774)	% Classrooms without PCs
Disadvantaged Status		
Yes	1.0	7.5
No	1.4	9.7
School Size		
Large	1.0	6.9
Medium	1.2	7.0
Small	1.5	10.0
Urban or Rural		
Urban	1.1	7.5
Rural	1.4	9.7
Total	1.3	8.5

¹N's and standard deviations are in Table A6 (Appendix A). Does not include computers in locations other than general classrooms. Averages include schools reporting no computers in general classrooms.

2.3 Age of Computers in Schools

Table 7 indicates that over one-fifth of computers in primary schools, and about one-quarter in post-primary and special schools, are less than 2 years old. On the other hand, 29% of computers in primary schools, 19% in post-primary and 21% in special schools are over 6 years old.

Table 7: Percentages of Working Computers in Four Age Categories, by School Sector (2005)

Age Category	Primary (N = 2781)	Post Primary (N = 579)	Special (N = 102)
< 2 years old	21.3	24.1	25.9
2 - 4 years old	25.6	32.6	28.1
4 - 6 years old	24.4	24.2	24.9
> 6 years old	28.7	19.1	21.1

Table 8 indicates that, at primary level, 35% of computers in disadvantaged schools and 27% in non-disadvantaged schools are more than 6 years old. Similarly, at post-primary level, 24% of computers in disadvantaged schools and 17% in non-disadvantaged schools are more than 6 years old. Conversely, at both primary and post-primary levels, fewer computers in disadvantaged than in non-disadvantaged schools are less than 2 years old.

Table 8: Percentages of Working Computers in Four Age Categories, in Primary and Post-Primary Schools, by Designated Disadvantaged Status (2005)

Age Category	Primary		Post Primary	
	Disadvantaged (N = 282)	Not Disadvantaged (N = 2499)	Disadvantaged (N = 164)	Not Disadvantaged (N = 415)
<2 years old	16.7	22.3	20.5	25.6
2 - 4 years old	23.7	26.0	30.7	33.6
4 - 6 years old	24.8	24.3	25.1	23.7
> 6 yrs old	34.8	27.4	23.7	17.1

Table 9 compares the age profile of computers in 2002 and 2005. The two categories ‘less than 2 years old’ and ‘between 2 and 4 years old’ used in 2005 are combined into a single category, ‘less than 4 years’, as this category was used in 2002. The table indicates that there are proportionately more ‘old’ computers in schools in 2005 than in 2002 (i.e., computers that are 6 years or over). Hence, the increase in the overall numbers of computers in schools in 2005 (and the corresponding drop in the pupil-computer ratios) is partially due to the retention of older computers which were obtained by schools prior to 2002.

Table 9: Percentages of Working Computers in Schools by Age Category and School Sector (2002 and 2005)

Age Category	Primary		Post Primary		Special	
	2002	2005	2002	2005	2002	2005
< 4 years old	58.2	46.9	62.4	56.7	59.7	54.0
4 - 6 yrs old	29.0	24.4	23.5	24.2	27.7	24.9
> 6 yrs old	12.8	28.7	14.0	19.1	12.6	21.1

N’s (2005): Primary = 2781; Post Primary = 579; Special = 102

2.4 Assistive Technology Devices in Schools

Table 10 gives the percentages of schools in which various assistive technology devices were available. Not surprisingly, assistive devices such as switches, computer-control devices and alternative/augmentative communicative devices were more common in special schools than in either primary or post-primary schools. For example, whereas just 3% of primary schools and 2% of post-primary schools had at least one computer with a switch attached, 41% of special schools reported having at least one.

Table 10: Percentages of Schools with Various Assistive Technology Devices, by School Sector (2005)

Device	Primary N = 2792	Post Primary N = 587	Special N = 102
Switches (e.g. for students with physical disabilities)	3.1	2.2	41.2
Other computer control devices (e.g. touch-screens, alternative mice and keyboards)	13.4	12.7	54.9
Alternative/Augmentative communications devices	2.8	3.7	29.4
Other ¹	2.1	3.6	10.8

¹ Other responses included: specialised software and processors, motorised or adjustable work stations, and some non-specific references to hardware.

2.5 Other ICT Equipment in Schools

Schools were also asked to indicate any other ICT equipment that was available to staff and/or students. While schools were asked to indicate the number of each device in the school, Table 11 gives the percentages of schools in which a particular device was available. For example, 78% of primary schools had at least one dot matrix or inkjet printer, while 38% had at least one laser printer.

The table also shows some large differences between availability of equipment in the three school sectors. For example, whereas 78% of post-primary schools had at least one mobile data projector, just 31% of primary schools and 28% of special schools had at least one.

Table 12 gives the numbers of projectors, whiteboards and digital cameras in schools, by sector, for 2005. For the purpose of this analysis, numbers of fixed and mobile data projectors were combined, as were numbers of still and video digital cameras. The weighted number of data projectors in post-primary schools (1524) is considerably greater than in primary (1261) or special (35) schools.

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Table 11: Percentages of Schools with ‘Other’ ICT Equipment, by School Sector (2005)

Other Equipment/Services	Primary (N = 2778)	Post Primary (N = 587)	Special (N = 101)
Dot matrix/inkjet printer	77.8	74.9	76.2
Laser Printer	38.1	88.6	50.5
Data projector – fixed	6.4	51.4	5.0
Data projector – mobile	31.2	78.3	27.7
Digital still camera	77.7	84.7	85.1
Digital video camera	21.7	45.6	47.5
Scanner	83.1	88.8	80.2
Interactive whiteboard	1.8	4.7	3.0
Datalogger	0.1	45.6	0
MP3 player, Mini disk recorder	3.2	4.4	2.0
Webcam/Viewcam	6.8	17.3	11.9
DVD player/writer	45.7	66.6	53.5
Digital Microscope	8.6	12.7	4.0
Video conferencing facility	2.7	6.9	11.9
Learning Management System (LMS) or Virtual Learning Environment (VLE)	0.5	2.5	1.0
Personal Digital Assistants (PDAs)	1.4	4.1	0
Datalogging sensor (e.g., to measure temperature)	0.1	34.1	0
GPS System (used in geography)	-	0.7	0
CNC Machine	-	19.2	0
Other	1.7	2.7	6.9

Note: Other responses included microphones, memory sticks, memory card readers, combinations of printer/fax/phone/scanner, CD re-writers, alpha smart keyboard, Graphics Tablet, CD Stacker, and Video Phone. N’s vary by equipment type.

Table 12: Numbers of Projectors, Whiteboards and Digital Cameras in Schools, by School Sector (2005)

ICT	Primary Total (N = 2778)		Post-Primary Total (N = 587)		Special Total (N = 101)	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Data Projectors	1112	1261	1222	1524	29	35
Interactive Whiteboards	81	92	31	39	3	4
Digital Cameras	2618	2968	647	807	146	179

Weights: Primary = 3149/2778; Post Primary = 732/587; Special = 124/101

Table 13 provides a comparison between the percentages of schools in which various types of ICTs were available in 2002 and 2005. Just over twice as many primary schools in 2005 (36%) had at least one data projector compared with 2002 (17%), while increased availability of data projectors was also apparent in special schools, and, to a lesser extent, in post-primary schools. Interactive whiteboards were available in about 2% of primary schools and 5% of post-primary schools in both 2002 and 2005. There are small decline in the percentages of post-primary and special schools with scanners in 2005, relative to 2002. This may reflect the use by schools of printers that include scanners, and the greater use of digital images obtained from various sources (e.g., Internet, digital cameras).

Table 13: Percentages of Schools with Selected ICTs, by School Sector (2002 and 2005)

Sector	Year	Data projectors (fixed + mobile)	Digital Cameras	Scanners	Interactive Whiteboards
Primary	2002	16.5	69.0	83.8	2.4
	2005	36.4	77.7	83.1	1.8
Post Primary	2002	84.0	82.4	93.7	4.2
	2005	92.6	84.7	88.8	4.7
Special	2002	13.3	80.0	89.5	2.9
	2005	30.4	85.1	80.2	3.0

3.0 EXPENDITURE BY SCHOOLS ON ICTS

3.1 Expenditure on ICTs and Technical Support in Addition to Grant Money

Schools were asked to report, in respect of the last full accounting year, the amount of money spent on ICTs that was in addition to the grants received from the DES. Table 14 summarises responses. Care needs to be exercised in interpreting total ICT expenditure, especially in primary and special schools, as large numbers of schools did not provide data (see footnote to Table 14). Among schools that responded to the question, primary schools spent €4.4 million on ICTs, post-primary schools spent €6.5 million, and special schools spent €352,000. The average expenditure per primary school, taking into account only those schools that responded to the item, was €2,129, while, for post-primary schools, it was €11,583, and for special schools, €5,679.

Table 14 also indicates level of ICT spending that was allocated to technical support. Again, care should be exercised in interpreting these data, as levels of missingness were even greater than for ICT expenditure. At primary level, among schools that responded to the item, €1.5 million was spent on technical support. The corresponding amounts for post-primary level and for special schools were €1.8 million and €69,000 respectively. Among schools that provided data, the average amount spent on technical support was €741 for primary schools, €3,765 for post-primary schools and €1,239 for special schools.

Whether we consider total amounts or average amounts, we can see that approximately one-third of spending on ICTs was allocated to technical support at primary and post-primary levels, and about one-fifth in special schools.

Table 14: *Expenditure on ICTs and Technical Support in Excess of ICT Grants, by School Sector (2005)*

	Primary	Post Primary	Special
Total ICT Expenditure	(N = 2076) ¹	(N = 430) ³	(N = 62) ⁵
Total ICT expenditure in excess of ICT grants (€) (unweighted)	4,419,423	6,509,695	352,079
Average expenditure in excess of grants for schools with amount given (€) (unweighted)	2,129	11,583	5,679
Expenditure on Technical Support	(N = 1965) ²	(N = 365) ⁴	(N = 48) ⁶
Total expenditure on Technical Support (€) (unweighted)	1,456,264	1,788,344	69,406
Average expenditure on Tech Support for schools with amount given (€) (unweighted)	741	3,765	1,239

All data unweighted.

¹Missing = 26.6%; ²Missing = 30.5%; ³Missing = 5.5%; ⁴Missing = 39.2%; ⁵Missing = 20.2%; ⁶Missing = 45.1%.

Table 15 compares average ICT expenditure in a range of school types at primary and post-primary levels. At both levels, average additional expenditure on ICTs was greater in disadvantaged schools than in non-disadvantaged schools. In disadvantaged primary schools, the average expenditure was €2,439, while in disadvantaged post-primary schools, it was €11,964. Whereas at primary level, disadvantaged schools spent more on technical support on average than non-disadvantaged schools (€1,008 vs. €710), at post-primary level, disadvantaged schools spent marginally less (€3,639 vs. €3,821). Fee-paying secondary schools paid an average of €22,461 on ICT, compared with €10,557 in non fee-paying secondary schools.

Table 15: Average Expenditure on ICTs and Technical Support in Excess of Grants in Primary and Post-Primary Schools, by School Sector and Category (2005)

School Category	Average Expenditure on ICTs ¹			
	Primary		Post Primary	
	Total ICT Exp. €	Tech Support €	Total ICT Exp. €	Tech Support €
Disadvantaged Status				
Yes	2,439	1,008	11,964	3,639
No	2,093	710	11,501	3,821
School Size				
Large	3,686	1,241	17,078	6,067
Medium	2,518	819	10,478	2,792
Small	1,407	530	7507	2,447
School Type				
Secondary	----	----	12,064	3,556
Vocational	----	----	10,005	3,993
Comprehensive	----	----	14,026	2,479
Community	----	----	14,101	4,548
Secondary Fee Paying				
Secondary – Fees	----	----	22,461	8,646
Secondary – No fees	----	----	10,557	2,801
School Gender				
Male	3,262	1,071	14,215	4,481
Female	2,998	1,052	10,628	3,172
Mixed	1,910	668	11,305	3,780
Urban or Rural				
Urban	2,801	1,090	15,650	5,461
Rural	2,014	684	9,735	2,946
All Schools	2,129	741	11,583	3,765

¹See Table A15 (in Appendix A) for N's for each cell.

3.2 Sources of Additional Funds for ICTs/Technical Support

Schools were asked to indicate the main sources of additional funding for ICT. Four options were given, and respondents could tick as many as applied. Table 16 summarises responses. For all school types, ‘Other School Funds’ was the most frequently reported source of additional funds. More primary schools (49%) and special schools (43%) relied on fundraising activities than post-primary schools (25%). For primary (32%) and post-primary (35%) schools, parent contributions were also an important source of funding. Primary schools (6%) and special schools (7%) relied to a somewhat greater extent on commercial sponsorship than did post-primary schools (4%).

Table 16: Percentages of Schools Indicating Main Sources of Additional Funding for ICTs, by School Sector (2005)

Source of Funding	Primary (N=1702)	Post Primary (N=469)	Special (N=61)
Parent Contribution	31.5	35.4	16.4
Fundraising Activities	48.6	24.5	42.6
Commercial Sponsorship	6.2	3.6	6.6
Other School Funds	58.6	70.4	62.9

Column percentages do not sum to 100 as schools could mark more than one source of funding.

Table 17 gives a breakdown of sources of funding for post-primary schools, by type. The data indicate that secondary and comprehensive schools depend to a greater extent than vocational and community schools on parent contributions, while fundraising activities are more widespread in secondary and community schools than in vocational and comprehensive schools.

Table 17: Percentages of Post-Primary Schools Indicating Main Sources of Additional Funding for ICTs, by School Type (2005)

Source of Funding	Secondary (N = 268)	Vocational (N = 144)	Comprehensive (N = 9)	Community (N = 48)
Parent Contribution	46.6	18.8	55.6	18.8
Fundraising Activities	28.7	16.7	11.1	27.1
Commercial Sponsorship	3.0	3.5	11.1	6.3
Other School Funds	66.1	72.9	66.7	87.5

Column percentages do not sum to 100 as schools could mark more than one source of funding.

Table 18 provides a breakdown by school disadvantaged status. Proportionately more non-disadvantaged primary and post-primary schools access funds from parent contributions than disadvantaged primary and post-primary schools. A greater percentage (12%) of primary disadvantaged schools accessed commercial funding than primary non-disadvantaged schools (6%). At post-primary level, comparatively small percentages of disadvantaged and non-disadvantaged schools accessed funding from this source (3% and 4% respectively).

Table 18: Percentages of Schools Indicating Various Sources of Additional Funding for ICT/Technical Support, by School Sector and Designated Disadvantaged Status (2005)

Source of Funding	Primary		Post Primary	
	Disadvantaged N = 174	Non-Disadvantaged N = 1528	Disadvantaged ¹ N = 131	Non-Disadvantaged N = 338
Parent Contribution	18.4	33.0	23.7	39.9
Fundraising Activities	51.1	48.1	26.7	23.7
Commercial Sponsors	12.1	5.6	3.1	3.8
Other Funding ²	65.5	57.6	74.8	68.6

¹Missing (Post Primary, disadvantaged) = 7.2%

²Schools were not asked to indicate what specific sources of 'other funding' they used.

4.0 NETWORKING AND INTERNET ACCESS IN SCHOOLS

4.1 Location of Computers in Schools

Schools were asked to indicate the number of working computers in various locations around the school.

Table 19: Average Percentages of Computers in Various Locations in Schools, by School Sector (2005)

Location of Computer	Percentage of Computers		
	Primary (N = 2776)	Post Primary (N = 584)	Special (N = 102)
Computer Rooms/Computer Labs	27.1	58.2	15.3
General Classrooms (excluding laboratories/specialist rooms)	44.4	4.0	55.5
Laboratories			
Science laboratories	----	2.6	0.0
Language laboratories	----	3.4	0.0
Specialist Rooms			
Art room	----	0.9	0.4
Music room	----	0.9	0.2
Home economics room	----	0.5	0.7
Technical graphics/drawing room	----	1.8	0.1
Speech Therapy room	----	-	1.4
Paramedical room	----	-	0.3
Other specialist rooms	----	1.1	1.8
Workshops			
Engineering workshop	----	0.8	0.1
Construction studies workshop	----	0.7	0.2
Technology workshop	----	0.6	0
Other Locations			
Learning support room	5.9	2.9	0.7
Special needs resource room	5.3	1.6	0.5
School library/resource areas	1.1	2.2	1.0
Staff room/Staff work areas	0.8	2.9	0.9
Offices/Administration areas	5.8	6.5	8.8
Careers room/office	----	2.0	0.3
Mobile/Other computers			
Computers on mobile trolleys	2.3	0.8	3.4
Laptops (not assigned to individual students)	5.9	3.9	6.7
Laptops assigned to individual students with special needs	1.4	1.7	1.7

Numbers provided by schools were transformed to percentages, based on the total numbers of computers reported. Responses are summarised in Table 19. (See Table A19 in Appendix A for numbers of computers in each cell).

In post-primary schools, 58% of computers were located in computer rooms. The corresponding figures for primary and special schools were 27% and 15% respectively. In post-primary schools, just 4% of computers were located in general classrooms. This compares to 44% in primary schools, and 56% in special schools. Remaining computers were distributed across other locations, including language and science laboratories (6% of computers in post-primary schools), and learning support rooms (6% in primary schools, 3% in post-primary, and 1% in special schools).

Using the same data, it was possible to ascertain the numbers of computer rooms in primary schools of differing size. Whereas 65% of large schools reported having a least one computer located in a computer room, 30% of medium-sized schools, and 20% of small schools did so (Table 20).

Table 20: Percentages of Primary Schools with a Computer Room, by School Size (2005)

Primary Schools	N	Percentage of Schools with Computer Room
Large	405	64.9
Medium	925	30.3
Small	1446	20.3
Total	2776	32.8

4.2 Networked Computers and Internet Access

Schools were asked to indicate the numbers of computers in each location in the school that were networked and/or connected to the Internet. For each school, responses were summed across locations, and divided by the total reported number of computers in the school. If a total number was missing, or grossly out of range, an alternative total was drawn from a different question (one that asked about the age of computers in the school). According to Table 21, 45% of computers in primary schools, 80% in post-primary schools, and 35% in special schools were networked at the time of the census. However, a large proportion of schools indicated in their comments on the census form that they were in the process of networking the school in preparation for the installation of Broadband.

At primary level, more computers in disadvantaged schools (50%) than in non-disadvantaged schools (44%) were networked, while marginally more computers in non-disadvantaged (46%) than in disadvantaged schools (43%) had Internet access (Table 22). At post-primary level, non-disadvantaged schools were broadly similar to disadvantaged schools, both in terms of the percentage of networked computers (80% vs. 78%) and the percentage of computers with Internet access (81% vs. 75%) (Table 22).

Table 21: Percentages of Networked Computers and Computers with Internet Access in Schools, by Sector (2005)

	Primary Schools	Post Primary	Special ¹
Computers Networked	45.0	79.7	34.6
Computers with Internet Access	45.6	79.0	40.1

¹Missing: 49% of special schools did not provide information on numbers of computers that were networked, while 15% did not provide information on numbers of computers with Internet access. See Table A21.

Table 22: Percentages of Networked Computers and Computers with Internet Access in Schools, by School Category (2005)

School Category	Percentage of Computers			
	Primary		Post Primary	
	Networked	Internet Access	Networked	Internet Access
Disadvantaged Status				
Yes	50.1	43.3	77.8	75.4
No	44.0	46.0	80.1	80.6
School Size				
Large	57.8	52.0	84.0	82.5
Medium	44.3	44.3	76.8	74.9
Small	31.9	40.2	73.1	78.1
School Type				
Secondary	-----	-----	78.5	80.4
Vocational	-----	-----	78.9	76.2
Comprehensive	-----	-----	78.8	77.3
Community	-----	-----	82.9	82.9
Secondary Fee Paying				
Yes	-----	-----	84.9	85.1
No	-----	-----	80.0	78.6
School Gender				
Male	55.5	52.1	79.7	78.9
Female	47.3	46.9	79.5	78.5
Mixed	42.6	44.1	79.2	79.1
Urban/Rural				
Urban	56.1	48.9	82.3	81.3
Rural	41.2	44.4	77.6	77.7
All Schools	45.0	45.6	79.7	79.0

At post-primary level, differences between the percentages of computers that were networked, and that had Internet access within each school category were small. For example, in Community Schools, 83% of computers were networked, and 83% had Internet access. This may reflect an earlier finding that, in most post-primary schools, a majority of computers were located in computer rooms, and hence would probably be networked and have Internet access. At primary level, a greater percentage of computers in large schools (58%) than in small schools (32%) were connected to a network, and had Internet access (52% vs. 40%).

These data can be compared with those obtained in 2002. The percentage of networked computers in primary schools increased from 31% in 2002 to 45% in 2005 (Table 23). At post-primary level, 69% of computers were networked in 2002, while almost 80% were networked in 2005. The percentages of computers with Internet access also increased. For example, at post-primary level, 79% of computers had Internet access in 2005, compared to 66% in 2002.

Table 23: Percentages of Networked Computers and Computers with Internet Access, by School Sector (2002 and 2005)

	Primary		Post Primary		Special	
	2002	2005	2002	2005	2002	2005
Computers Networked	30.5	45.0	69.3	79.7	19.3	34.6
Computers with Internet Access	38.8	45.6	66.1	79.0	32.6	40.1

4.3 Locations of Networked Computers

Table 24 gives the percentages of networked computers in various locations in schools in 2005. Fifty-six percent of computers in computer rooms in special schools were networked. This figure increases to over 79% in computer rooms in primary schools, and 91% in such rooms in post-primary schools. Computers in general classrooms were less likely to be networked. While 64% of computers in classrooms in post-primary schools were networked, it should be noted that just 4% of computers in post-primary schools were located in general classrooms (see Table 19). In contrast, over one-third (36%) of computers in primary-school classrooms were networked, but a far greater proportion (44%) of computers in primary schools were located in classrooms. In special schools, 33% of computers in general classrooms were networked. Just under three-quarters of computers

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located in libraries/resource areas in post-primary schools and 33% located in these areas in primary schools were networked by 2005. However, very small proportions of computers in schools were located in these areas.

Table 24: Percentages of Networked Computers in Various Locations in Schools, by School Sector (2005)

	Primary (N = 2777)	Post Primary (N = 584) ¹	Special (N = 52) ²
Networked Computers			
Computer Rooms/Computer Labs	78.6	91.2	56.2
General Classrooms (excluding laboratories/ specialist rooms)	35.6	63.7	32.5
Laboratories			
Science laboratories	-	56.7	-
Language laboratories	-	92.0	-
Specialist Rooms			
Art room	-	53.2	12.5
Music room	-	53.4	0
Home economics room	-	52.2	15.4
Technical graphics/drawing room	-	64.6	0
Speech Therapy room	-	-	21.7
Paramedical room	-	-	0
Other specialist rooms	-	60.5	13.3
Workshops			
Engineering workshop	-	35.9	0
Construction studies workshop	-	50.8	66.7
Technology workshop	-	55.7	0
Other			
Learning support room	28.6	46.0	33.3
Special needs resource room	29.6	45.9	12.5
School library/resource areas	33.2	74.3	41.2
Staff room/Staff work areas	43.9	77.9	33.3
Offices/Administration areas	34.6	77.6	33.6
Careers room/office	-	63.2	20.0
Mobile/other computers			
Computers on mobile trolleys	22.3	56.9	32.8
Laptops (not assigned to individual students)	21.0	48.6	24.4
Laptops assigned to individual students with special needs	16.8	30.9	10.4

¹ Missing (Post Primary) = 5.6%; ² Missing (Special) = 58.1%

Table 25 gives the numbers of computers in classrooms in 2002 and 2005 that were connected to a network and/or the Internet, for primary and post-primary schools. At both primary and post-primary levels, there is an increase in the percentages of computers in

general classrooms that are connected to the network, and that are connected to the Internet. However, as noted earlier, the percentage of computers in post-primary schools that are located in classrooms is relatively small.

Table 25: Numbers and Percentages of Computers in General Classrooms Connected to a Network, and/or with Internet Access, in Primary and Post-Primary Schools (2002 and 2005)

	Primary		Post Primary	
	2002	2005	2002	2005
No. of computers in classrooms (unweighted)	16,758	18,450	2,163	1,517
No. connected to a network	2,842	6,560	825	967
% Classroom computers that are networked	17%	35.6%	38%	63.7%
No. of Computers connected to the Internet	5,712	7,522	727	971
% Classroom computers with Internet connected	34%	40.8%	34%	64.0%

Finally, Table 26 provides a breakdown of percentages of rooms in schools that were networked in 2005. At primary level, 60% of general classrooms were networked, and at post-primary, 42% were networked. Again, however, it is relevant to note that just 4% of computers in post-primary schools are found in classrooms.

Table 26: Percentages of Rooms in Schools that Are Networked, by Sector and Room Type (2005)

Room Type	Primary N = 1864	Post Primary ¹ N=559	Special ² N = 56
Computer Rooms/Computer Labs	74.0	86.7	73.9
General Classrooms (excluding laboratories/specialist rooms)	59.7	41.8	72.2
Laboratories (e.g., Science laboratory)	-	59.6	0
Specialist Rooms (e.g. Music room)	-	51.3	60.0
Workshops (e.g. Engineering workshop)	-	46.4	61.6
Learning Support Rooms	52.7	-	71.4
Special Needs Resource Rooms	54.1	-	0
School Library/Resource Areas	86.2	-	24.0
Other rooms	-	80.1	-

¹Missing (Post Primary) = 5.5%; ²Missing (Special) = 45.1%

4.4 Types of Networks Used

Table 27 provides data on the types of networks employed by schools. Almost 40% of primary schools, 53% of special schools, and just 4% of post-primary schools indicated that they had no network. At primary level, 51% of schools used network cabling, while a further 7% used a combination of fixed cabling and wireless link. At post-primary level, 78% of schools used network cabling, and a further 16% used a combination of fixed cabling and wireless link. Wireless link was used infrequently in all school sectors as the only approach to networking.

Table 27: Percentages of Schools Using Various Types of Networks, by School Sector (2005)

Type of Network	Primary (N = 2770)	Post Primary (N =584)	Special (N = 102)
No Network	39.2	4.1	52.9
Network Cabling only	50.7	78.3	36.3
Wireless Link only	3.0	1.4	2.0
Combination of Fixed and Wireless	7.2	16.3	8.8

Table 28 provides a breakdown by school size at primary level. Almost one-half (49%) of small schools, and 36% of medium-sized schools had no network.

Table 28: Percentages of Primary Schools Using Various Types of Networks, by School Size (2005)

Type of Network	Small (N = 1406)	Medium (N = 904)	Large (N = 410)
No Network	48.5	35.8	14.6
Network Cabling used	43.3	53.8	69.0
Wireless Link	3.8	2.3	1.7
Combination of Fixed and Wireless	4.4	8.1	14.6

Table 29 shows that, among schools with a network, 44% of primary schools used a peer-to-peer network, while 59% of such schools used a client server network. Eighty-five percent of post-primary schools with a network used a client server, while 22% used a peer-to-peer network (with some schools using both). Special schools were also more likely to report using a client server network rather than a peer-to-peer network.

Table 29: Percentages of Networked Schools with Peer-to-Peer, Client Server and Other Networks, by School Sector (2005)

	Primary (N = 1654)	Post Primary (N = 592)	Special (N = 48)
Peer-to Peer-Network	43.9	21.6	29.2
Client Server Network	58.5	85.0	72.9
Other Response ¹	1.1	1.4	2.1

¹ Other responses included: almost ready for network to be installed, technician looks after networking not sure which used.

Note: Columns do not sum to 100% as schools could select more than one option

Table 30 shows that 11% of primary schools, 59% of post-primary schools, and 16% of special schools had separate networks for school administration. It should be noted that 13% of primary schools did not respond to this item.

Table 30: Percentages of Schools with Separate Network for School Administration, by School Sector (2005)

Primary (N=1443) ¹	Post Primary (N=565)	Special (N=98)
11.4	58.8	16.3

¹ Missing (Primary) = 12.8%

Among schools with a separate network for school administration, over one-half in each sector indicated separate Internet access (Table 31). However, the percentage in the special school sector may be lower, as 13% of schools in this sector with administration networks did not respond to the item on separate Internet access.

Table 31: Percentages of Schools with Networks for Administration in which the Administration Network Had Separate Internet Access, by School Sector (2005)

Primary (N=167)	Post Primary (N = 332)	Special (N=14) ¹
54.2	56.0	50.0

¹ Missing (Special) = 12.5%

4.5 Networks in Adjacent Buildings

Schools were also asked to indicate whether adjacent buildings used for learning and/or administration had network connectivity. Only a small proportion of primary and special schools (20% in each case) reported that they had adjacent buildings. At post-

primary level, 43% of schools reported that they had at least one adjacent building. Table 32 indicates the percentages of schools with adjacent buildings that had no network connectivity, and the percentages with different kinds of connectivity. In all three sectors, over 50% of schools with adjacent buildings reported that buildings other than the main one did not have network connectivity. Almost twenty percent of schools at primary level with adjacent buildings reported having underground network cabling, while 17% at post-primary and 5% of special schools reported having such cabling. Fibre optic linkage was less common, and was only used in 5% of special schools. On the other hand, in each sector, at least 10% of schools with adjacent buildings reported using wireless link.

Table 32: Percentages of Schools with Network Connectivity in Adjacent Buildings, by School Sector (2005)

Link to Adjacent Building(s)	Primary (N=566)	Post Primary (N=253)	Special (N=20)
No Network connectivity	50.2	50.6	65.0
UG Network Cabling	18.9	17.1	5.0
Fibre Optic Link	3.2	9.9	5.0
Wireless Link	15.2	15.9	10.0
Other ¹	10.0	11.5	15.0

¹ Other responses include; Over ground or overhead cabling, references to cabling without specific location/position mentioned, and plans to put network in place in the future. Note that some schools reported having more than one type of link. Therefore, columns may not add up to 100%.

Schools reporting that they had a client server network were asked to indicate the type of server used. The most common server used at all three levels was a general purpose school server (Table 33). Administration servers were more commonly reported by post-primary schools (39%) than by either primary (9%) or special (19%) schools. Greater percentages of primary (16%) and special (26%) schools reported that they had e-mail servers than post-primary schools (11%).

Table 33: Percentages of Schools with Client Server Networks Reporting Types of Servers Used, by School Sector (2005)

Server Type	Primary (N=969)	Post Primary (N=505)	Special (N=43)
General purpose school server	63.8	75.6	57.1
CD server	15.9	10.1	4.8
Proxy/Cache	8.0	17.9	11.9
Content filtering	6.5	16.8	11.9
Administration	8.6	39.1	19.0
E-mail	15.9	10.7	26.2
Other ¹	3.0	4.8	7.1

Columns do not sum to 100% as some schools reported having more than one type of server.

¹Other responses include; Thin-client server, external server, file storage server, web server, print server, 'unsure what type of server'.

4.6 Location of Computers with Internet Access

Using data on the number of computers with Internet access in various locations in schools, as well as data on the numbers of computers in each location, it was possible to compute the percentage of computers in each location with Internet access. The results are summarised in Table 34. At primary level, 62% of computers in computer rooms had Internet access. The corresponding figures for post-primary and special schools were 90% and 56% respectively. Although the percentage of computers connected to the Internet in general classrooms in post-primary schools (64%) is high, it should be noted that just 4% of computers in post-primary schools are located in regular classrooms (see Table 19). Similarly, although connectivity rates are above 60% in staff rooms in all three sectors, the numbers of computers in these locations are small. For example, at primary level, just 0.8% of computers in schools are located in staff rooms (Table 19).

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Table 34: Percentages of Computers with Internet Access in Various Locations in Schools, by School Sector (2005)

Location	Primary (N = 2777)	Post Primary (N = 584)	Special (N = 87)
Computer Rooms/Computer Labs	62.4	89.9	55.8
General Classrooms (excluding laboratories/specialist rooms)	40.8	64.0	35.4
Laboratories			
Science laboratories	-	59.3	0
Language laboratories	-	78.8	0
Specialist Rooms			
Art room	-	55.5	12.5
Music room	-	71.6	25.0
Home economics room	-	52.7	7.7
Technical graphics/drawing room	-	52.7	0
Speech Therapy room	-	-	47.8
Paramedical room	-	-	20.0
Other specialist rooms	-	60.3	20.0
Workshops			
Engineering workshop	-	36.6	0
Construction studies workshop	-	49.6	0
Technology workshop	-	45.8	0
Other			
Learning support room	27.7	48.1	50.0
Special needs resource room	32.2	39.1	25.0
School library/resource areas	33.9	75.2	35.3
Staff room/Staff work areas	61.2	81.8	66.7
Offices/Administration areas	55.7	80.8	59.7
Careers room/office	-	78.0	60.0
Mobile/other computers			
Computers on mobile trolleys	28.5	59.9	32.8
Laptops (not assigned to individual students)	36.0	51.4	36.5
Laptops assigned to individual students with special needs	23.9	38.8	13.8

5.0 ICT PLANNING

5.1 School-based Personnel Involved in Supporting Development of ICT

In 2005, three-quarters of primary schools, 86% of post-primary schools and 71% of special schools had a designated ICT co-ordinating teacher (Table 35). Among schools with an ICT co-ordinator, the position attracted an allowance in 60% of primary schools, 68% of post-primary schools and 63% of special schools. These data show an improvement over the 2002 figures. The percentage of schools with a designated ICT co-ordinator increased from 69% to 75% at primary level, and from 80% to 86% at post-primary level. More co-ordinating posts also attracted an allowance at primary level (from 37% to 60%), at post-primary level (from 51% to 68%) and in special schools (from 49% to 63%).

Table 35: Percentages of Schools with Designated ICT Co-ordinating Teacher and Percentages of ICT Co-ordinating Post Attracting an Allowance, by School Sector (2002 and 2005)

	Primary		Post Primary		Special	
	2002	2005	2002	2005	2002	2005
Designated ICT Co-ordinating teacher ¹	69.4	74.5	79.5	86.2	70.5	71.3
ICT coordinating post attracts allowance ²	36.9	60.0	51.2	67.6	48.6	62.5

¹ N's (2005): Primary = 2825; N = 592; Special = 101

² N's (2005): Primary = 2105; Post Primary = 513; Special = 72

Among schools in which an ICT co-ordinating post attracted an allowance, duties were performed by teachers holding an assistant principal's allowance in 31% of primary schools, 39% of post-primary schools and 15% of special schools (Table 36). Care should be exercised in interpreting these data at primary and post-primary levels, as 8.1% and 7.8% of schools respectively indicated that the ICT co-ordinating post held an allowance, but did not state which allowance it attracted.

Table 36: Percentages of Schools in which ICT Co-ordinating Posts Attracting an Allowance were Held by Assistant Principal and Special Duties Teachers, by School Sector (2005)

	Primary (N = 1661) ¹	Post Primary (N=346) ²	Special (N=51) ³
Assistant Principal	30.6	38.6	14.6
Special Duties Teacher	69.4	61.4	85.4

¹ Missing (Primary) = 8.1%; ² Missing (Post-primary) = 7.8%; ³ Missing (Special schools) = 5.9%

5.2 Status of ICT Planning in Schools

In 2005, almost 80% of primary schools, 56% of post-primary schools, and 78% of special schools reported having a written school plan (Table 37). Among schools with a plan, 49% of primary schools, 58% of post-primary schools, and 61% of special schools reported that their ICT plan was updated at least annually. Also among schools with a plan, seven-tenths of primary schools, 72% of post-primary schools, and almost 79% of special schools indicated that the NCTE’s *ICT Planning and Advice Pack for Schools* had been used for school planning.

Table 37: Percentages of Schools with ICT Plans, Percentages of These Schools That Update Their Plans Annually, and Percentages That Used the NCTE Pack for Planning, by School Sector (2005)

	Primary (N = 2811)	Post Primary (592)	Special (102)
School has written plan ¹	78.6	55.6	77.5
Plan updated at least annually ²	49.1	57.8	60.8
NCTE pack used for planning ²	70.1	72.0	78.5

¹N’s: Primary 2811; Post Primary 592; Special 102

² As proportion of schools with written school plans. N’s: Primary 2211; Post Primary 329; Special 79

Table 38 provides data on two variables that could be compared over time – the percentages of schools with written ICT plans and the percentages that updated their plans at least annually. There is an increase in primary and special schools between 2002 and 2005 in the percentages of schools with written school plans, and virtually no change in the percentage of post-primary schools. There are sizeable increases in the percentages of schools with plans that reported updating their plans at least annually. For example, in 2002, 29% of post-primary schools with plans reported that they updated it at least annually, while in 2005, 58% of such schools reported that they did so.

Table 38: Percentages of Schools with ICT Plans, and Percentages of Schools That Updated their ICT Plans at least Annually (2002 and 2005)

	Primary		Post Primary		Special	
	2002	2005	2002	2005	2002	2005
School has written plan	71.5	78.6	55.5	55.6	63.8	77.5
Plan updated at least annually ¹	34.6	49.1	29.4	57.8	39.0	60.8

¹As proportion of schools with written school plans (Table 37 for 2005 data)

5.3 Coverage of Various Topics in ICT School Plans

Schools were asked to indicate, for several topics, whether or not the topic was addressed in their ICT School Plan.

Among schools with written ICT plans, 81% of primary schools, 80% of post-primary schools, and 80% of special schools reported including the purchase of computers and other ICT equipment in their plans (Table 39). In primary and post-primary schools, the purchase of software and/or software licences was included in 78% of plans, and in special schools, in 85%. Not surprisingly, a greater percentage of special schools (77%) than primary (64%) or post-primary (53%) included the purchase of special needs equipment and/or software in their plans. Post-primary schools (79%) included security of school computers/networks in their plans more often than special schools (60%) or primary schools (54%). Other topics in school plans included school website, continuum of ICT skills, and acceptable use policy (AUP).

Table 39: Percentages of Schools with ICT Plans Reporting Various Types of Content in Their Plans, by School Sector (2005)

Content in Plan	Primary (N =2209)	Post Primary (N = 330)	Special (N=79)
Purchase of computers and other ICT equipment	80.7	79.7	79.7
Purchase of software/software licences	77.9	77.8	84.8
Curricular use of digital content	62.1	52.4	74.7
Purchase of special needs equipment and/or software	64.4	53.0	77.2
Security of school computers/networks	54.2	79.1	59.5
ICT related technical support & maintenance	49.7	60.6	64.6
Renewal & replacement of ICT equipment	61.4	65.5	62.0
Other ¹	8.7	10.3	10.1

¹ Other responses included: School website, online personal safety, moving to Broadband, staff development, Acceptable Use Policy (AUP), use of ICT in curriculum, location of computers, specified continuum of skills for each level, and access to computers.

6.0 SCHOOL PRIORITIES AND ICT NEEDS

6.1 Equipment and Infrastructure

Schools were asked to indicate, for each of several pieces of ICT equipment and infrastructure, which was a current priority. Respondents rated each item using a four-point scale: very low priority, low priority, high priority and, very high priority. For reporting purposes, the high and very high priority categories were collapsed. Thus, as indicated in Table 40, 72% of primary schools, 78% of post-primary schools, and 50% of special schools indicated that access to additional computers was a high/very high priority.

A feature of the table is the high level of priority attached by schools to almost all the listed infrastructural elements. With just a few exceptions (e.g., standardising operating system software, advice on purchase of hardware), at least 60% of schools in each sector accorded a high or very high priority to accessing each element on the list. Notable among these are network development (63% to 82%, depending on sector) and provision for technical support and maintenance (73% to 89%).

Table 40: Percentages of Schools Recording High or Very High Priority to Procurement of Selected Elements of ICT Equipment and Infrastructure, by School Sector (2005)

School Priority/ICT Need	Primary (N = 2642)	Post Primary (N = 557)	Special (N = 88)
Additional computers	71.7	77.8	49.5
Additional other ICT equipment	72.1	76.1	65.9
Replacement of older equipment	82.5	85.2	75.3
Standardising Operating System software in school (e.g., Windows, Mac, Linux)	41.2	46.7	25.6
Faster Internet access	86.8	75.1	69.0
Development of school computer network	81.5	79.3	63.3
Advice and guidelines on the purchase of hardware	57.0	48.4	48.3
Advice and guidelines on the purchase of software	63.4	58.2	63.5
Provision for technical support and maintenance	85.0	88.8	72.9
Funding software purchase/licences	76.0	84.7	77.4
Provision of online content	67.3	66.2	60.7
Other ¹	7.2	4.8	9.1

¹Other responses included; Staff Training, Development of School Website, Online Safety, Virus Protection, Non-specific references to funding and more equipment.

In 2002, schools were asked to provide priority ratings for some of the same elements. The results for 2002 and 2005 are compared in Table 41.

Although, as indicated above, relatively large proportions of schools in 2005 viewed procurement of additional computers as a high or very high priority, there is a small drop in each sector since 2002. For example, at primary level, 79% of schools viewed procurement of computers as a high/very high priority in 2002, while 72% did so in 2005. One element in which there is a large difference between 2002 and 2005 is development of a school computer network. Whereas in 2002, 47% of primary schools viewed this as a priority, in 2005 82% did so. At post-primary level, the corresponding percentages are 66% and 79%, while in special schools, they are 34% and 63%. Somewhat smaller percentages of schools in each sector in 2005 viewed the funding of software purchases/licences as a priority than in 2002. For example, such funding was a high/very high priority for 83% of primary schools in 2002 and 76% in 2005.

Table 41: Percentages of Schools Recording High or Very High Priority to Procurement of Selected Elements of ICT Equipment and Infrastructure, by School Sector (2002 and 2005)

School Priority/ICT Need	Primary		Post Primary		Special	
	2002	2005	2002	2005	2002	2005
Additional computers ¹	79.1	71.7	86.9	77.8	73.3	49.5
Replacement of older equipment	78.3	82.5	90.5	85.2	82.2	75.3
Provision of technical support ²	89.4	85.0	92.2	88.8	86.7	72.9
Faster Internet access	58.9	86.8	75.8	75.1	48.8	69.0
Development of school computer network	47.1	81.5	65.8	79.3	33.7	63.3
Advice and guidelines on the purchase of hardware ³	63.0	57.0	64.1	48.4	66.7	48.3
Funding software purchase/licences	83.2	76.0	93.0	84.7	86.8	77.4

¹ Change in wording: Additional computer equipment in 2002

² Change in wording: Provision of technical support and maintenance in 2002

³ Change in wording: Independent advice on purchase of hardware in 2002

In both 2002 and 2005, schools were also asked where they wanted to see additional computers located. Table 42 summarises their responses. The data indicate that fewer primary and post-primary schools in 2005 than in 2002 prioritised distribution of additional computers in computer rooms. At primary level, for example, 43% of schools in 2002 and just 34% in 2005 prioritised this. On the other hand, in 2005, slightly more primary schools than in 2002 prioritised distribution of computers around classrooms (73% vs. 70%).

Across all sectors, fewer schools in 2005 than in 2002 wanted more computers for school administration. In 2005, 85% of post-primary schools, but only 12% of special schools, prioritised the distribution of more computers to laboratories/specialist rooms.

Table 42: Percentages of Schools Indicating Very High or High Priority for Deployment of Additional Computers in Various Locations, by School Sector (2002 and 2005)

Deployment of Additional Computers	Primary		Post Primary		Special	
	2002	2005 ¹	2002	2005 ²	2002	2005 ³
More computers in computer rooms	42.7	34.0	56.5	44.9	16.0	17.7
More computers distributed around classrooms	69.9	73.4	85.8	85.8	64.8	56.7
More computers distributed in learning areas, e.g. library, resource room	---	54.7	---	---	---	36.9
More computers distributed in laboratories/specialist rooms	---	---	---	85.2	---	11.5
More computers for administration	35.3	30.3	47.1	42.5	31.0	25.5

¹ Missing cases (Primary) ranged from 4.9% to 24.5%, ² Missing cases (Post Primary) ranged from 3.4% to 7.2%, ³ Missing cases (Special) ranged from 4.9% to 23.5%

6.2 Use of Computers in School Administration

In 2005, schools were asked to indicate the uses to which computers were put in the context of school administration. As indicated in Table 43, at least 95% of schools in each sector used computers for general office use. Post-primary schools (81%) were more likely than either primary schools (48%) or special schools (58%) to use computers for school accounts. Three-fifths of primary schools, over 9 in 10 post-primary schools, and four in five special schools used computers to maintain pupil records such as attendance records, pupil assessments, and pupil reports.³

Table 43: Percentages of Schools Indicating Uses of Computers for Various Administrative Purposes, by School Sector (2005)

Administrative Purpose	Primary (N = 2814)	Post Primary (N = 576)	Special (N = 102)
General office use	94.9	97.1	97.1
School accounts	48.2	80.7	57.8
Timetabling	38.9	89.2	52.0
Pupil records	60.1	93.8	80.4
Other ¹	8.7	8.6	20.6

¹ Other responses included correspondence (especially e-mail), communication, an recording in connection with planning and policy making.

³ The questionnaire item categories ‘pupil records’, ‘pupil attendance’, ‘pupil reports’ and ‘pupil assessment’ were combined to create a single category called ‘pupil records’.

7.0 PROFESSIONAL DEVELOPMENT

In 2005, schools were asked to indicate whether or not they had facilitated ICT professional development in the past two years. As indicated in Table 44, 32% of primary schools, 53% of post-primary schools and 63% of special schools indicated that they had done so.

Table 44: Percentages of Schools That Facilitated ICT Professional Development in Past Two Years, by School Sector (2005)

Primary (N = 2807)	Post Primary (N = 592)	Special (N = 101)
32.0	52.6	63.4

Table 45 shows there was less professional development facilitated in small primary schools (27%) than in medium (33%) or large (50%) primary schools. Other primary-level categories with large proportions of small schools (i.e., non-disadvantaged schools, mixed-gender schools, and rural schools) also showed comparatively low levels of staff development facilitation. At post-primary level, there was also evidence of a relationship between school size and facilitation of professional development in ICT, with more large schools facilitating development than medium-sized or small schools. More fee-paying (63%) than non fee-paying (46%) secondary schools reported that they had facilitated professional development for staff.

Table 45: Percentages of Schools That Facilitated ICT Professional Development in Past Two Years, by School Sector and Category (2005)

School Category	Primary	Post Primary
Disadvantaged Status		
Yes	42.4	53.9
No	30.9	52.2
School Size		
Large	50.2	59.7
Medium	32.5	51.0
Small	26.7	47.6
School Type		
Secondary	----	47.8
Vocational	----	55.7
Comprehensive	----	83.3
Community	----	62.9
Secondary Fee Paying		
Yes	----	62.5
No	----	45.8
School Gender		
Male	41.0	41.3
Female	38.7	52.4
Mixed	30.4	55.6
Urban or Rural		
Urban	41.3	54.0
Rural	30.5	52.1
All Schools	32.0	56.2

For N's see Appendix A, Table A45

Schools that had offered professional development were asked to indicate what form such development took. Schools could indicate more than one type. In 45% of primary and post-primary schools, and 34% of special schools, whole staff training by an external provider, or by a staff member, was provided (Table 46). Over one-quarter of primary and post-primary schools, and just under two-fifths of special schools provided professional development as part of a staff development day. Peer-to-peer training was facilitated by about one-third of primary and post-primary schools, and by over two-fifths of special schools. Relatively few schools provided ICT professional development as part of new staff induction, or in the form of on-line training.

Table 46: Percentages of Schools Providing Various Forms of Professional Development in Past Two Years, by School Sector (2005)

Professional Development Provided	Primary (N = 900)	Post Primary (N = 313)	Special (N = 64)
Whole staff training by an external tutor/staff member	44.9	45.4	34.4
As part of a staff development day	28.8	27.2	37.5
As part of new staff induction programme	4.3	6.1	9.4
On-line training	8.7	7.7	15.6
Peer-to-peer training	32.3	34.5	43.8
Other ¹	20.0	21.1	23.4

Columns do not sum to 100%, as schools could mark multiple responses.

¹ Other responses included; individual staff training, attendance of various courses outside of school time, and training as the need arose.

8.0 CERTIFICATION OF STUDENTS

In 2005, post-primary and special schools were asked to indicate if they provided certification in ICT to students. Fourteen percent of post-primary schools and 54% of special schools reported that they offered no certification (Table 47). One-fifth of post-primary schools, and 9% of special schools offered internal certification, while 74% of post-primary schools and 32% of special schools offered the opportunity to gain external certification. In 2002, 18.0% of post-primary schools reported offering the school's own certification to students, 68.8% reported offering external certification, and 14.7% reported offering no certification (NCTE, 2003). These percentages are broadly similar to those reported for 2005.

Table 47: Percentages of Post-Primary and Special Schools Offering Internal, External and No ICT Certification to Students (2005)

Type of Certification	Post Primary (N = 591)	Special (N = 102)
Internal	20.2	9.0
External	74.0	32.0
None Offered	14.3	54.0

In 2005, post-primary and special schools that offered external certification were asked to indicate the types of certification offered. Responses are summarised in Table 48. Among schools offering external certification, 16% of post-primary schools, and 8% of special schools reported offering certification provided by the Department of Education and Science (DES). However, the most common type of certification offered by post-primary schools was the European Computer Driver License (ECDL). Over 30% of special schools and 27% of post-primary schools reported offering certification from the Further Training and Education Awards Council (FETAC) to students.

Table 48: Percentages of Post-Primary and Special Schools Offering External ICT Certification to Students, by Types of Certification Offered (2005)

Type of Certification	Post Primary (N =437)	Special (N= 33)
Department of Education and Science	15.5	7.8
FETAC (Further Education and Training Awards Council)	26.7	32.2
City and Guilds	6.1	0
ECDL (European Computer Driver License)	73.6	4.4
Royal Society of Arts	3.1	0
Other	13.1 ¹	6.7 ²

Includes only schools that offered external certification (Table 48)

¹ Other responses mentioned Microsoft, Commercial Examining Board, Cisco and various other institutes

² Local institutes and Junior Certificate School Programme

9.0 TECHNICAL SUPPORT/ICT MAINTENANCE

9.1 Persons/Organisations Providing ICT Technical Support and Maintenance

Schools were asked a number of questions about technical support and maintenance. In 2005, 68% of primary schools, 55% of post-primary schools, and 44% of special schools reported that they used the services of an IT contractor, where a fixed contract was not in place (Table 49). In comparison, relatively small proportions of schools used the services of a contractor with whom they had a fixed service contract – 8% of primary schools, 24% of post-primary schools, and 17% of special schools. ICT co-ordinating teachers played an important role in providing technical support, with 41% of primary co-ordinating teachers, 66% of post-primary co-ordinating teachers, and 54% of special school co-ordinating teachers doing so in 2005. Parents provided technical support in 9% of primary schools. In contrast, around one percent of schools in the post-primary and special sectors reported that parents provided such support.

Table 49: Percentages of Schools in Which Various Individuals/Organisations Provided Technical Support, by School Sector (2005)

Technical Support Provider	Primary (N = 2823)	Post Primary (N = 592)	Special (N = 102)
ICT Coordinating Teacher	40.6	65.7	53.9
Other teacher(s)	12.8	12.4	16.7
Non-teaching staff	6.5	5.9	11.8
IT company/contractor (no fixed contract)	67.9	55.0	44.1
IT company/contractor (with service contract)	8.4	24.2	16.7
Group of Schools e.g. VEC	0.6	2.7	1.0
Parents	9.3	0.7	1.0

Note: Where principals ticked one or more items, and left others blank, blanks were assigned a 'zero'. Columns do not sum to 100%, as schools could select multiple providers.

Table 50 shows that, while 18% of large primary schools had a fixed contract with an ICT company/contractor, only 6% of small schools had one. On the other hand, proportionately more small primary schools (70%) availed of assistance from an ICT company/contractor without a contract than large primary schools (59%). At post-primary level, more large schools (32%) than medium schools (24%) and small (17%) schools availed of the services of an ICT company/contractor (with service contract). Whereas 33% of fee-paying secondary schools availed of a contractor (with service contract), just 23% of non-fee-paying secondary schools did so.

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Table 50: Percentages of Primary and Post-Primary Schools in Which Various IT Companies/Contractors (With Fixed or No Fixed Contract) Provided Technical Support, by School Category (2005)

School Category	Primary		Post Primary	
	Services with No Contract	Services with Fixed Contract	Services with No Contract	Services with Fixed Contract
Disadvantaged Status				
Yes	62.7	8.2	49.7	21.0
No	68.6	10.2	43.1	25.6
School Size				
Large	59.2	18.4	46.6	31.9
Medium	68.8	7.5	44.3	23.8
Small	69.9	6.2	44.0	17.3
School Type				
Secondary	-----	-----	42.3	24.4
Vocational	-----	-----	49.5	22.7
Comprehensive	-----	-----	33.3	16.7
Community	-----	-----	46.8	30.6
Secondary Fee Paying				
Yes	-----	-----	57.5	32.5
No	-----	-----	57.7	23.2
School Gender				
Male	67.2	10.9	53.3	28.3
Female	70.0	9.2	58.9	25.0
Mixed	67.8	8.1	54.3	23.1
Urban or Rural				
Urban	56.5	10.4	46.0	29.6
Rural	69.9	8.1	59.3	21.8
All Schools	67.9	8.4	55.0	24.4

For N's, see Table A50 in Appendix A

Table 51 provides an estimate of the amount spent on ICT support by schools availing of the services of an ICT company/contractor, with and without a fixed contract. The figures in the table are only indicative, as missingness is high (some schools that used ICT contractor did not provide an estimate of the amount they spent on technical support), and do not take school size into account. On average, schools availing of the services of an IT contractor without a contract spent less on ICT support than schools availing of such services with a fixed contract. The difference between average spend was €528 at primary level, €799 at post primary level, and just €39 in special schools.

Table 51: Total and Average Amounts Spent (€) on Technical Support, by Use of IT Contractor, by School Sector (2005)

Total Amount Spent on Technical Support in Schools that Use ...	Primary	Post Primary	Special
Services of ICT Contractor (no contract)	(N = 1407)	(N = 274)	(N = 32)
Total spent on ICT (unweighted)	€970,069	€995,230	€38,268
Average spent on ICT technical support	€698	€3580	€1196
Services of ICT Contractor (fixed contract)	(N = 189)	(N = 126)	(N = 11)
Total spent on ICT support (unweighted)	€231,643	€551,770	€13,589
Average spent on ICT technical support	€1226	€4379	€1235

9.2 Technical Support Priorities

In 2005, schools were asked to rate the priority they accorded to several aspects of technical support, using a four-point scale (very high priority, high priority, low priority, very low priority). Within each school sector, responses were summed across the two high priority categories to provide an indication of overall priority accorded to each aspect. Responses are summarised in Table 52.

The table shows that at least two-thirds of schools in each sector attached very high or high priority to increasing the technical support/capacity among selected school staff, to accessing funding to purchase local technical support from an external IT company/contractor, and to being part of a centrally-provided technical support service for schools.

Table 52: Percentages of Schools Indicating Various Technical Support Priorities, by School Sector (2005)

Technical Support Priority	Primary ¹	Post Primary ²	Special ³
To increase technical support skills/capacity among selected school staff	67.0	70.5	74.5
Funding assistance to purchase local technical support from an external IT company/contractor.	77.2	78.9	74.5
To be part of a local school cluster which has a contract with an IT company/contractor	58.8	53.3	48.8
To be part of a centrally provided technical support service for schools	75.8	66.9	73.3

¹ Missing values range from 11.1% to 15.7% (see Table A52)

² Missing values are in the range of 8.1% to 16.5% (see Table A52)

³ Missing values are in the range 7.8% to 13.7% (see Table A52)

Schools accorded comparatively lower priority to being part of a local cluster of schools having a contact with an IT company/contractor, with just 59% of primary schools, 53% of post-primary schools, and 49% of special schools indicating this to be a priority.

9.3 Computers in Need of Upgrading and Out-of-Service Computers

Schools were invited to indicate the number of computers that were in need of upgrade or repair for use, and the number that were beyond repair. Table 53 provides actual numbers and weighted estimates. It should be noted that between 23% (post-primary) and 34% (special) of schools did not provide responses to this question. Hence, caution should be exercised in interpreting the weighted estimates. The greatest numbers of computers in need of upgrade or repair for use were at primary level (10,693) At post-primary level, 7,642 were in need of upgrade or repair, as were 418 in special schools. It is estimated that 5,586 computers at primary level, 5,492 at post-primary level, and 294 in special schools were beyond repair.

Table 53: Numbers of Computers in Schools Needing Upgrade/Repair for Use, and Numbers of Computers beyond Repair, by School Sector (2005)

Status of Computers	Primary (N = 1934) ¹	Post Primary (N = 454) ²	Special (N = 67) ³
Computers that need upgrade or repair for use (Unweighted)	6,567	4,740	226
Computers that need upgrade or repair for use (Weighted)	10,693	7,642	418
Computers that are beyond repair (Unweighted)	3,431	3,406	159
Computers that are beyond repair (Weighted)	5,586	5,492	294

¹Missing cases (Primary) = 31.6 %; ²Missing cases (Post Primary) = 23.4%; ³Missing cases (Special) = 34.3%
Weights: Primary: 3149/1934; Post Primary: 732/454; Special: 124/67

Table 54 looks at these data in a different way. It estimates the average number of computers that needed upgrading/repair, and the average number that are beyond use, in schools. Again, there is a large number of missing cases for each sector. However, we can estimate that, on average, primary schools have 3.4 computers in need of upgrade/repair, post-primary schools have 10.4 and special schools 3.4. Average numbers of computers that are beyond repair are somewhat lower.

Table 54: Average Numbers of Computers in Schools Needing Upgrade/Repair for Use, and Average Numbers of Computers beyond Repair, by School Sector (2005)

Status of Computers	Primary (N = 1934) ¹	Post Primary (N = 454) ²	Special (N = 67) ³
Computers that need upgrade or repair for use	3.4	10.4	3.37
Computers that are beyond repair	1.8	7.5	2.37

¹Missing cases (Primary) = 31.6 %; ²Missing cases (Post Primary) = 23.4%; ³Missing cases (Special) = 34.3%

Even among schools that use the services of an IT company with service contract, relatively large numbers of computers were in need of upgrading or repair and beyond use. For example, at post-primary level, in schools that use the services of an IT contractor with contract, there was an average of 9.4 computers in need of repair/upgrade, and 7.1 beyond use.

9.4 Use/Application of Anti-Virus Software

In both 2002 and 2005, schools were asked if they had installed anti-virus software. In 2005, across all sectors, at least 87% had anti-virus software installed. At post-primary level, 97% had such software installed (Table 55). In all three school sectors, there is an increase since 2002 in the percentages of schools with anti-software installed.

Table 55: Percentages of Schools with Anti-Virus Software Installed, by School Sector (2002 and 2005)

Primary		Post Primary		Special	
2002	2005	2002	2005	2002	2005
69.8	87.2	90.7	96.9	74.3	89.2

N's (2005): Primary = 2806; Post Primary = 590; Special = 102

In 2005, among schools that had anti-virus software installed, 39% at primary level, 69% at post-primary level, and 48% of special schools reported updating their software on a weekly basis or more often. On the other hand, sizeable percentages of primary (39%) and special schools (30%) reported that they updated their anti-virus software just once a year (Table 56). The annual figures may well be slightly higher, as 6.6% of primary schools and 4.4% of post-primary schools reporting that they had anti-virus software installed did not indicate how often it was updated.

Table 56: Percentages of Schools Updating Anti-Virus Software at Specified Intervals, by School Sector (2005)

Interval	Primary (N = 2286) ¹	Post Primary (N = 547)	Special (N = 88)
Daily	12.7	35.2	30.7
Weekly	25.8	33.7	17.0
Monthly	23.0	16.2	22.7
Yearly	38.5	14.9	29.5

Includes only schools that reported having anti-virus software installed (Table 56)

¹Missing cases (Primary) = 6.6%;

10.0 INTERNET, EMAIL AND ONLINE CONTENT

10.1 School Websites

In 2005, almost one quarter of primary schools, 64% of post-primary schools, and 26% of special schools indicated that they had a website (Table 57). At all levels, more schools had websites in 2005 than in 2002. At primary level, for example, there was an increase from 19% to 24% between the two years.

Table 57: Percentages of Schools with a Website, by School Sector (2002 and 2005)

Primary		Post Primary		Special	
2002	2005	2002	2005	2002	2005
19.3	24.1	55.9	63.5	21.0	26.0

N's (2005): Primary = 2800; Post Primary = 581; Special = 100

In 2005, schools with a website indicated the types of content that appeared on their site. At primary level, the types of content appearing most often were school profiles (71% of schools), examples of pupils' work (69%) and news and events (70%) (Table 58). At post-primary level, the most common types were school profiles (84%), news and events (75%), and photos/videos/music files (66%). In special schools, the most common types of content were school profiles (73%), photos/videos/music files (69%) and news and events (58%). More post-primary (42%) than primary (25%) or special schools (12%) posted school policies on their website. The school calendar was a feature of between 35% (special) and 47% (post-primary) of schools.

In 2005, schools were asked to indicate who had responsibility for maintaining their website. Schools could indicate more than one person. Across all three sectors, the ICT Co-ordinator (teacher) was responsible for this task in about one-half of schools with websites (Table 59). In primary schools, principal teachers and parents were more involved in updating the school website than in other sectors. Fifteen percent of special schools, 11% of post-primary schools and 7% of primary schools used the services of an external company to maintain their website.

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Table 58: Percentages of Schools Displaying Various Types of Content on Their Websites, by School Sector (2005)

Type of Content	Primary (N = 673)	Post Primary (N = 369)	Special (N = 26)
Curricular materials	30.1	45.3	30.8
News/events section	69.6	75.3	57.7
Examples of pupils' work	69.3	29.0	46.2
Photos/video/music files	67.2	65.6	69.2
Teachers' area for resources	8.3	9.2	11.5
Discussion forum	1.3	3.8	0.0
Parents' area	22.7	17.6	15.4
School calendar	42.4	47.2	34.6
Pupils' area	26.7	22.2	19.2
Leagan Gaeilge	9.6	9.2	0.0
Board of management area	12.8	13.0	11.5
School profile	70.5	83.7	73.1
School policies	24.6	42.0	11.5
Other ¹	6.1	6.0	15.4

Includes only schools with website (Table 57)

Columns do not sum to 100%, as schools could mark multiple options.

¹Other responses include: History of School, Past pupils section, Under development, Local interest & history, Sports.

Table 59: Percentages of Schools Reporting That Various Persons/Organisations Are Responsible for Updating Their Websites, by School Sector (2005)

Person/Organisation	Primary (N = 672)	Post Primary (N = 369)	Special (N = 26)
ICT Teacher (Co-ordinator)	52.5	48.8	46.2
Other Teachers	19.3	28.7	11.5
Student(s)	7.7	11.7	7.7
Parent	10.5	1.1	0.0
External Company	7.4	11.4	15.4
Principal	27.9	12.7	23.1
Other ¹	9.5	13.6	15.4

Includes only schools with website (Table 57)

Columns do not sum to 100%, as schools could mark multiple options.

¹ Other responses include: Secretary, past pupil, local person, member of BOM, Admin staff, VEC office, also "no-one" at present.

In 2005, schools reporting that they did not have a website were asked if they saw value in having a website, and if they planned to have one within a year. Between 65% (special schools and primary schools) and 73% (post-primary schools) without a website indicated that they saw a value in having a one. A greater percentage of post-primary (54%) than primary (32%) or special (34%) schools planned to have a website within a year (Table 60).

Table 60: Percentages of Schools Without a Website that Saw Value in Having a Website and Percentages that Planned to Have a Website within a Year, by School Sector (2005)

	Primary (N = 2127)	Post Primary (N = 215)	Special (N = 74)
School sees value in having a website	64.8	73.0	65.3
School plans to have website within year	32.0	53.5	34.2

In 2005, the most common reasons cited by these schools for not having a website included lack of time and lack of expertise. For example, at post-primary level, 75% of schools cited lack of time, and 43% cited lack of expertise (Table 61). For 32% of primary schools, and 30% of special schools, development of a school website was not seen as a priority.

Table 61: Percentages of Schools Without a Website Indicating Why They Did Not Have One, by School Sector (2005)

Reason	Primary (N = 2127)	Post Primary (N = 212)	Special (N = 73)
Lack of Expertise	62.9	43.3	47.9
Lack of Time	67.8	74.9	53.4
Not a Priority	32.3	17.7	30.1
Cost Factor	23.3	29.8	20.8
Other ¹	6.0	7.0	8.3

Columns do not sum to 100% as several schools marked more than one reason.

¹Other reasons include waiting for host provider from Broadband supplier, changes to school set-up/staff.

10.2 Internet Usage

Schools were asked in 2005 to indicate the average number of hours they were online each month. A significant proportion of schools (18% at primary level, 16% at post-primary level, and 22% of special schools) did not respond. Among schools that did, the average number of hours on-line per week was 5.8 in primary schools, 25.6 in post-primary schools and 9.9 in special schools (Table 62).

Table 62: Average Time Online in Hours per Week, by School Sector (2005)

Primary (N = 2326) ¹	Post Primary (N = 498) ²	Special (N = 80) ³
5.8	25.6	9.9

¹Missing (Primary) = 17.7%; ²Missing (Post Primary) = 15.9%; ³Missing (Special) = 21.6%

In 2002, schools were asked to estimate the average number of hours per month that they were online. Their responses – 14.0 hours in primary schools, 56.8 hours in post-primary, and 24.6 hours in special schools – are lower than the corresponding weekly figures for 2005 if the latter are extrapolated to monthly hours (by multiplying by 4).

In 2005, 89% of post-primary schools, 80% of primary schools, and 88% of special schools indicated that they had an acceptable use policy (AUP) in relation to use of the Internet (Table 63). These represent an improvement over 2002, when the corresponding figures were 61%, 67% and 51% respectively.

Table 63: Percentages of Schools with an Acceptable Use Policy (AUP) in Relation to Internet Usage, by School Sector (2002 and (2005)

Primary		Post Primary		Special	
2002	2005	2002	2005	2002	2005
61.3	79.6	67.0	89.3	50.5	87.8

N's (2005): Primary = 2701; Post Primary = 574; Special = 98.

10.3 Use of E-mail

Table 64 indicates the percentages of schools that reported providing e-mail accounts for teachers and pupils in 2002 and 2005. At primary level and among special schools, the proportion that provided accounts for teachers doubled between 2002 and 2005, while in post-primary schools, there was an increase of about one-third. There was an increase from 6% in 2002 to 11% in 2005 in the percentage of special schools providing e-mail accounts for pupils. At post-primary level, about the same proportions provided accounts to students in 2002 and 2005 (16% and 17% respectively). At primary level, just under 5% of schools reported providing pupils with e-mail accounts in 2002 and 2005.

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Table 64: Percentages of Schools Providing E-mail Accounts for Teachers and Student, by School Sector (2002 and 2005)

	Primary		Post Primary		Special	
	2002	2005	2002	2005	2002	2005
The school provides e-mail addresses/accounts for Teachers	16.2	34.8	22.5	30.3	14.3	36.6
The school provides e-mail addresses/accounts for Pupils	4.8	4.6	16.0	17.0	5.7	10.8

N's (2005): Teachers: Primary = 2702; Post Primary = 572; Special = 93;

N's (2005): Pupils: Primary = 2707; Post Primary = 572; Special = 93;

Tables 65 to 67 indicate the percentages of schools using e-mail to communicate to various parties, including parents, teachers, and pupils, in 2005. The percentages given in the tables are 'valid' percentages (based on the answers of schools that provided responses). However, it should be noted that large percentages of schools did not respond to these questions (see footnote to tables).

The general picture, gleaned from inspecting the three tables, is that schools communicate most frequently with the Department of Education and Science (11% of schools at primary level, 24% at post-primary level, and 35% of special schools reported doing so each week). On the other hand, relatively few schools communicated regularly by e-mail with parents or teachers.

Table 65: Percentages of Primary Schools Indicating Frequency of Communication by E-mail with Various Parties (2005)

Party/Recipient	Weekly	Monthly	Quarterly	Never
Parents	2.6	3.2	4.3	89.9
Teachers	6.6	5.1	7.8	80.6
Pupils	0.8	0.7	1.6	96.9
Board of Management	3.9	6.7	6.6	82.8
Dept of Education and Science	10.8	15.0	30.6	43.6
Other ¹	30.5	17.0	19.9	32.5

Missing values: Parents (20.3%); Teachers (19.1%); Pupils (21.8%); Board (20.9); Department of Education and Science (15%); and Other (79.2%).

¹Other responses included communication with suppliers, representative bodies, other schools, trade unions, agencies involved with sporting activities, local press, inspectors and local businesses.

Table 66: Percentages of Post-Primary Schools Indicating Frequency of Communication by E-mail with Various Parties (2005)

Party/Recipient	Weekly	Monthly	Quarterly	Never
Parents	5.3	2.6	5.3	86.9
Teachers	10.9	6.0	9.4	73.8
Pupils	3.9	2.4	1.7	92.0
Board of Management	7.5	9.3	6.2	76.9
Dept of Education and Science	23.5	24.5	29.8	22.2
Other ²	46.2	23.1	11.5	19.2

Missing values: Parents (23.2%); Teachers (21.2%); Pupils (22.4%); Board (24.2); Department of Education and Science (14.3%); and Other (82.5%).

²Other responses: communication with suppliers, local business, local press and VECs

Table 67: Percentages of Special Schools Indicating Frequency of Communication by E-mail with Various Parties (2005)

Party/Recipient	Weekly	Monthly	Quarterly	Never
Parents	4.6	3.1	7.7	84.6
Teachers	17.6	8.8	2.9	70.6
Pupils	4.8	3.2	4.8	87.1
Board of Management	14.9	17.6	8.1	59.5
Dept of Education and Science	34.9	21.7	21.7	21.7
Other ¹	53.3	23.3	3.3	20.0

Missing values: Parents (36.3%); Teachers (33.3%); Pupils (39.2%); Board (27.5); Department of Education and Science (18.6%); and Other (70.6%).

¹Other Responses again were mainly communication with suppliers, support organisations, health boards etc

10.4 Use of On-line Educational Content

In 2005, 19% of post-primary schools, 11% of special schools and 6% of primary schools indicated that they had purchased on-line educational content (Table 68).

Table 68: Percentages of Schools Purchasing Access to On-line Content, by School Sector (2005)

Primary ¹ (N = 2631)	Post Primary (N = 592)	Special (N = 102)
6.4	19.3	10.8

¹Missing values: 6.9% of schools

Among schools that purchased on-line content, 45% at primary level, 37% at post-primary level, and 36% of special schools purchased reference content (Table 69). Similarly, 33% of primary schools, 37% of post-primary schools, and 27% of special

schools purchased subject-specific content. Among schools that purchased online content, access to educational portals/databases was purchased by 37% of special schools, 31% of primary schools and 25% of post-primary schools.

Table 69: Percentages of Schools Purchasing Specific Types of On-line Content, by School Sector (2005)

Type of On-line Content	Primary (N=168)	Post Primary (N=115)	Special (N=11)
Reference Content	44.6	37.4	36.4
Subject Specific	32.5	37.4	27.3
Access to Educational Portal/Database	30.5	25.2	36.4
Other	17.5	24.3	27.3

Refers only to schools that reported purchasing on-line content (Table 68).

'Other' responses include: exam papers, newspaper subscriptions, representative groups, and on-line courses for teachers.

10.5 Purchase of Educational Software/Reference Materials on CD-Rom/DVD

In 2005, more schools purchased reference materials on CD Rom/DVD than online. In that year, 74% of primary schools, and 47% of both post-primary and special schools purchased reference content in these formats (Table 70). More primary schools (80%) than post-primary (59%) or special schools (65%) purchased subject-specific content on CD Rom/DVD.

Table 70: Percentages of Schools Purchasing Various Types of CD Rom-/DVD-based Reference Materials, by School Sector (2005)

Type of Content	Primary (N=2084)	Post Primary (N=590)	Special (N=102)
Reference Content	74.1	46.7	47.1
Subject Specific	80.2	59.3	64.7
Other ¹	10.9	10.3	22.0

Includes all responding schools

¹Other responses included materials for special needs, careers software, tutorials, learning support, teaching aids, educational games, administration e.g., financial.

10.6 Participation in On-line Projects

In 2005, 18% of primary schools, 30% of post-primary schools and 26% of special schools reported taking part in on-line projects within the past two years (Table 71).

Table 71: Percentages of Schools That Participated in On-line Projects in Last Two Years, by School Sector (2005)

Primary (N = 2708)	Post Primary (N = 559) ¹	Special (N = 95) ²
17.8	30.4	26.3

¹ Missing cases (Post Primary) = 5.5%; ²Missing Cases (Special schools) = 6.9%

Among schools participating in on-line projects, 42% at primary level, 19% at post-primary, and 20% of special schools participated in local/regional projects (Table 72). Post-primary schools in particular were well represented in European projects, with 64% of such schools reporting that they had taken part in at least one such project. Of the 25 special schools that reported involvement in on-line projects, 80% indicated that they had been involved in national projects, and just 20% in European and local/regional projects.

Table 72: Percentages of Schools That Participated in Different Types of On-Line Projects in Past Two Years , by School Sector (2005)

Project Category	Primary (N=482)	Post Primary (N=171)	Special (N=25)
Local/Regional	42.1	19.3	20.0
National	31.8	34.7	80.0
European	30.4	63.7	20.0
Other ¹	9.8	4.1	8.0

Data only refer to schools that participated in on-line projects in past two years (Table 72)

¹Schools were not asked to specify what 'other' projects entailed.

Finally, in 2005, schools that participated in on-line projects in the past two years were asked to indicate the online applications that they used. Results are summarised in Table 73. E-mail was used by almost 90% of primary schools, and by over 80% of post-primary and special schools that had participated in on-line projects. Web pages were used by half of post-primary schools, and by over one-third of primary schools. Video-conferencing was used more extensively by special schools (68%) than by primary (15%) or post-primary (19%) schools.

Table 73: Percentages of Schools That Used Various Applications in On-line Projects, by School Sector (2005)

Application	Primary (N= 482)	Post Primary (N = 171)	Special (N = 25)
Email	88.1	84.2	83.3
Discussion Forums	7.8	22.8	20.8
Web Pages	37.0	49.7	26.1
Video Conferencing	14.9	18.7	68.0
Online Chat	10.6	20.5	33.3
Other ¹	6.3	3.5	16.7

¹ Other responses included; photography, video, online quizzes, web publishing, Netdays webquest, shared workspace, online learning platform.

11.0 OPERATING SYSTEMS USED BY SCHOOLS

Table 74 shows the percentages of computers in schools that ran on various computer operating systems in 2005.

Table 74: Percentages of Computers in Schools Using Various Computer Operating Systems, by School Sector (2005)

Operating System ¹	Primary (N = 2720)	Post Primary (N = 566)	Special Schools (N = 99)
Microsoft Operating System (Versions)			
Up to and including Windows 95	15.1	6.0	12.5
Windows 98	40.9	30.8	36.9
Windows 2000/ME	10.9	22.4	11.8
Windows XP or above	29.9	37.5	35.4
MS OS as % of Total OS	96.8	96.7	96.6
Apple Operating System (Versions)			
Apple Mac up to Version 8	0.5	0.4	1.6
Apple Mac Version 9	0.8	0.8	0.7
Windows 2000/ME	0.3	0.3	0.7
Apple Mac (Version OS X)	0.6	1.0	0.3
Apple OS as % of Total OS	2.2	2.5	3.3
Other Operating System Types			
Linux	0.1	0.2	0.5
Thin Client	0.7	0.5	0
Other	0.2	0.1	0.5
Other OS as % of Total OS	1.0	0.8	0.1

¹Percentages are based on the number of computers identified by schools as employing a particular operating system.

Proportionately more computers at primary level (41%) ran on Windows 98 than computers at post-primary level (31%) and computers in special schools (37%). On the other hand, greater percentages of computers in post-primary schools (38%) and in special schools (35%) ran on Windows XP or above than did computers in primary schools (30%). Operating systems other than those licensed by Microsoft were not in widespread use. The finding that 56% of computers at primary level, 37% at post-primary level, and 49% in special schools ran Windows 98 or earlier operating systems is noteworthy to the extent that those systems may no longer be supported by Microsoft.

12.0 COMMENTS MADE BY SCHOOLS

At the end of the census form, there was an opportunity for respondents to comment on aspects of ICT that had been raised in the census. In this section, the comments offered by primary schools, post-primary schools and special schools are summarised in turn.

12.1 Comments by Primary Schools

In all, 1133 primary schools offered comments on ICT usage in their schools. These were typically made by principal teachers or ICT co-ordinators. There were 2,247 comments in total. Table 75 provides a breakdown of comments by category. The most frequent category was funding hardware and software. Comments about funding were made by 427 schools (38% of schools that offered a comment). In all, there were 567 comments about funding (representing 25% of all comments). This category did not include issues related to the provision of Technical Support/Maintenance as these are addressed under a separate category (Technical Support/Maintenance).

Many of the comments on funding called for additional financial support, particularly for purchase/upgrading of computers and the outfitting of computer rooms. Several such comments referred to the need to upgrade or purchase new computers arising from the arrival of networking and/or Broadband. Others requested funding for data projectors, digital cameras, laptop computers for teachers, printing cartridges and software. Other issues related to funding included:

- Difficulties in planning for purchases when grants were not provided on a regular (e.g., annual) basis
- Difficulties experienced by disadvantaged schools, who could not raise funds from parents
- Discrepancies between quotes for networking and the grant paid to schools
- Concern that schools were required to pay VAT on computers and software
- The expense associated with purchasing software licenses.

Table 75: *Distribution of Comments Offered by Primary Schools, by Category*

Topic	Number of Schools	Percentage of Schools	Number of Comments	Percentage of Comments
Funding Hardware, Software	427	37.7	567	25.2
Technical Support/Maintenance	372	32.8	385	17.1
Work in Progress	282	24.9	293	13.0
Professional Development	193	17.0	210	9.3
Space	135	11.9	141	6.3
Computers	97	8.6	99	4.4
Time (Lack of)	85	7.5	87	3.9
Internet/E-mail	82	7.2	83	3.7
NCTE/ICT Advisory Service	83	7.3	83	3.7
Census	55	4.9	58	2.6
Websites	57	5.0	57	2.5
ICT Plan	49	4.3	50	2.2
ICT Co-ordinator	37	3.3	38	1.7
Curriculum	28	2.5	29	1.3
Software	10	0.9	10	0.4
Network	7	0.6	7	0.3
Other	49	4.3	50	2.2
Total Comments			2247	100.0

Seventeen percent of comments were in the area of Technical Support/Maintenance. The vast majority of these referred to a need to better fund technical support, and/or to provide technical support through Education Centres. Small schools in particular proposed that they be clustered for this purpose. Several comments referred to centralised provision of technical support in Northern Ireland or in England and suggested that a centralised model should be implemented here. Other issues raised included:

- Difficulties in accessing technical support, especially in rural areas
- Lack of technical knowledge to supervise the work of contractors
- The impact of technical support provision on the school budget
- Difficulties in accessing technical support for certain types of computers
- The benefits of providing a centralised helpline for technical questions
- The considerable amounts of time allocated to trouble-shooting/maintenance instead of teaching
- The likelihood that the need for technical support will increase with networking and Broadband provision
- Lack of funds to repair a broken server

The category 'Work in Progress', which comprised 13% of comments, typically included descriptions of ongoing work, such as the installation of a network or Broadband. Several comments referred to plans to network new computer rooms, extensions, and new buildings as soon as they were ready, while a few referred to the postponement of networking until after the completion of a building project.

Just over 9% of comments referred to professional development. Most of these called for additional professional development for teachers to enable them to implement ICTs in the classroom. The need to develop teacher confidence was also mentioned frequently. Other issues included:

- A suggestion that teachers be awarded an allowance for completing courses
- A need for professional development related to the use of Broadband to enhance the curriculum
- A need to bridge the gap between staff knowledge and implementation in the classroom
- A need to provide courses during the school day, with substitute cover available if necessary
- A need for professional development that motivates teachers to use ICTs.

Just over 6% of comments referred to a need for more space for computers. Small schools in particular noted that space was in short supply. In some cases, concern was expressed that a school had no computer room. In other cases, the lack of space for computers in general classrooms was mentioned. Some viewed the availability of laptop computers and trolleys as one solution to lack of space. Comments in the category of 'Computers' (4% of all comments) typically acknowledged a need to upgrade or replace computers, but did not specifically request funds to do so. Others suggested more standardisation of computers between schools, while a few described activities in which their school was engaged (e.g., Hermes project, composing music). Time (or lack of it) was frequently mentioned by teachers of multi-grade classes. Many questionnaire respondents were principal teachers, who did not have sufficient time to work with computers because of other teaching and non-teaching obligations. In a separate category called 'Internet/E-mail', several comments referred to the slow speed of dial-up Internet access, and how this led to frustration on the part of teachers during lessons.

Comments on the NCTE referred to the valuable work being done by the ICT Advisory Service. However, several teachers called for additional guidelines on such matters as selecting hardware and software. A small number mentioned delays in accessing grants, and a need for greater flexibility in spending grants. While a number of comments in the ‘Census’ category were critical of the timing of the census, others indicated how they had used the census to appraise their own progress in developing ICT, and to plan for the future. A few apologised for returning the census after the deadline. Comments under the heading of ‘Curriculum’ referred to a need to timetable ICT as a separate subject, and the need for lists of suitable websites for each curriculum subject.

Comments in the category ‘ICT Co-ordinator’ typically referred to difficulties in completing co-ordinating activities because of other responsibilities. Some called for the appointment of full-time ICT co-ordinators for large schools, or clusters of smaller schools. There were suggestions that co-ordinators should receive separate allowances or release time to perform co-ordinating duties. Comments about ‘Websites’ referred to difficulties in constructing websites, or to plans to do so in the near future. In a few cases, schools reported that they had failed to maintain their websites, either because key personnel had left, or because they had insufficient time. Under the heading ‘ICT Plan’, several comments referred to the development or updating of ICT plans, or to the development of acceptable use policies (AUPs).

Comments in the ‘Other’ category referred to a wide range of issues including the provision of ECDL courses to pupils, plans to reduce the use of paper through increased communication with staff by e-mail, concerns about class size, and difficulty dealing with computer viruses.

12.2 Comments by Post-Primary Schools

Two-hundred and fifteen post-primary schools offered comments on ICT usage. These were typically made by principal teachers or ICT co-ordinators. There were 443 comments in total. Table 76 provides a breakdown of comments by category. The most frequent category was funding of hardware and software. Comments about funding were made by 101 schools (47% of schools that offered a comment). In all, there were 144 comments about funding (representing 33% of all comments). Again, this category did not

include issues related to the provision of technical support and maintenance as this is addressed under a separate category (Technical Support/Maintenance).

The vast majority of comments on funding called for additional financial support for purchase or upgrading of computers. Additional comments called for:

- Provision of a regular grant by the DES, preferably at the beginning of the year
- Additional funding for networking, especially for schools located in more than one building
- Funding for software licenses
- Funding to access antivirus software
- Funding for computer rooms
- Funding for computers for PLC/further education students
- Greater discretion in spending ICT grants.
- Laptops for some or all teachers.

A number of schools that were designated as disadvantaged indicated that they were unable to raise significant funding in the communities in which they were located, and therefore needed a regular external stream of funding for ICT.

As at primary level, one-sixth of comments referred to a need for additional funding for technical support/maintenance. Several of these referred to the large amounts of time that ICT co-ordinators spend addressing network problems, often without additional payment. Some noted that, when ICT co-ordinators left the school, they often took their technical expertise with them, requiring schools to find other solutions to technical difficulties. A few claimed that businesses with similar numbers of computers as their school would have a full-time technician available to maintain and repair computers. Other comments in the technical support category referred to:

- Cost of maintaining almost obsolete equipment is a constant burden on the school
- Low levels of competence among employees of some IT companies
- A need to employ a contractor who is 'pre-emptive rather than reactive'.
- A need to provide centralised technical support, based on the number of computers in the school.

Table 76: *Distribution of Comments Offered by Post-Primary Schools, by Category*

Topic	Number of Schools	Percentage of Schools	Number of Comments	Percentage of Comments
Funding Hardware, Software	101	47.0	144	32.5
Technical Support/Maintenance	67	31.2	73	16.5
Work in Progress	53	24.7	60	13.5
Professional Development/Inservice	33	15.3	36	8.1
ICT Plan	20	9.3	20	4.5
ICT Co-ordinator	17	7.9	17	3.8
Computers	15	7.0	18	4.1
Internet/E-mail	12	5.6	12	2.7
Census	12	5.6	12	2.7
Websites	9	4.2	9	2.0
NCTE/ICT Advisory Service	8	3.7	8	1.8
Curriculum	7	3.3	10	2.3
Software	4	1.9	4	0.9
Other	19	8.8	20	4.5
Total Comments			443	100

Fourteen percent of comments referred to work in progress in relation to the development of ICT in the school. These comments often referred to the ongoing installation of a network and/or Broadband. Several mentioned specific numbers of classrooms or computers that had been networked.

Just over 8% of comments referred to professional development. Several of these referred to a need to increase the confidence of teachers in using ICTs, as well as to expand their knowledge base. The integration of ICTs into the curriculum was a recurring theme, and some respondents noted that teachers often viewed ICT as a distraction from the real curriculum. Specific comments called for:

- The abolition of a ten persons (minimum) per course rule implemented by some Education Centres
- Professional development courses for ICT co-ordinators
- A mandatory professional development qualification for all teachers
- A range of courses of varying standard for teachers
- Provision of more higher-level ICT courses

Comments on ICT plans (4.5% of all comments) referred to initiatives that were just completed or were planned for 2005-06. These included: an ICT module on the Leaving Certificate Applied course, a plan to promote greater use of ICT in school

administration, and a plan to launch an e-portal database to facilitate communication with parents and teachers.

Virtually all comments in the category of ICT co-ordinator referred to a need for a full-time or ex-quota ICT co-ordinator. In the category ‘computers’, respondents typically reported the number of new computers purchased, or referred to current initiatives (e.g., extensive use of computers in the JCSP programme). Some schools viewed laptops and laptop trolleys as the best way forward. In the category ‘Internet’, several respondents expressed the hope that the introduction of Broadband would bring about significant changes in the use of ICTs in schools. Summary of comments made by school principals specific to the NCTE are:

- Excellent guidelines on ICT planning (though they were not always possible to implement in practice)
- High quality ICT Advisory Service to schools
- A need to review policy in relation to funding ICTs in colleges of further education.
- Criticism of the system of allocation of grants to schools, which encouraged some schools to seek over the amount.

Finally, comments in the ‘Other’ category included reference to specific software used in school administration, participation in specific ICT projects (which, in a few cases, resulted in less spending on technical support), and a need for textbooks to be put on CD-Roms. A few respondents referred to a need to develop and provide software that was compatible with the syllabi in post-primary schools.

12.3 Comments by Special Schools

Forty-two special schools offered 84 comments on ICT issues. Table 77 provides a breakdown of comments by category. The most frequent categories were technical support/maintenance and funding for hardware/software. While the majority of comments in the technical support/maintenance category referred to a pressing need for funding, they also included the following:

- Provision of funding by hospital invaluable
- Technical support provided by School Trust
- Need for dedicated helpline
- Technical support should be provided on an organised, structured basis

Table 77: *Distribution of Comments Offered by Special Schools, by Category*

Topic	Number of Schools ¹	Percentage of Schools	Number of Comments	Percentage of Comments
Technical Support/Maintenance	13	31.0	14	15.5
Funding Hardware, Software	12	28.6	16	19.0
Professional Development/Inservice	12	28.6	14	16.7
Work in Progress	6	14.3	6	7.1
ICT Plan	5	11.9	5	6.0
Census	4	9.5	4	4.8
NCTE/ICT Advisory Service	4	9.5	4	4.8
Computers	3	7.1	3	3.6
Internet/E-mail	3	7.1	3	3.6
Websites	3	7.1	3	3.6
Assistive devices	3	7.1	3	3.6
ICT Co-ordinator	2	4.8	2	2.4
Curriculum	2	4.8	2	2.4
Projects (External)	2	4.8	2	2.4
Other	4	9.5	4	4.8
Total Comments			84	100.0

¹Schools may be represented more than once in the ‘Number of Schools’ column if they offered multiple comments.

Comments in the funding category (19% of all comments) typically included specific requests for funding. These called for funding for hardware (including laptops for pupils), adjustable trolleys, powerlink boxes and whiteboards. Comments on professional development (17% of all comments) referred to a variety of topics including the provision of a professional development model similar to that used for the revised Primary School Curriculum, a need to link professional development in ICTs to curriculum implementation, and a need for attention to technical issues in professional development courses for teachers and ICT co-ordinators.

Schools that commented on work in progress typically referred to the installation of networking or broadband, with a few indicating that developments of this kind were contingent on the completion of building programmes. Comments on ICT plans referred to a number of ambitious projects, including the development of video-conferencing links between a hospital and children’s schools while children were in hospital, and an intention to acquire software for composing music. Comments directed at the NCTE included requests for advice on addressing the learning needs of children with profound learning difficulties using ICTs, and requests for advice on anti-virus programmes. A number of schools wrote about their accomplishments in the area of ICT, with two schools that dealt with children who had autistic difficulties indicating that such children had benefited greatly from using ICTs.

13.0 INTERNATIONAL RESEARCH

The purpose of this section is to place the findings of the 2005 census in the context of international research on ICT infrastructure

13.1 Sources of International Indicators on ICT

The Paris-based Organisation for Economic Co-operation and Development (OECD) has conducted a number of surveys in recent years that have included a focus on ICT. The Programme for International Student Assessment (PISA) is administered to nationally representative samples of 15-year olds in OECD member countries (including Ireland), as well as in ‘partner’ countries every three years. In both 2000 and 2003, PISA included a short ICT-familiarity questionnaire for students.^{4, 5} In both years, this asked about students’ access to computers at home, in school, and in other places (e.g., clubs), and the frequency with which they used computers for various purposes. In addition, principal teachers in surveyed schools completed a school questionnaire which included questions about the numbers of computers in the school and issues impeding the development of ICT usage at school level.

In 2001, the OECD also conducted a survey of upper secondary schools (ISSUS 2001) in 15 countries, including Ireland. A school questionnaire administered to school principals as part of this study included questions dealing with computer infrastructure, use of computers by students and teachers, and factors perceived to hinder the development of ICT in schools.

The European Commission has also commissioned internationally-comparable data on the average number of pupils per computer, and on the average number per computer with Internet access in primary schools, though the data are from 2001 (European Commission, 2001).⁶

The remainder of this chapter uses data from these studies to address the following themes:

- ICT infrastructure in schools
- Access to and use of computers by students at school, at home and in other places
- Factors perceived by principal teachers to hinder development of ICT in schools

⁴ In 2000, the questionnaire was optional, and was completed by students in 14 OECD countries (including Ireland) and in 4 partner (non-OECD) countries.

⁵ In 2003, the questionnaire was completed by students in 25 participating OECD and in 7 partner countries.

⁶ Data from 2001 are available for post-primary schools from the same source, but are not reported here.

13.2 ICT Infrastructure in School

Average number of students per computer. In PISA 2000, the average number of students per computer⁷ in Ireland was 16, compared to an OECD average of 8. In both Australia and the United States, the average number of students per computer was 6. New Zealand and Norway also had comparatively low average numbers of students per computer (both at 7) (Table 78).

In PISA 2003, the average number of students per computer in Ireland was 9, while the OECD average was 6. In the US, there were 3 students per computer, while in Australia there were 4 (Table 78).

The average number of students per computer decreased significantly in Ireland and in 19 other OECD countries between 2000 and 2003. In Poland, the average fell from 40 to 15, while in Portugal, it dropped from 74 to 14.

In ISSUS 2001, the student-computer ratio for Ireland was 13, while the country average (based on 14 OECD countries) was 9.⁸ Hence, there were fewer computers per student in Ireland than across OECD countries in the study (OECD, 2004a, Table 3.8).

In primary schools, the average number of pupils per computer in Ireland in 2001 was 11.6. The corresponding EU average was 13.2 (European Commission, 2001).

Computers with Internet connection. According to ISSUS 2001, 58% of computers in post-primary schools in Ireland were connected to the Internet, compared to a country average of 69% (OECD, 2004a, Table 3.9). In PISA 2003, 67% of computers in post-primary schools in Ireland had Internet access, compared to an OECD average of 78%. In the United States, 91% of computers had Internet access, while Australia, New Zealand, Korea, Luxembourg and Iceland were all above 90% (Table 78).

At primary level in 2001, the average number of pupils per computer with Internet connection in Ireland was estimated to be 30.1, compared to an EU average of 32.9. (European Commission, 2001).

Computers connected to a Local Area Network (LAN). In Ireland, 36% of computers in schools were connected to a LAN in 2003, compared to an OECD average of

⁷ The ratio of 16 students per computer is higher than the estimate obtained in the NCTE census in 2000 (13 students per computer) (NCTE, 2001). This may arise from methodological differences in computing ratios across studies.

⁸ Note that, whereas the PISA ratios are based on all the computers in a school, the ISSUS ratios are based on the number of computers that were available to students.

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68%. Australia, Korea, Luxembourg and New Zealand had LAN connectivity rates above 90% (Table 78).

Table 78: Ratio of Students to Computers (2000 and 2003), Percentages of Computers Connected to the Internet (2003), and Percentages Connected to a Local Area Network (2003) in PISA

Country	Student Computer Ratio (Average Number of Students Per Computer)		Percentage with Internet Connection	Percentage with LAN Connection
	PISA 2000	PISA 2003	PISA 2003	PISA 2003
Australia	6	4	93	93
Austria	10	5	87	71
Belgium	15	7	74	54
Canada	W ²	5	94	87
Czech Republic	26	9	77	68
Denmark	10	5	88	77
Finland	10	6	92	76
France	8	W	W	W
Germany	24	12	71	45
Greece	58	12	69	56
Hungary	12	4	79	79
Iceland	11	6	96	89
Ireland	16	9	67	36
Italy	16	8	71	50
Japan	14	5	74	73
Korea	10	4	92	91
Luxembourg	10	5	96	95
Mexico	81	12	44	51
New Zealand	7	4	92	92
Norway	7	6	81	48
Poland	40	15	83	64
Portugal	74	14	60	50
Slovak Republic	W	15	51	53
Spain	24	12	79	59
Sweden	12	6	92	80
Switzerland	12	6	80	70
Turkey	W	25	28	12
United States	6	3	91	84
OECD Average	8	6	78	68
UK ¹	8	4	90	88

Bold indicates significant difference relative to 2000.

¹ Response rate too low to ensure comparability; ² W – data not available

Source: OECD (2005a), Table 2.4, p. 98; OECD (2005b), Table 2.1, p. 53 and Table 2.2, p. 55

13.3 Access to and Use of Computers by Students

Access to computers at school. In PISA 2000, 75% of students in Ireland indicated that they had access to a computer at school, compared with an OECD average of 87%. In PISA 2003, 89% of students in Ireland reported that they had access at school, compared with an OECD average of 92%. In countries such as Australia, Canada and Denmark, virtually all students reported access (Table 79). In 2003, significantly fewer boys (87%) than girls (92%) in Ireland reported access (OECD, 2005b, Table 2.2b, pp. 93). Approximately equal proportions of students in Ireland in the lowest and highest quarters on the PISA index of socioeconomic status reported access to a computer in school in 2003 (89% and 88% respectively) (OECD, 2005b, Table 2.2c, p. 94).

Access to computers at home. In PISA 2000, 71% of 15-year olds in Ireland reported having access to a computer at home. By 2003, this had risen to 87%. The corresponding OECD country average percentages were 78 and 85 respectively (Table 79). In 2003 in Ireland, the difference between access at home for boys (88%) and girls (87%) was not statistically significant (OECD, 2005b, Table 2.2b, pp. 93). Whereas 67% of students in the lowest socioeconomic quarter in Ireland reported access to a computer at home in 2003, 99% in the top quarter did so (OECD, 2005b, Table 2.2c, p. 94).

Access to computers in other places. In PISA 2000, 72% of 15-year olds in Ireland reported having access to a computer in places other than school or home, while in PISA 2003, 84% had such access. The increase is statistically significant (Table 79). Fewer boys (81%) than girls (88%) in Ireland reported access to a computer in places other than at school or at home in 2003 (OECD, 2005, Table 2.2b, pp. 93). Seventy-nine percent of students in the lowest socio-economic quarter reported access to a computer in other places in 2003, compared with 89% in top quarter (OECD, 2005, Table 2.2c, p. 94).

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Table 79: Percentages of 15-year olds with Access to Computers at School, at Home and in Other Places, 2000 and 2003 (Based on Student Self-Reports)

Country	Access to a computer at school		Access to a computer at home		Access to a computer in other places	
	2000	2003	2000	2003	2000	2003
Australia	98	100	91	97	96	93
Austria	w	97	w	97	w	76
Belgium	80	91	85	94	74	85
Canada	95	99	88	95	94	98
Czech Republic	79	95	58	82	74	86
Denmark	99	100	92	97	91	85
Finland	96	97	82	91	93	89
Germany	69	93	87	96	73	72
Greece	w	93	w	67	w	81
Hungary	93	98	55	75	66	84
Iceland	w	98	w	98	w	88
Ireland	75	89	71	87	72	84
Italy	w	86	w	87	w	62
Japan	w	89	w	79	w	55
Korea	w	85	w	98	w	88
Mexico	61	83	29	51	72	85
New Zealand	95	98	82	91	96	92
Poland	w	91	w	64	w	80
Portugal	w	98	w	84	w	87
Slovak Republic	w	82	w	72	w	84
Sweden	95	97	95	98	90	91
Switzerland	88	94	90	97	73	70
Turkey	w	54	w	37	w	73
United States	92	97	86	90	95	90
OECD Average	87	92	78	85	84	83
UK ¹	96	99	79	93	94	90

Significant differences between 2000 and 2003 are indicated in **bold**.

¹Response rate too low to ensure comparability

w = data not available

Source: OECD (2005b). Table 2.2a

Use of computers at school. In PISA 2003, 24% of students were described as frequent users of computers at school, 27% as moderate users, and 49% as rare or non-users. The corresponding OECD country averages were 44%, 28% and 28% respectively.

Only students in Germany (48% ‘rare or non-users’) reported using computers as infrequently at school as students in Ireland (OECD, 2005, Table 3.1, p. 102).

Use of computers at home. In PISA 2003, 61% of students in Ireland were described as ‘frequent’ users of computers at home, compared to an OECD average of 74%.⁹ Nineteen percent of students in Ireland were described as ‘moderate’ users (OECD average = 9%), while 20% are described as ‘rarely or never’ using computers (OECD average = 18%). Just 4 OECD countries had fewer frequent users of computers at home than Ireland: Japan (37%), Turkey (48%), Greece (57%) and Poland (59%) (OECD, 2005, Table 3.1, p. 102).

Use of computers in other places. In PISA 2003, 9% of students were described as using computers frequently in other places, compared with an OECD average of 21%. Just 18% of students in Ireland were described as ‘moderate’ users of computers in other places (OECD average = 24%), while 73% were described as ‘rarely or never’ doing so (OECD average = 55%). Only in Japan (93%) did students use computers in other places more infrequently than students in Ireland (OECD, 2005b, Table 3.1, p. 102).

Use of computers for various purposes. In PISA 2003, students were asked how often they used computers (whether at school or elsewhere) for a variety of purposes. In Ireland, 59% of boys and 35% of girls reported using games on a computer frequently (the corresponding OECD averages were 70% and 35%). Just 30% of boys and 18% of girls reported frequent use of Internet to download software (OECD averages = 51% and 25%). Thirty-four percent of both boys and girls reported using a computer for electronic communication (e-mail or chat room) frequently (OECD averages = 56% and 55%). Just 15% of boys and 11% of girls reported using a computer for programming on a frequent basis (OECD averages = 30% and 16%). Twenty-seven percent of boys and 41% of girls used computers frequently for word processing (OECD averages = 48% and 49%). Japan was the only country in which fewer boys (15%) than in Ireland used computers frequently for word processing, while fewer girls in Japan (19%), Finland (26%), Korea (35%), Mexico (34%) and Turkey 39% reported less frequent use of a computer for word processing than girls in Ireland (OECD, 2005b, Tables 3.3 and 3.5, pp. 104-106).

⁹ Frequent use is defined as using a computer ‘almost every day’ or ‘a few times each week’. Moderate use is ‘between once a week and once a month’. Rare or No Use is ‘less than once a month’ or ‘never’.

13.4 Perspectives of Principal Teachers on ICT

In PISA 2000 and PISA 2003, principal teachers in Ireland and in other countries were asked to indicate the extent to which shortages of computers and computer software hindered instruction. In 2003, 8% of pupils attended schools whose principals reported that lack of computers hindered instruction a lot, while 41% were taught in schools whose principals said that it did so to some extent (the corresponding OECD averages were 11% and 33%). Also in 2003, 20% of pupils in Ireland attended schools whose principals said that shortages of computer software hindered instruction a lot, while 37% attended schools whose principals indicated that such shortages did so to some extent (OECD averages = 12% and 34%). In Ireland the percentage of pupils attending schools whose principal teachers reported that a shortage of computers hindered instruction a lot or to some extent increased from 41 to 50 between 2000 and 2003. However, the increase was not statistically significant (OECD, 2005b, Table 2.5, pp. 99-100).

In ISSUS 2001, principal teachers were asked to identify obstacles to reaching goals related to the development of ICT. Seventy-five percent of students in Ireland attended schools where the principal cited an insufficient number of computers for students' use as an obstacle, while 63% reported that there was insufficient space to locate computers appropriately. The corresponding country averages were 56% and 44% respectively. In Ireland, 72% of students attended schools where the principal teacher reported that there were not enough copies of software for instructional purposes, 66% where there was insufficient variety of software, and 38% where the quality of software was perceived to be poor. The corresponding country averages were 47%, 46% and 26% respectively. In contrast to other countries, just 8% of students in Ireland attended schools where the principal reported a lack of support from the governing body or the community. The corresponding country average was 23%, while 35% of students in Norway, and 36% in Finland attended schools where such support was perceived to be lacking.

13.5 Conclusion

International research shows an improvement in post-primary schools in Ireland between 2000 and 2003 on measures of ICT infrastructure such as average number of pupils per computer, percentage of computers with Internet access, and percentage of

pupils with access to a computer. However, other countries also registered improvements over the three years, with the result that Ireland continues to lag behind the OECD average on key indicators of infrastructure. International data on infrastructure in primary schools are less widely available, with the most recent indicators dating back to 2001.

Indicators of infrastructure obtained in the 2005 census show improvements over PISA 2003. For example, in the 2005 ICT census, the pupil-computer ratio in post-primary schools was estimated to be 7.0. This is an improvement on the pupil-computer ratio of 9 for PISA 2003 (though methodologies for calculating this statistic differed across the two studies). Similarly, in the 2005 census, 79% of computers in post-primary schools had Internet access, compared to 67% in PISA 2003. In the 2005 census, 80% of computers in post-primary schools were networked, compared to just 36% in PISA 2003. The general trend then is one of improvement in the infrastructure in post-primary schools. Indeed, the provision by the DES of grants to schools in 2005 to arrange networking, and the rollout of Broadband to all schools, should lead to further improvements in indices of infrastructure in future national and international studies.

Although the 2005 census did not generate data on the use of computer by pupils, the PISA 2003 data (where 49% of 15-year olds in Ireland reported that they rarely or never used computers in schools) is a matter of concern, and suggests that, in the future, the use of computers in schools will need to be monitored as closely as the indices of infrastructure described in this report.

14.0 REFERENCES

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¹² <http://www.ncte.ie/NCTEInitiatives/TechnologyIntegrationInitiative/CensusReports/d1976.PDF>

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15.0 APPENDIX A – SUPPLEMENTARY DATA TABLES

The tables in this appendix are intended to supplement those in the body of the report. They provide additional data that could not be included in the main tables. The tables in this appendix are numbered with reference to tables in the body of the report. For example, Tables A2a and A2b below are linked to Table 2 in the report proper.

Table A2a: NCTE Census 2005 – Numbers of Schools on Databases, by School Sector and Category

School Category	Primary	Post Primary
Disadvantaged Status		
Yes	311	204
No	2838	528
School Size		
Large	456	245
Medium	1033	251
Small	1660	236
School Type		
Secondary	-----	397
Vocational	-----	244
Comprehensive	-----	16
Community	-----	75
Secondary Fee Paying		
Yes	-----	56
No	-----	341
School Gender		
Male	270	112
Female	278	148
Mixed	2601	472
Urban or Rural		
Urban	451	248
Rural	2698	484
Total	3149	732

Refers to Table 2

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Table A2b: NCTE Census 2005 – Numbers of Responding Primary and Post-Primary Schools, by School Category (2005)

School Category	Primary	Post Primary
Disadvantaged Status		
Yes	284	167
No	2541	425
School Size		
Large	414	191
Medium	933	210
Small	1478	191
School Type		
Secondary	-----	324
Vocational	-----	194
Comprehensive	-----	12
Community	-----	62
Secondary Fee Paying		
Yes	-----	40
No	-----	284
School Gender		
Male	247	92
Female	250	124
Mixed	2328	376
Urban or Rural		
Urban	405	189
Rural	2420	403
Total	2825	592

Refers to Table 2

Table A4a: Comparison of Pupil-Computer Ratios, by School Sector – Underlying Data (2005)

Sector	Number of Schools	Number of Computers	Numbers of Pupils
Primary	2814	42936	389139
Post Primary	588	38209	267723
Special	102	1724	5323

Refers to first row (2005 pupil-computer ratio) in Table 4

Table A4b: Pupil-Computer Ratio, by School Sector and by County (2005)

County	Pupil-Computer Ratio	
	Primary	Post Primary
Carlow	10.6	7.7
Cavan	9.7	9.7
Clare	7.4	5.8
Cork	8.6	6.2
Donegal	8.9	6.6
Dublin	9.0	6.7
Galway	8.8	9.0
Kerry	8.9	6.9
Kildare	9.8	7.1
Kilkenny	9.8	8.5
Laois	10.1	7.6
Leitrim	9.5	5.6
Limerick	8.5	6.4
Longford	8.9	7.5
Louth	9.8	8.8
Mayo	7.3	6.9
Meath	10.8	8.7
Monaghan	8.1	5.9
Offaly	9.7	9.2
Roscommon	7.5	7.1
Sligo	9.5	5.1
Tipperary	9.7	6.8
Waterford	10.1	7.3
Westmeath	9.2	10.1
Wexford	10.6	7.9
Wicklow	9.5	8.1
TOTAL	9.1	7.0

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Table A5: Pupil-Computer Ratio at Primary and Post-Primary Levels, by School Category – Numbers of Responding Schools and Underlying Data (2005)

School Category	Primary			Post Primary		
	Schools	Computers	Students	Schools	Computers	Students
Disadvantaged Status						
Yes	283	7438	55301	166	11813	72147
No	2531	35498	333838	422	26396	195576
School Size						
Large	413	13871	156724	191	17486	137155
Medium	932	16897	151610	208	12818	89657
Small	1469	12168	80805	189	7905	40911
School Type						
Secondary	----			321	16425	149864
Vocational	----			194	15305	76128
Comprehensive	----			12	832	6467
Community	----			61	5647	35264
Secondary Fee Paying						
Yes	----			40	2339	17566
No	----			281	14086	132298
School Gender						
Male	246	5702	47493	91	4651	41625
Female	250	6275	60016	123	6408	62415
Mixed	2318	30959	281630	374	27150	163683
Urban or Rural						
Urban	403	11125	98321	187	14115	95435
Rural	2411	31811	290818	401	24094	172288
	2814	42936	389139	588	38209	267723
Total						

Refers to Table 5

Table A6: Average Numbers of Working Computers in Primary School Classrooms, by School Category (2005) – Numbers of Schools and Standard Deviations for Mean Scores

School Category	Primary	
	Number of Schools	Standard Deviation (for Average Numbers of Computers per Classroom)
Disadvantaged Status		
Yes	279	0.70
No	2495	0.92
School Size		
Large	405	0.58
Medium	924	0.69
Small	1445	1.04
Urban or Rural		
Urban	398	0.75
Rural	2376	0.93
Total	2774	1.9

Refers to Table 6

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Table A15: Expenditure on ICTs and Technical Support in Excess of Grants in Primary and Post-Primary Schools, by School Sector and Category (2005) – Numbers of Responding Schools

School Category	Primary		Post Primary	
	All ICTs	Tech Support	All ICTs	Tech Support
Disadvantaged Status				
Yes	214	205	155	137
No	1862	1760	404	337
School Size				
Large	329	317	179	156
Medium	674	655	199	179
Small	1073	993	181	139
School Type				
Secondary	----	----	308	263
Vocational	----	----	184	151
Comprehensive	----	----	11	12
Community	----	----	56	48
Secondary Fee Paying				
Yes	39	34	----	----
No	520	440	----	----
School Gender				
Male	186	174	89	78
Female	187	189	115	99
Mixed	1703	1602	355	297
Urban or Rural				
Urban	304	277	179	155
Rural	1772	1688	380	319

Refers to Table 15

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Table A19: Computers in Various Location in Schools, by School Sector (2005) - Numbers of Computers

Location of computer	Primary (N = 2776)	Post Primary (N = 584)	Special Schools (N = 102)
Computer rooms/computer labs	11,431	22,196	260
General Classrooms (excluding laboratories/specialist rooms)	18,728	1,526	943
Laboratories			
Science laboratories	----	992	0
Language laboratories	-----	1297	0
Specialist Rooms			
Art room	-----	343	7
Music room	-----	343	3
Home economics room	-----	191	12
Technical graphics/drawing room	-----	686	2
Speech Therapy room	-----	-	24
Paramedical room	-----	-	5
Other specialist rooms	-	420	31
Workshops			
Engineering workshop	-	305	2
Construction studies workshop	-	267	3
Technology workshop	-	229	0
Other Locations			
Learning support room	2,489	1,106	12
Special needs resource room	2,236	610	8
School library/resource areas	464	839	17
Staff room/Staff work areas	337	1,106	15
Offices/Administration areas	2,446	2,479	150
Careers room/office	-	763	5
Mobile/Other computers			
Computers on mobile trolleys	970	305	58
Laptops (not assigned to individual students)	2,489	1487	114
Laptops assigned to individual students with special needs	590	648	29

Refers to Table 19

Table A21: Networked Computers and Computers with Internet Access in Schools, by School Sector (2005) – Numbers of Responses

	Primary Schools	Post-Primary Schools	Special Schools
Computers Networked	2770	557	52
Computers with Internet Access	2775	572	87

Refers to Table 21

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Table A22: Networked Computers and Computers with Internet Access in Schools, by School Category (2005) – Numbers of Responding Schools

School Category	Primary		Post Primary	
	Networked	Internet Access	Networked	Internet Access
Disadvantaged Status				
Yes	279	279	158	157
No	2490	2495	394	406
School Size				
Large	403	405	184	184
Medium	921	923	198	201
Small	1445	1446	170	178
School Type				
Secondary	-----	-----	297	305
Vocational	-----	-----	184	188
Comprehensive	-----	-----	12	11
Community	-----	-----	59	59
Secondary Fee Paying				
Yes	-----	-----	37	39
No	-----	-----	515	524
School Gender				
Male	242	242	83	86
Female	245	246	114	117
Mixed	2282	2286	355	360
Urban or Rural				
Urban	396	397	176	178
Rural	2373	2377	376	385

Refers to Table 22

NCTE 2005 CENSUS ON ICT INFRASTRUCTURE IN SCHOOLS

Table A29: Schools with Peer-to-Peer, Client Server and Other Networks, by School Sector (2005) - Numbers of Responding Schools

	Primary	Post Primary	Special Schools
Peer-to-Peer Network	2617	572	48
Client Server Network	2828	595	48
Other	2617	573	48

Refers to Table 29

Table A45: Schools That Facilitated ICT Professional Development in Past Two Years, by School Category and Sector (2005) – Numbers of Responding Schools

School Category	Primary	Post Primary
Disadvantaged Status		
Yes	283	167
No	2524	425
School Size		
Large	410	191
Medium	928	210
Small	1469	191
School Type		
Secondary	----	324
Vocational	----	194
Comprehensive	----	12
Community	----	62
Secondary Fee Paying		
Yes	----	40
No	----	284
School Gender		
Male	244	92
Female	248	124
Mixed	2315	376
Urban or Rural		
Urban	402	189
Rural	2405	4.3

Refers to Table 45

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Table A50: Primary and Post-Primary Schools in Which Various IT Companies/Contractors (With Fixed or No Fixed Contract) Provided Technical Support, by School Category (2005) - Numbers of Responding Schools

School Category	Primary		Post Primary	
Disadvantaged Status				
Yes	284	284	167	167
No	2539	2539	425	425
School Size				
Large	414	414	191	191
Medium	933	933	210	210
Small	1476	1476	191	191
School Type				
Secondary	-----	-----	324	324
Vocational	-----	-----	194	194
Comprehensive	-----	-----	12	12
Community	-----	-----	62	62
Secondary Fee Paying				
Yes	-----	-----	40	40
No	-----	-----	284	284
School Gender				
Male	247	247	92	92
Female	250	250	124	124
Mixed	2326	2326	376	376
Urban or Rural				
Urban	405	405	189	189
Rural	2418	2418	403	403

Refers to Table 50

Table A52: Schools Indicating Various Technical Support Priorities, by School Sector (2005) – Numbers of Responding Schools

Technical support priorities	Primary	Post Primary	Special Schools
To increase technical support skills/capacity among selected school staff	311	544	94
Funding assistance to purchase local technical support from an external IT company/contractor.	321	533	94
To be part of a local school cluster which has a contract with an IT company/contractor	441	495	88
To be part of a centrally provided technical support service for schools	363	511	90
Other	2759	26	4

Refers to Table 52

16.0 APPENDIX B – AVERAGE NUMBER OF PUPILS PER COMPUTER

An alternative measure of the pupil-computer ratio to that described in Chapter 2 may be obtained by computing the average number of computers per school, and then averaging across schools. Using this method, the average numbers of pupils per computer in primary, post-primary and special schools in 2005 were 9.4, 8.2 and 3.2 respectively.

Figures B1 to B3 illustrate the distributions of the average numbers of computers in primary, post-primary and special schools respectively. The outliers at primary level (Figure B1) arise because of very high averages in some small schools. At post-primary level, schools are more similar to one another in terms of the average number of pupils per computer, with a relatively small number of schools showing high ratios (Figure B2). Finally, almost all special schools have a ratio that is lower than 8 pupils per computer. However, there are a few outlier schools, where the ratio is between 11 and 13 pupils per computer (Figure B3).

Figure B1: Average Number of Pupils per Computer – Primary Schools (2005)

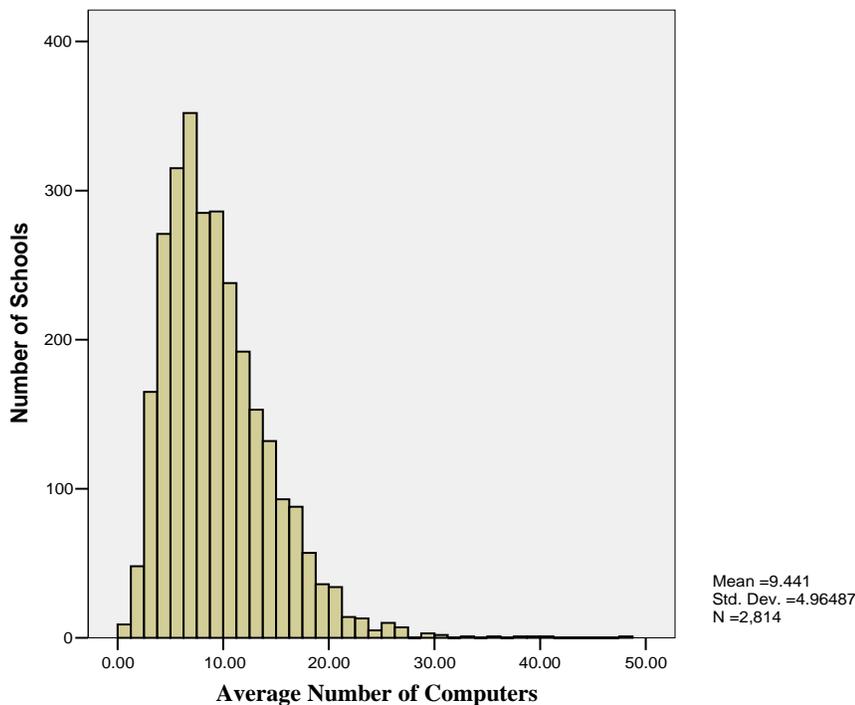


Figure B2: Average Number of Pupils per Computer – Post-Primary Schools (2005)

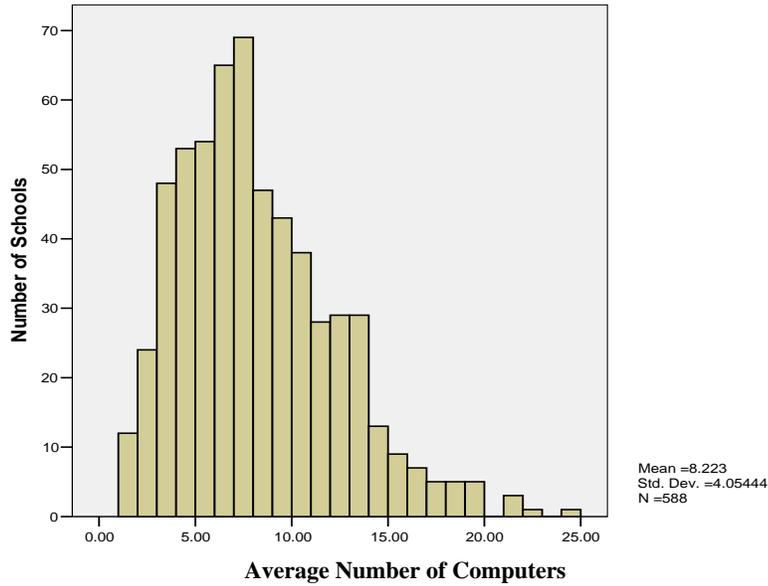


Figure B3: Average Number of Pupils per Computer – Special Schools (2005)

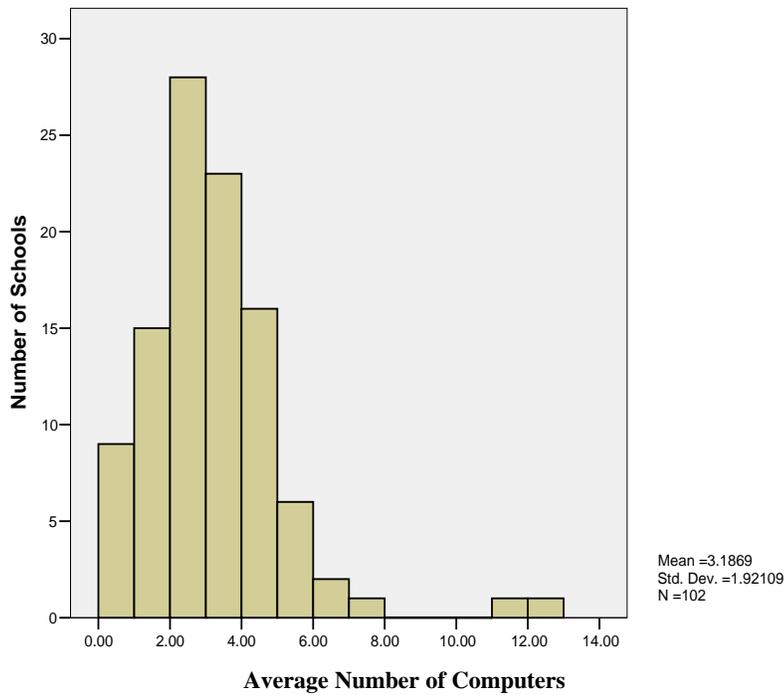


Table B5 provides estimates of the average numbers of pupils per computer for different categories of schools at primary and post-primary levels in 2005. The averages in Table B5 can be compared with the pupil-computer ratios reported in Table 5 in the body of the report.

Table B5: Average Numbers of Pupils per Computer in Primary and Post-Primary Schools, by School Category (2005)

School Category	Average Number of Pupils per Computer	
	Primary	Post Primary
Disadvantaged Status		
Yes	8.1	7.2
No	9.6	8.6
School Size		
Large	12.5	10.1
Medium	11.0	8.5
Small	7.6	6.0
School Type		
Secondary	----	9.9
Vocational	----	5.8
Comprehensive	----	7.9
Community	----	7.4
Secondary Fee Paying		
Yes	----	8.5
No	----	10.1
School Gender		
All-boys (Male)	8.8	9.5
All-girls (Female)	10.4	10.6
Mixed	9.4	7.2
Urban or Rural		
Urban	9.6	8.3
Rural	9.4	8.2
All Schools	9.4	8.2

See Table A5 for numbers of schools represented in each cell.