MINISTRY OF EDUCATION
Te Tāhuhu o te Mātauranga

School ICT Infrastructure Survey

For best results this report should be printed in colour.

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Introduction

Purpose of this report

The School ICT Infrastructure Survey was carried out so the Ministry of Education could gather information about how schools are currently using technology and what potential services running over fibre, schools would find valuable. The Government's intention is to provide schools with affordable, modern and safe learning environments that support 21st century education and improve outcomes for young people.

The report is also useful for respondents to compare and benchmark their own school with similar schools. This report is specific to your school and will allow your school to see how it compares with other similar sized schools, as well as all schools in general.

The survey provides a snap shot at a certain time, based on the information provided by schools in 2012. Data which related to expenditure on commercial agreements has not been reported.

Profile of respondents

The survey was completed by 600 schools and the sample provides a good representation of the overall school sector.

School size bands	Schools in Survey	All Schools
Very small (<100)	23% (139)	29% (732)
Small (100-199)	18% (105)	21% (540)
Medium (200-499)	33% (199)	33% (832)
Large (500-899)	15% (89)	12% (300)
Very large (900-1499)	8% (45)	3% (87)
Extra large 1500+	4% (23)	2% (44)

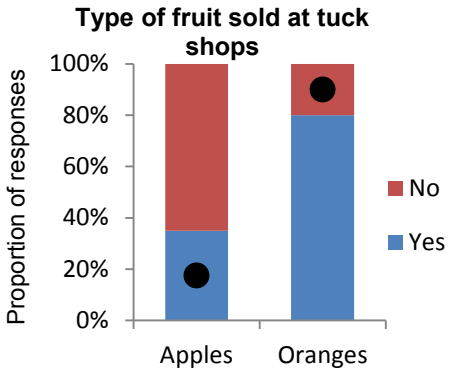
How to read the charts and tables

There are a variety of charts and tables presented in this report. This section will help you to accurately interpret the results of the survey and show how your school compares with other schools.

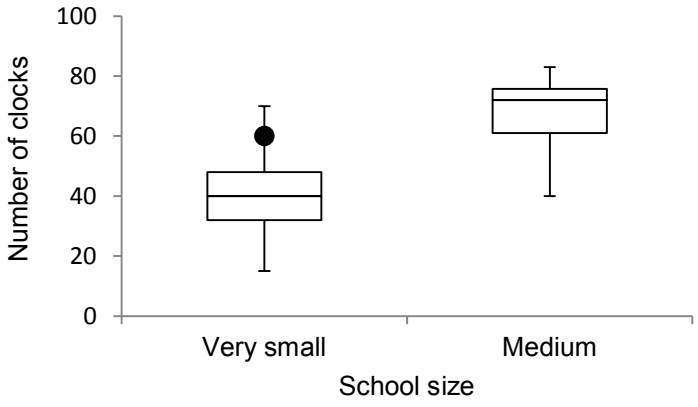
Charts

There are two main types of charts used; bar graphs and box plots. The bar graphs are used to show the proportion of responses for a particular question. To be able to quickly indentify the response from your school, a black dot is used. (There are some charts where your school's response is not shown as a black dot but is shown in text.)

In the hypothetical example to the right, the chart shows that the majority of schools (65%) don't sell apples, while the majority (80%) sell oranges. The black dots show that your school's tuck shop sells apples but does not sell oranges.



Box plots have been used for some questions. For illustrative purposes, the example below shows the number of clocks schools have by school size. The box represents the middle 50% of the responses, with the median shown by the horizontal line inside the box. For very small schools the median was 40 clocks. The vertical lines above and below the box represent the top and bottom 25% of responses. Again a black dot has been used to show your school's response. The example below shows your school responded with 60 clocks, which is in the top 25% of responses for very small schools.



Tables
Tables showing averages and proportions are self explanatory.

Tables showing the top five reported responses are presented in descending order, with the most common response on the top row and the fifth most common response on the bottom row.

If two or more responses are equally represented then they are presented on the same row. The subsequent row(s) are left blank, depending on how many equal responses there are.

Only those responses with 5% or more of schools reporting them are shown. If there are less than five unique responses then a dash (-) is used to signify this.

In the hypothetical example to the right, the table shows the four most common ways students get to school. The most common for very small schools was by bus. Very small schools only had three responses that were reported by 5% or more of schools and is consequently shown as a dash in row 4.

Walking was the most common response for all schools and taking the bus and being dropped off by parents were second equal. Biking was therefore the fourth most common response.

Top four modes of transport to school

Very small	All schools
Bus	Walk
Walk	Bus; Parent drop off
Parent drop off	
-	Bike

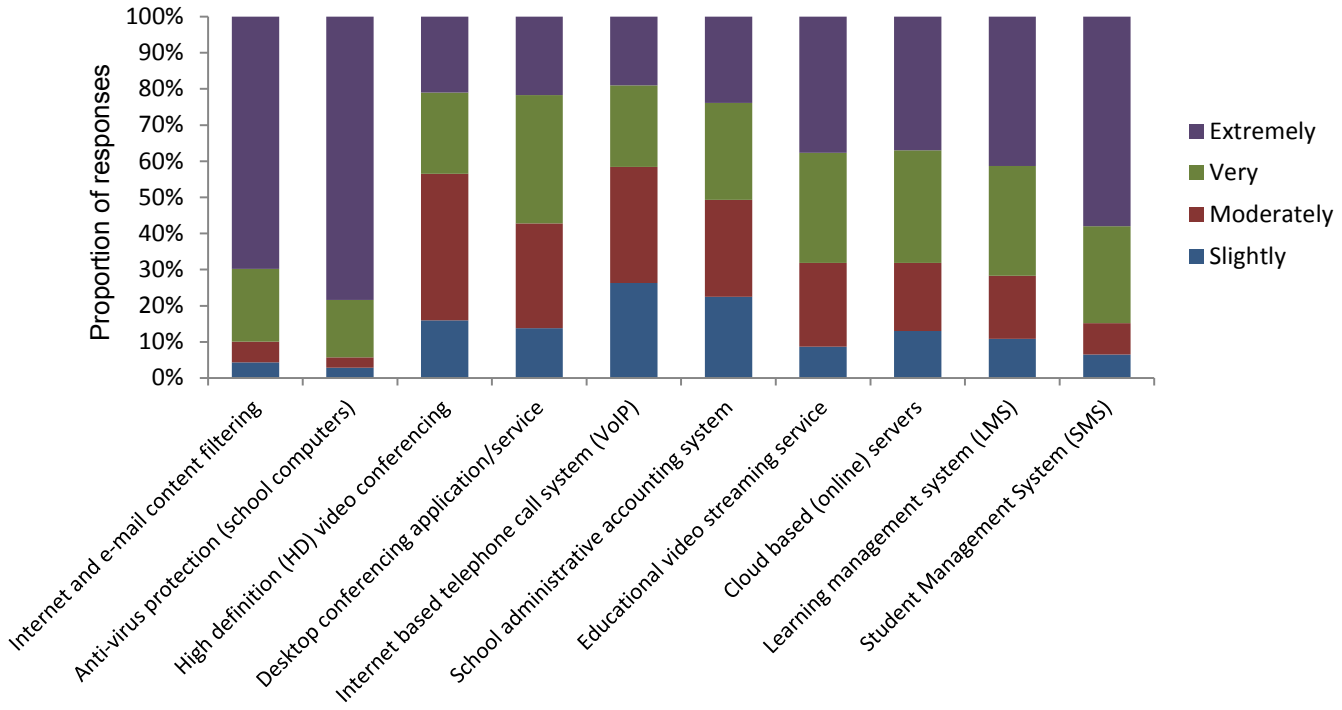
It is important to note that all charts and tables are only representative of those schools which responded to each question.

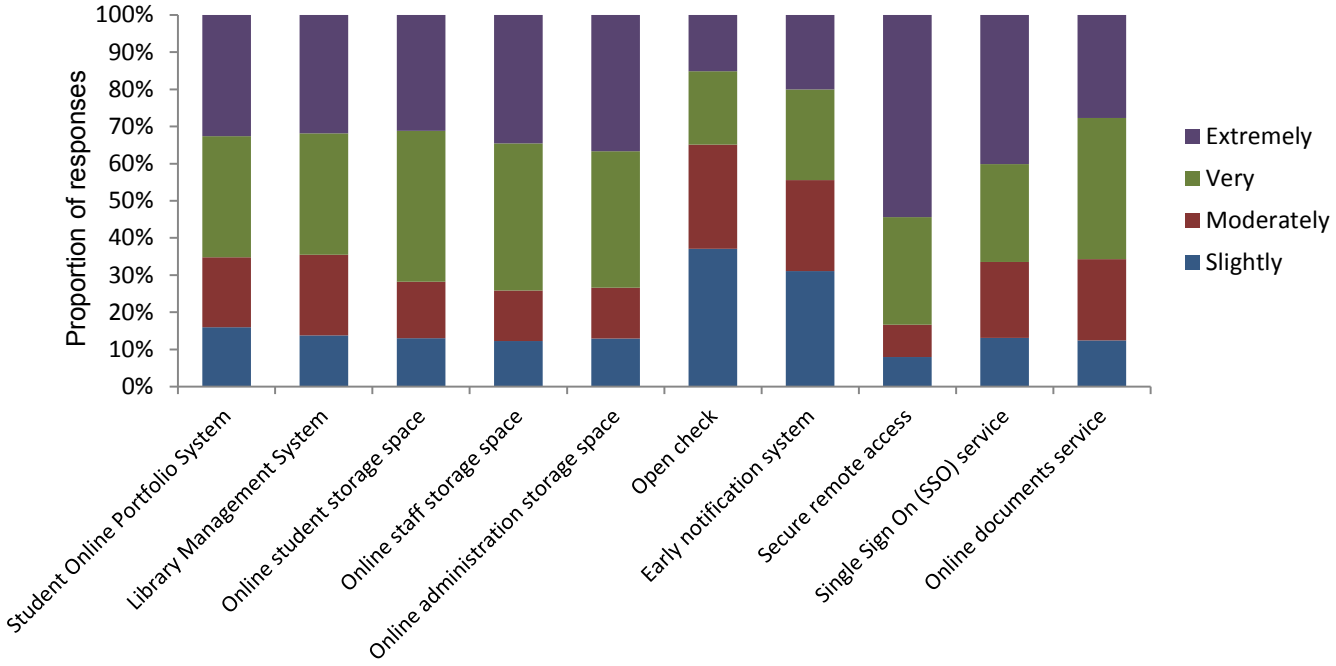
Survey Results

Section B - Network for Learning (N4L) Consultation

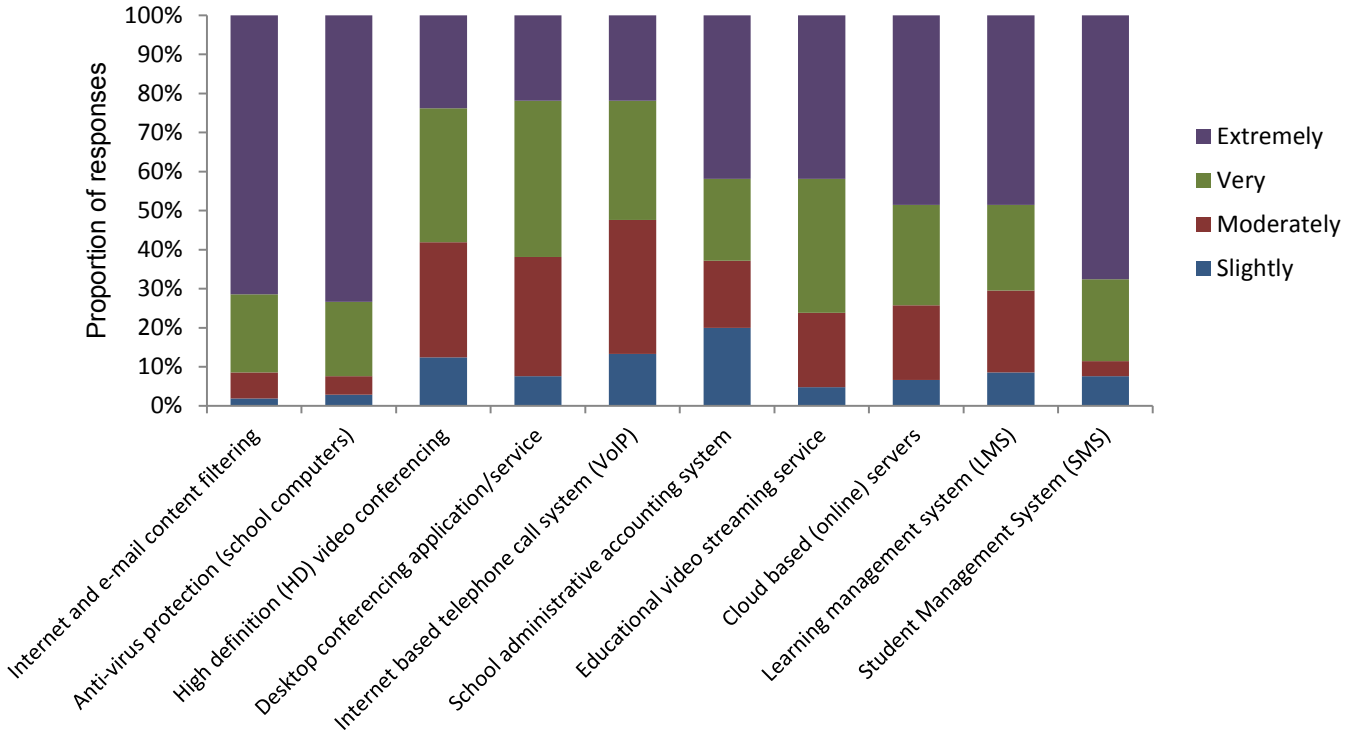
B1 - How important is it for schools to have access to the following cloud services on the N4L?

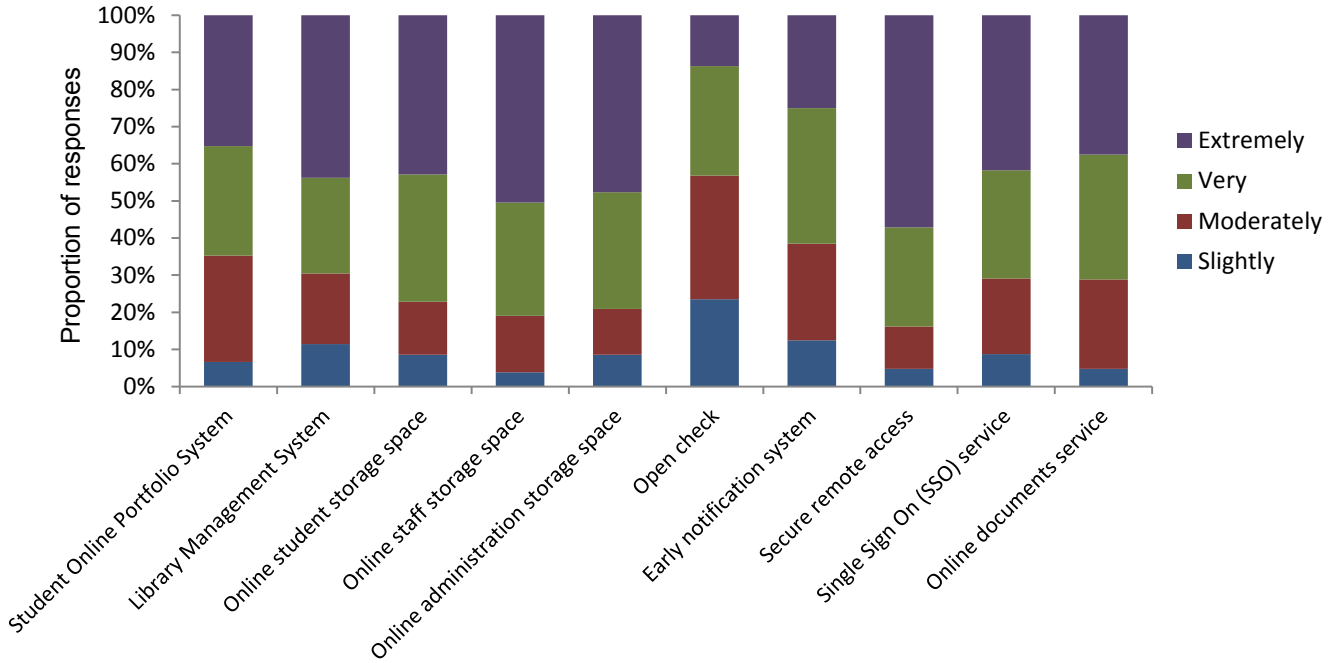
Importance for very small schools



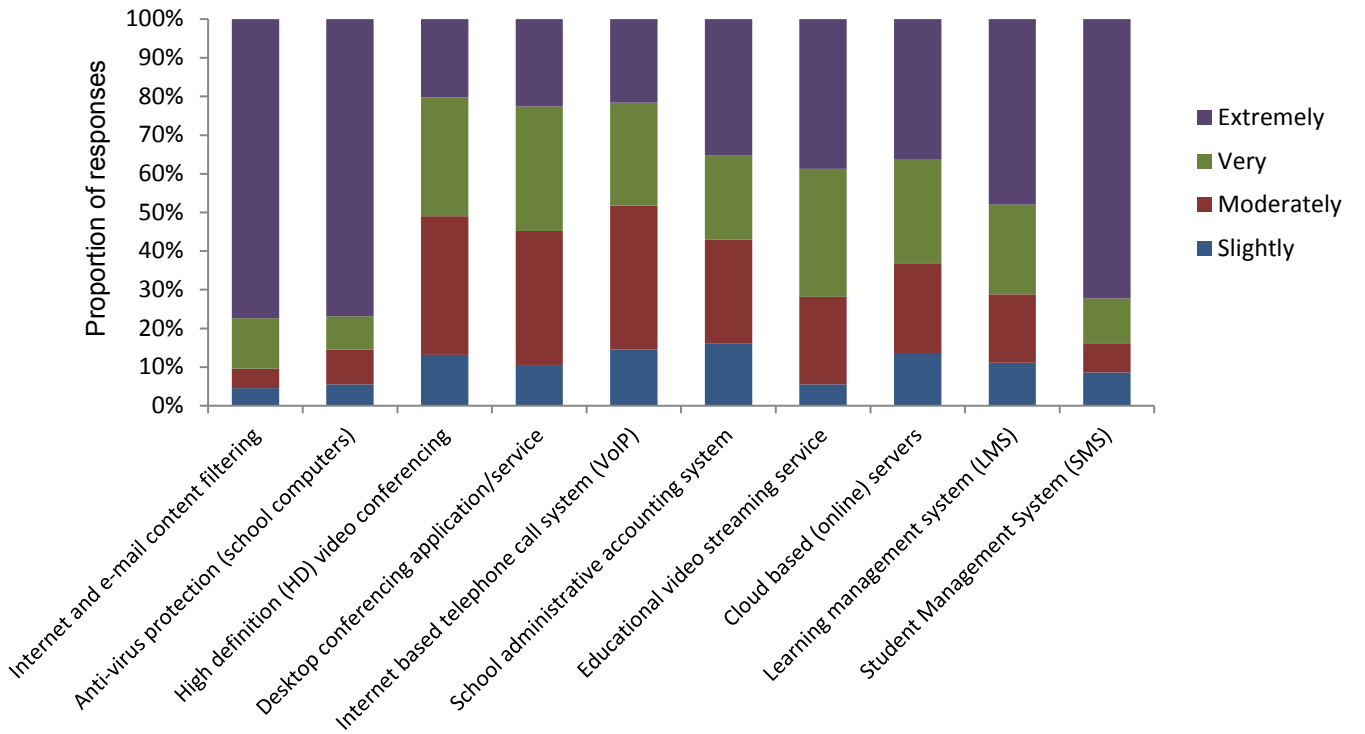


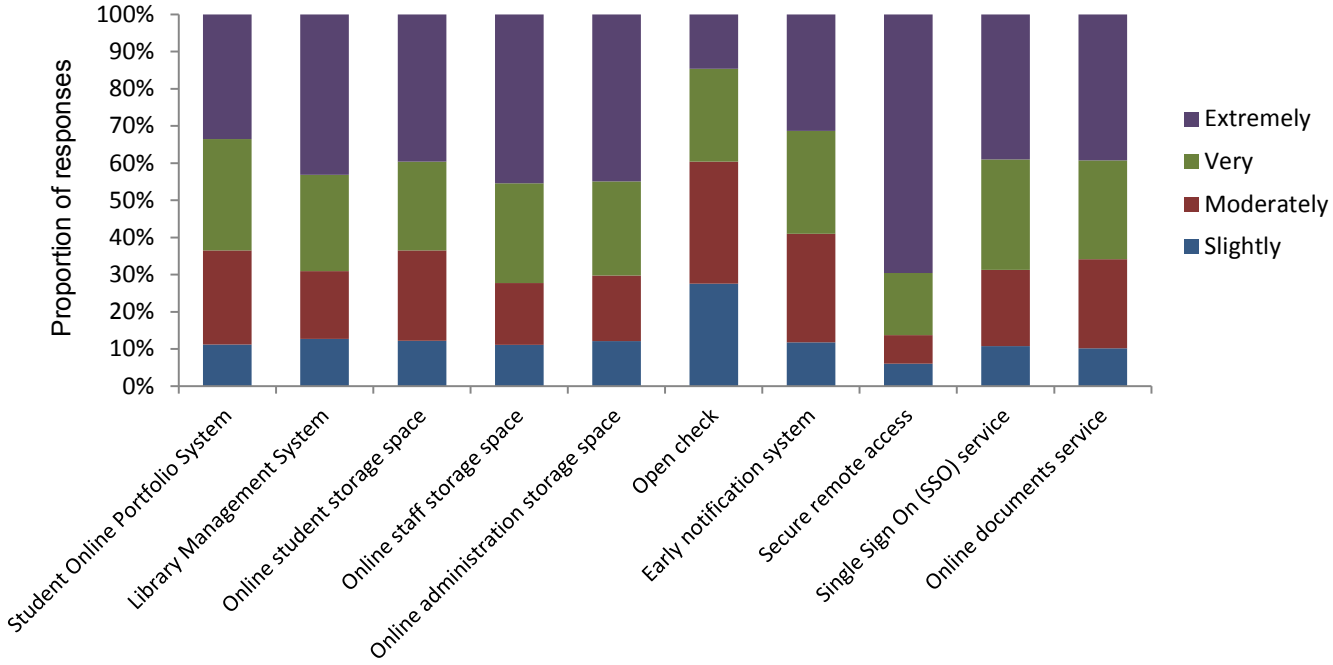
Importance for small schools



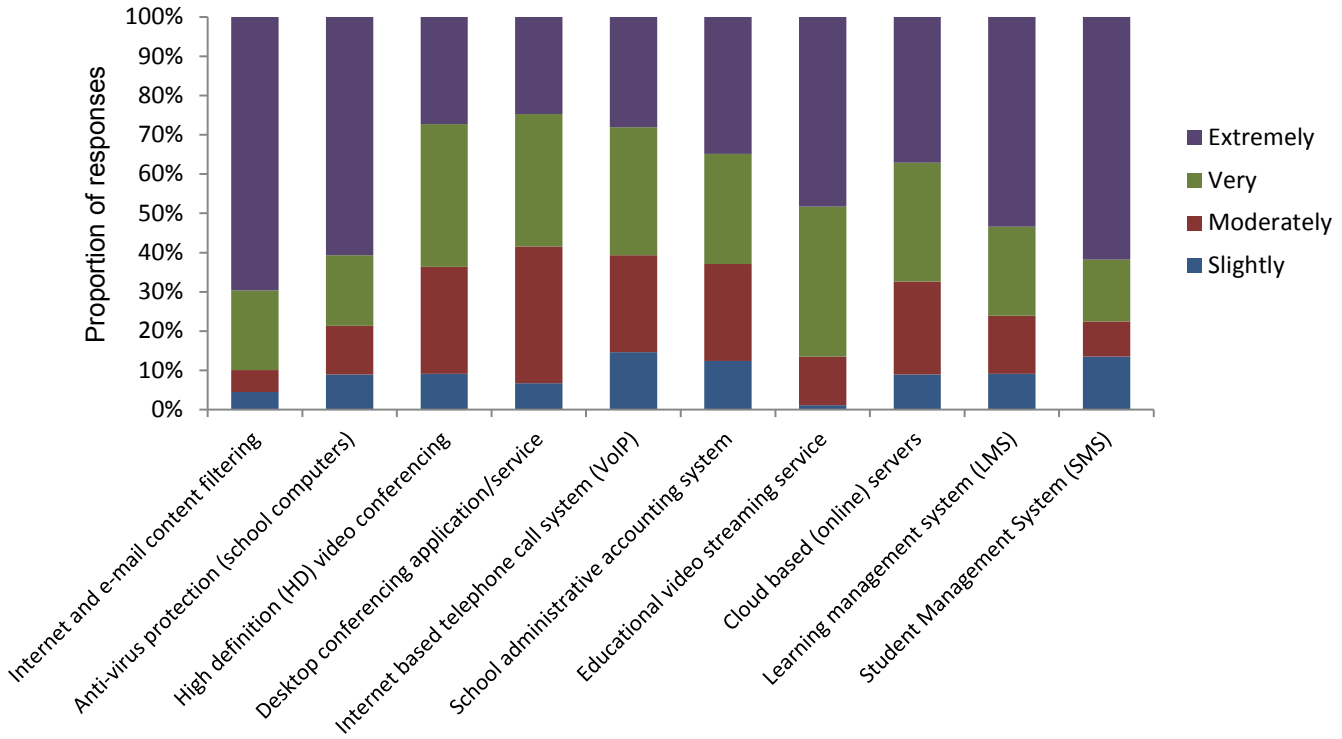


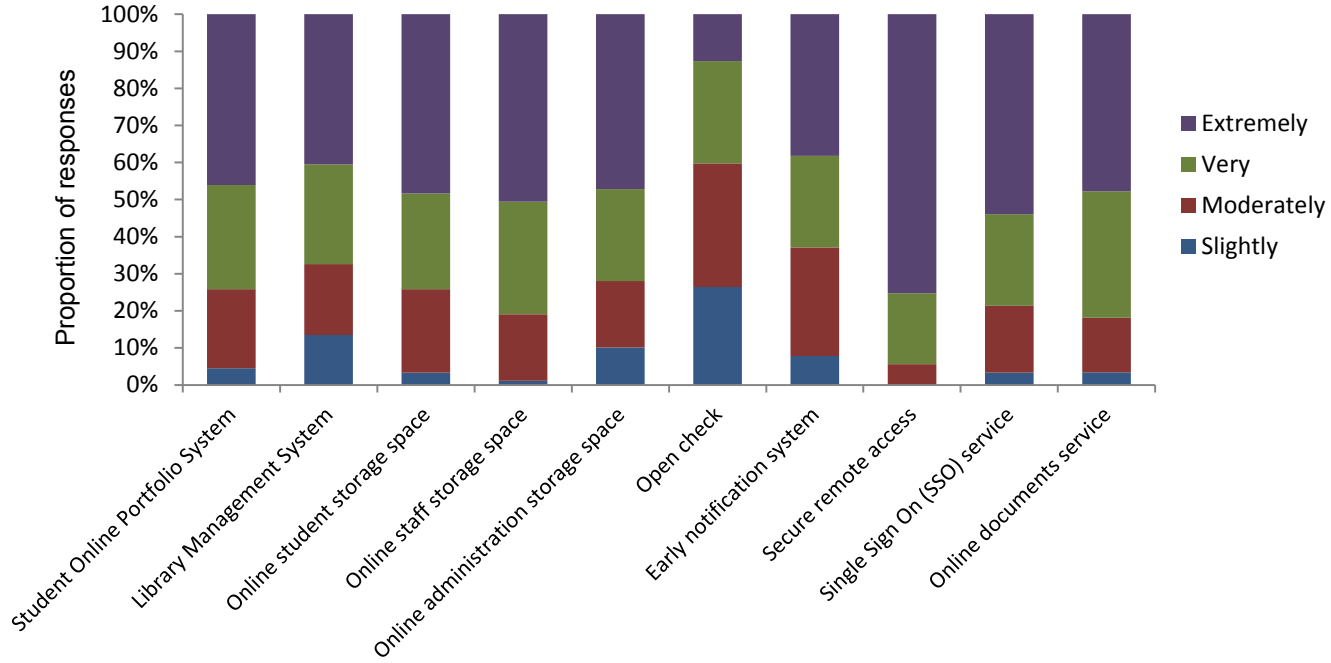
Importance for medium schools



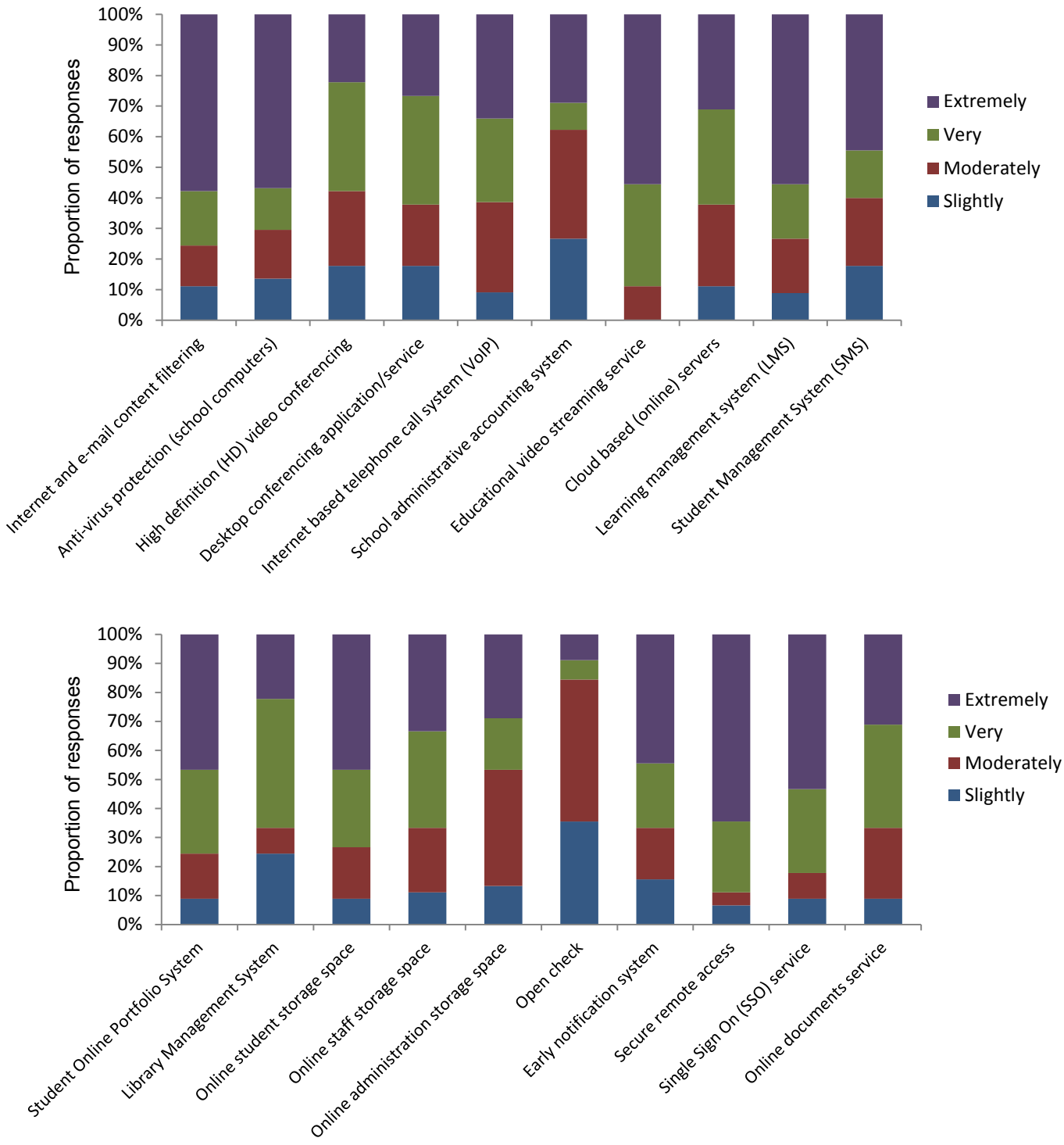


Importance for large schools

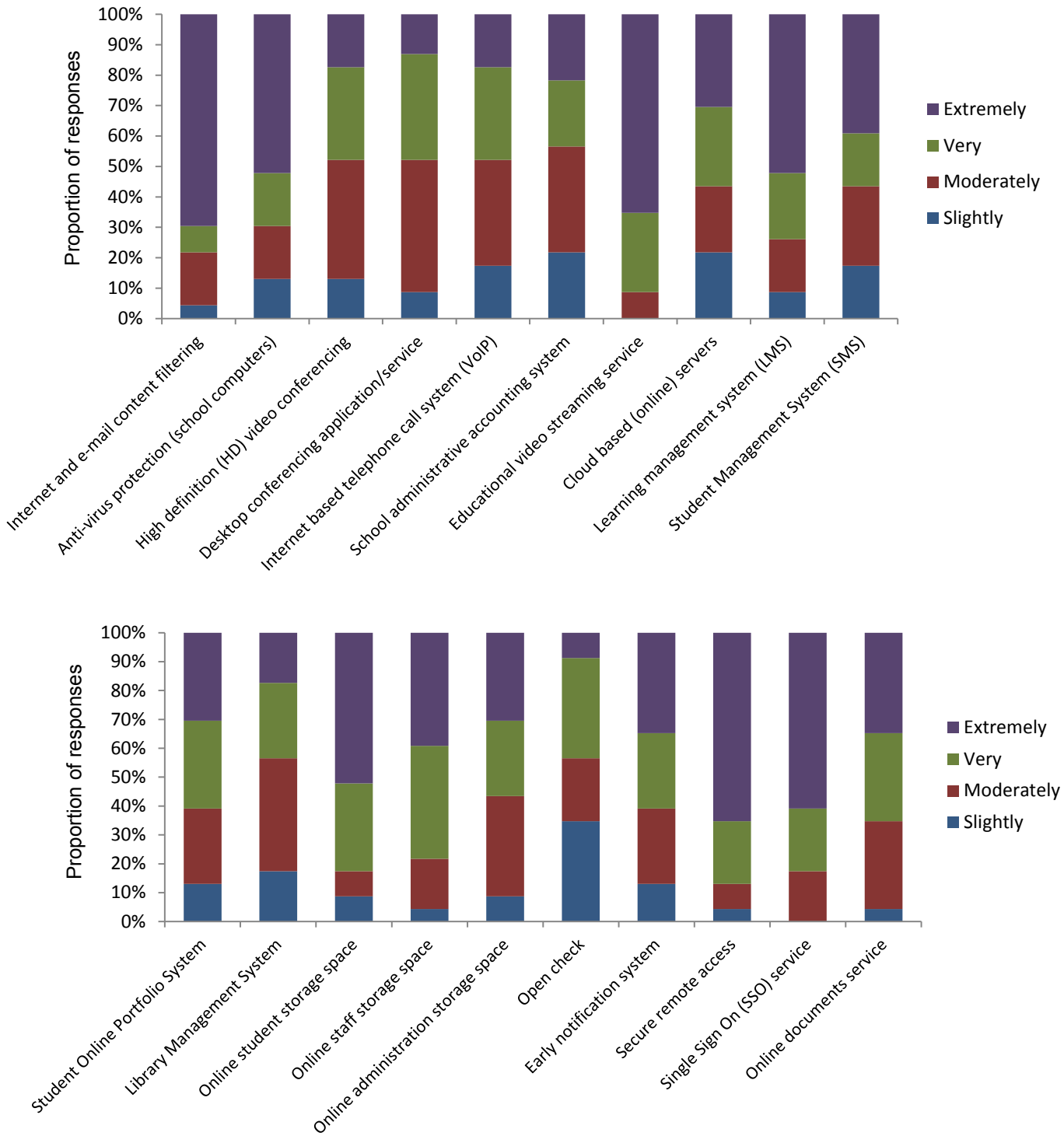




Importance for very large schools

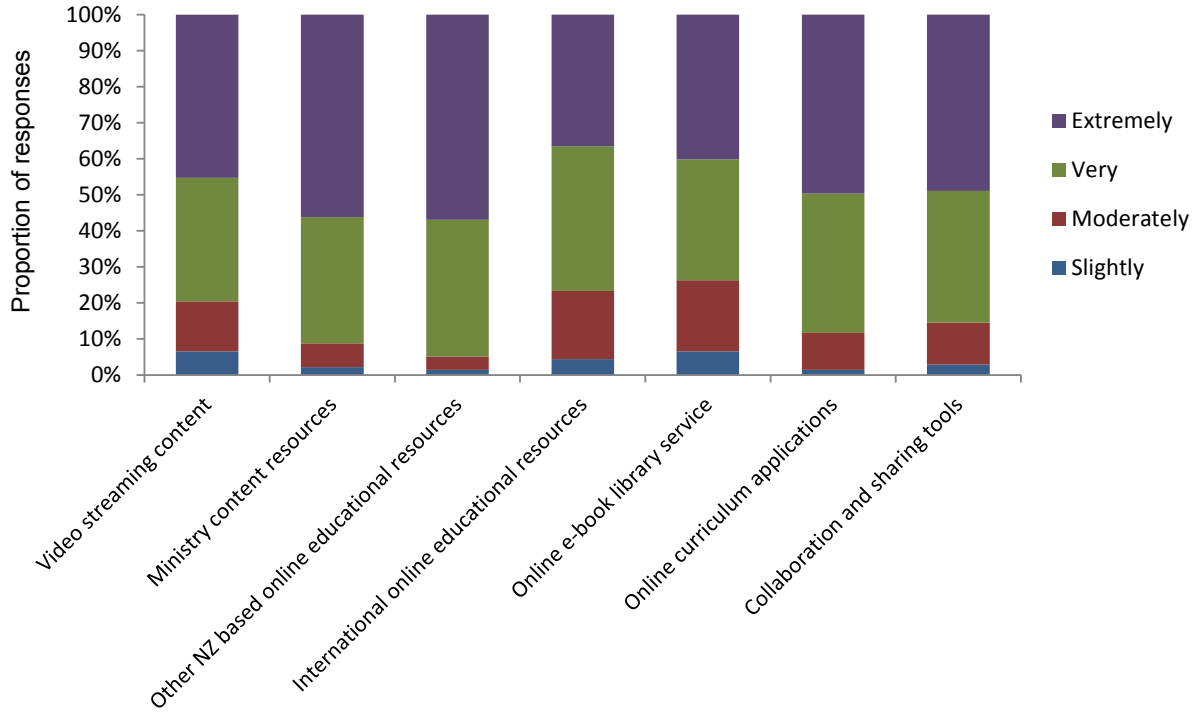


Importance for extra large schools

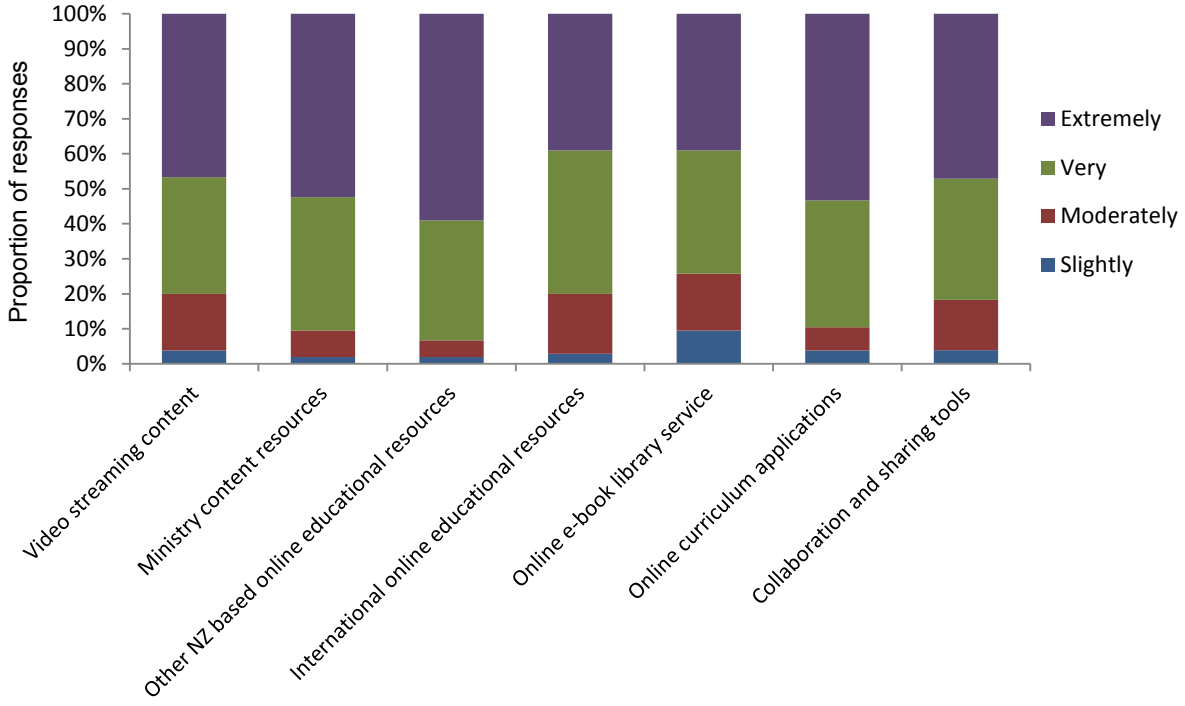


B2 – The importance for schools to have access to the following content and resources on the N4L.

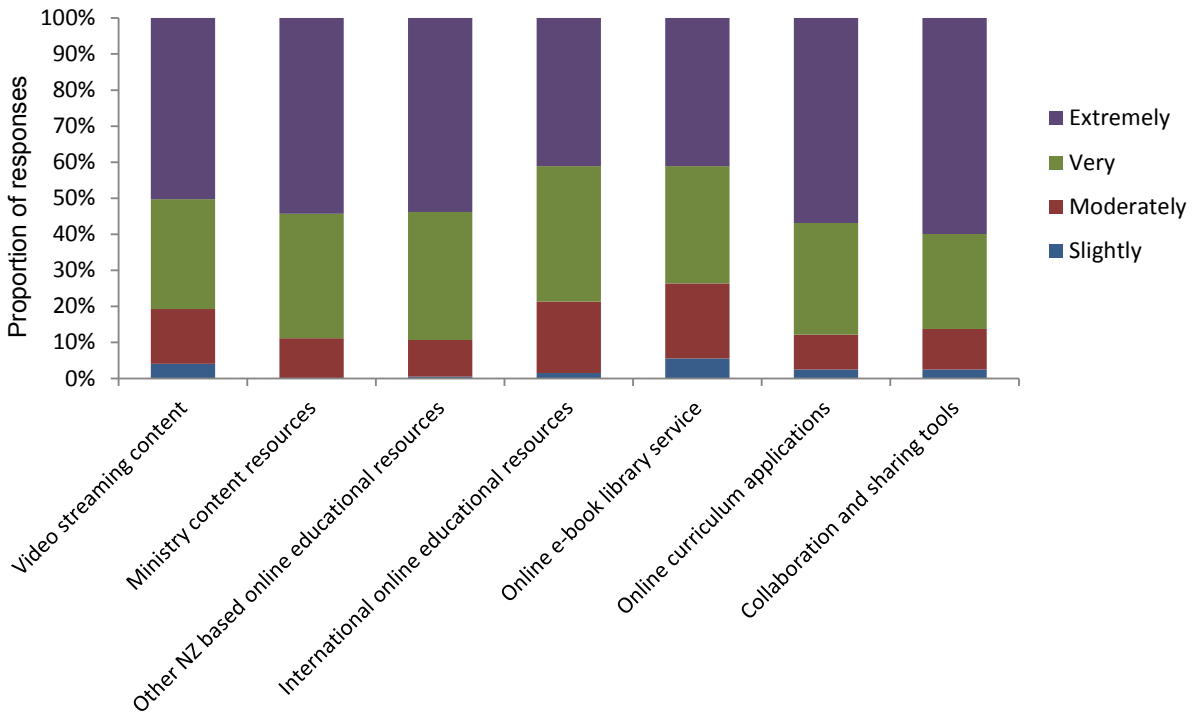
Importance for very small schools



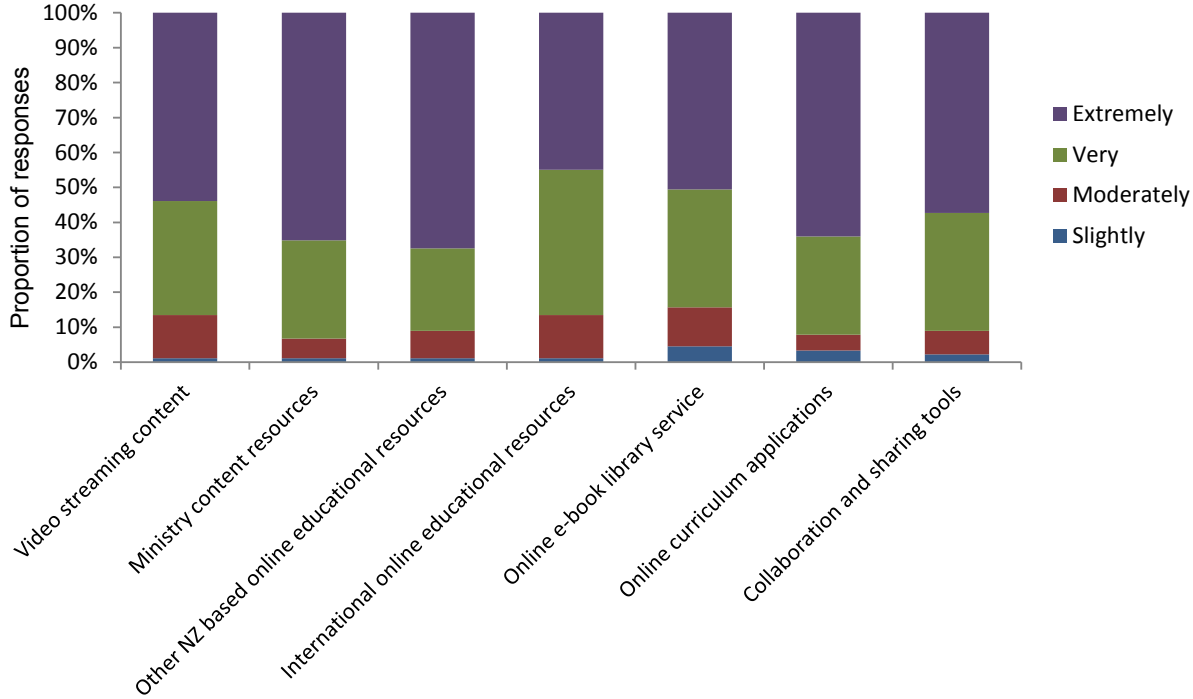
Importance for small schools



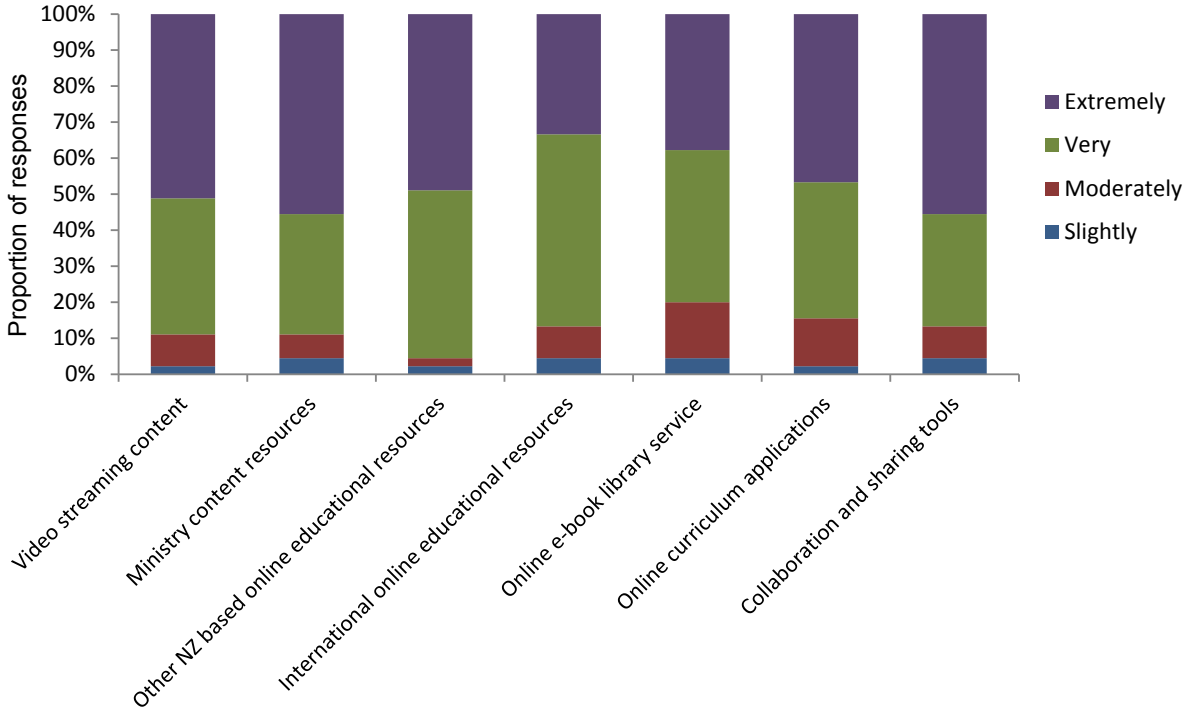
Importance for medium schools



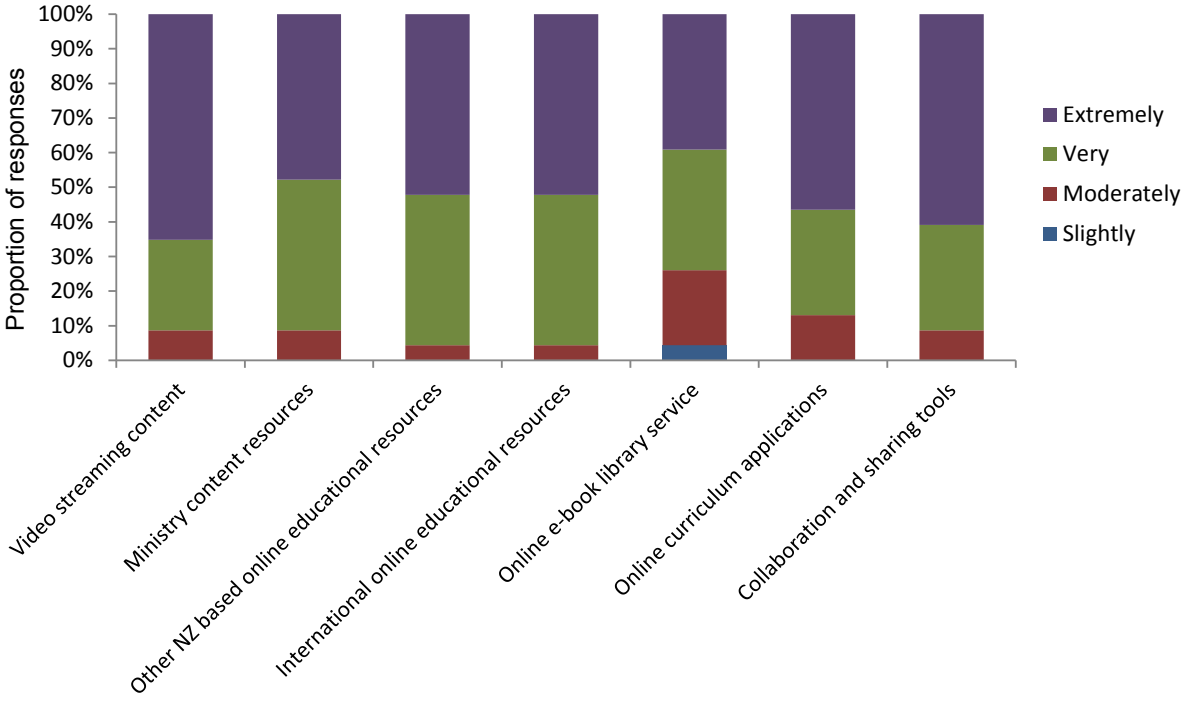
Importance for large schools



Importance for very large schools



Importance for extra large schools

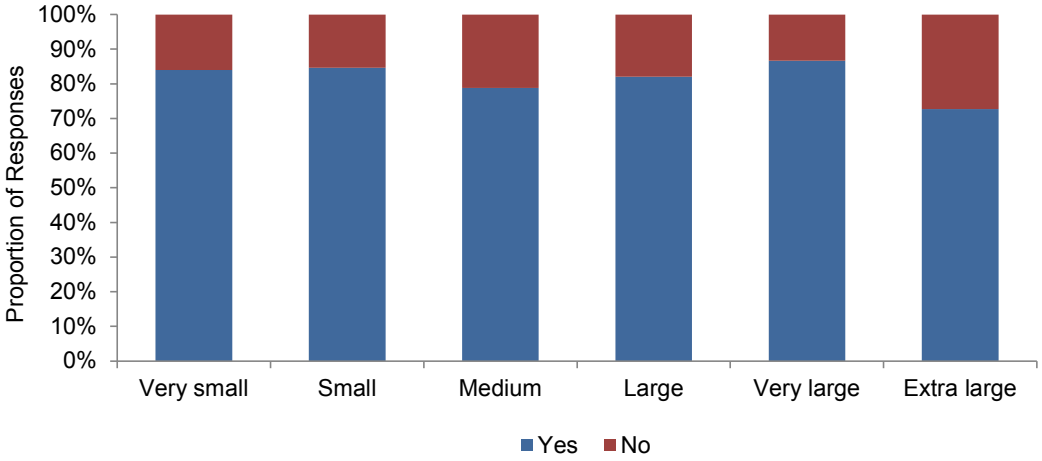


B4 - What connection speed to the Internet do you feel your school would need to take full advantage of online content and services?

Schools selected a response from six options. The top five reported connection speeds for each school size band are shown below.

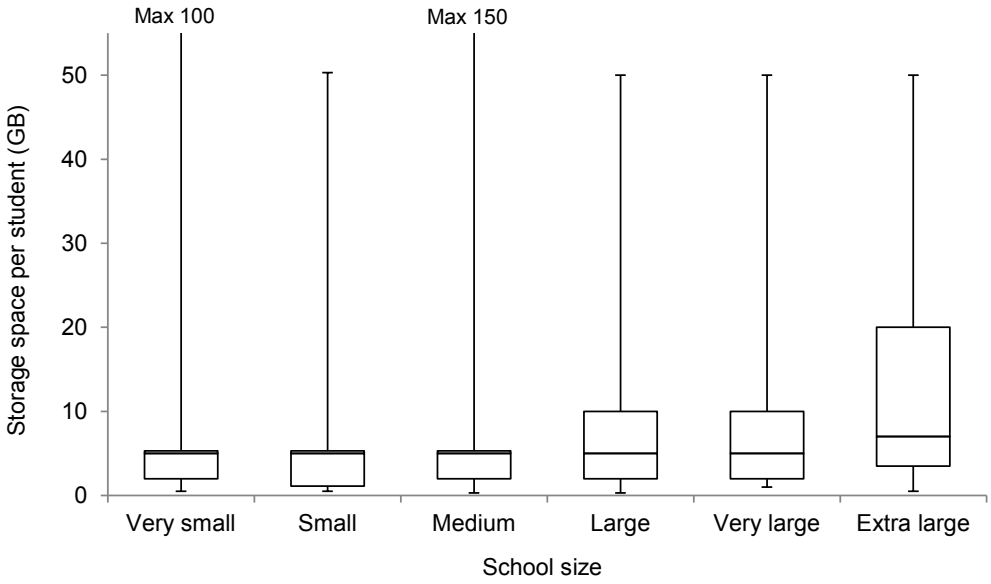
	Very small	Small	Medium	Large	Very large	Extra large
Most common	100Mbps	100Mbps	100Mbps	100Mbps	1000Mbps	1000Mbps
↓	20Mbps	Don't Know	1000Mbps	1000Mbps	100Mbps	100Mbps
↓	Don't Know	1000Mbps	50Mbps	Don't Know	50Mbps	50Mbps
↓	50Mbps	50Mbps	Don't Know	50Mbps	Don't Know	Don't Know
Less common	1000Mbps	20Mbps	20Mbps	20Mbps	20Mbps	-

B5 – If schools had access to online/cloud based storage for students, would they use it?



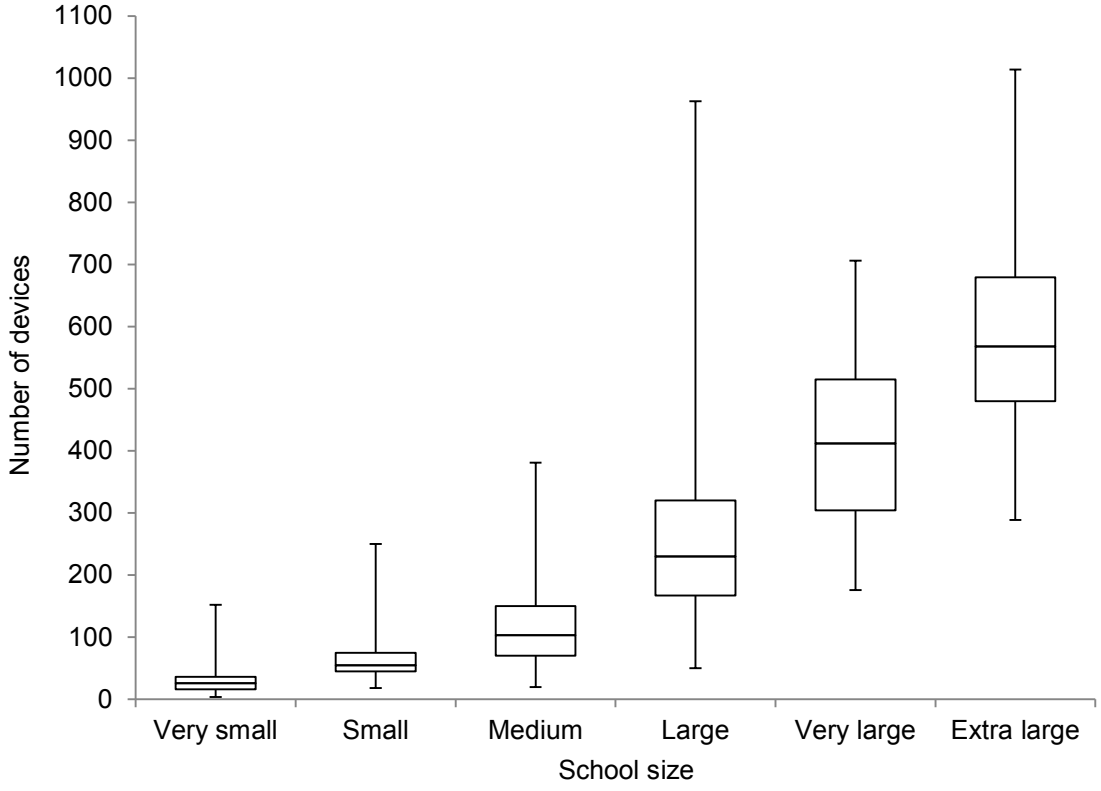
B6 – Approximately how much online/cloud based storage space per student would schools require?

	Very small	Small	Medium	Large	Very large	Extra large
Average storage space (GB)	7.5	5.8	8.6	7.2	7.8	15.8



Section C – Desktops and Mobile Devices

C1 – How many school owned/leased devices are capable of accessing the Internet?



C2 – The operating systems of school owned/leased devices capable of accessing the Internet.

Very small schools

The values are representative of the total number of reported devices. For example, the top table below shows that in very small schools, 46% of staff only desktops run Win XP/Vista.

All Very Small Schools

Device type	Win XP/ Vista	Win 7	Apple/ Mac OS	Android	Linux
Staff only desktops	46%	43%	10%		1%
Classroom desktops	53%	36%	9%		2%
Computer lab/media suites	57%	39%	4%		-
Staff laptops	34%	49%	16%		-
Student laptops	39%	41%	20%	-	-
Student netbooks	48%	52%	-	-	-
School owned tablets etc	19%	3%	76%	2%	

Age and ownership of these school owned/leased devices.

	All Very Small Schools	
Device type	Older than 3yrs	Leased
Staff only desktops	39%	9%
Classroom desktops	64%	6%
Computer lab/media suites	66%	9%
Staff laptops	12%	62%
Student laptops	35%	5%
Student netbooks	27%	0%
School owned tablets etc	0%	5%

Small schools

The values are representative of the total number of reported devices. For example, the top table below shows that in small schools, 44% of staff only desktops run Win XP/Vista.

All Small Schools

Device type	Win XP/ Vista	Win 7	Apple/ Mac OS	Android	Linux
Staff only desktops	44%	50%	6%		0%
Classroom desktops	55%	32%	13%		0%
Computer lab/media suites	60%	35%	5%		0%
Staff laptops	28%	57%	15%		0%
Student laptops	32%	38%	30%	0%	0%
Student netbooks	14%	86%	0%	0%	0%
School owned tablets etc	6%	12%	58%	24%	

Age and ownership of these school owned/leased devices.

	All Small Schools	
Device type	Older than 3yrs	Leased
Staff only desktops	46%	10%
Classroom desktops	59%	7%
Computer lab/media suites	51%	6%
Staff laptops	5%	57%
Student laptops	32%	8%
Student netbooks	5%	15%
School owned tablets etc	4%	9%

Medium schools

The values are representative of the total number of reported devices. For example, the top table below shows that in medium schools, 38% of staff only desktops run Win XP/Vista.

All Medium Schools

Device type	Win XP/ Vista	Win 7	Apple/ Mac OS	Android	Linux
Staff only desktops	38%	54%	8%		0%
Classroom desktops	48%	39%	13%		0%
Computer lab/media suites	42%	49%	9%		0%
Staff laptops	28%	54%	18%		0%
Student laptops	27%	45%	28%	0%	0%
Student netbooks	27%	70%	0%	2%	1%
School owned tablets etc	12%	7%	76%	5%	

Age and ownership of these school owned/leased devices.

	All Medium Schools	
Device type	Older than 3yrs	Leased
Staff only desktops	38%	10%
Classroom desktops	49%	7%
Computer lab/media suites	46%	13%
Staff laptops	7%	58%
Student laptops	36%	9%
Student netbooks	4%	9%
School owned tablets etc	2%	1%

Large schools

The values are representative of the total number of reported devices. For example, the top table below shows that in large schools, 45% of staff only desktops run Win XP/Vista.

All Large Schools

Device type	Win XP/ Vista	Win 7	Apple/ Mac OS	Android	Linux
Staff only desktops	45%	45%	8%		1%
Classroom desktops	46%	30%	20%		4%
Computer lab/media suites	41%	44%	14%		1%
Staff laptops	30%	46%	23%		2%
Student laptops	21%	38%	41%	-	-
Student netbooks	17%	68%	1%	-	14%
School owned tablets etc	8%	2%	89%	1%	

Age and ownership of these school owned/leased devices.

	All Large Schools	
Device type	Older than 3yrs	Leased
Staff only desktops	42%	7%
Classroom desktops	48%	7%
Computer lab/media suites	37%	16%
Staff laptops	6%	58%
Student laptops	30%	22%
Student netbooks	2%	29%
School owned tablets etc	0%	4%

Very large schools

The values are representative of the total number of reported devices. For example, the top table below shows that in very large schools, 26% of staff only desktops run Win XP/Vista.

All Very Large Schools

Device type	Win XP/ Vista	Win 7	Apple/ Mac OS	Android	Linux
Staff only desktops	26%	72%	2%		0.2%
Classroom desktops	38%	55%	7%		0%
Computer lab/media suites	18%	73%	9%		0%
Staff laptops	24%	72%	4%		0%
Student laptops	24%	70%	6%	0%	0%
Student netbooks	19%	81%	0%	0%	0%
School owned tablets etc	0%	19%	80%	2%	

Age and ownership of these school owned/leased devices.

	All Very Large Schools	
Device type	Older than 3yrs	Leased
Staff only desktops	42%	7%
Classroom desktops	48%	7%
Computer lab/media suites	37%	16%
Staff laptops	6%	58%
Student laptops	30%	22%
Student netbooks	2%	29%
School owned tablets etc	0%	4%

Extra large schools

The values are representative of the total number of reported devices. For example, the top table below shows that in extra large schools, 28% of *staff only desktops* run Win XP/Vista.

All Extra Large Schools

Device type	Win XP/ Vista	Win 7	Apple/ Mac OS	Android	Linux
Staff only desktops	28%	71%	0.3%		0%
Classroom desktops	28%	68%	4%		0%
Computer lab/media suites	34%	61%	5%		0%
Staff laptops	17%	81%	3%		0%
Student laptops	4%	96%	0%	0%	0%
Student netbooks	14%	86%	0%	0.2%	0%
School owned tablets etc	0%	21%	73%	6%	

Age and ownership of these school owned/leased devices.

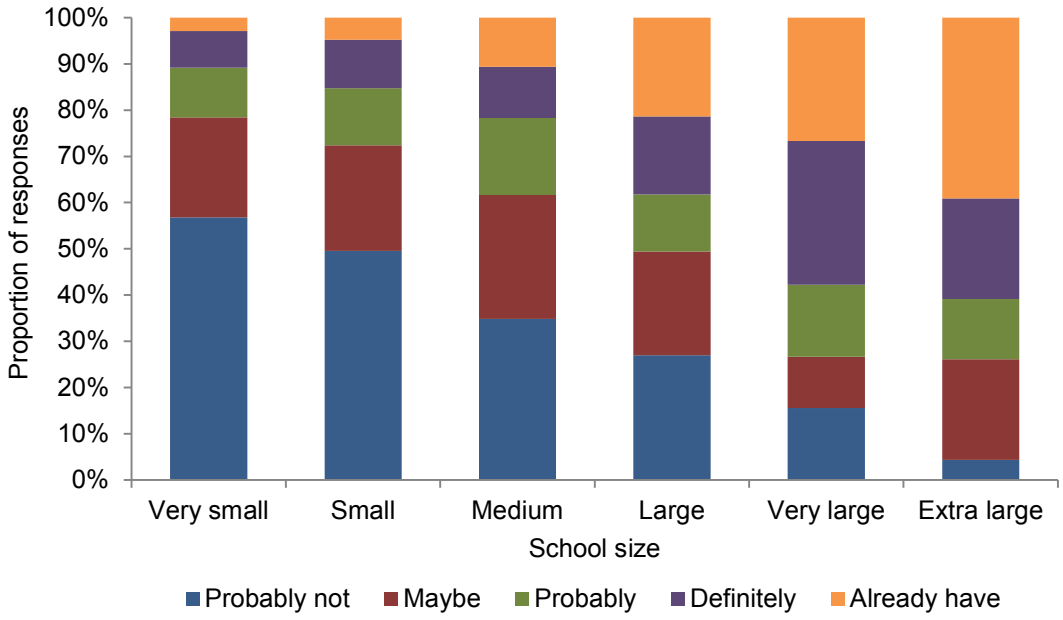
	All Extra Large Schools	
Device type	Older than 3yrs	Leased
Staff only desktops	39%	26%
Classroom desktops	49%	0%
Computer lab/media suites	26%	20%
Staff laptops	4%	54%
Student laptops	18%	5%
Student netbooks	2%	2%
School owned tablets etc	0%	0%

C3 - How many student owned devices are currently accessing school networks?

	Very small	Small	Medium	Large	Very large	Extra large
Schools with student owned devices accessing the network	13%	16%	26%	42%	58%	61%
Average number of these student devices	8	17	26	116	189	255

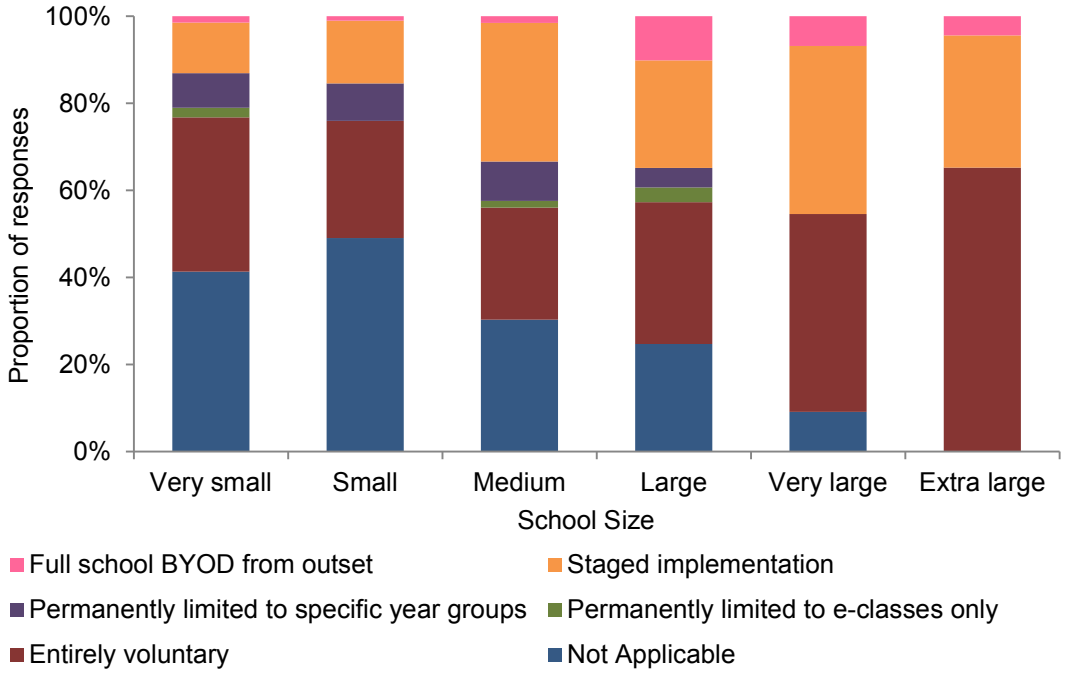
C4 - Intention to implement a Bring Your Own Device (BYOD) programme within the next 12 months.

Schools selected a response from five options.



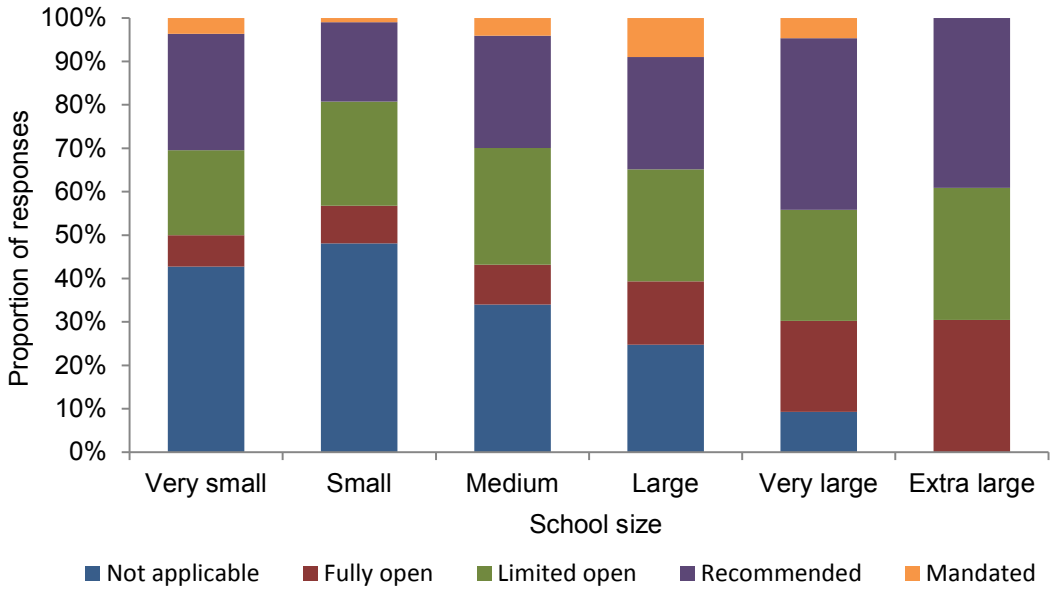
C5 – Current or likely BYOD policy for schools.

Schools selected a response from six options.



C6 – Current or likely policy for the *type* of device students can bring.

Schools selected a response from five options.



C7 – What type of BYOD devices do schools mandate/recommend?

Of the schools who currently (or are likely to) recommend or mandate a BYOD device to students, the top five reported devices are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
More common	Tablet	Tablet	Tablet	Tablet	Tablet	Undecided
	Laptop; Netbook	Netbook	Laptop	iPod	Netbook	Laptop; Netbook
		iPod	Open	Netbook	Laptop	
	iPod	None	Netbook	Laptop	Smartphone; Open	Tablet; None
Less common	Open	Laptop	iPod	Open		

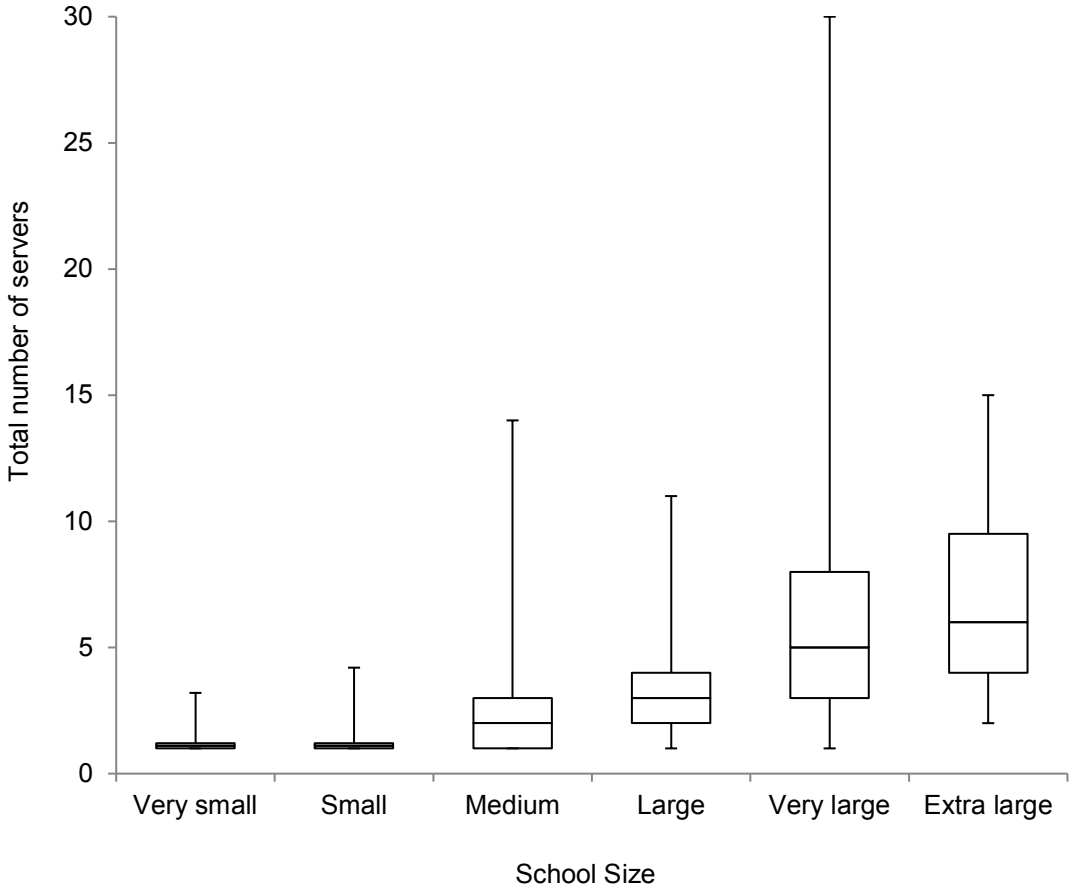
C8 – What operating system(s) is/are required for student BYOD devices?

Of the schools who currently (or are likely to) recommend or mandate a BYOD device to students, the top five reported operating systems that are required are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
More common	Win 7	iOS	Open	iOS	iOS; Open; Win 7	Undecided
	Apple unspecified; iOS; Win unspecified	Win unspecified	iOS; Win unspecified	Open; Win 7		Win 7
		Apple unspecified; Win 7				Mac OSX; Open; Other Win
			Mac OSX; Win 7	Android	Win unspecified	
Less common	Mac OSX	-		Win 8	Android; Win 8	

Section D - Servers

D1 –Total number of physical servers at each school.



D2 – Number of physical servers less than 5 years old.

	Very small	Small	Medium	Large	Very large	Extra large
Average number of servers	1	1.2	2.2	3.3	7	6.7
Proportion of servers less than 5yrs old	62%	58%	64%	68%	63%	79%

D3 – Details of physical servers *less than 5 years old.*

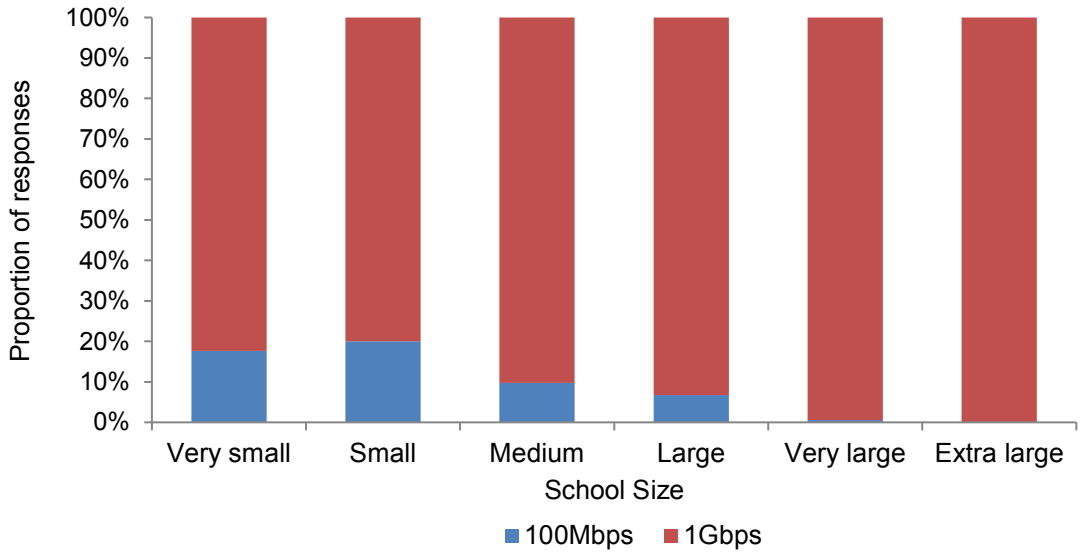
Server brand

The top five reported server brands for each school size are shown below:

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Acer	HP	HP	HP	HP	IBM
↓	HP	IBM	IBM	IBM	IBM	HP
	Apple	Acer	Acer; Apple	Apple	Dell	Supermicro
	IBM	Apple		Custom made	Apple	Dell
Less common	-	Custom made; Dell	-	Dell	Fujitsu	Intel

Server network access speed

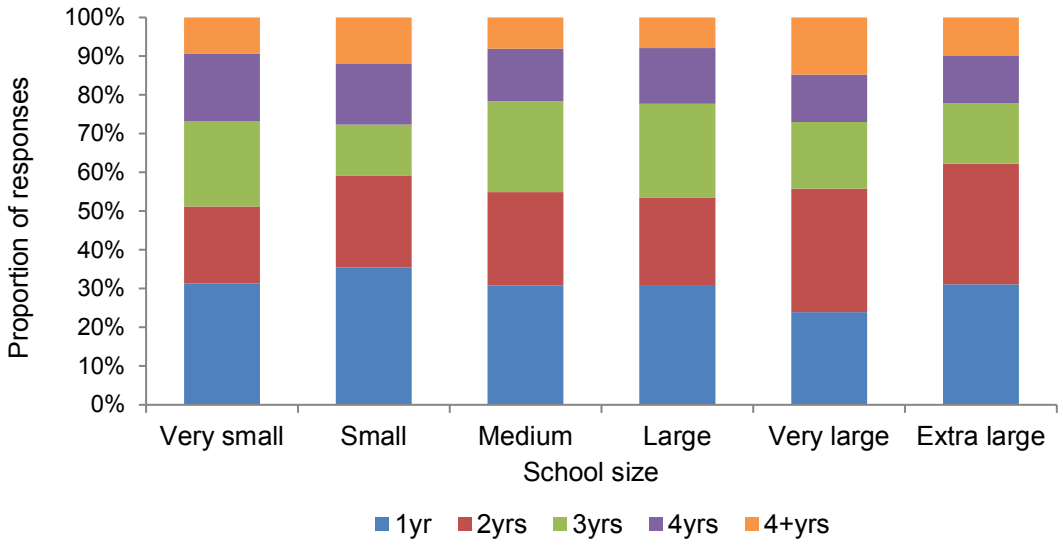
Schools selected a response from two options.



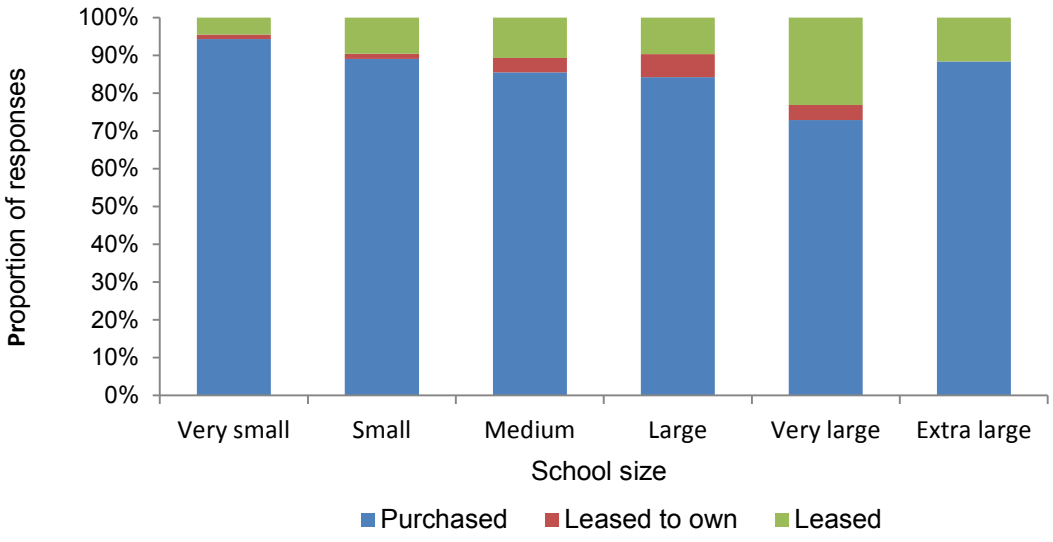
Server hard drive capacity for storage

	Very small	Small	Medium	Large	Very large	Extra large
Average server storage capacity (GB)	680	750	1020	1980	1830	2100

Server age

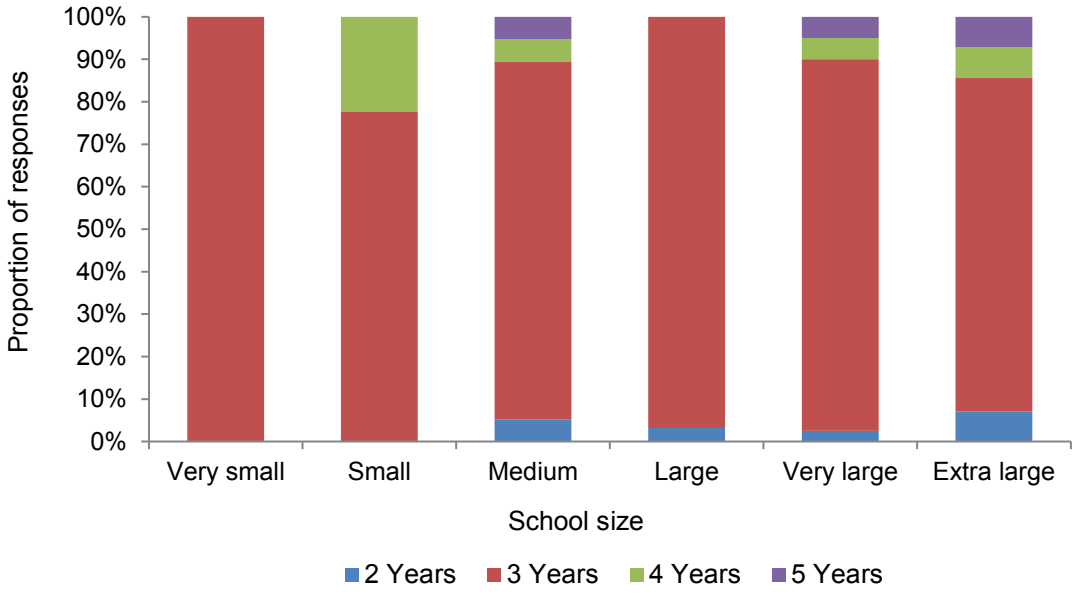


Server ownership

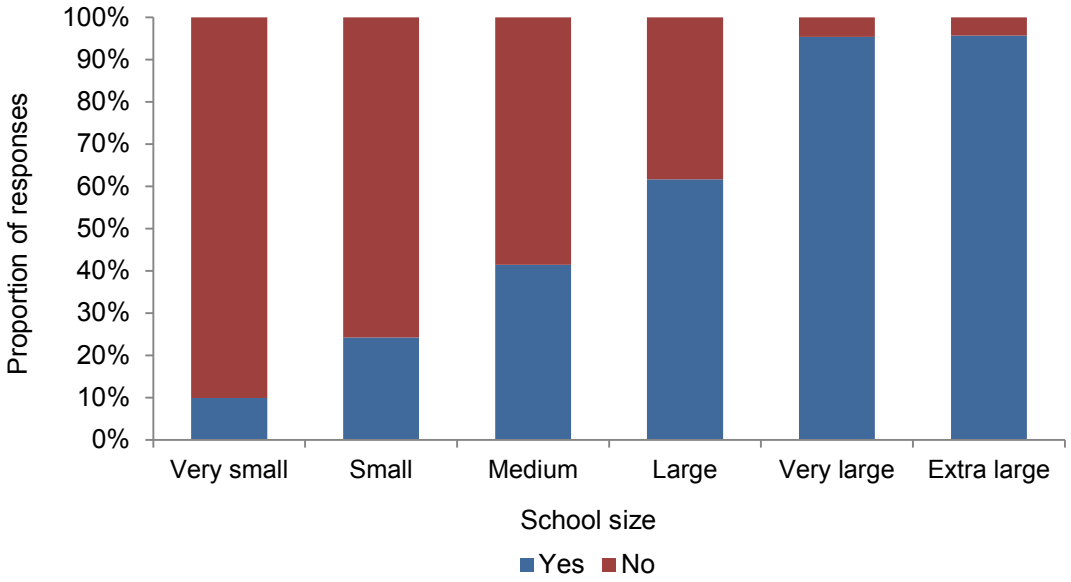


If leased, what is the lease period?

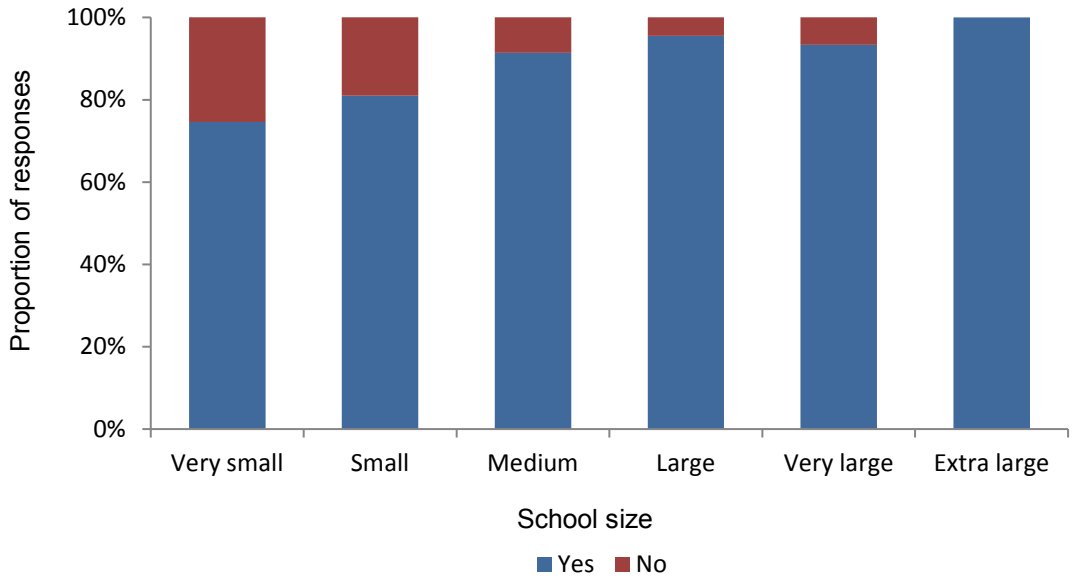
Schools selected a response from five options – no school reported a lease of 1 year.



D4 – Do schools use virtual servers?



D5 - Do schools use one or more Uninterruptible Power Supply (UPS) devices for protecting school servers?



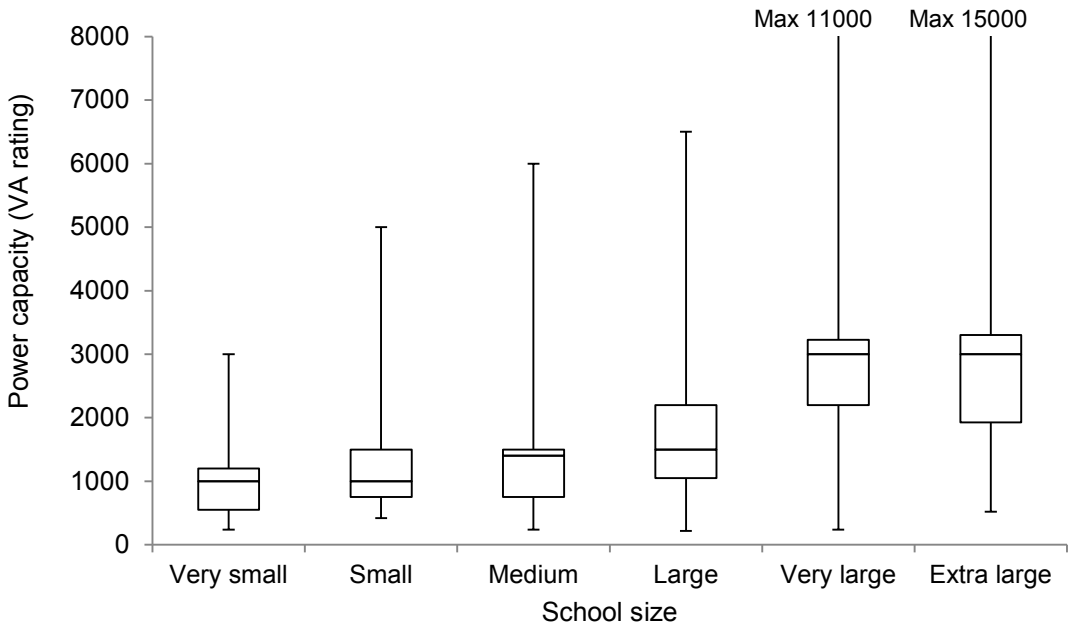
D6 – Details of the largest (VA rating) UPS.

UPS brand

The top five reported UPS brands for all schools are shown below:

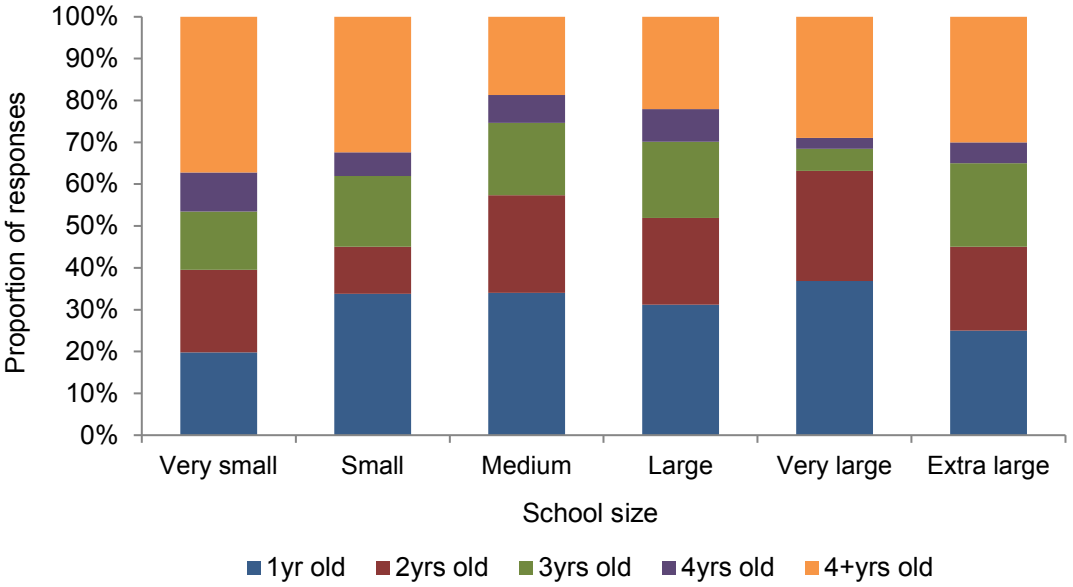
UPS brand	Proportion of schools
APC	34%
HP	19%
Dynamix	11%
MGE	8%
IBM	6%

UPS power capacity

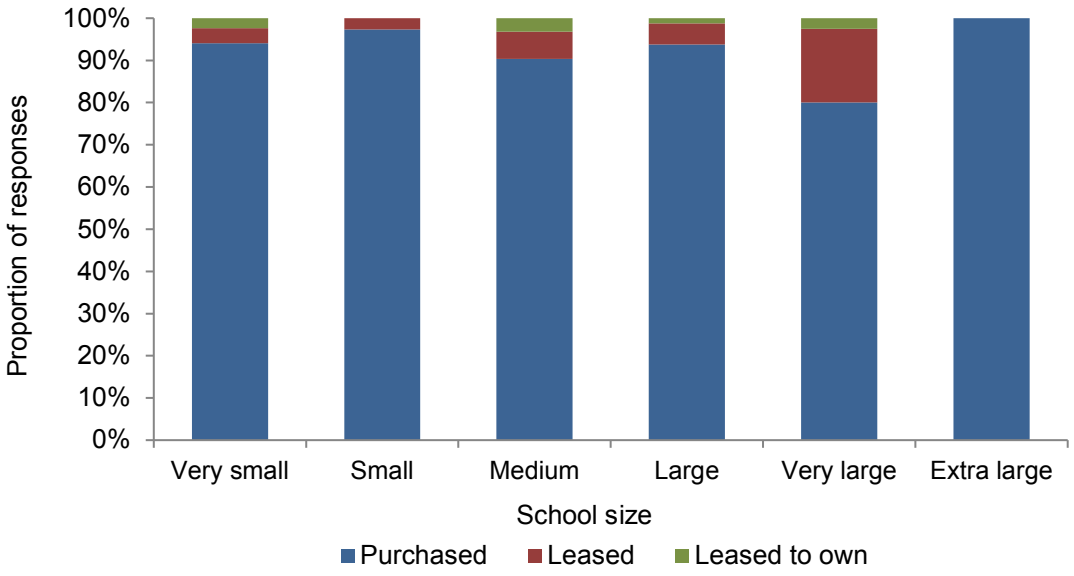


UPS age

Schools selected a response from five options.

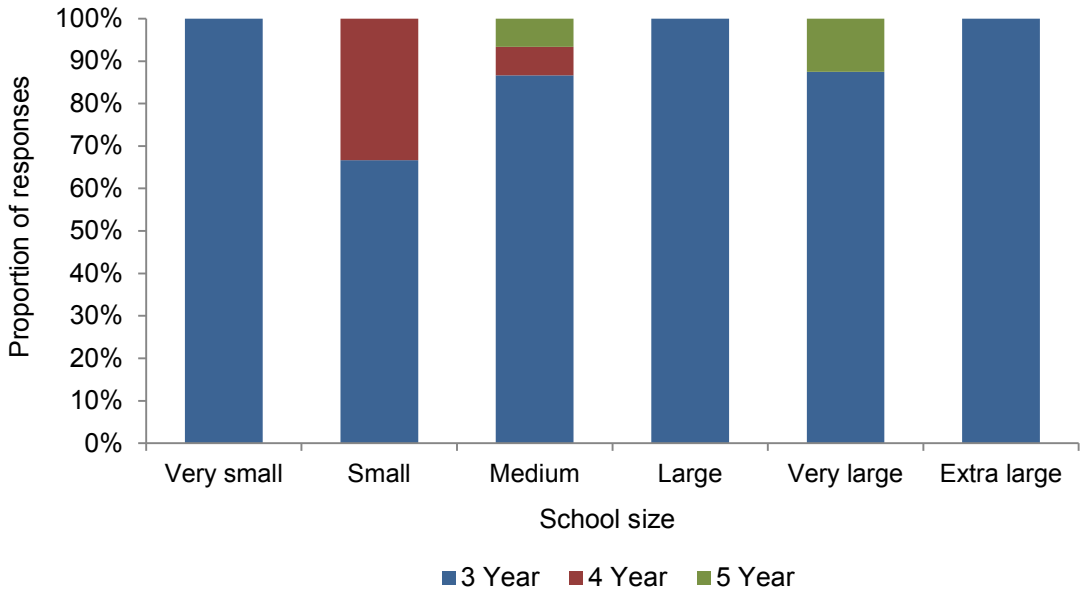


UPS ownership

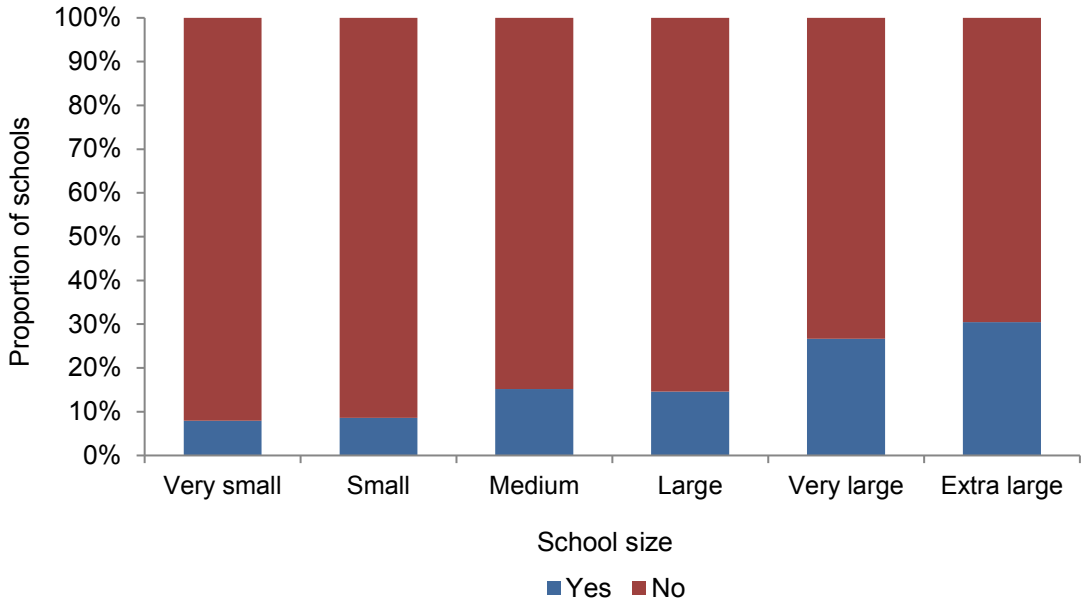


UPS lease period

Of the 34 schools that lease or lease to own, the length of the lease periods is shown below. Schools selected a response from five options – no schools reported a 1 year or 2 year lease.



D7 – Do schools use tape backup systems?



D8 – Details of tape backup systems used.

Tape backup system brand

The top four reported tape backup system brands across all schools are shown below (all other brands were reported by 4% or less of schools):

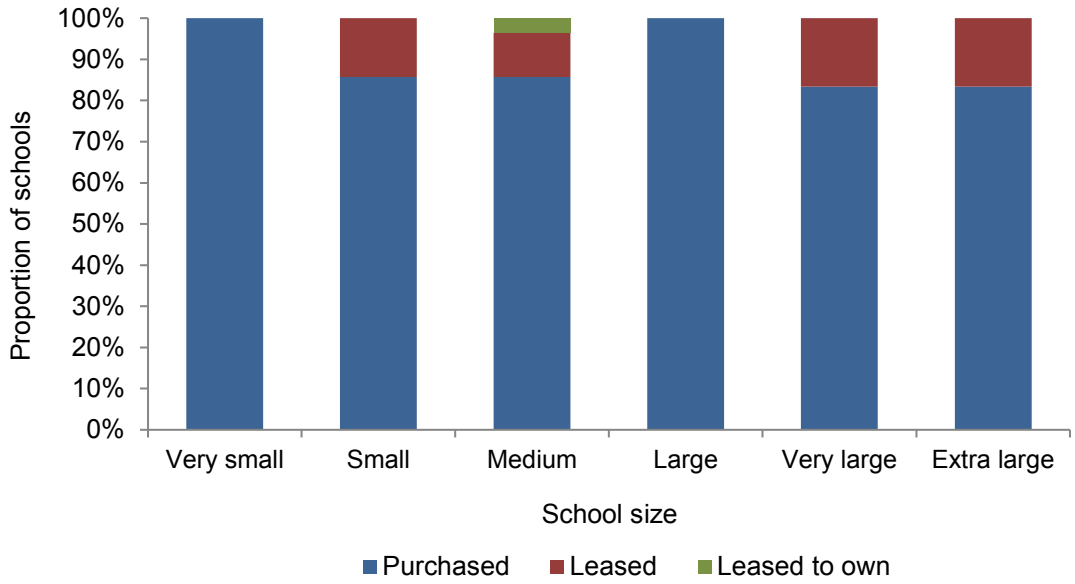
Backup brand	Proportion of schools
HP	61%
IBM	8%
Sony	6%
Western Digital	5%

Tape backup capacity

Due to the low number of schools with tape backup systems there is insufficient data to produce a meaningful box plot. The responses have been averaged according to school size and are shown in the table below:

	Very small	Small	Medium	Large	Very large	Extra large
Average capacity (GB)	243	230	1007	1545	3032	4935

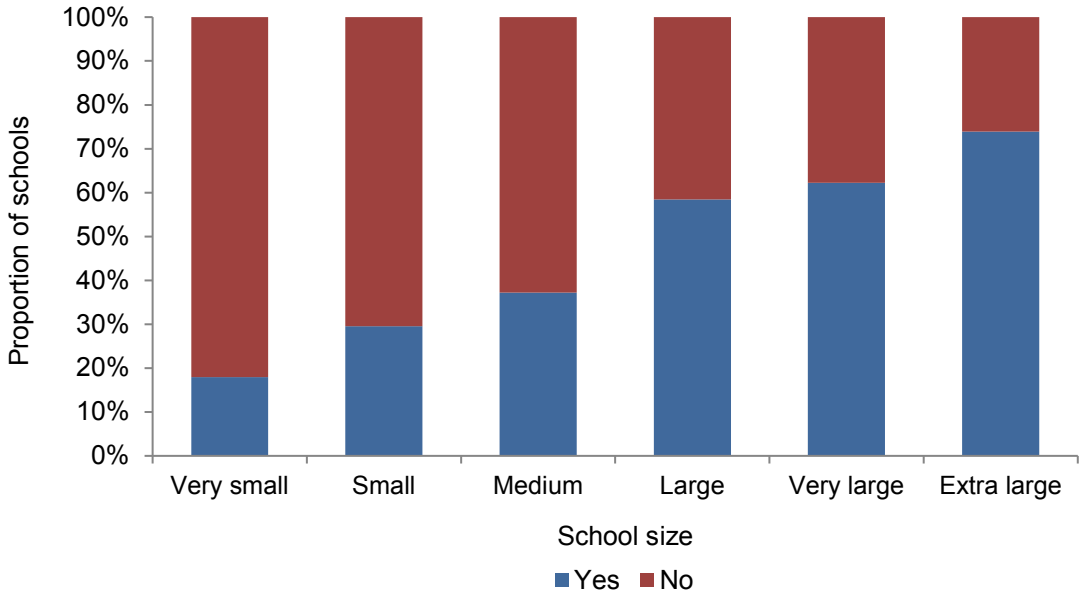
Tape backup system ownership



Tape backup system lease period

Only eight schools reported that they lease or lease to own tape backup systems. Of these schools, seven responded to this question and all reported a 3 year lease period.

D9 – Do schools use a Network Attached Storage (NAS) device?



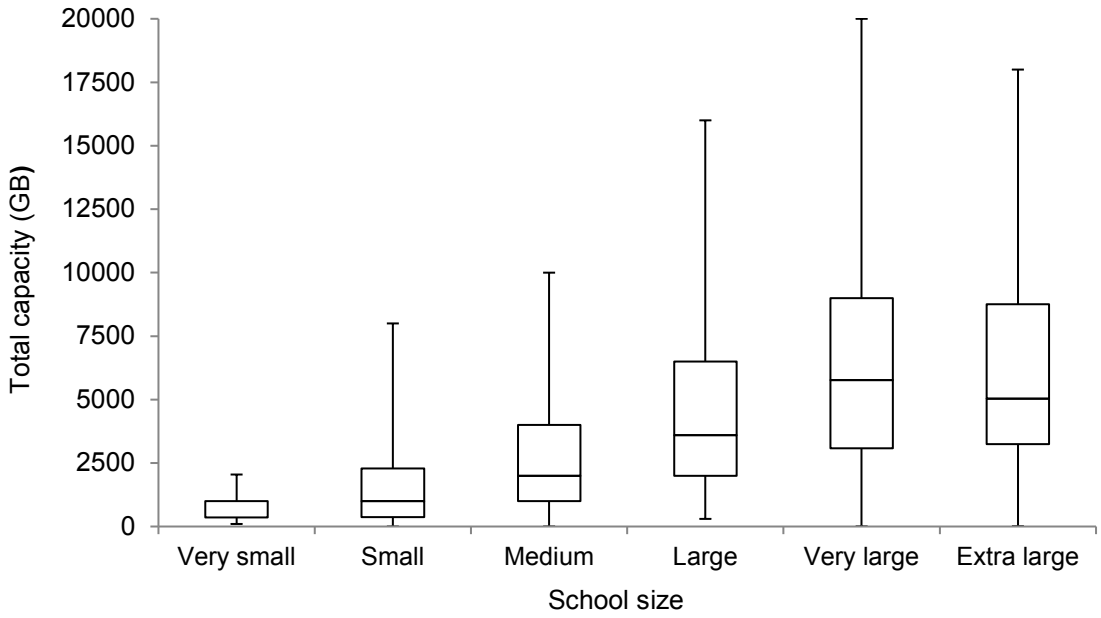
D10 – Details of NAS devices used.

NAS brand

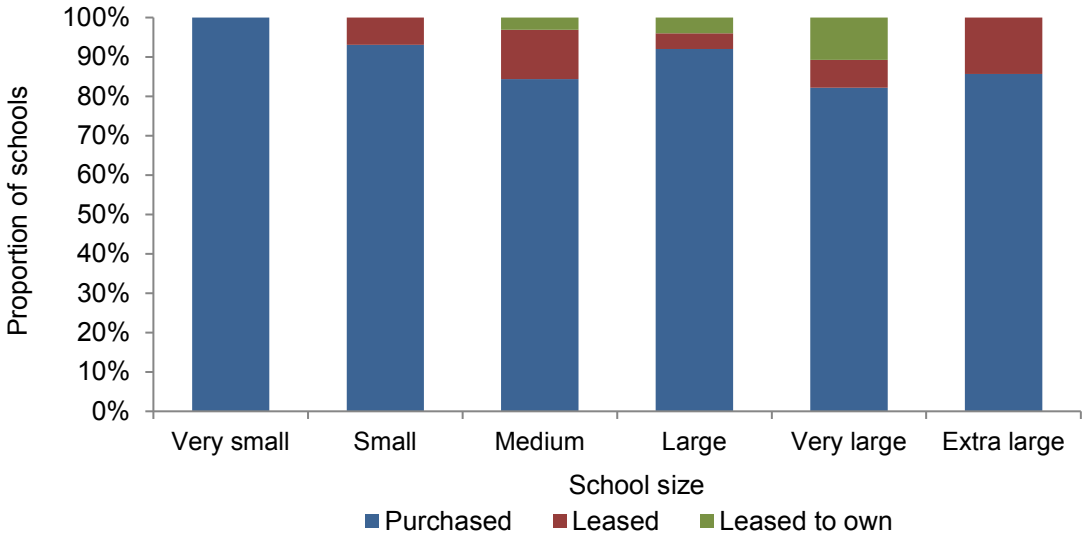
The top five reported NAS device brands across all schools are shown below:

Backup brand	Proportion of schools
Netgear	24%
Synology	18%
QNAP	12%
Seagate	10%
Western Digital	7%

Total capacity of NAS devices



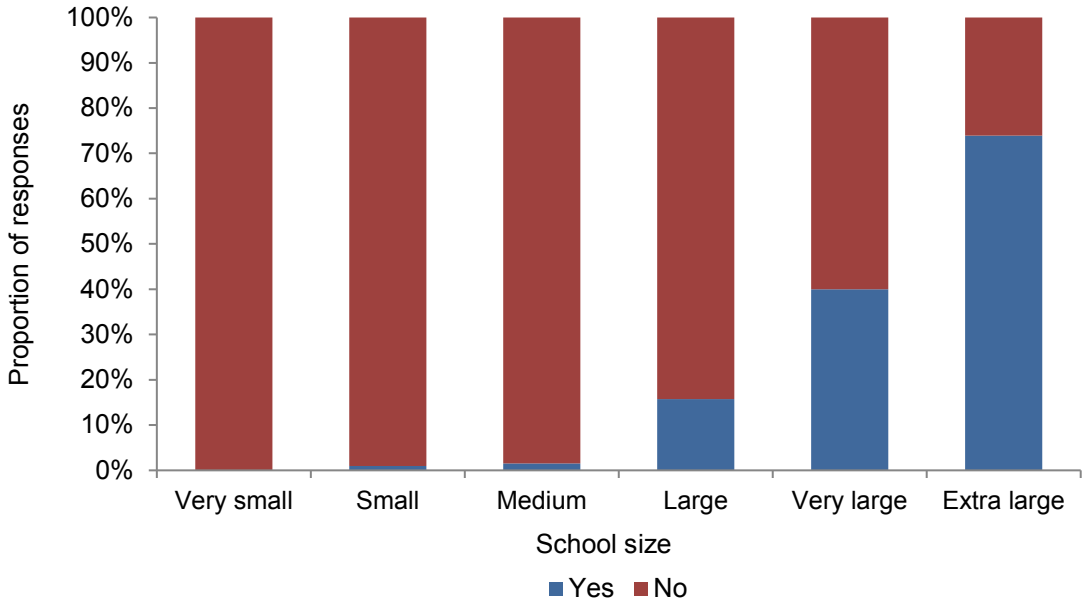
NAS ownership



NAS lease period

Only 23 schools reported that they lease or lease to own NAS devices. Of these schools 20 responded to this question with 80% reporting a 3 year lease period, 10% reporting 4 year leases and 10% reporting 5 year leases.

D11 – Do schools use Storage Area Networks (SAN)?



D12 - Details of SANs used.

SAN brand

There were two dominant brands of SAN that were reported and these are shown below (all other brands were reported by 4% or less of schools):

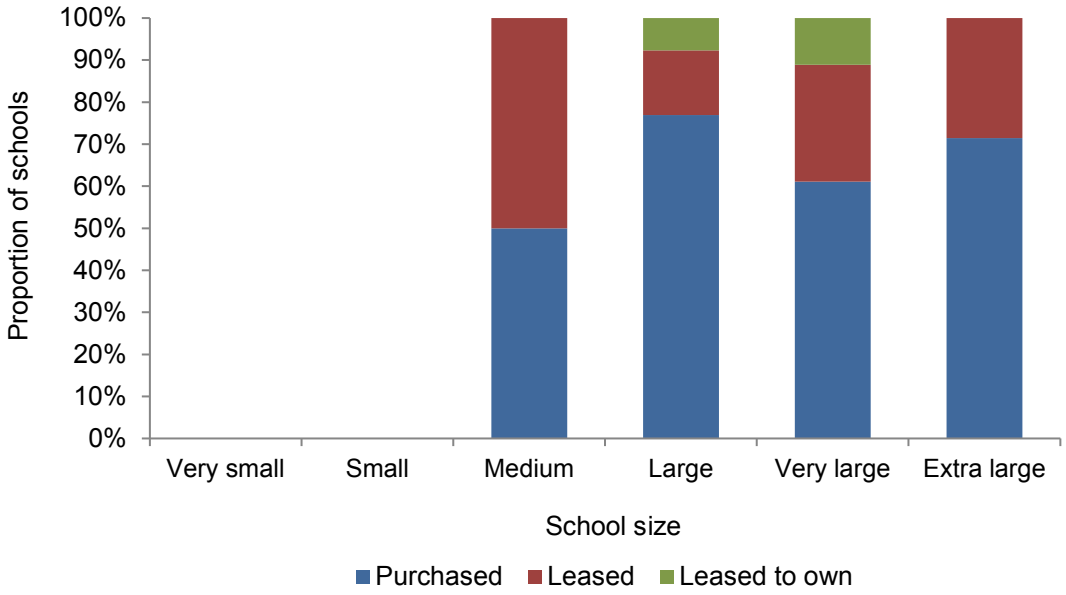
Backup brand	Proportion of schools
IBM	50%
HP	34%

Total capacity of SANs

Due to the low number of schools with SANs there is insufficient data to produce a meaningful box plot. The responses have been averaged according to school size and are shown in the table below:

	Very small	Small	Medium	Large	Very large	Extra large
Average capacity (GB)	N/A	N/A	3400	5700	9200	11700

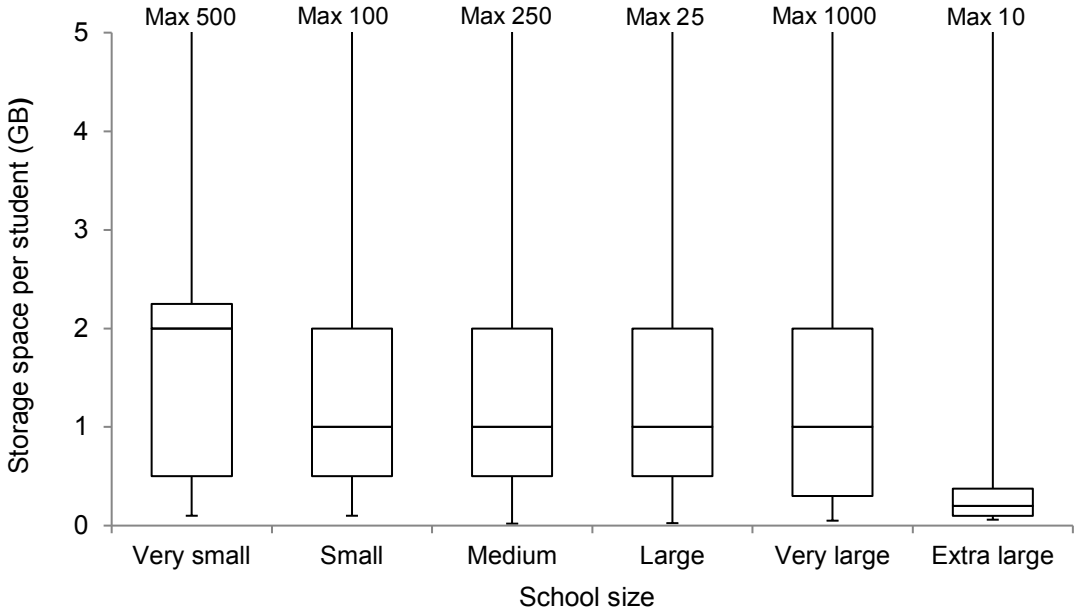
SAN ownership



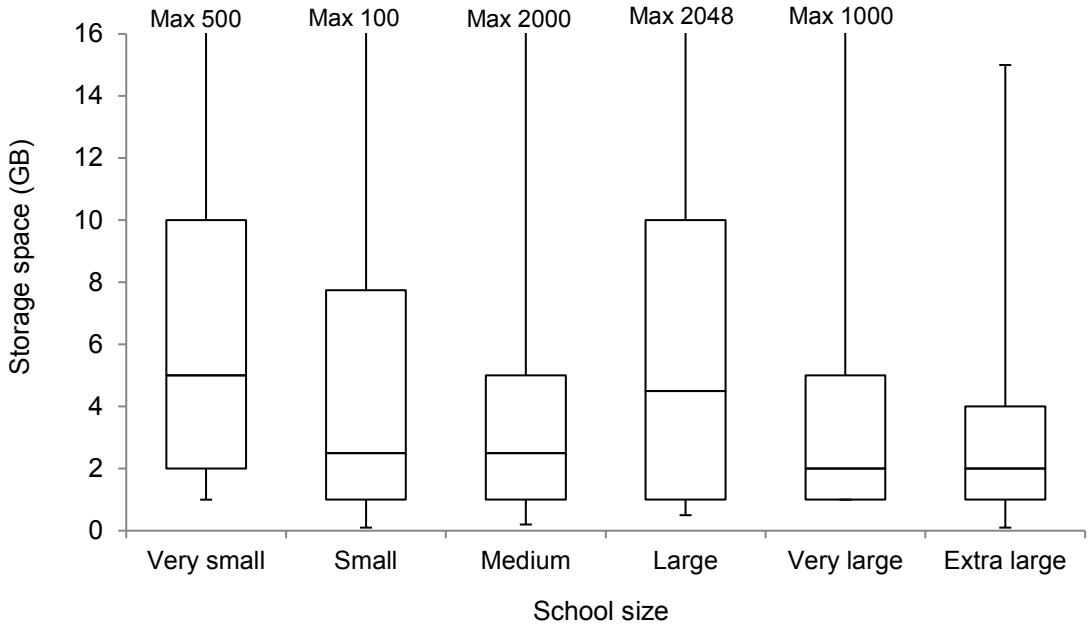
Lease period

Only 15 schools reported that they lease or lease to own SANs. Of these schools 13 responded to this question, with 84.6% reporting a 3 year lease period, 7.7% reporting 4 years leases and 7.7% reporting 5 year leases.

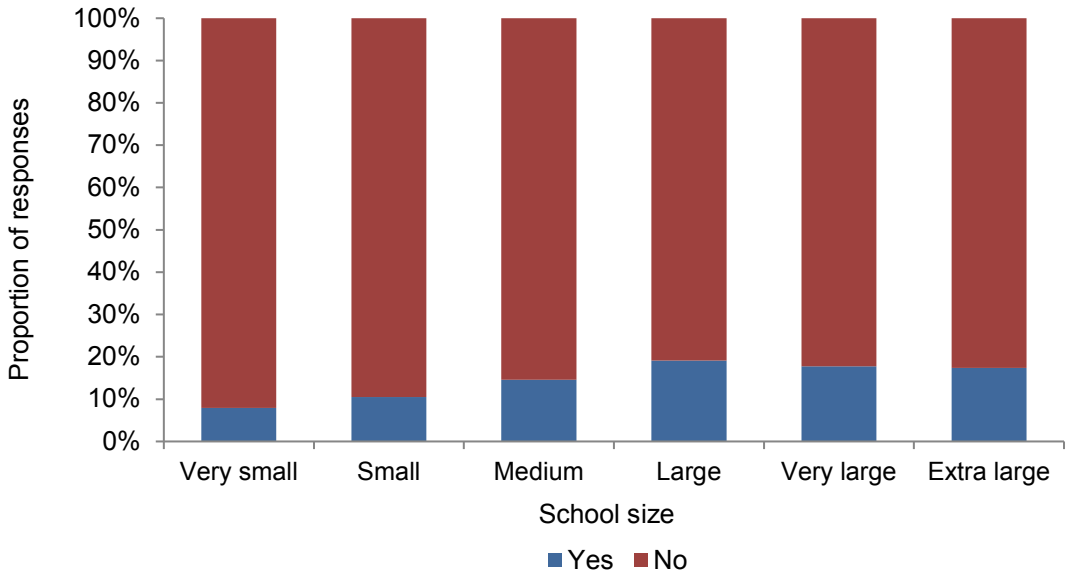
D13 – What storage space (GB) do schools allocate on a per student basis for *core studies*?



D14 - What additional storage space (GB) do schools allocate on a per student basis for *multimedia and graphics suites*?



D15 – Do schools use online (cloud) server(s)?



D16 – Details of online (cloud) servers?

Online server provider/host

The top four reported providers/hosts across all schools are shown below (all other providers were reported by 4% or less of schools).

Provider/host	Proportion of schools
Google	46%
Microsoft	18%
Ultranet	6%
Edtech	5%

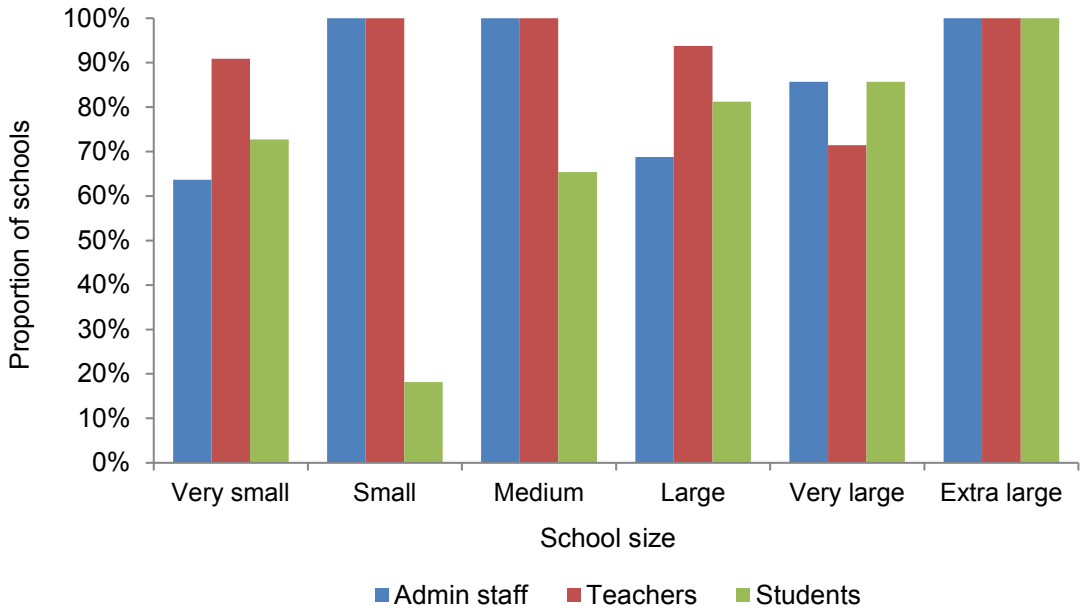
Combined storage capacity for all users (GB)

Of the 80 schools that indicated they use online servers, 46 provided the combined storage capacity for all users. Due to the low number of responses for some school sizes there is insufficient data to produce a meaningful box plot. The responses have been averaged according to school size and are shown in the table below:

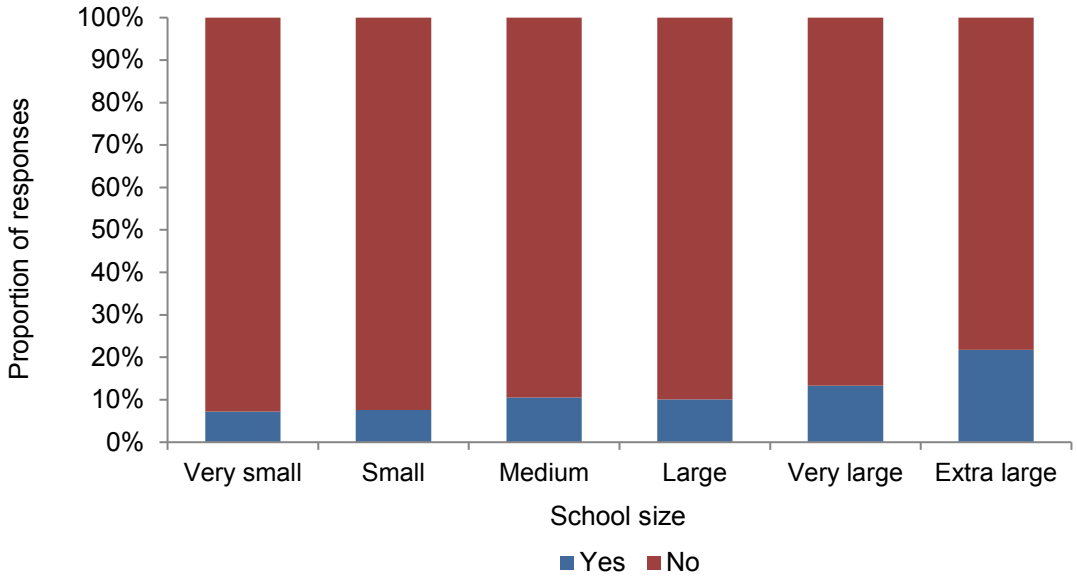
	Very small	Small	Medium	Large	Very large	Extra large
Average storage capacity (GB)	1371	993	2319	4183	3094	5003

Who uses the online (cloud) servers?

The figure below shows the proportions for schools that use online (cloud) servers. For example, 64% of very small schools that use online servers permit admin staff use. 91% of very small schools that use online servers permit teacher use.



D17 – Do schools use a secure online (cloud) backup service?



D18 – Details of secure online (cloud) backup services.

Online provider/host

Across all schools who responded there were 33 providers/hosts reported. Only one provider, *New Era IT* , was reported by 5% or more of respondents with 27% of schools indicating them as their provider.

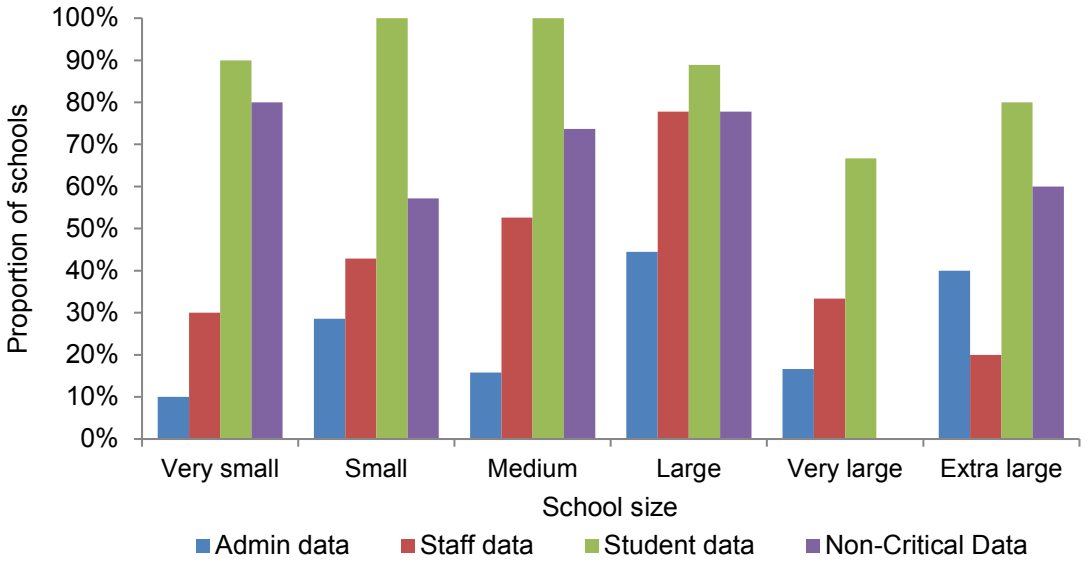
Backup capacity (GB)

Of the 59 schools that indicated they use secure online backup, 42 provided the capacity of such backup. Due to the low number of responses for some school sizes there is insufficient data to produce a meaningful box plot. The responses have been averaged according to school size and are shown in the table below:

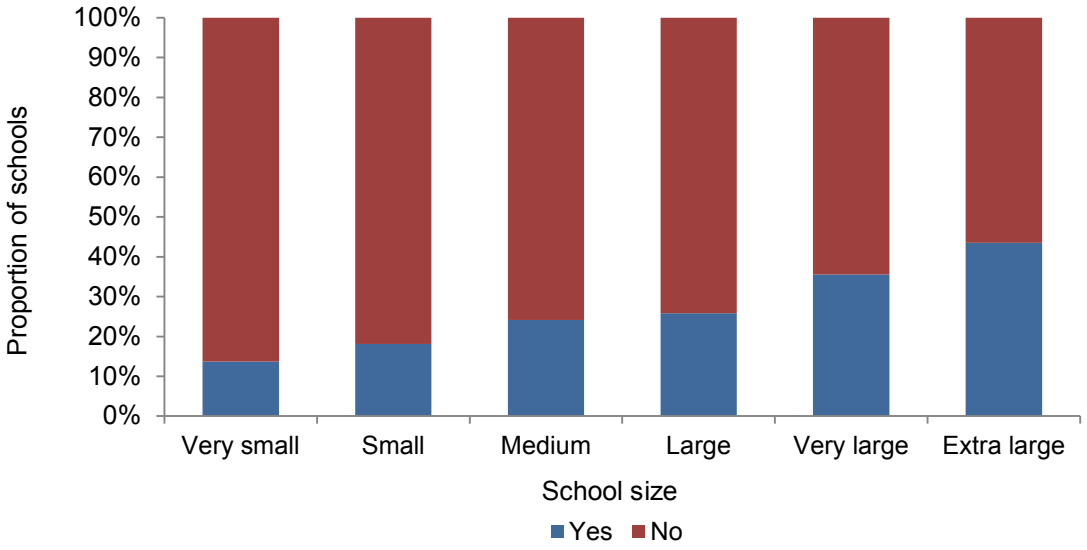
	Very small	Small	Medium	Large	Very large	Extra large
Average storage capacity (GB)	28	738	722	670	125	2510

What data is backed up with online backup services?

The figure below shows the proportions for schools that use an online (cloud) service to backup data. For example, 10% of very small schools that backup data online, backup admin data. 30% of very small schools that backup data online, backup staff data.



D19 – Do staff and/or students use an online (cloud) file storage service?



D20 – Details of online (cloud) file storage service.

File storage provider/host

The top three reported providers/hosts across all schools are shown below (all other providers were reported by 2% or less of schools)

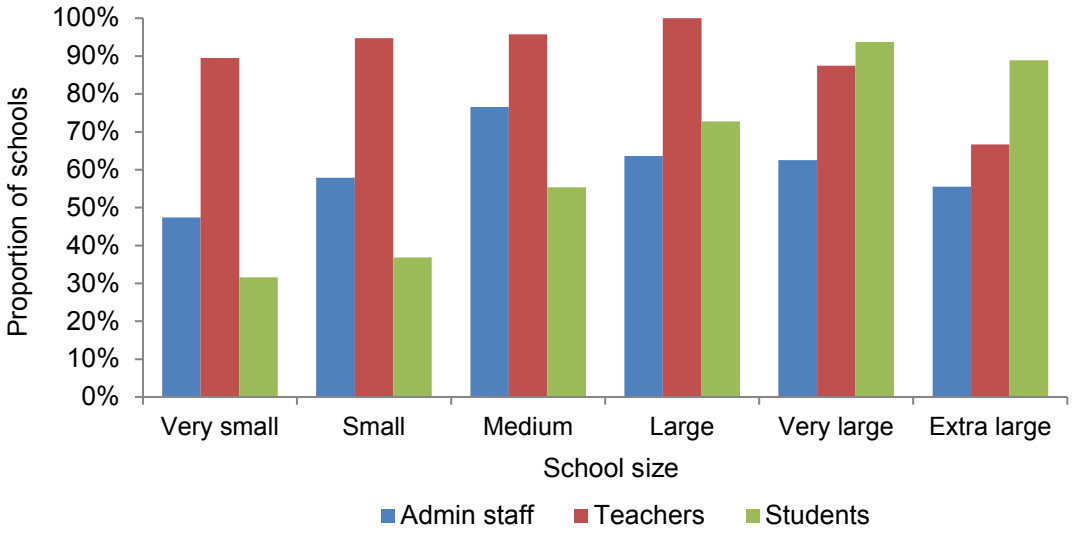
Provider/host	Proportion of schools
Google (Incl Google Drive & Apps)	53%
Dropbox	22%
Microsoft - Sky Drive, Live@edu etc	11%

Combined storage capacity for all users (GB)

	Very small	Small	Medium	Large	Very large	Extra large
Average storage capacity (GB)	1380	1040	1330	5620	8590	12150

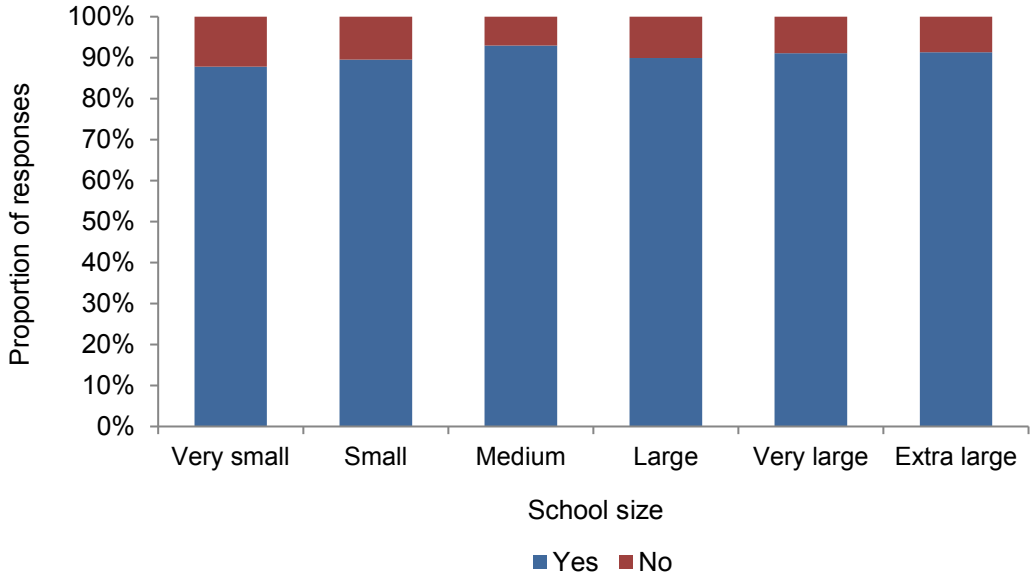
Who uses the online file storage service?

The figure below shows the proportions for schools that use an online (cloud) file storage service. For example, 47% of very small schools that use online file storage permit admin staff use. 89% of very small schools that use online file storage permit teacher use.



Section E – Wireless System

E1 – Do schools have a wireless system?



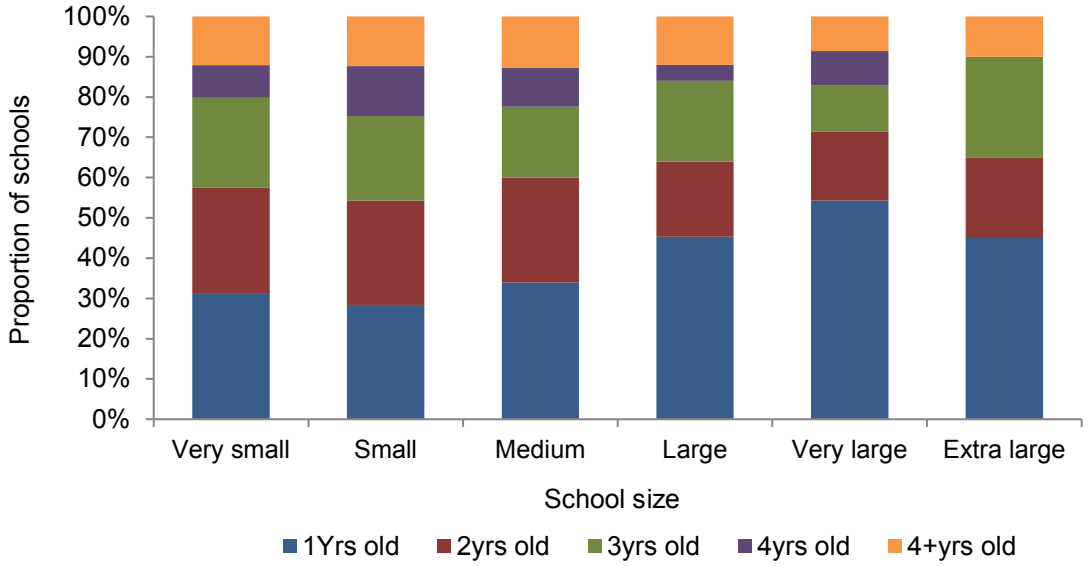
E2 - What is the predominant wireless system brand used at schools?

Schools selected a response from 10 options, one including 'other'. The subsequent question (E3) asked schools to specify the 'other' brand. The table below shows the top five reported brands for each school size, including the specified 'other' brands.

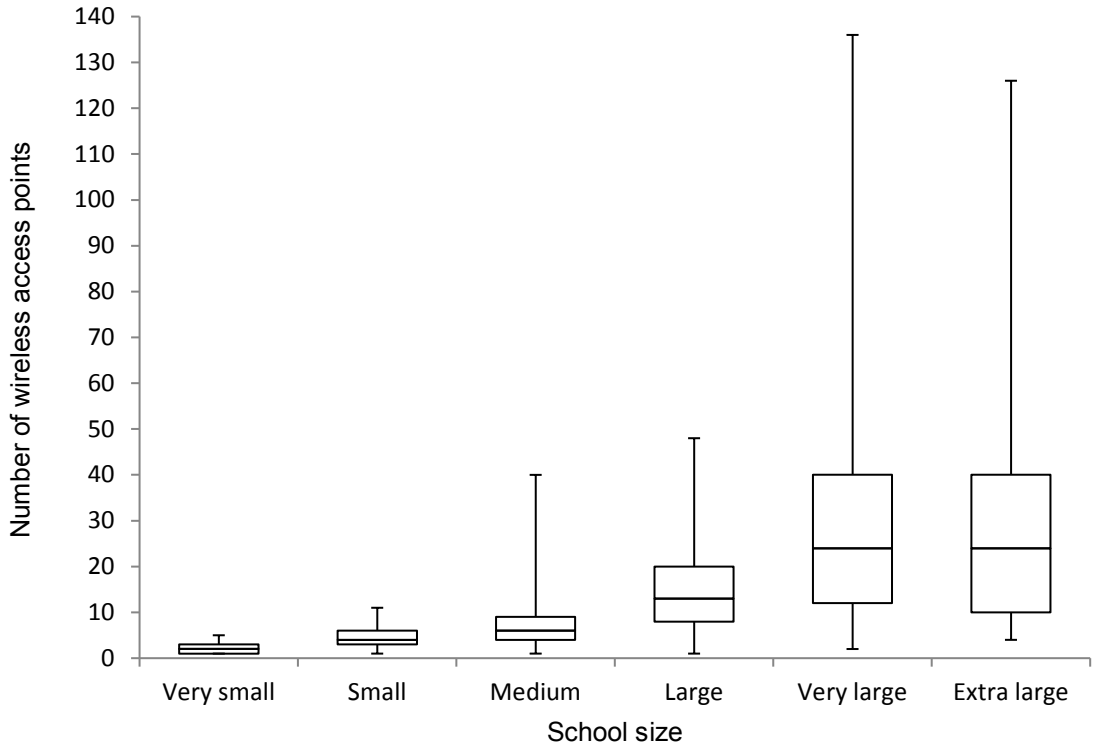
	Very small	Small	Medium	Large	Very large	Extra large
Most common	D-Link	D-Link	Ruckus	Ruckus	Ruckus	Aruba; Ruckus
	Apple	Ruckus	D-Link	D-Link	Aruba	
	Linksys	Apple	Ubiquiti	HP	D-Link	Cisco
	EnGenius; Ruckus; TP-Link	Cisco; Ubiquiti	Apple	Cisco; Ubiquiti	Aerohive	HP; Ubiquiti
Less common			Cisco		Cisco	

E4 - Ages of school wireless systems? (Less than 5yrs old)

Schools selected a response from five options.

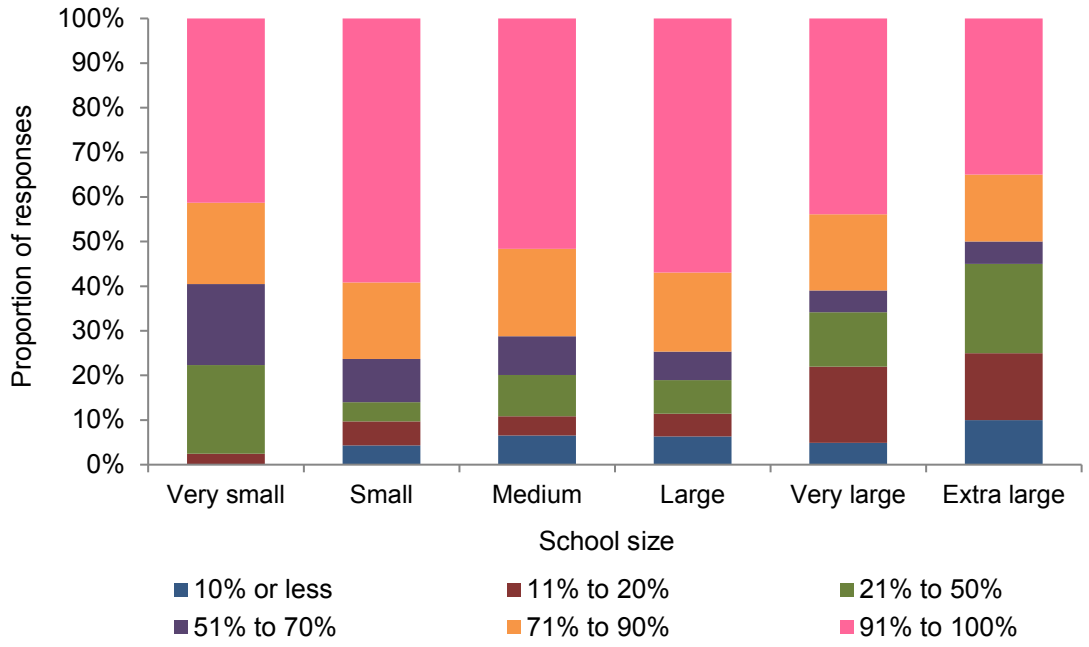


E5 - Total number of wireless access points.

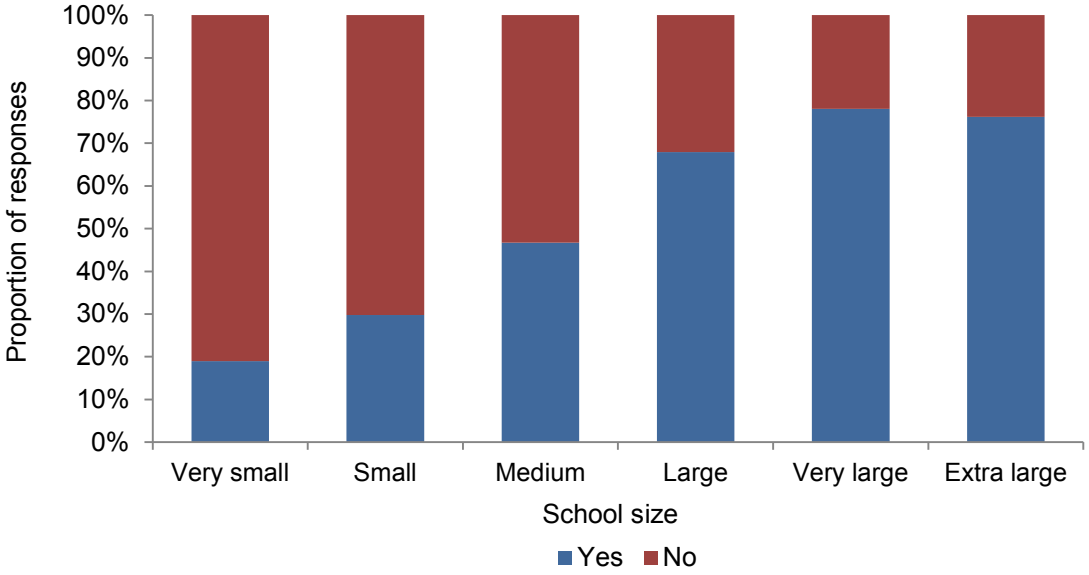


E6 - Wireless coverage of school campuses.

Schools selected a level of wireless coverage from six options.

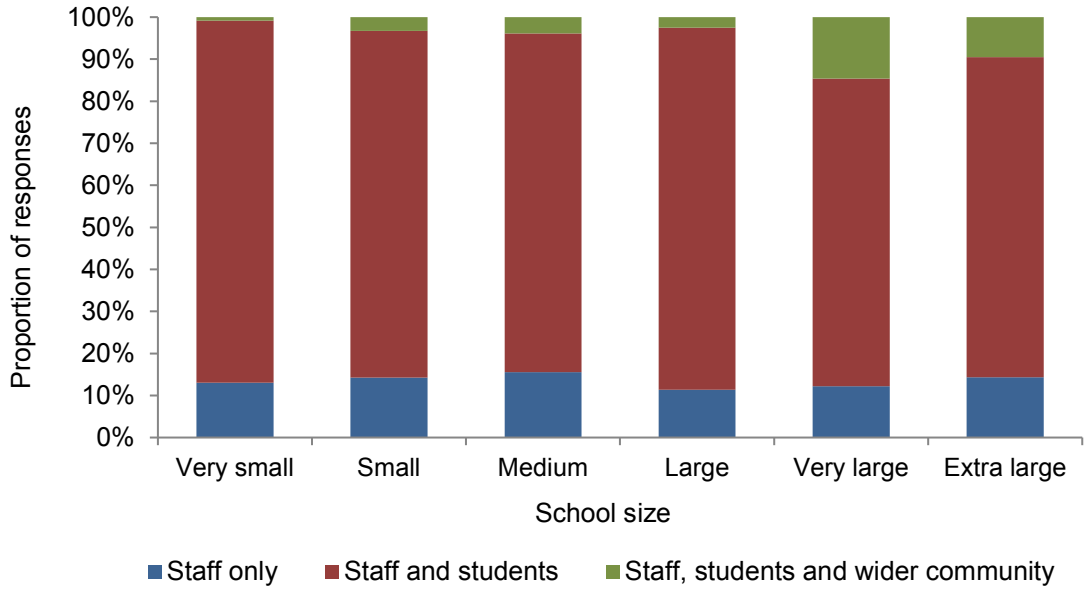


E7 - Are school wireless systems centrally managed?

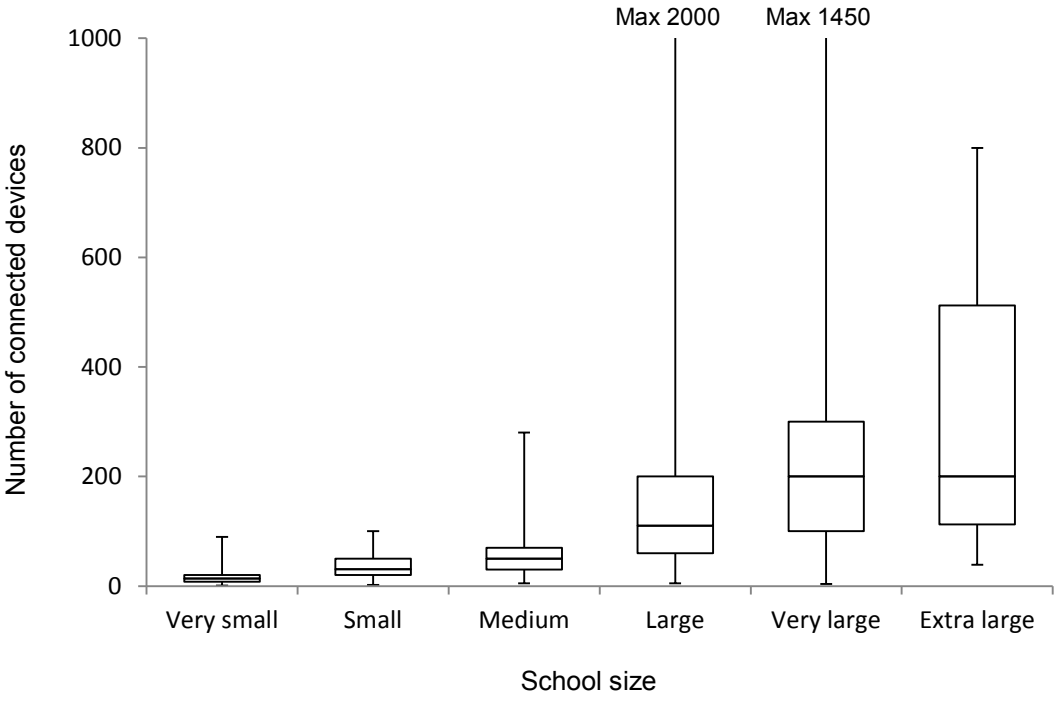


E9 - Who has access to school wireless networks?

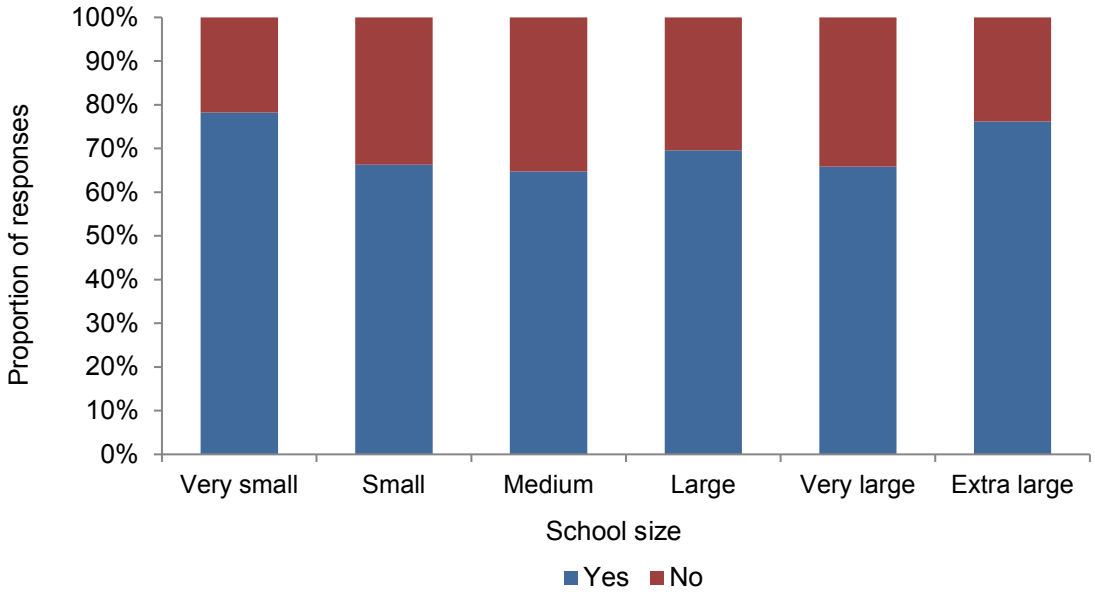
Schools selected a response from three options.



E10 - How many devices are connected to school wireless systems?



E11 – Once setup, does entering a user name and password provide automatic access to the school wireless network? (Single Sign On)

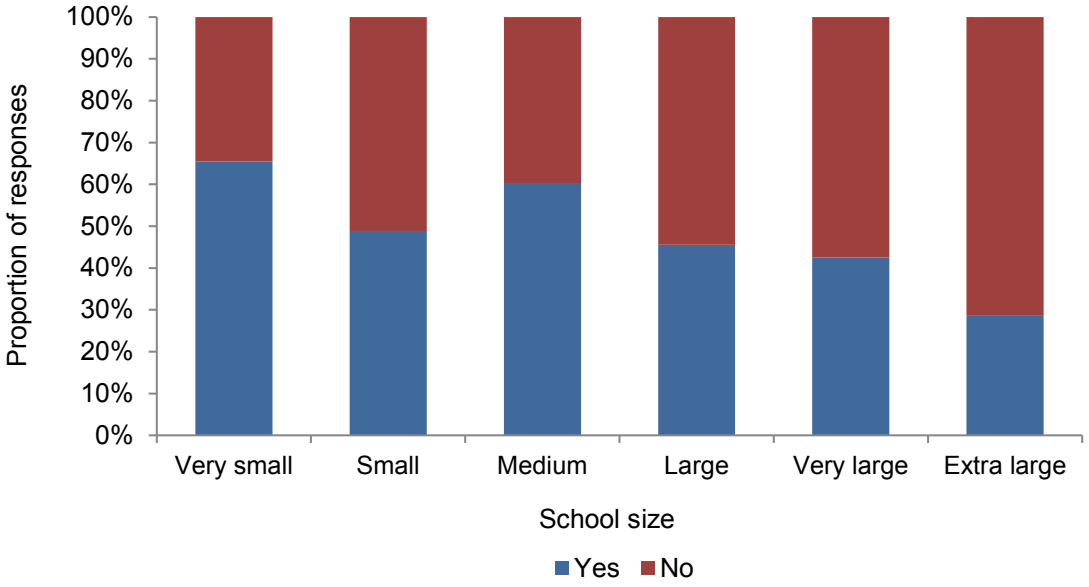


E12 – How do schools control security on wireless networks?

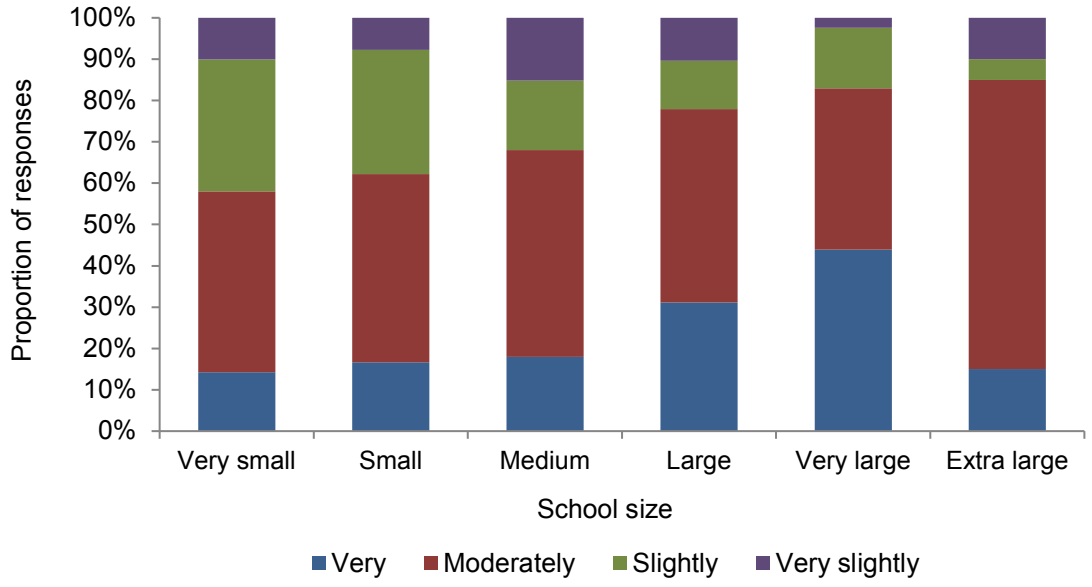
Schools selected a response from nine options. The table below shows the top five reported wireless security for each school size.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Pre-shared key	WPA2	WPA2	WPA2	WPA2 PSK (AES)	WPA2 PSK (AES)
	WPA2	Pre-shared key	WPA	WPA2 PSK (AES)	802.1x; WPA2	WPA PSK; WPA2 PSK (TKIP)
	WPA PSK	WEP; WPA2 PSK (AES)	WPA PSK; WPA2 PSK (AES)	WEP		
	WPA2 PSK(AES); None			WPA PSK	Pre-shared Key; WPA2 PSK (TKIP)	WPA2
Less common		None	Pre-shared key	WPA; WPA2 PSK (TKIP)		802.1x; Pre-shared Key; WPA; None

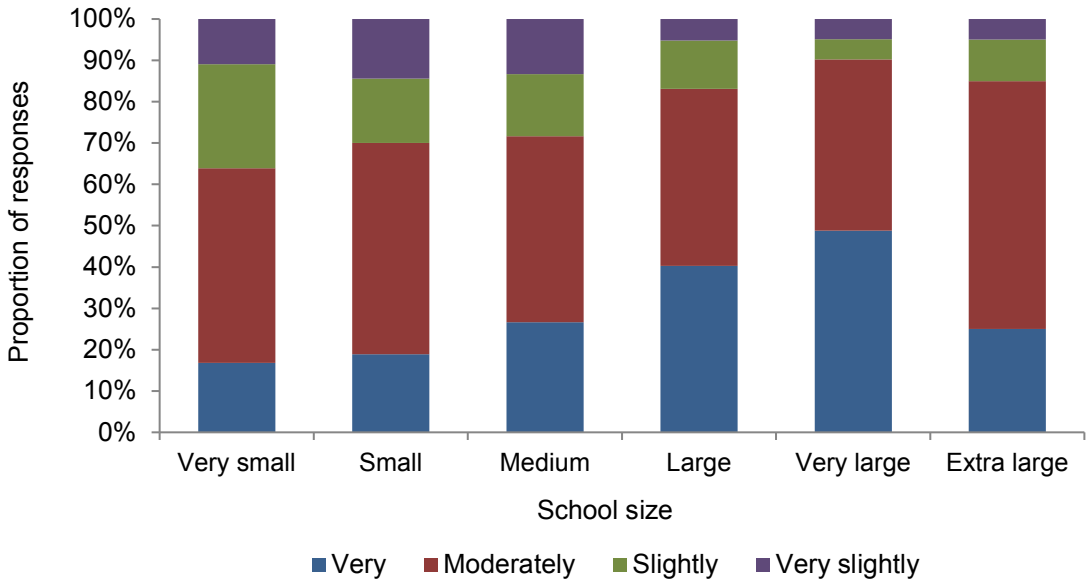
E13 – Can students access all services and applications over the wireless network?



E14 – Generally how satisfied are students and staff with the speed of school wireless networks?

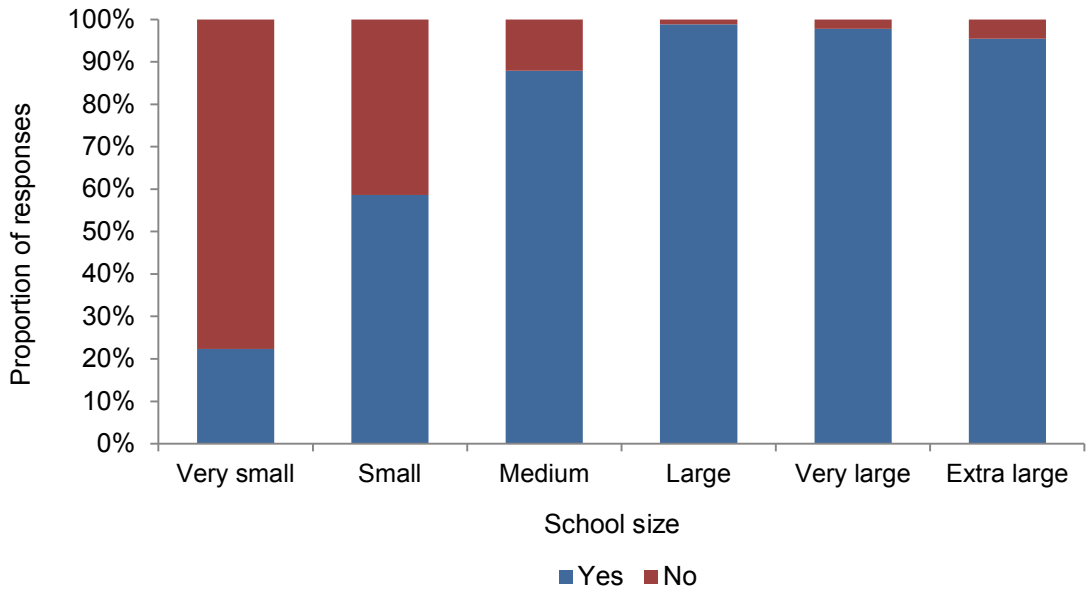


E15 – Generally how satisfied are students and staff with the reliability of school wireless networks?

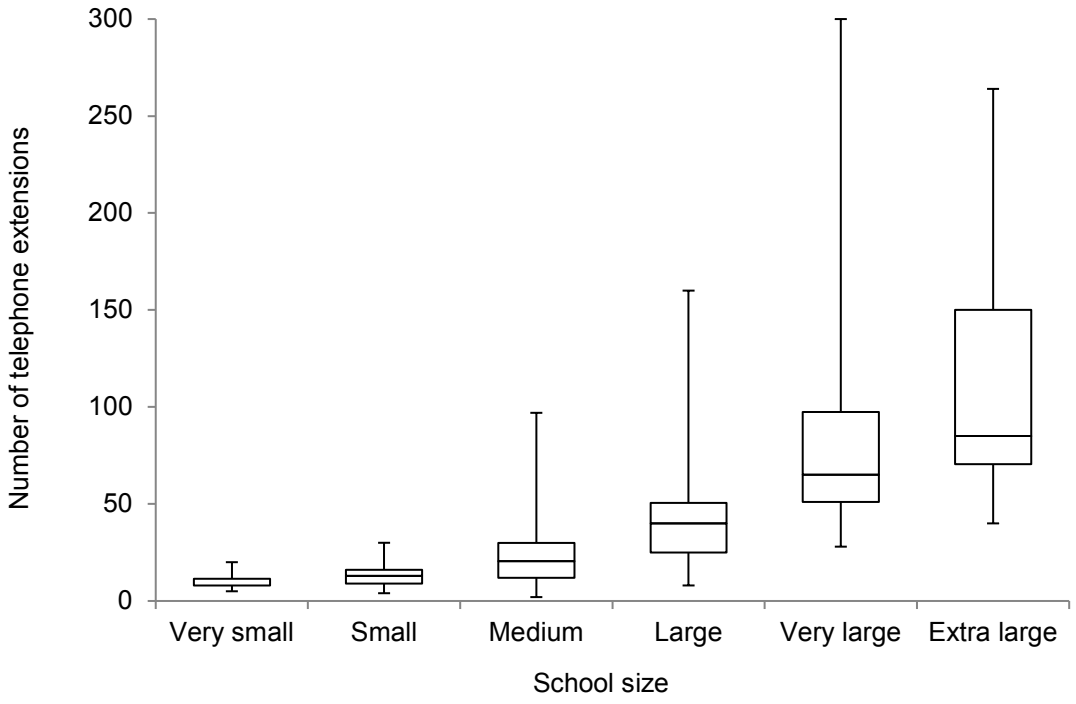


Section F – Telephony Solution (PABX – VoIP)

F1 – Do schools have a telephony solution with more than five telephone extensions?



F2 - If a school has more than five telephone extensions, how many are there?



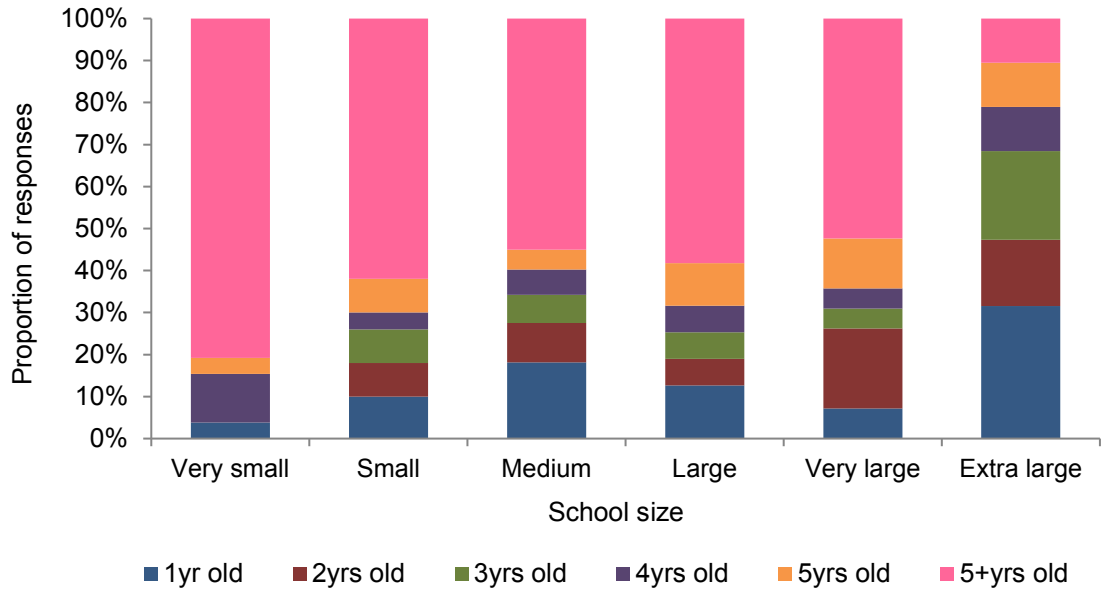
F3 –The details of school telephony solutions (for schools with more than five telephone extensions).

Telephony solution brand

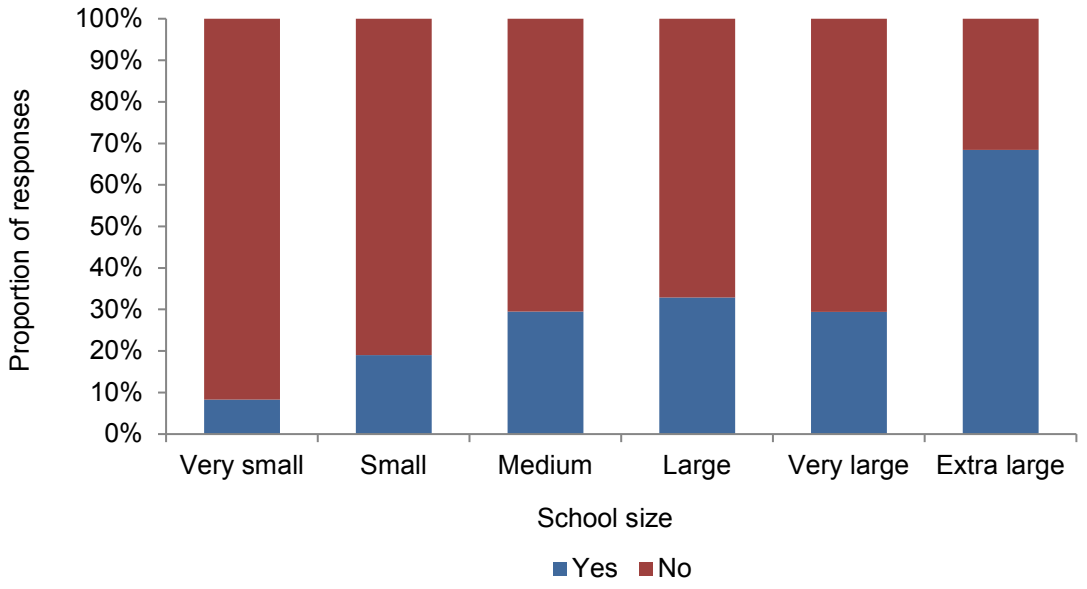
	Very small	Small	Medium	Large	Very large	Extra large
Most common	Panasonic	Panasonic	Panasonic	Panasonic	Samsung	Samsung
	Ericsson-LG	Ericsson-LG	Ericsson-LG	Samsung	Panasonic	Panasonic
	Samsung	Samsung	Samsung	Ericsson-LG	Ericsson-LG	Avaya; IPFX, NEC
	Hybrex	NEC	-	NEC	NEC	
Less common	-	Avaya	-	Siemens	Avaya	

Age of Telephony System

Schools has to select a response from six options.

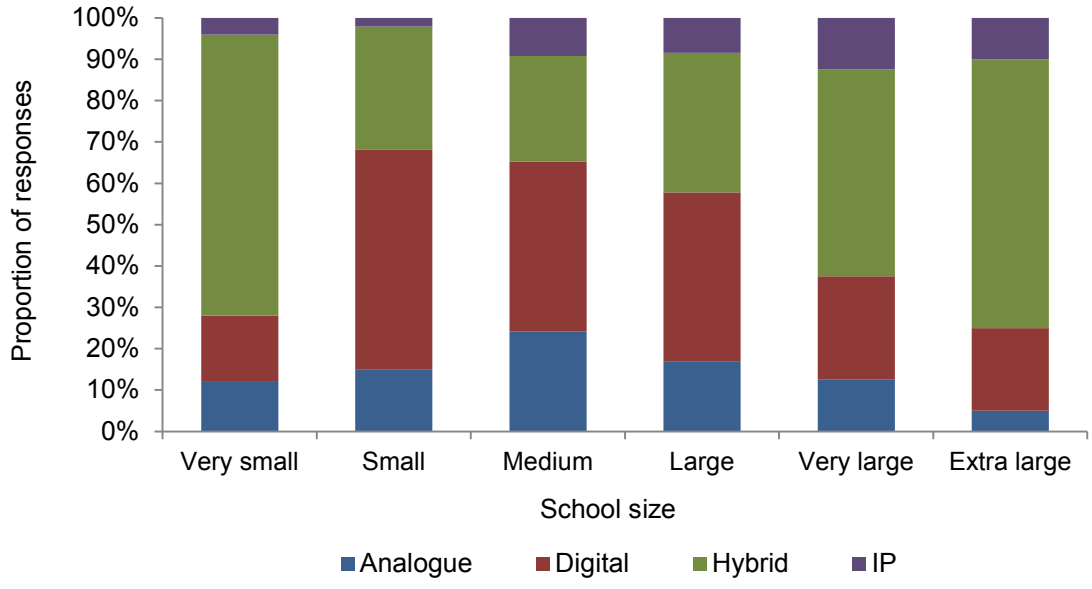


Do telephony systems have a warranty?

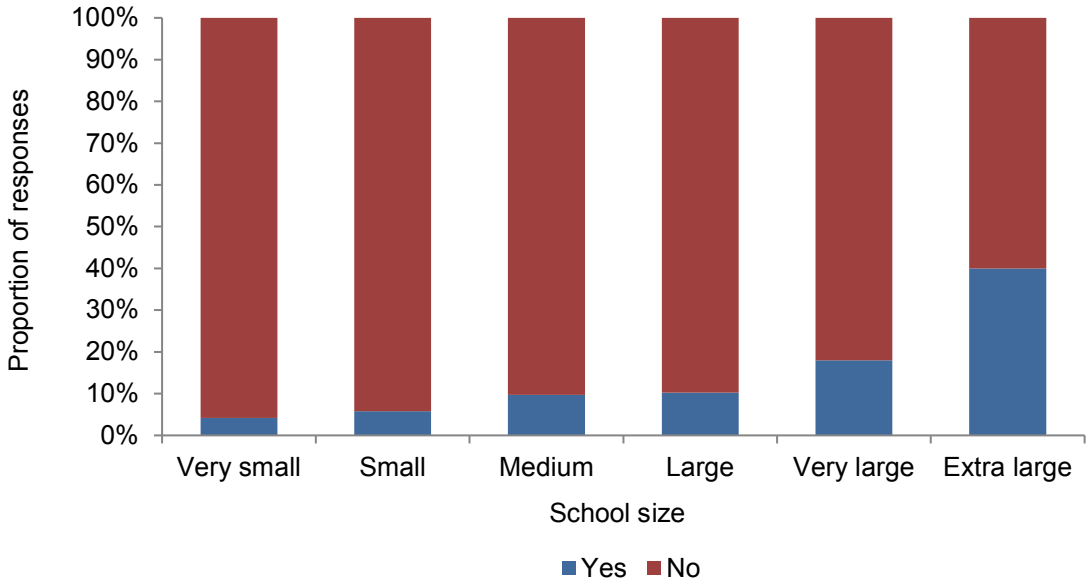


Telephony system type

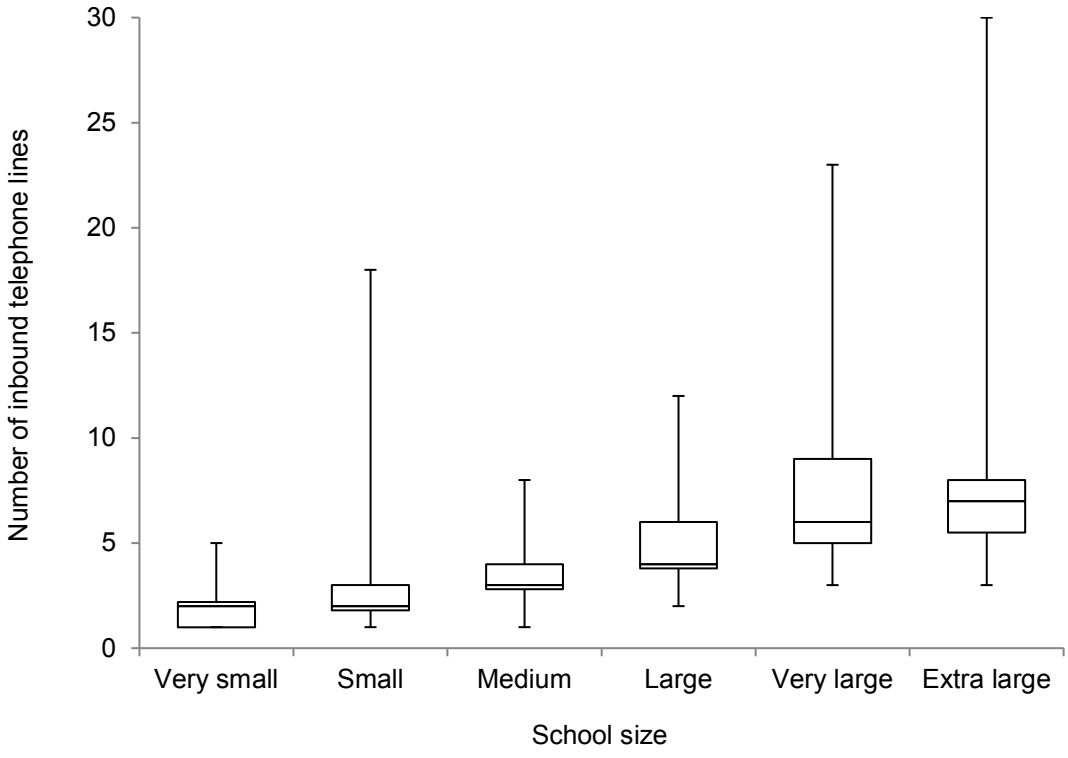
Schools selected a response from four options.



Are telephony solutions leased?



F4 – Number of inbound telephone lines to schools.



F6 – Landline service providers.

The top four reported landline service providers shown below (percentages show the proportion of schools which reported each provider).

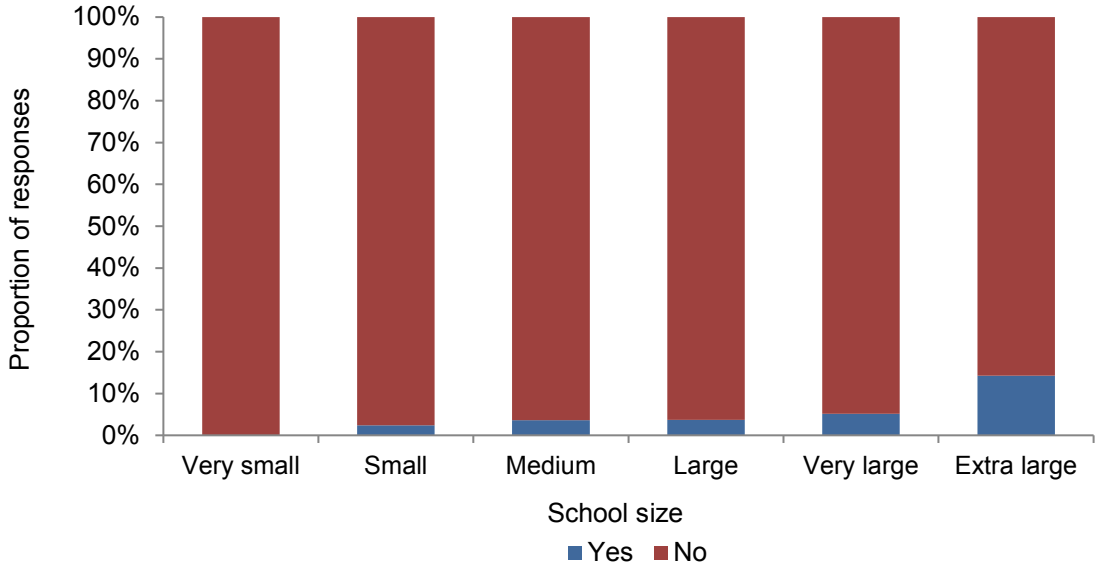
Very small	Small	Medium	Large	Very large	Extra large
Telecom (83%)	Telecom (67%)	Telecom (51%)	Telecom (41%)	CallPlus (33%)	Vodafone (40%)
CallPlus (10%)	CallPlus (16%)	CallPlus (28%)	CallPlus (20%)	Telecom (26%)	Telecom (30%)
-	-	-	Vodafone (16%)	Vodafone (21%)	CallPlus (25%)
-	-	-	TelstraClear (9%)	TelstraClear (14%)	-

F7 – Names of any call accounting software used?

Only 41 schools reported using call accounting software. The top four reported are shown below:

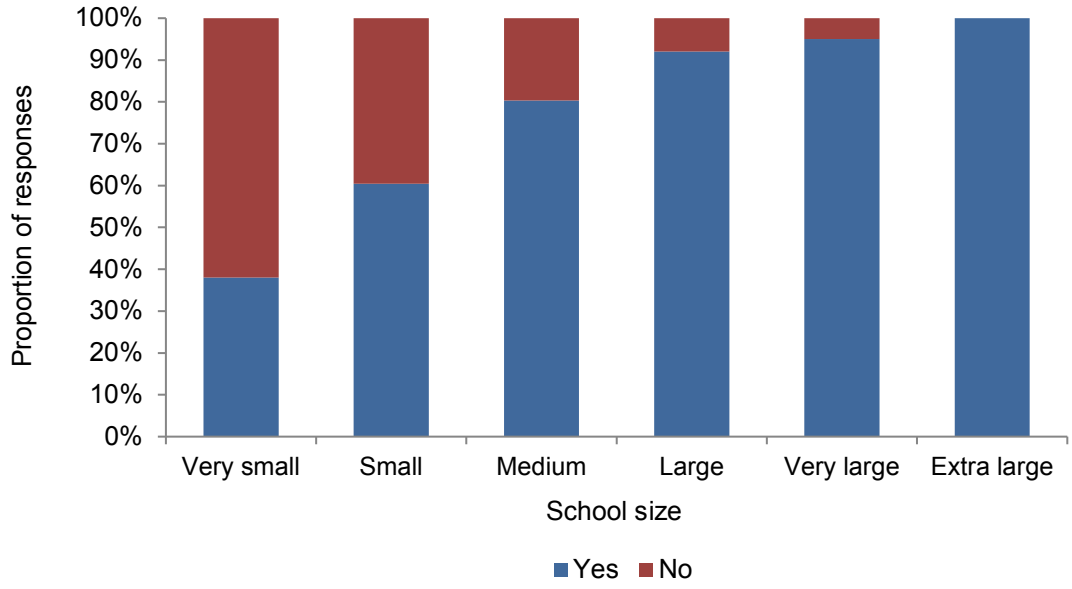
Call accounting software	Proportion of responses
Callista	32%
CallPlus	12%
MUSAC	7%
Telecom Call Track	5%

F8 – Do schools use GSM Gateways (Landline to Mobile Communication devices)?

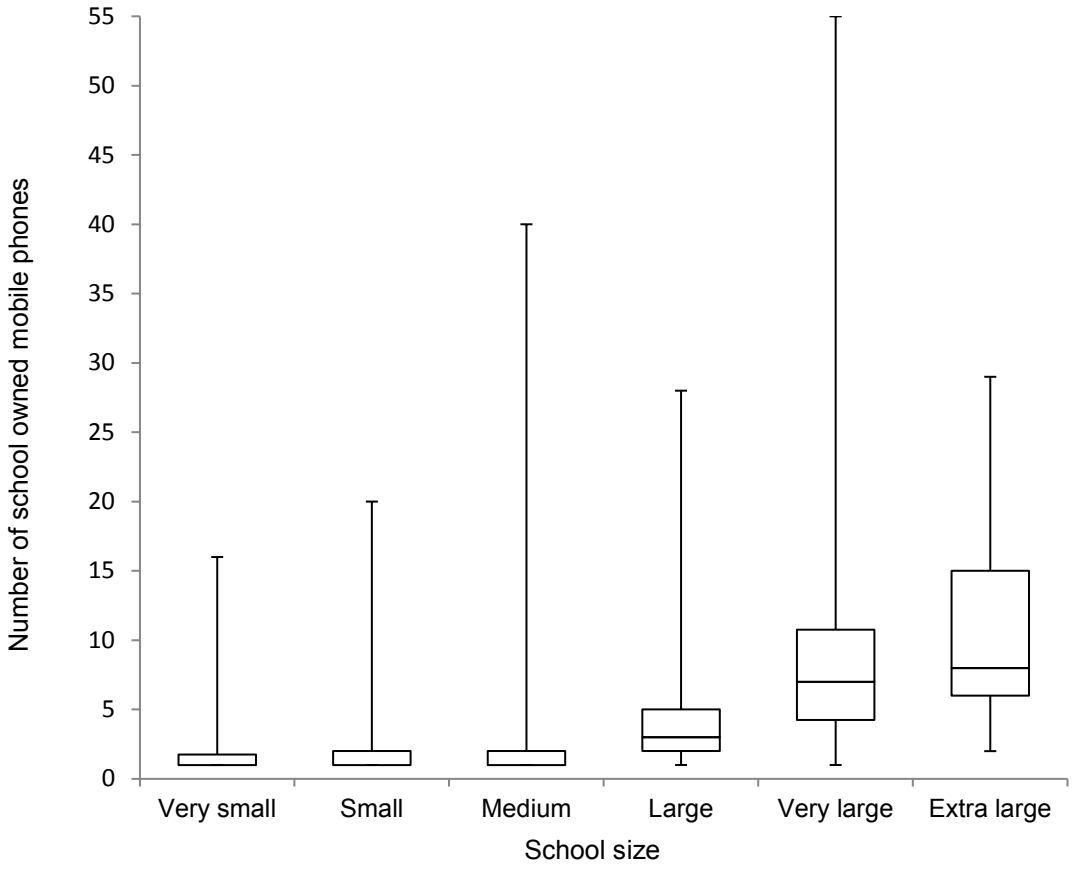


F9 – Do schools own mobile phones?

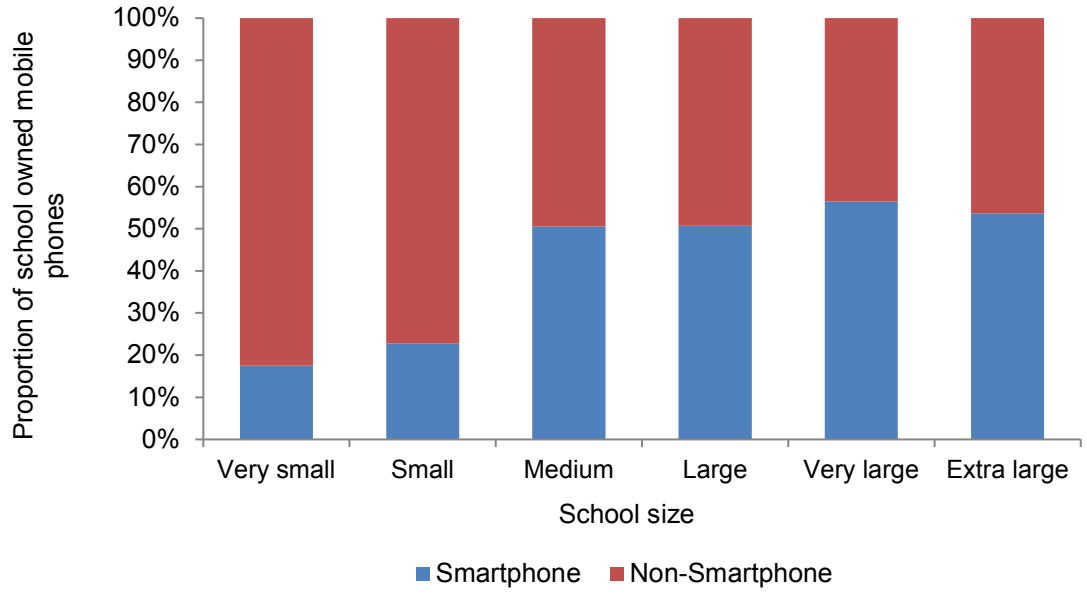
Schools were asked to report the number of mobile phones they owned. The schools that responded with '0' were taken as 'No', while any non-response was not included. The figure below shows the proportion of schools that indicated owning mobile phones or not.



F9 cont. – Number of school owned mobile phones per school



F10 – What proportion of school's mobile phones are smart phones?



F12 –School mobile phone service providers.

Two providers, Telecom and Vodafone, were reported by the majority of schools. Across all schools the other reported providers were reported by 3.5% or less of schools.

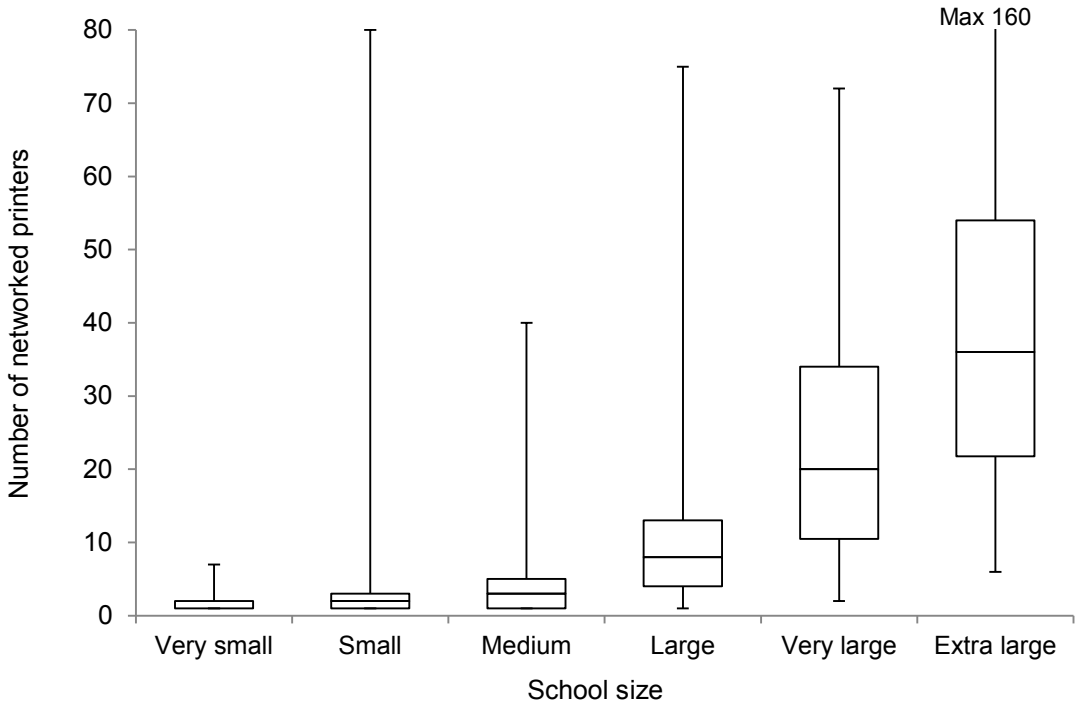
Mobile phone provider	Proportion of all schools
Telecom	58%
Vodafone	29%

The table below shows the proportion of schools that reported Telecom or Vodafone as their mobile phone provider for each school size.

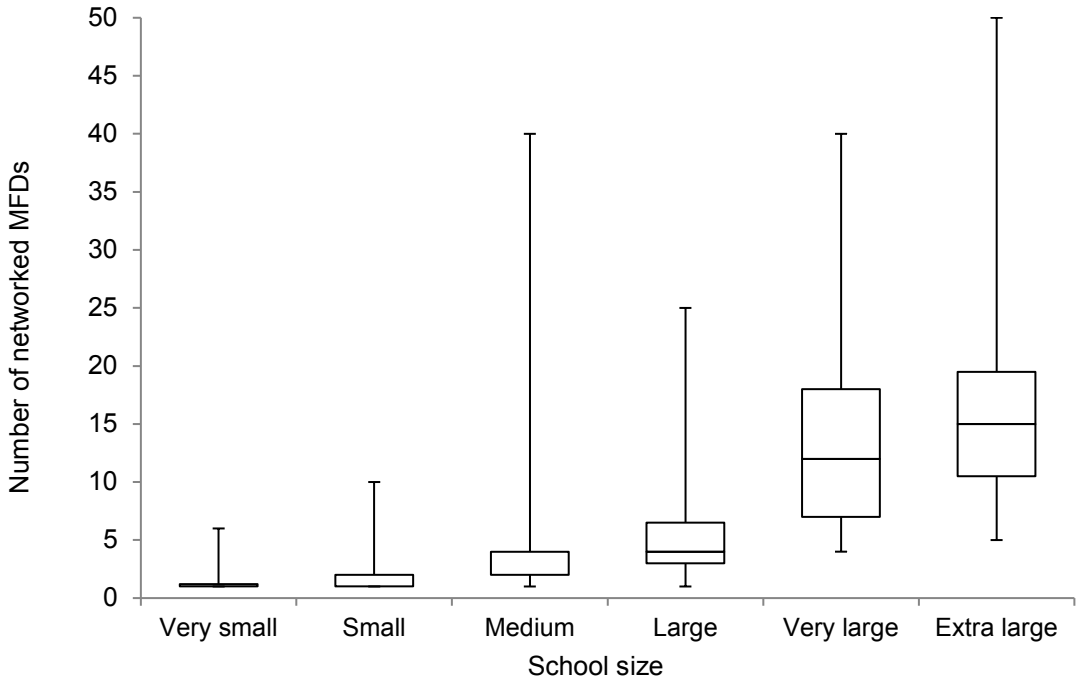
Very small	Small	Medium	Large	Very large	Extra large
Telecom (76%)	Telecom (71%)	Telecom (64%)	Telecom (46%)	Vodafone (35%)	Vodafone (21%)
Vodafone (20%)	Vodafone (18%)	Vodafone (26%)	Vodafone (35%)	Telecom (43%)	Telecom (63%)

Section G – Printing

G1 – How many networked desktop laser or ink-jet printers do schools have?

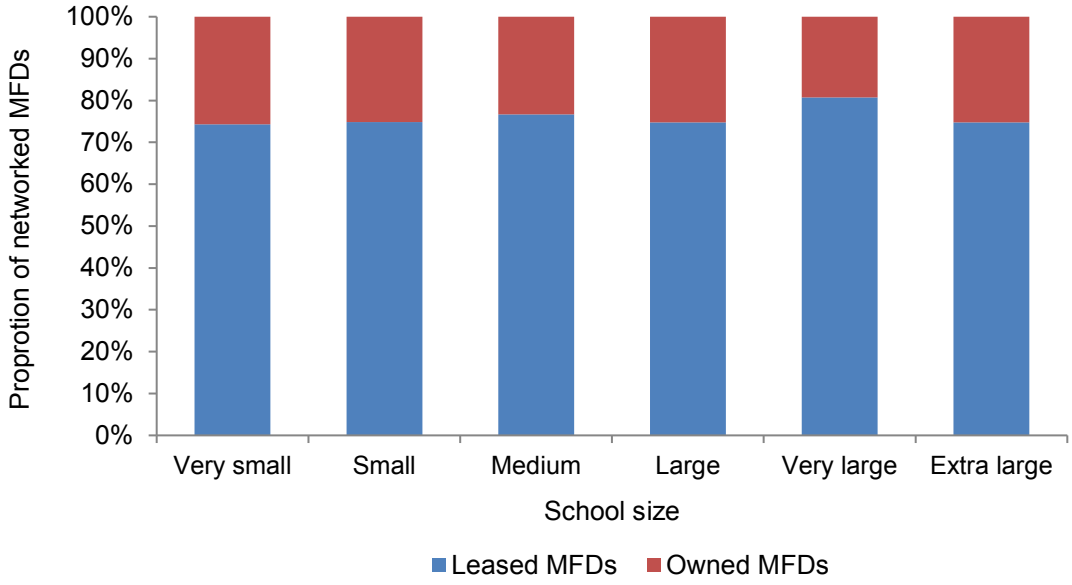


G2 – How many networked photocopiers/Multi-Function Devices (MFDs) do schools have?

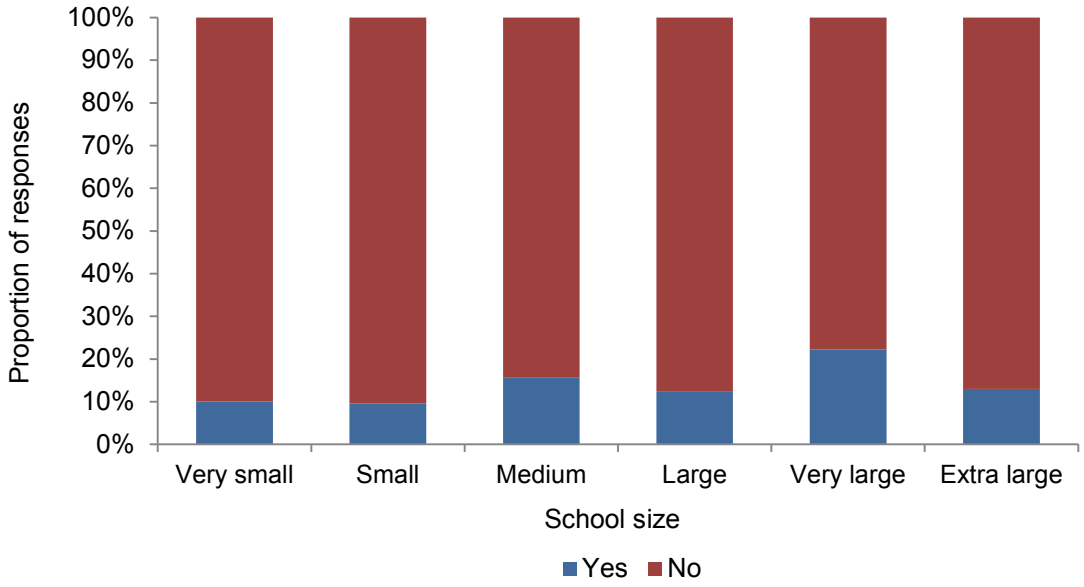


How many of the total number of networked photocopiers/Multi-Function Devices (MFDs) are leased?

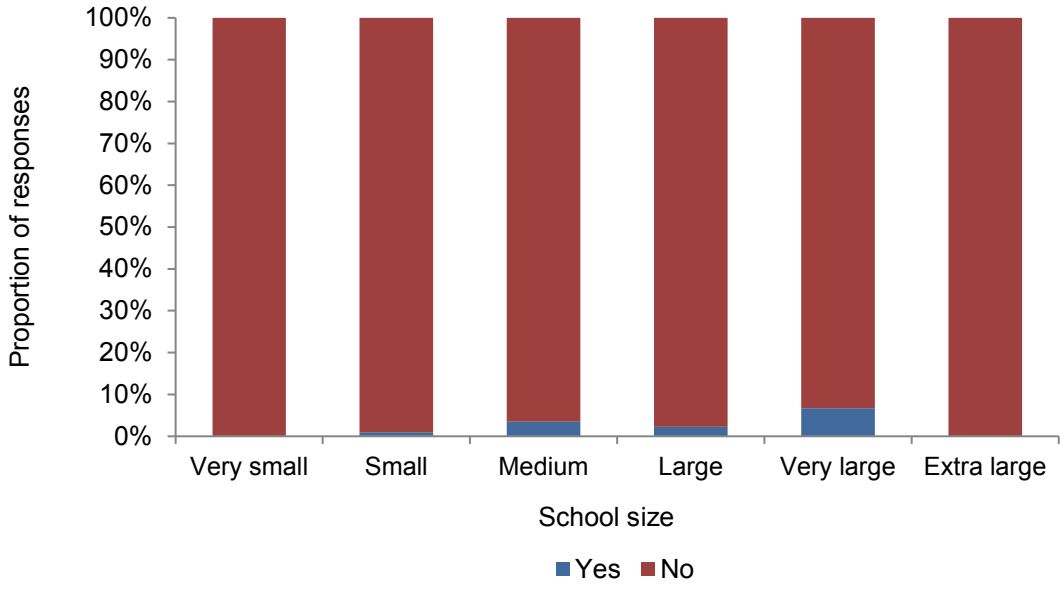
The figure below shows the proportion of the total number of reported networked photocopiers/Multi-Function devices that are leased or owned.



G3 – Are schools registered for All-of-Government (AoG) printing pricing?



G4 – Do schools use cloud based printing?



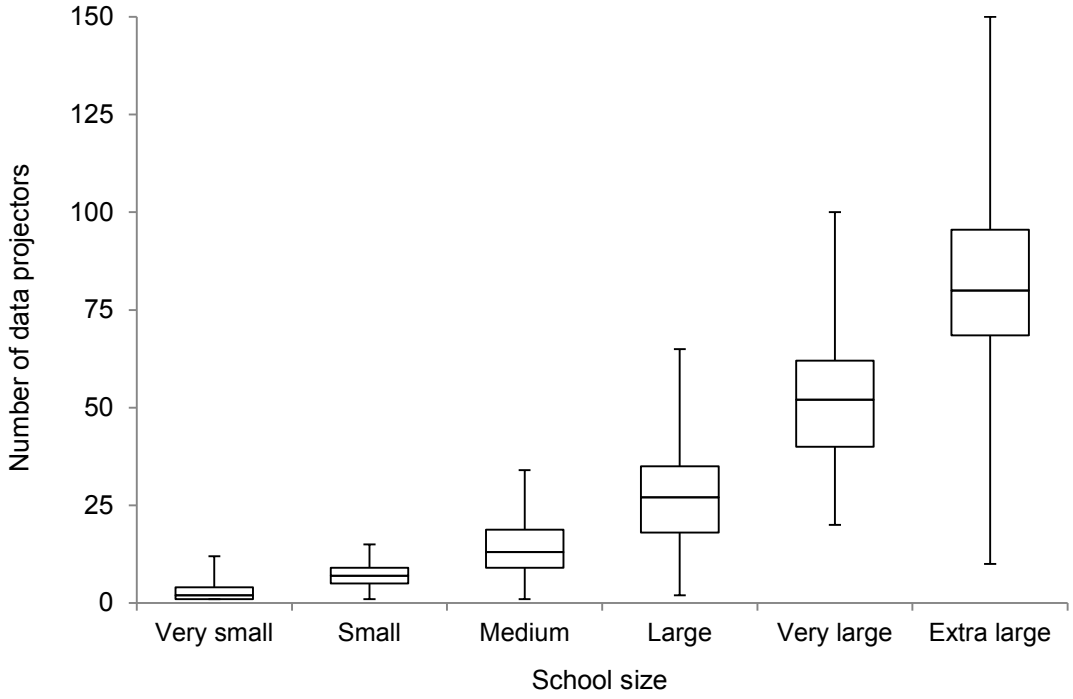
G5 – What software is used to manage printing?

There were 225 responses for printer management software and 47 different products were reported. The top five across all schools are shown below.

	Printer management software
Most common	PaperCut
↓	Ricoh
	Konica Minolta
	Pcounter
Less common	Copier software

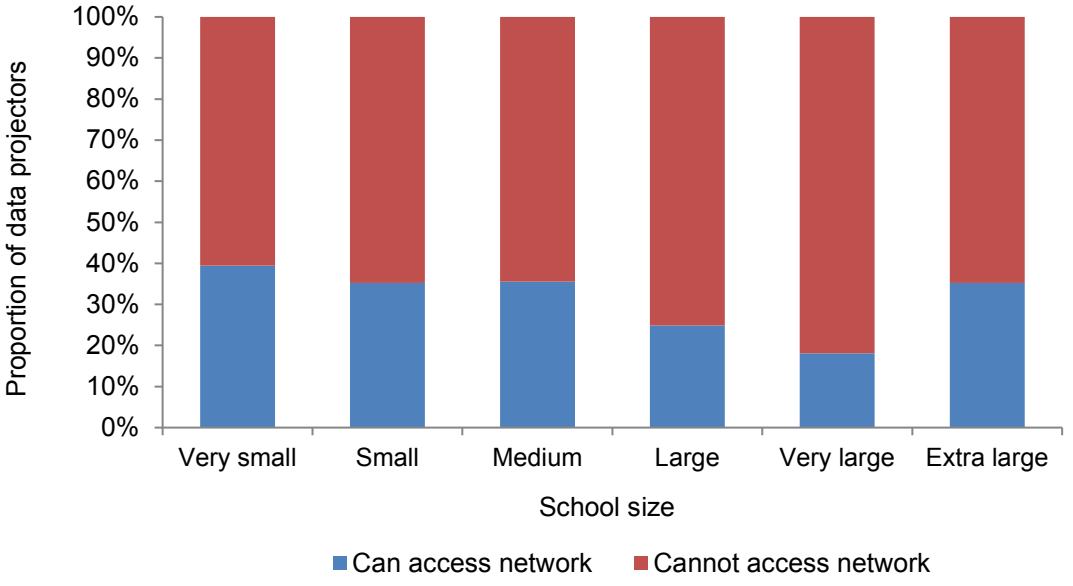
Section H – Audio and Video

H1 – How many data projectors do schools have?



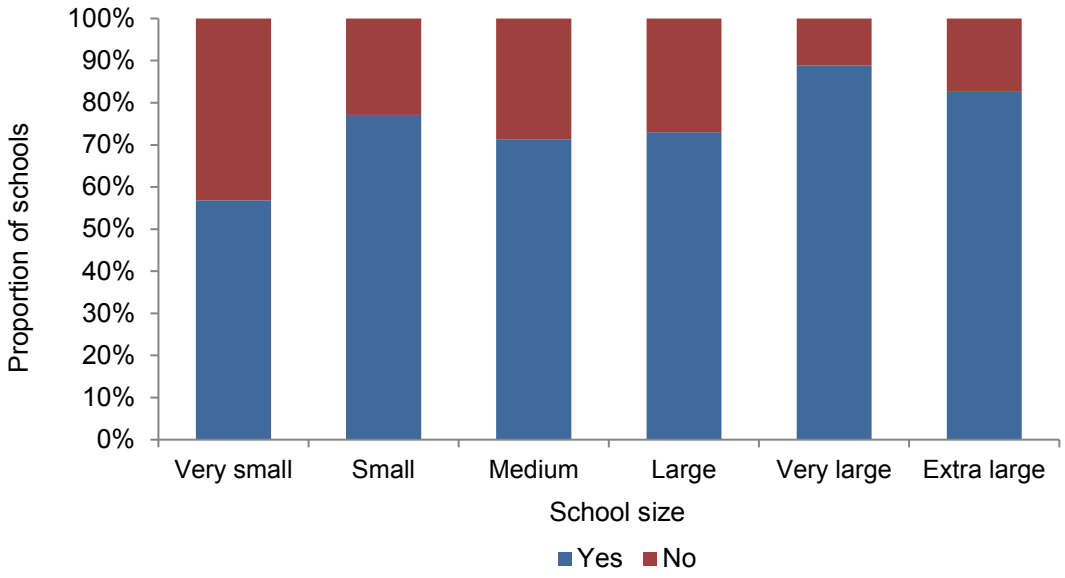
H3 – How many data projectors can access the network?

The figure below shows the proportion of total projectors, as reported by all schools, which are capable of accessing school networks.

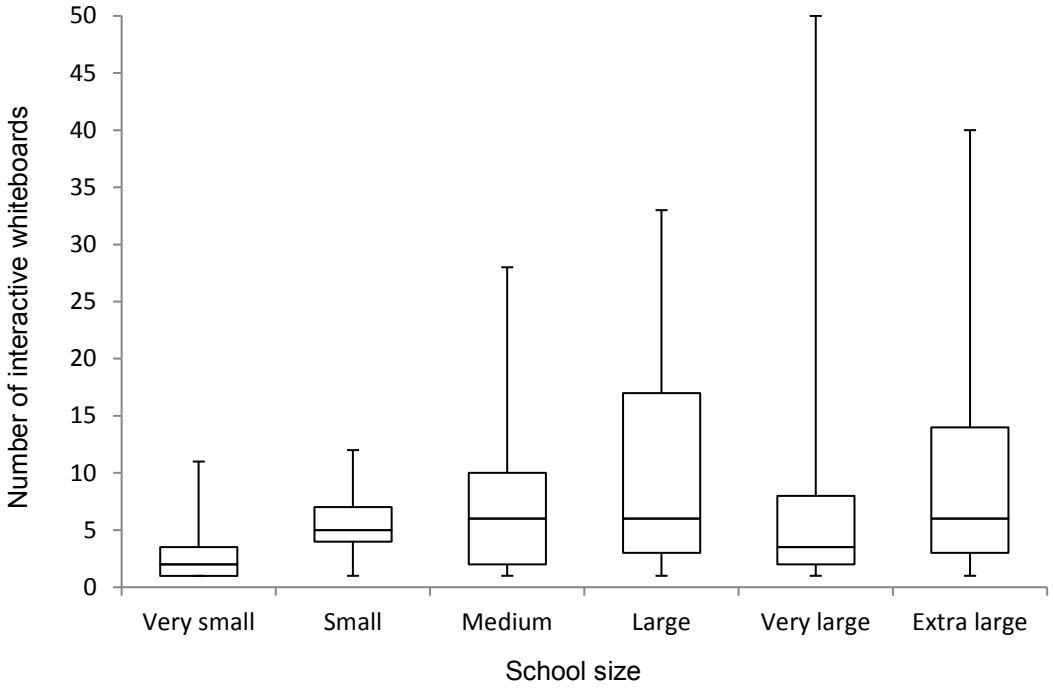


H4 - How many interactive whiteboards do schools have?

The figure below shows the proportion of schools that have interactive whiteboards.

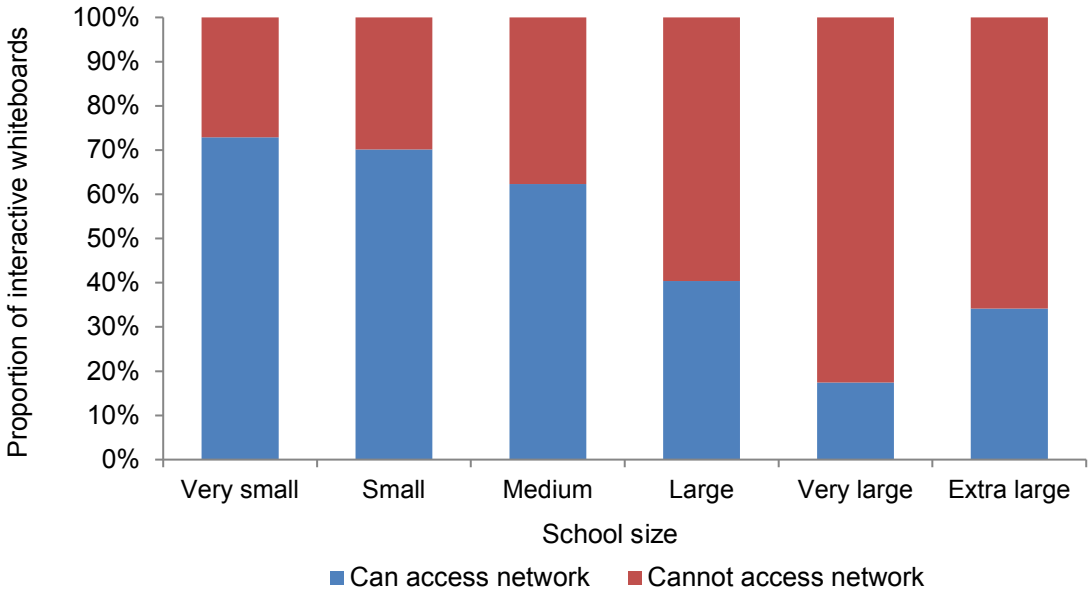


Of the schools that indicated having interactive whiteboards, the figure below shows the number reported for each of these schools.



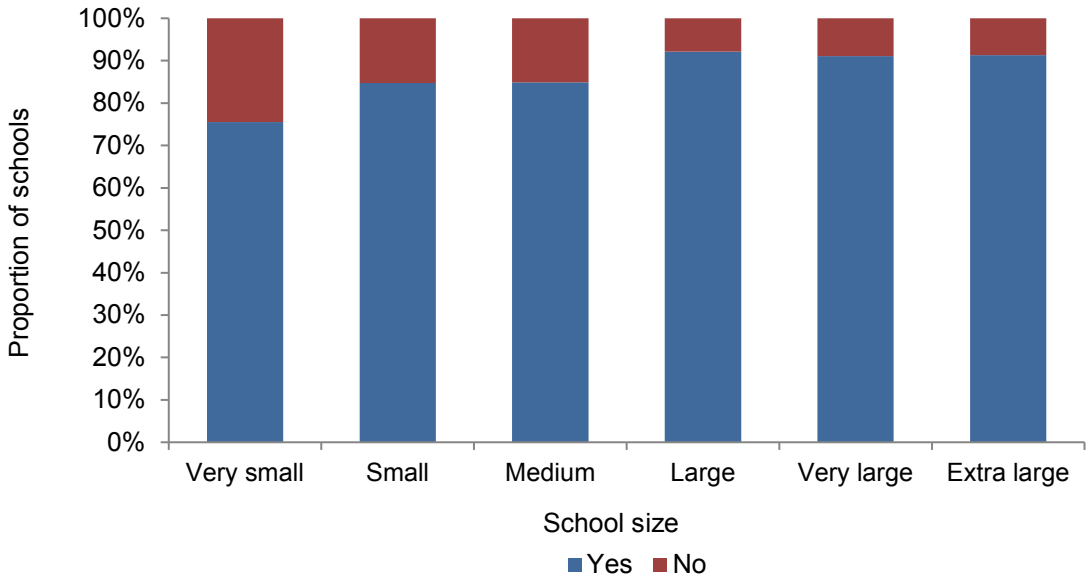
H6 - How many interactive whiteboards can access the network?

The figure below shows the proportion of total interactive whiteboards, as reported by all schools, which are capable of accessing school networks.

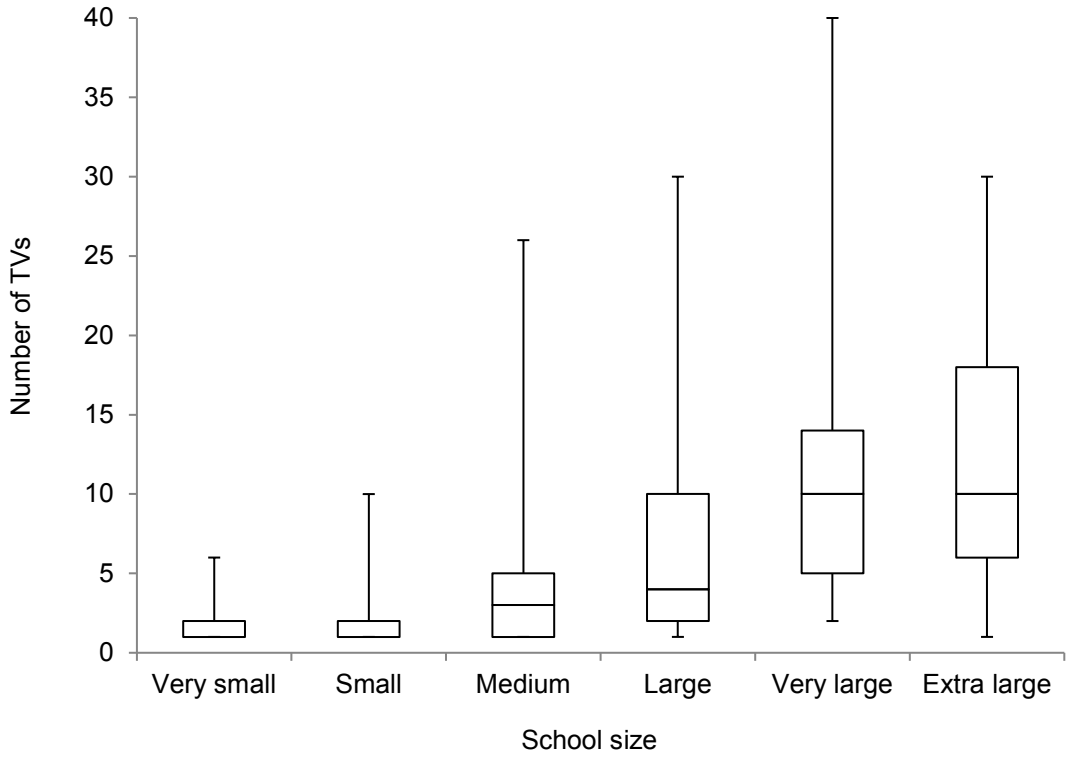


H7 – How many TVs do schools have?

The figure below shows the proportion of schools that have TVs.

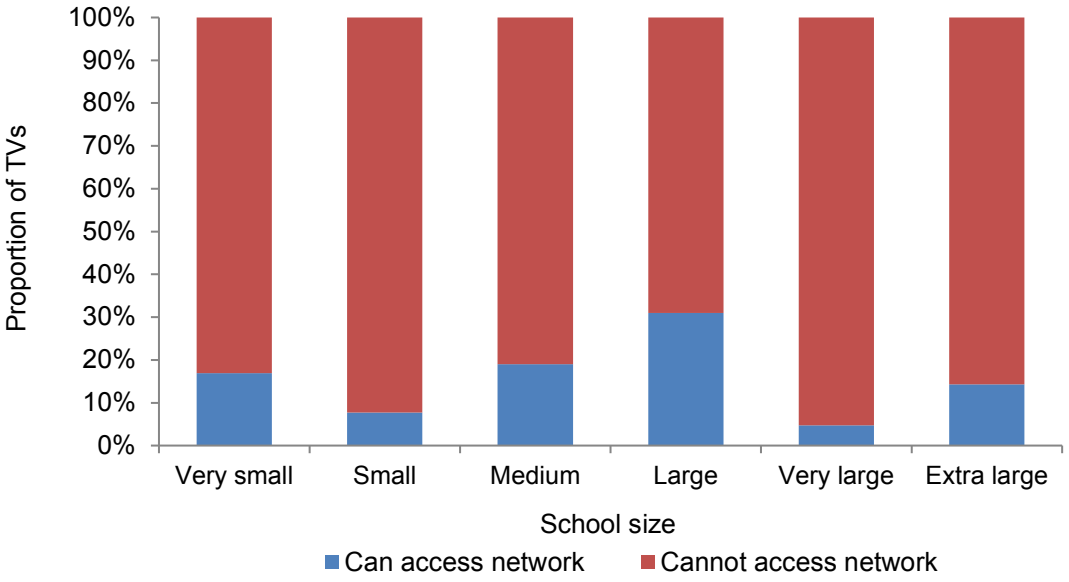


Of the schools indicating having TVs, the figure below shows the number reported for each of these schools.

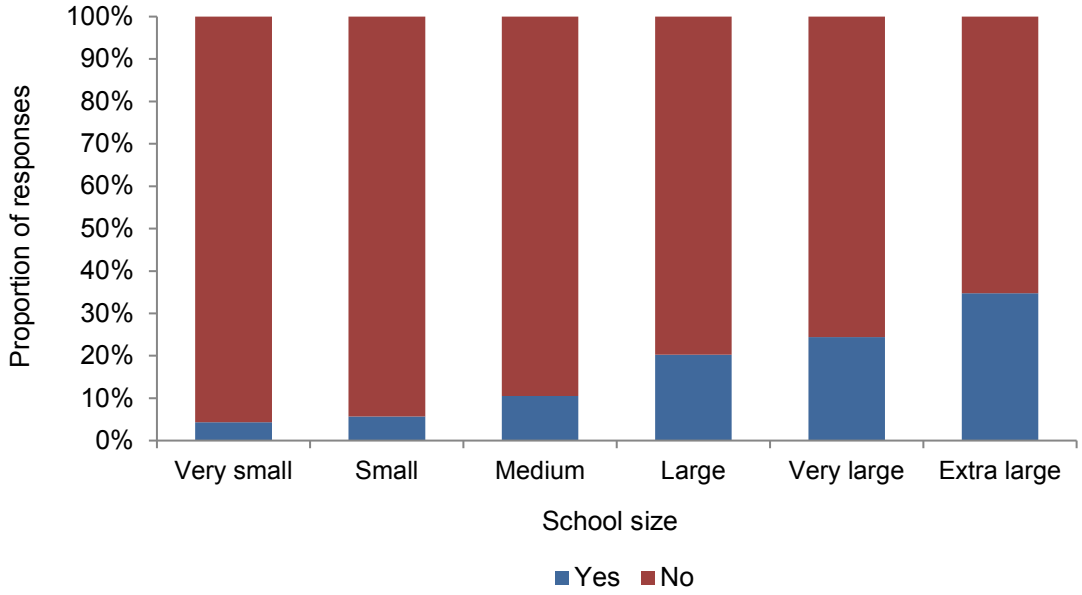


H9 – How many TVs can access the network?

The figure below shows the proportion of total TVs, as reported by all schools, which are capable of accessing school networks.



H10 – Do schools have stand-alone video conference systems?



Brand of stand-alone video conference system

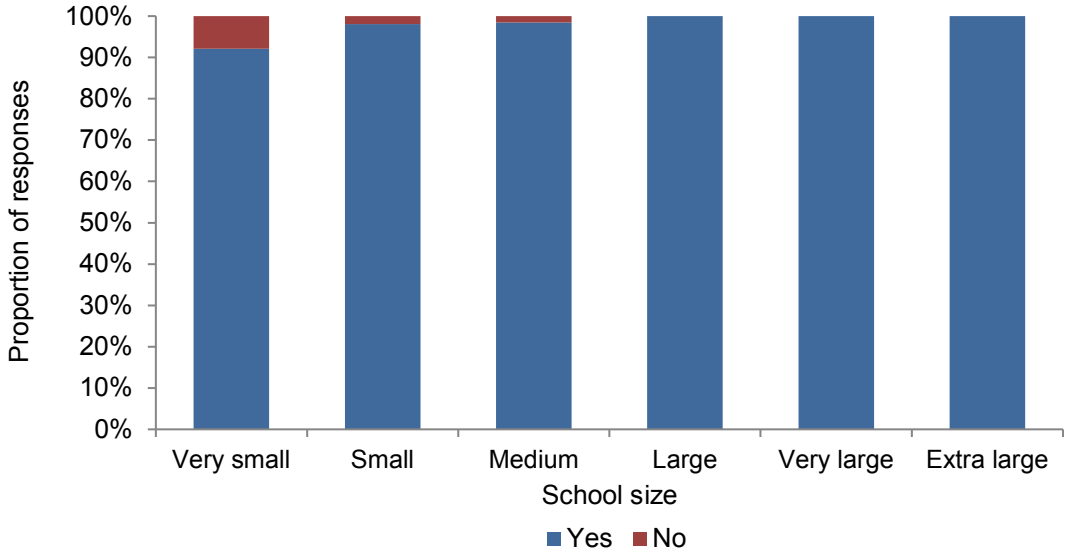
The dominant brand was Polycom with 94% of all responses and was dominant across each school size.

Section I – Applications Currently Used

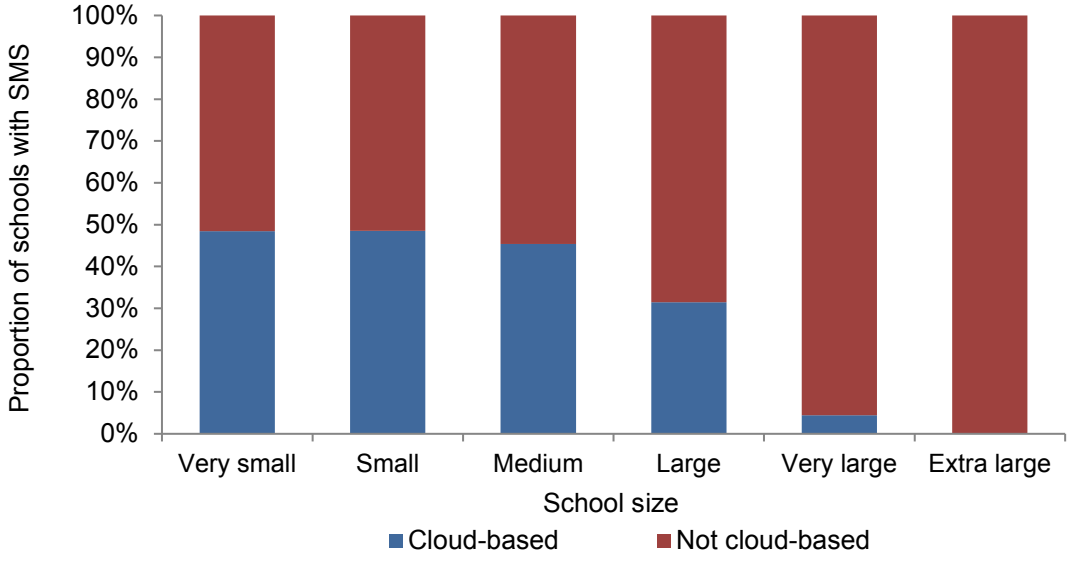
Schools were to indicate whether they used each of the 14 application types presented and whether it is cloud-based or not. The software packages used were also reported.

Note: Results for the software used were presented in one of two ways. If schools predominately named a single software type then the results are ranked (percentages will add up to 100). If schools often named more than one software type then the results show what percentage of schools use each type (percentages will be greater than 100%).

I1 - School Management Systems (SMS)



The figure below shows the proportion of schools with Student Management Systems according to whether they are cloud-based or not.

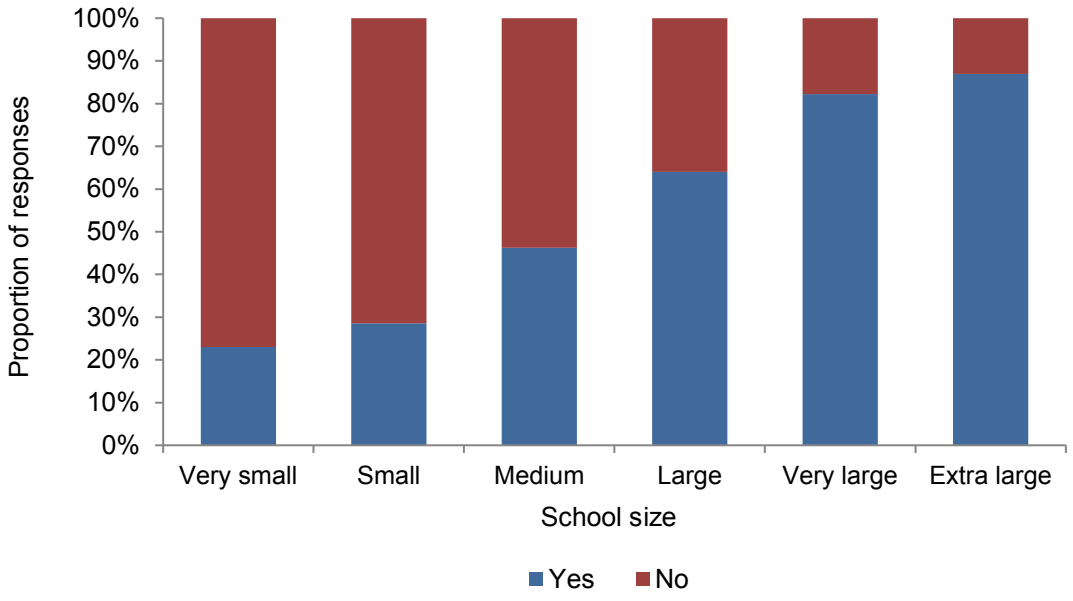


Software packages used for Student Management Systems

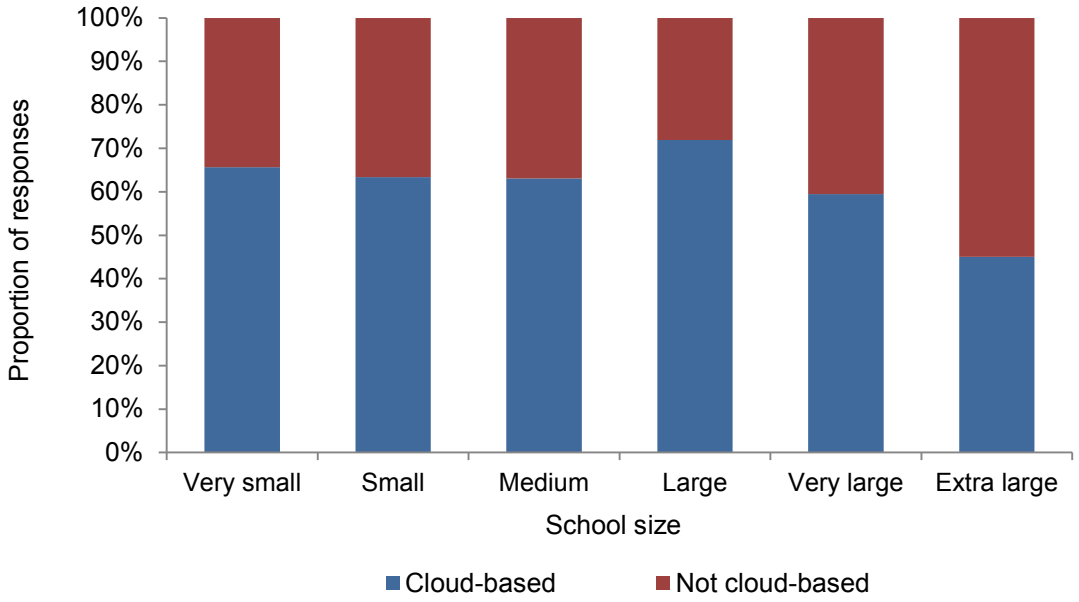
The top five reported software for each school size band are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Musac	Musac	Musac	Musac	KAMAR	KAMAR
	eTAP	eTAP	eTAP	eTAP	Musac	Musac
	Assembly	Assembly	Assembly	KAMAR	-	-
	-	-	KAMAR	Assembly	-	-
Less common	-	-	-	-	-	-

I2 - Learning Management Systems (LMS)



The figure below shows the proportion of schools with Learning Management Systems according to whether they are cloud-based or not.

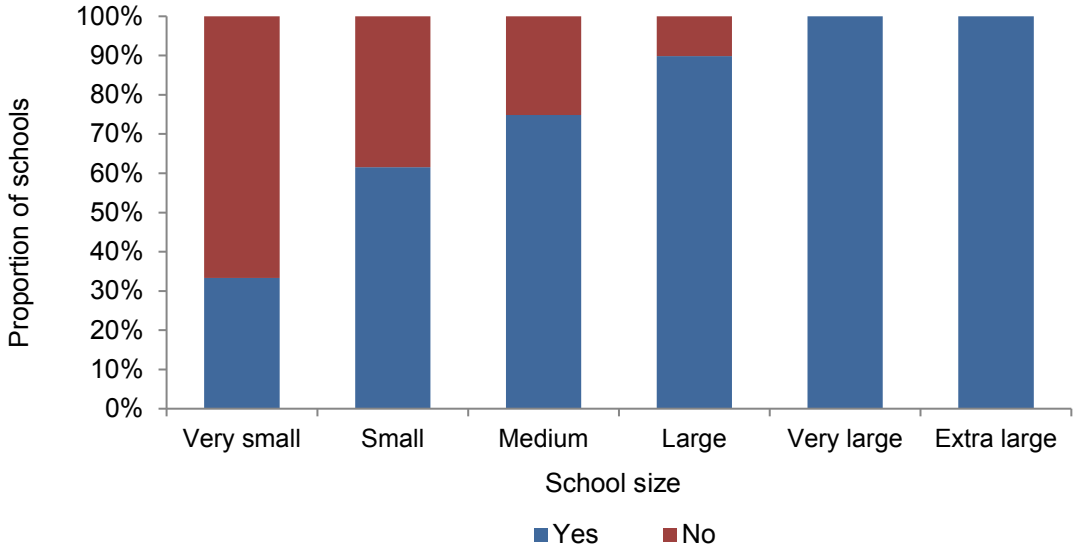


Software packages used for Learning Management Systems

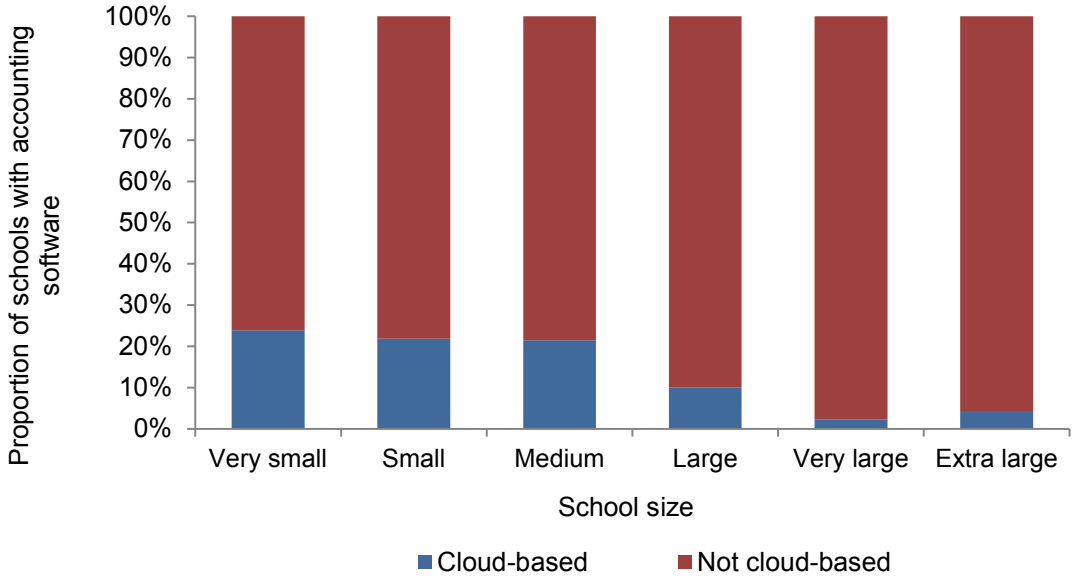
The top five reported software for each school size band are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Knowledge Net	Ultranet	Ultranet	Ultranet	Moodle	Moodle
	Ultranet	Knowledge Net	Knowledge Net	Moodle	Ultranet	Ultranet
	Musac	Musac	Musac	Knowledge Net	Knowledge Net; Firstclass	Knowledge Net; Ranginet
	eTAP	Moodle	Moodle	-	-	
Less common	-	eTAP	eTAP; Spike	-	-	-

I3 – Accounting software for school administration



The figure below shows the proportion of schools with accounting software for school administration according to whether they are cloud-based or not.

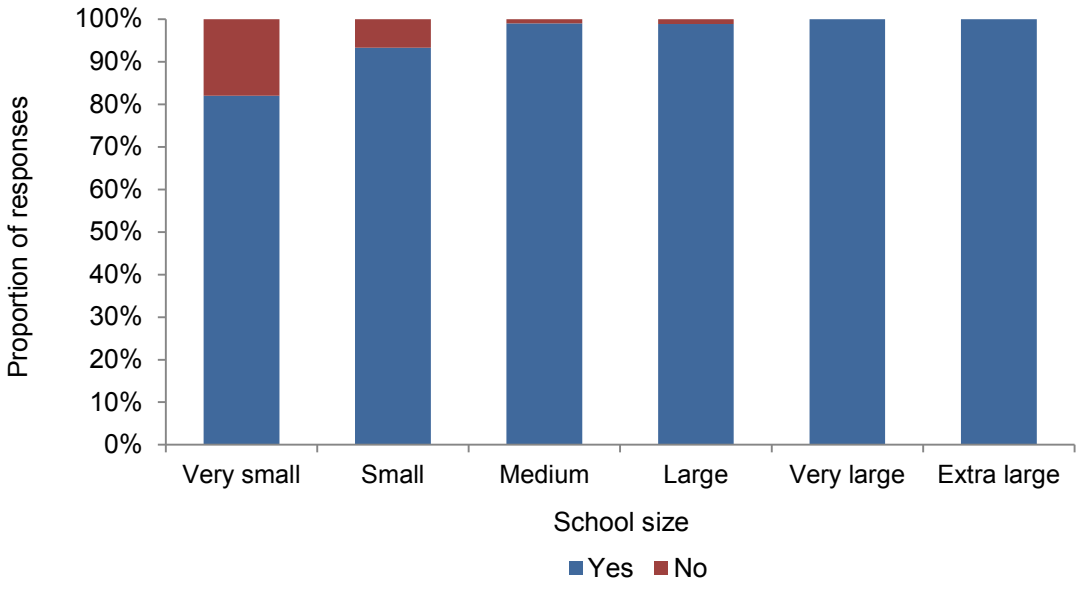


Software packages used for accounting software for school administration

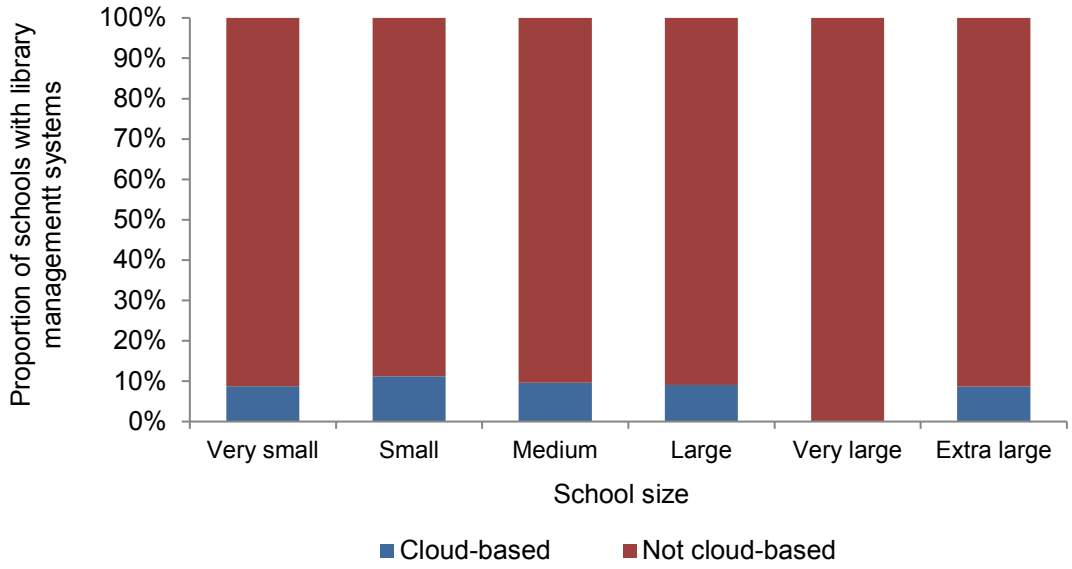
The top five reported software for each school size band are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Musac	Musac	Musac	Musac	Musac	ACCPAC; Greentree; IES
	Cashbook	MYOB; Xero	-	Moneyworks	IES	
	Education Services; eTAP; BankLink; Quick Books		-	MYOB	Greentree	
		Assembly; Cash Manager	-	IES; Xero	MYOB; Basis	Musac
Less common			-			-

I4 – Library Management Systems



The figure below shows the proportion of schools with Library Management Systems according to whether they are cloud-based or not.

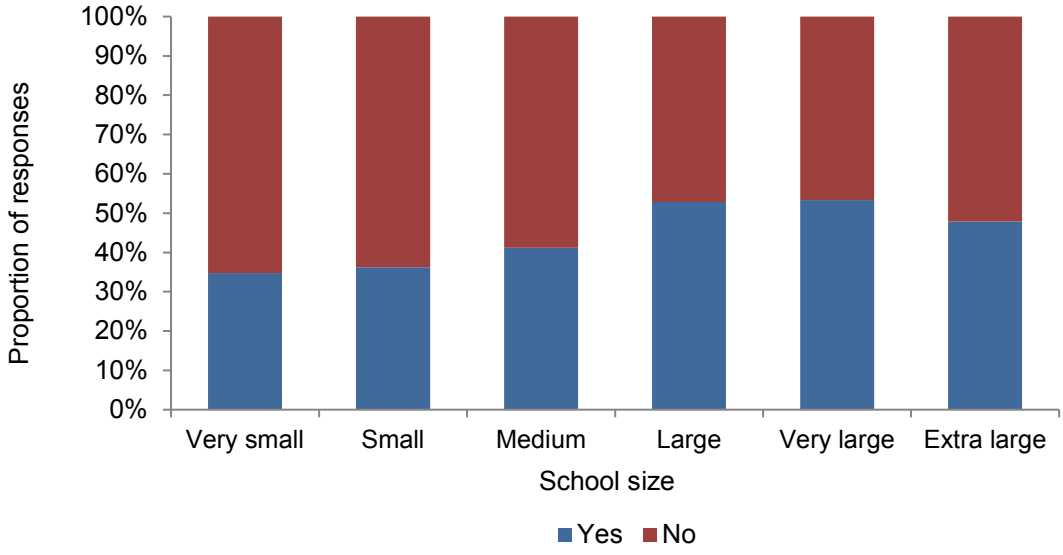


Software packages used for Library Management System

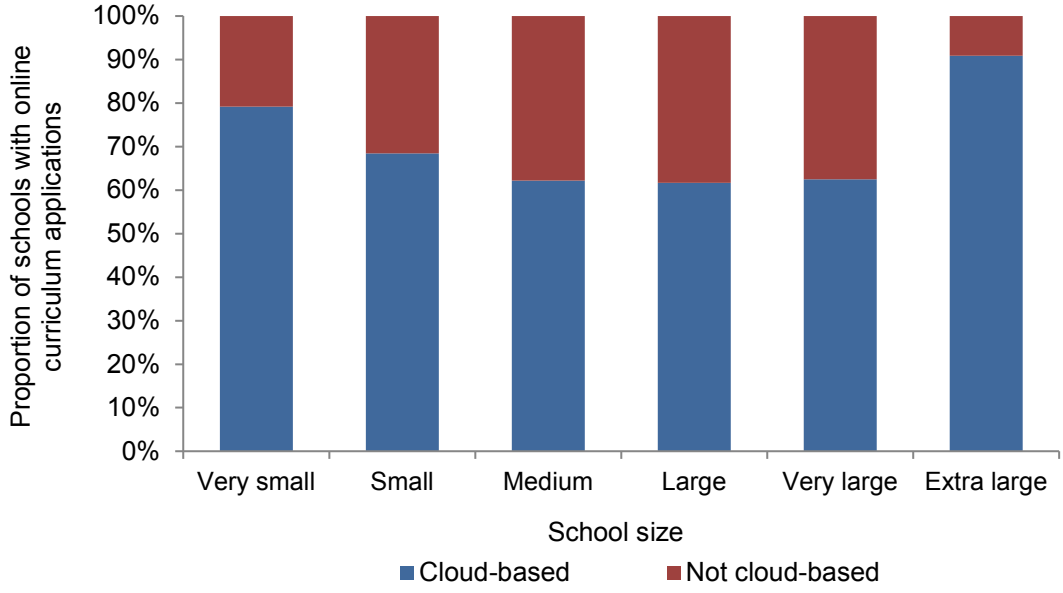
The top five reported software for each school size band are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Musac	Musac	Musac	Musac	AccessIT; Oliver	AccessIT
	AccessIT	AccessIT	AccessIT	AccessIT		Oliver
	-	Alice	Athenaeum	Oliver	Athenaeum	Athenaeum
	-	Athenaeum; Oliver	-	Athenaeum	Alice	eLM
Less common	-		-	-	eLM; Musac	Musac

I5 – Online curriculum applications



The figure below shows the proportion of schools with online curriculum applications according to whether they are cloud-based or not.



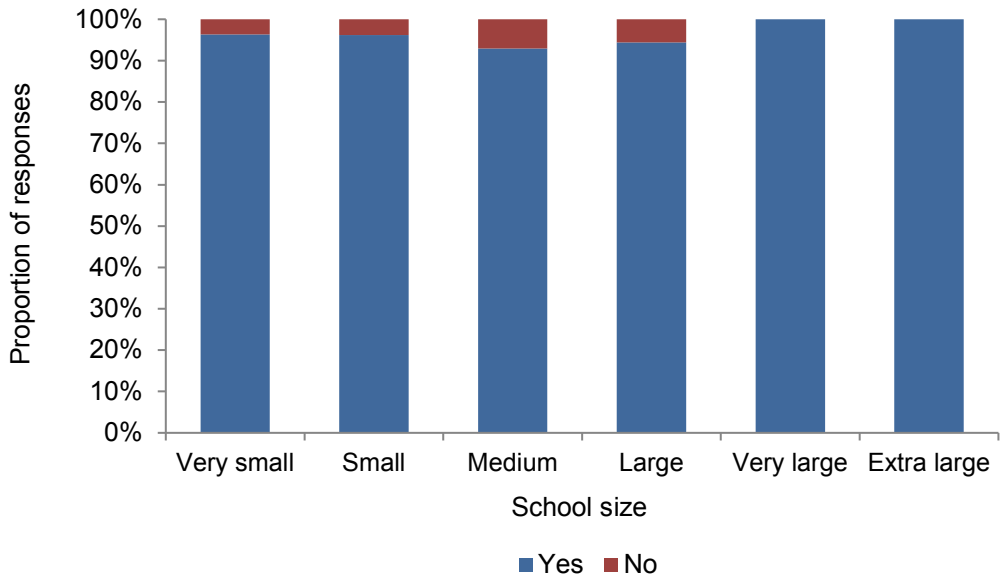
Software packages used for online curriculum applications

A large number of schools gave multiple responses. The results are shown across all schools rather than for each school size band.

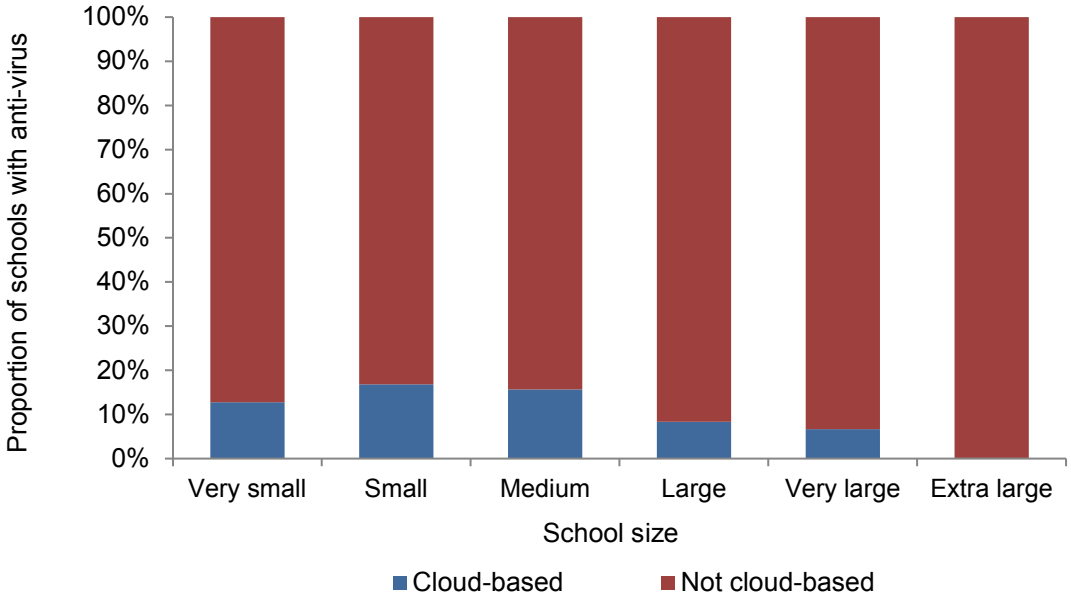
Of the schools that indicated using online curriculum applications, 47% reported software packages that were grouped as 'other'. The software that was reported by more than 5% of respondents is shown below.

Online curriculum application	Proportion of schools using application
Mathletics	36%
Study Ladder	22%
TKI	10%
Comic Life	9%
Reading Eggs	8%
e-asTTle	7%
Lexia	6%

I6 – Anti-virus



The figure below shows the proportion of schools with anti-virus according to whether they are cloud-based or not.

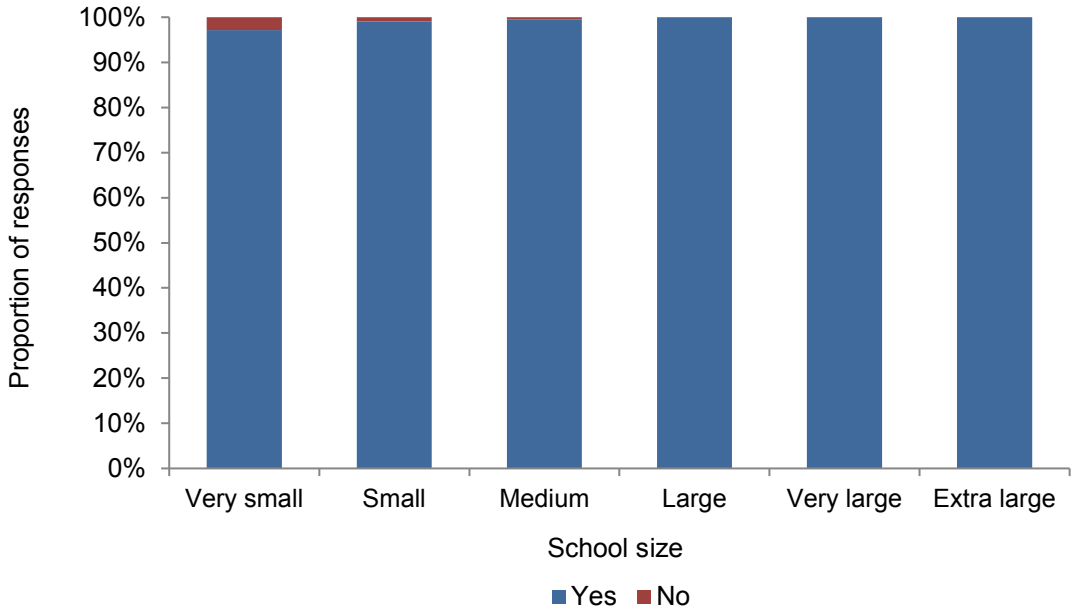


Software packages used for anti-virus

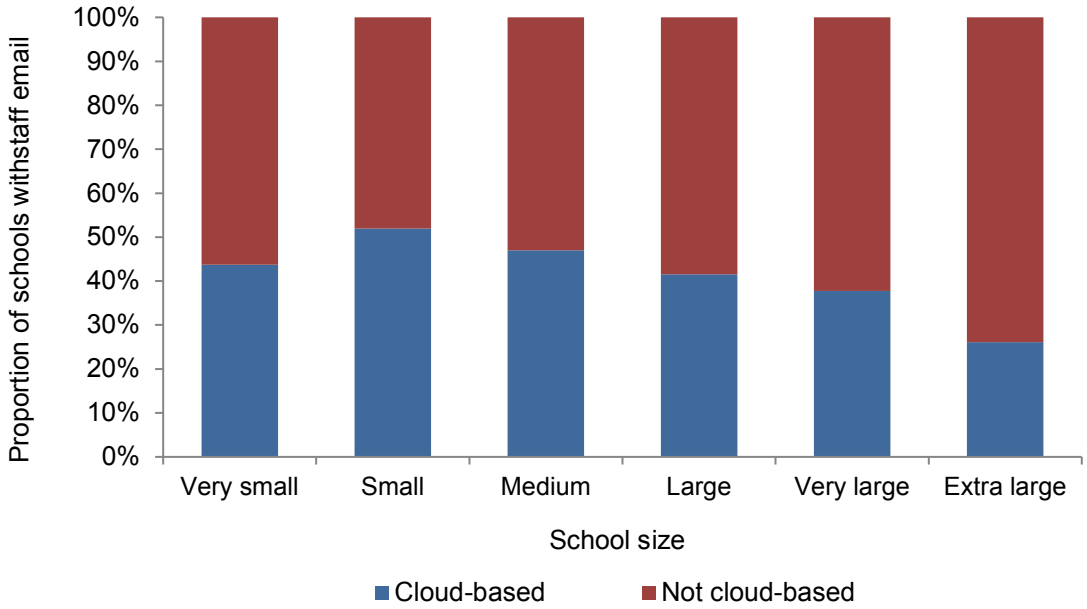
The top three reported anti-virus software across all schools are shown below (numerous other anti-virus software was reported, each by 2% or less of schools).

Anti-virus software	Proportion of schools
Symantec	76%
eTrust; Eset	5%

I7 – Email (Staff)



The figure below shows the proportion of schools with staff email according to whether they are cloud-based or not.



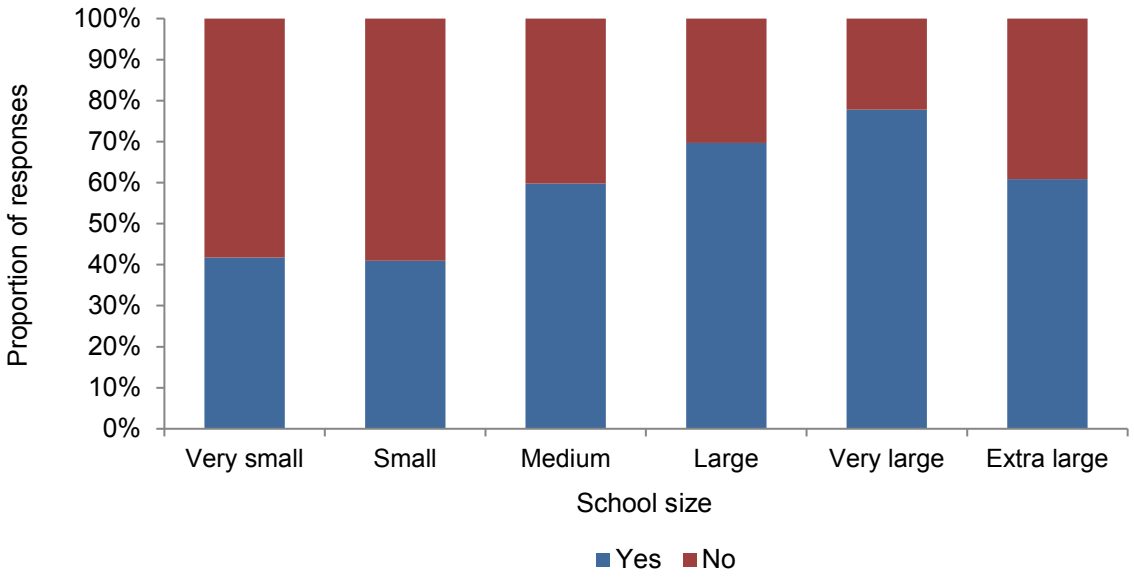
Software packages used for staff email

The top five reported software for each school size band are shown below.

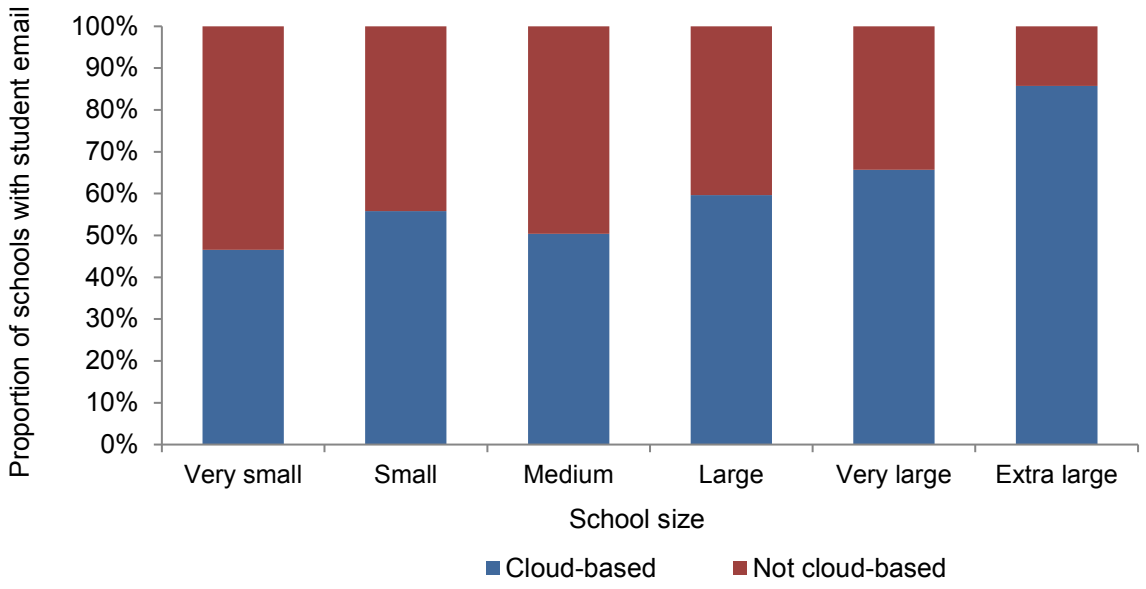
	Very small	Small	Medium	Large	Very large	Extra large
Most common	Gmail/Google	Gmail/Google	Gmail/Google	Gmail/Google	Exchange*	Exchange
	Outlook	Outlook	Outlook	Outlook	Gmail/Google	Gmail/Google
	Proxy	SchoolZone	Exchange	Exchange	Outlook	Outlook
	SchoolZone	Exchange	SchoolZone	SchoolZone	SchoolZone	SchoolZone
Less common	Exchange	-	-	-	-	-

*Exchange refers to Microsoft Exchange

I8 – Email (Students)



The figure below shows the proportion of schools with student email according to whether they are cloud-based or not.



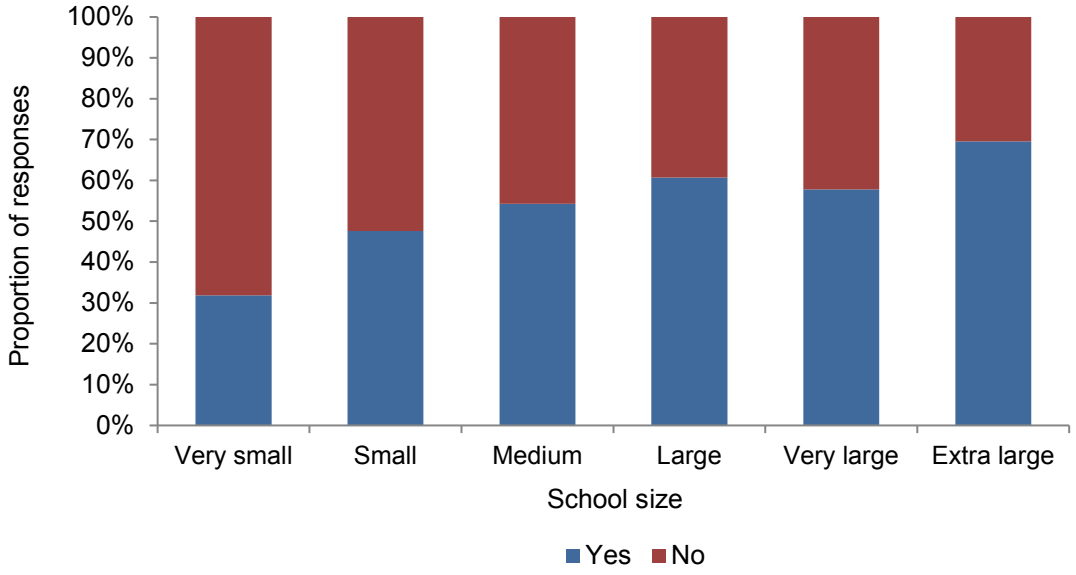
Software packages used for student email

The top five reported software for each school size band are shown below.

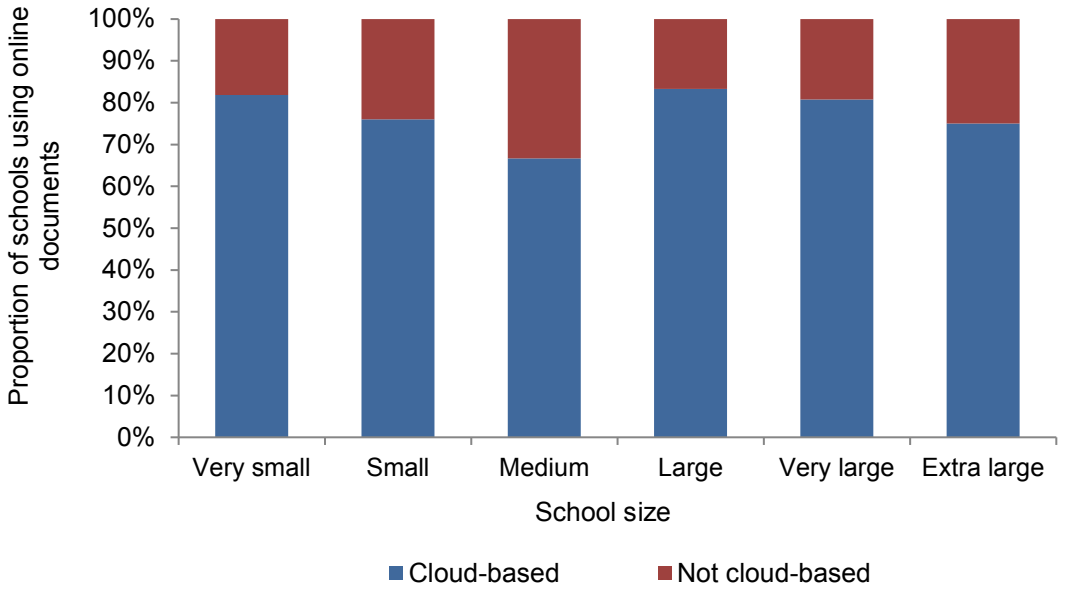
	Very small	Small	Medium	Large	Very large	Extra large
Most common	Gmail/Google	Gmail/Google	Gmail/Google	Gmail/Google	Gmail/Google	Gmail/Google
	SchoolZone	SchoolZone	Exchange	Outlook	Outlook	Live@edu
	Proxy	Thunderbird	SchoolZone	Exchange	Exchange	Outlook; SchoolZone
	Exchange; Thunderbird	-	Outlook	Live@edu; SchoolZone	Live@edu	
Less common		-	-		SchoolZone	-

*Exchange refers to Microsoft Exchange

I9 – Online documents



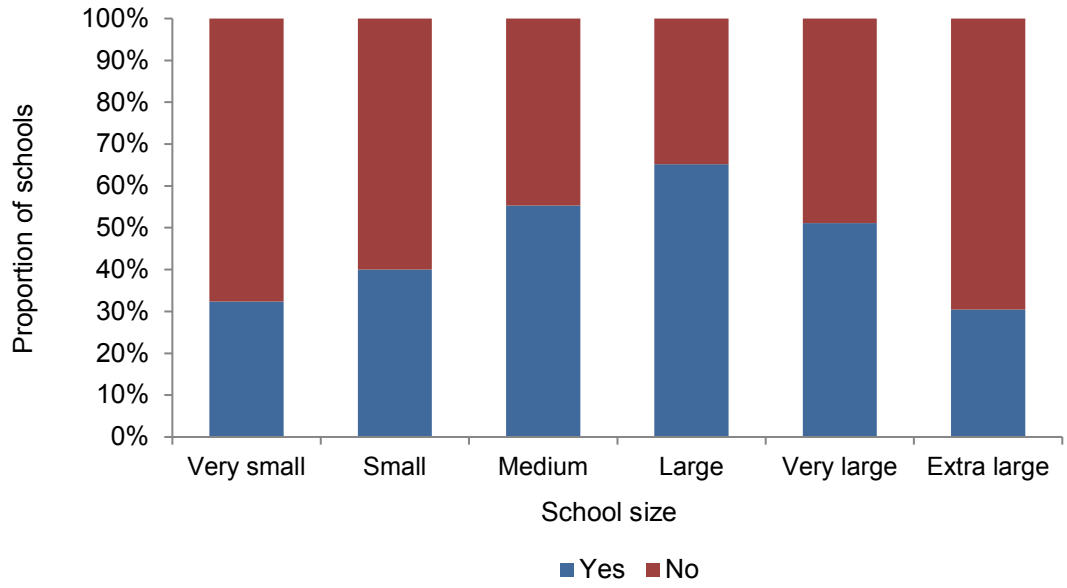
The figure below shows the proportion of schools using online documents according to whether they are cloud-based or not.



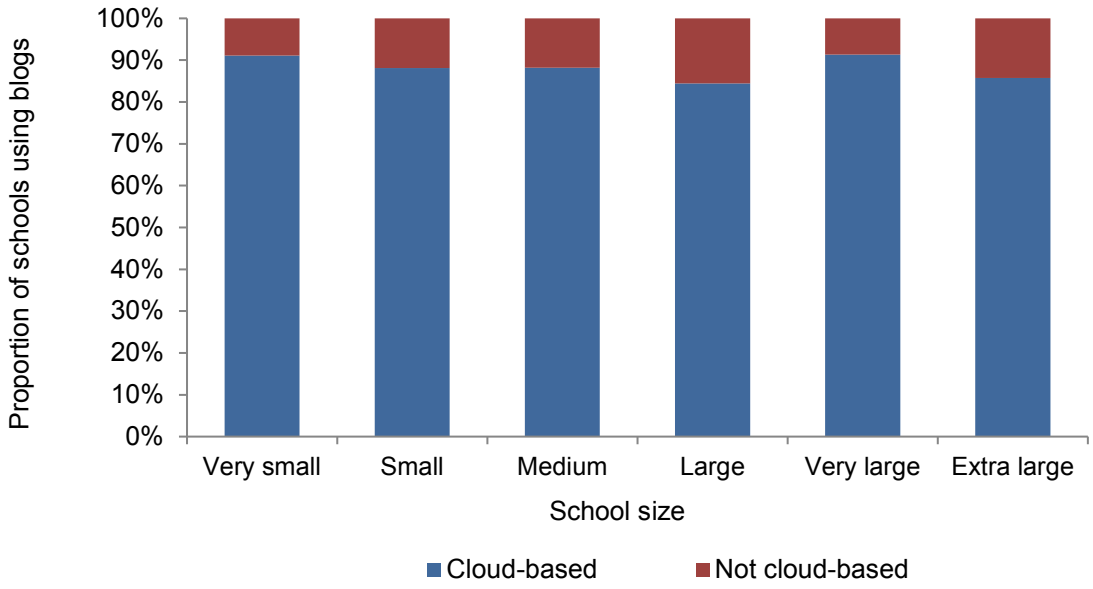
Software packages used for online documents

The majority of schools (75%) use Google based packages (Apps, Docs, Drive etc). Numerous other software/packages were reported, however each were only reported by 3.3% of all schools or less.

I10 – Blogs



The figure below shows the proportion of schools using blogs according to whether they are cloud-based or not.



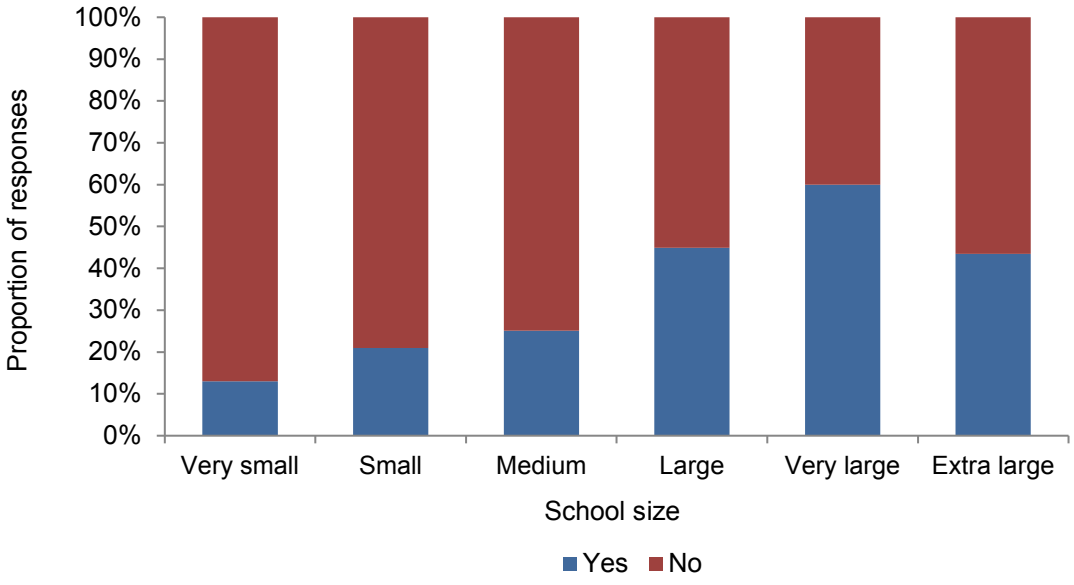
Software packages used for blogs

A large number of schools gave multiple responses. The results are shown across all schools rather than for each school size band.

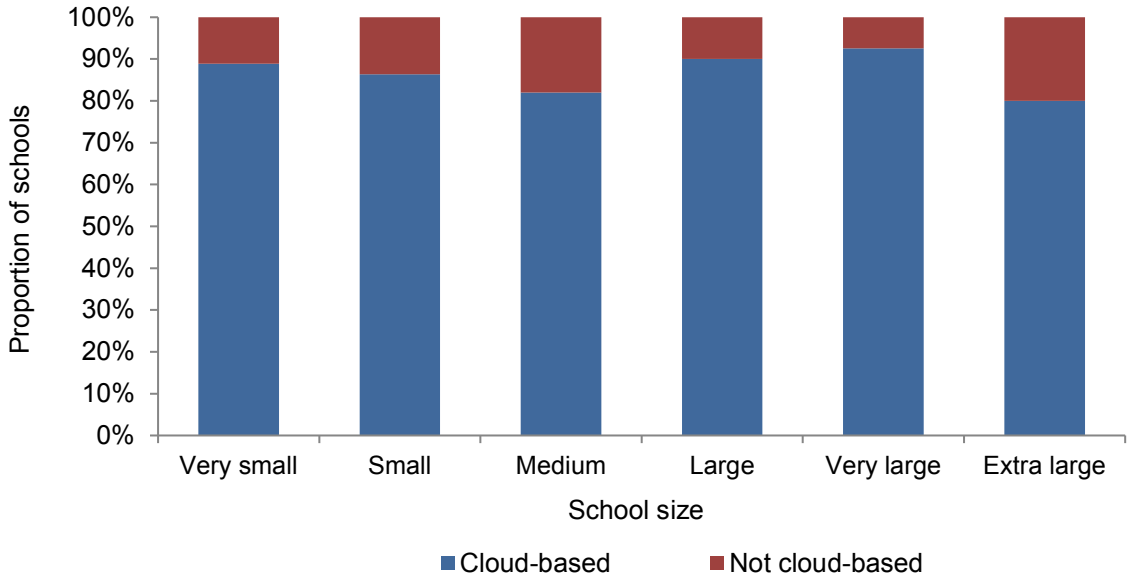
Of the schools that indicated using blogs, 25% reported sites that were grouped as 'other'. The software that was reported by 5% or more of schools is shown below.

Blog sites	Proportion of schools using blogs
Google (Blogger/Blogspot, Apps & Docs etc)	60%
Ultranet	9%
Wikispaces	6%
Edublog	5%
Wordpress	5%

I11 – Student online portfolios



The figure below shows the proportion of schools using student online portfolios according to whether they are cloud-based or not.

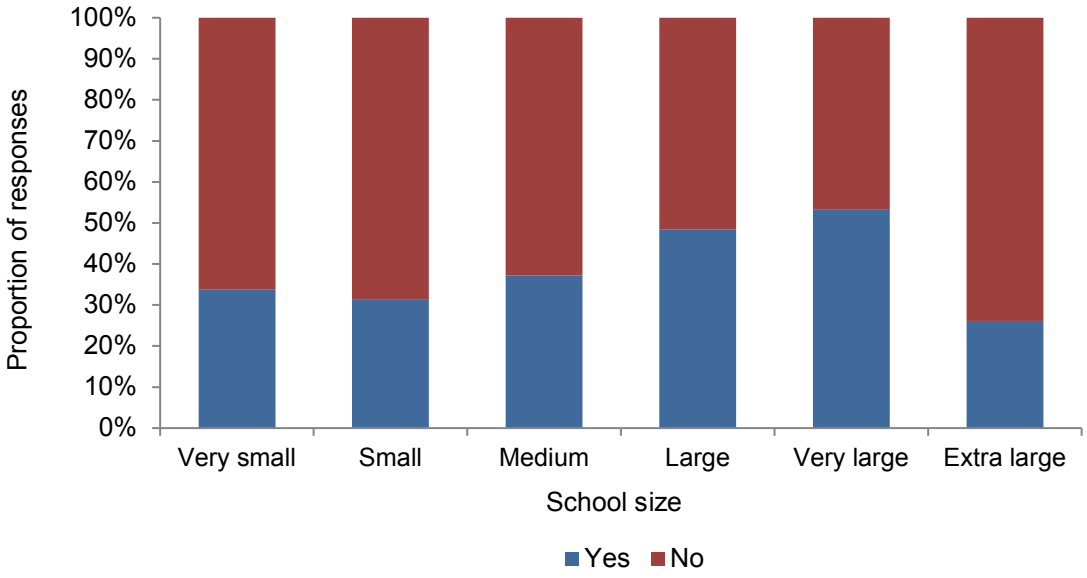


Software packages used for student online portfolios

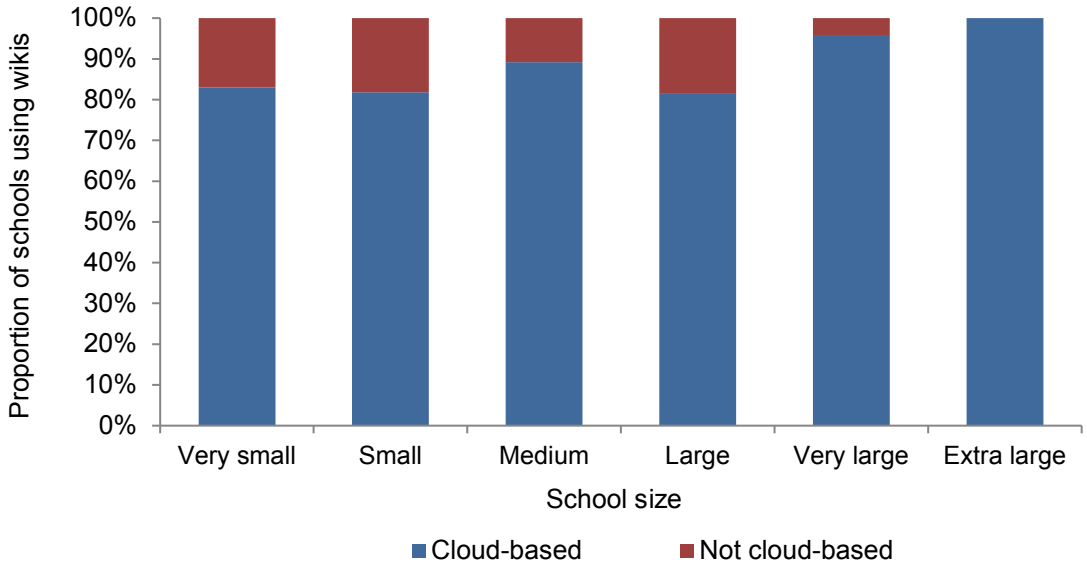
The top five reported software for each school size band are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Knowledge Net	Ultranet	Ultranet	My Portfolio	My Portfolio	My Portfolio
	My Portfolio	KnowledgeNet; ePortfolio	My Portfolio	Ultranet	ePortfolio; Mahara	Mahara
	Ultranet		KnowledgeNet	Knowledge Net		MIX
	Wikispaces	-	Google (Apps & Docs); Spike	Mahara	Ultranet	-
Less common	Mahara; Weebly	-		ePortfolio	-	-

I12 – Wikis



The figure below shows the proportion of schools using wikis according to whether they are cloud-based or not.

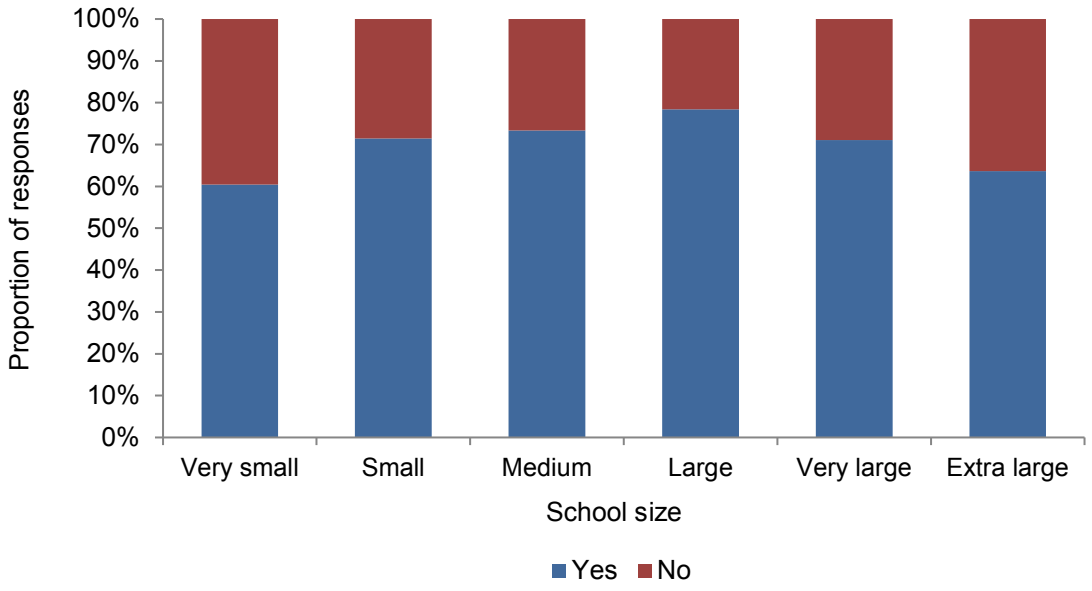


Software packages used for wikis

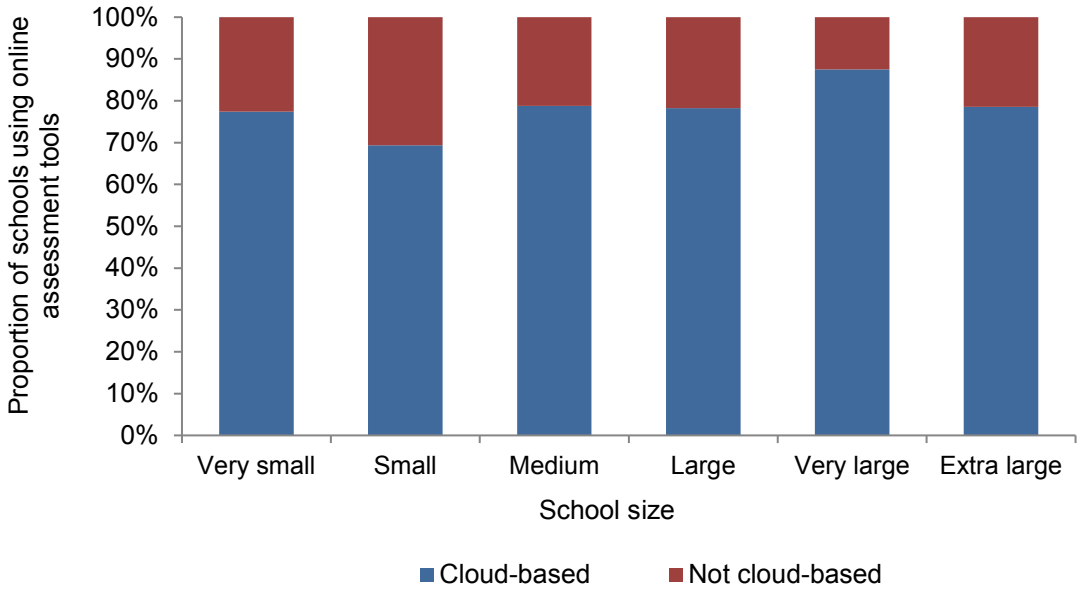
The top three reported wikis used across all schools are shown below (numerous other wikis were reported by 4% or less of schools).

Wikis	Proportion of schools
Wikispaces	53%
Ultranet	11%
Google (Incl Blogger, Apps & Docs)	9%

I13 – Online assessment tools



The figure below shows the proportion of schools using online assessment tools according to whether they are cloud-based or not.



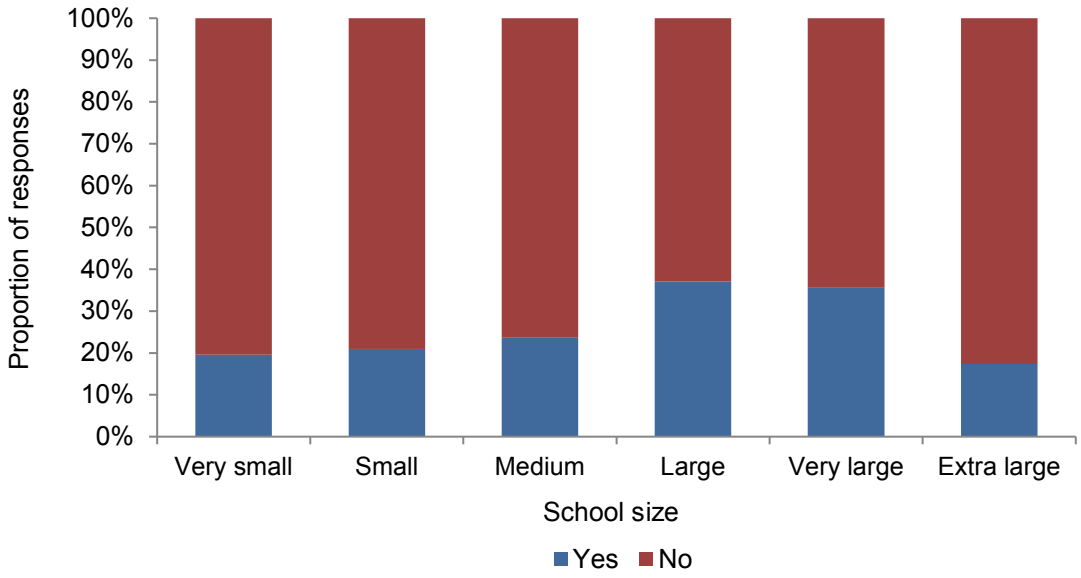
Software packages used for online assessment tools

A large number of schools gave multiple responses. The results are shown across all schools rather than for each school size band.

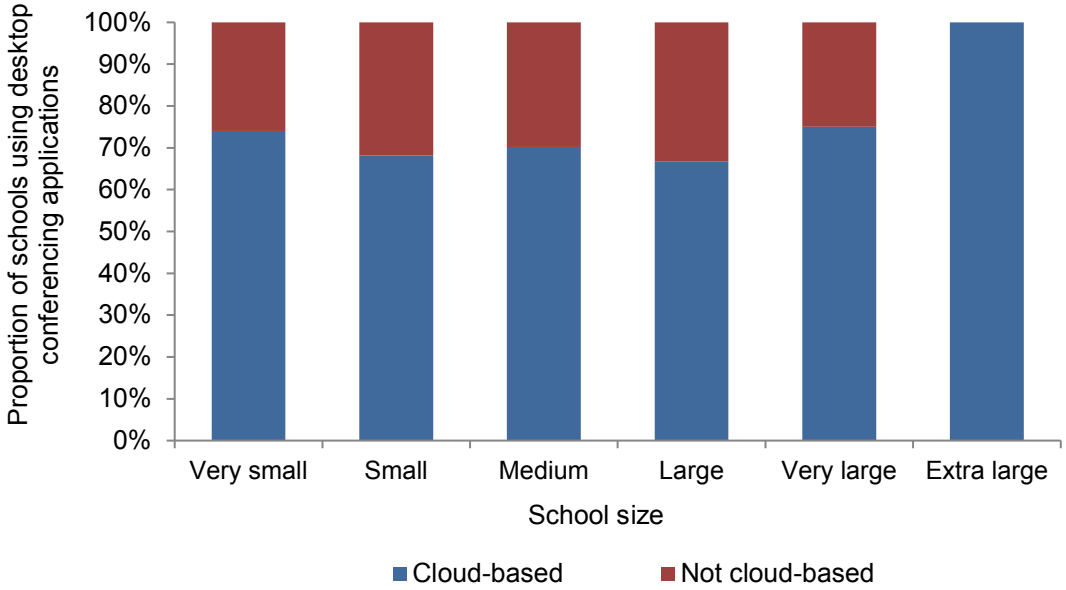
Of the schools that indicated using online assessment tools, 12% reported applications that were grouped as 'other'. The software that was reported by 5% or more of schools is shown below.

Online assessment tools	Proportion of schools
e-asTTle	88%
NZCER (incl PAT & STAR)	12%

I14 – Desktop conferencing applications



The figure below shows the proportion of schools using desktop conferencing applications according to whether they are cloud-based or not.



Software packages used for desktop conferencing applications

A large number of schools gave multiple responses. The results are shown across all schools rather than for each school size band.

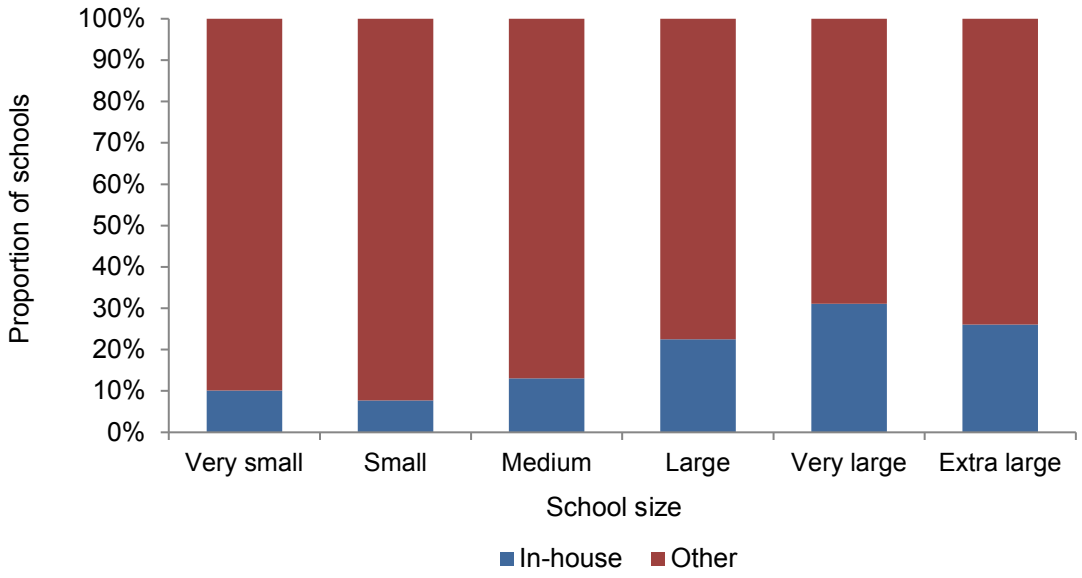
Of the schools that indicated using desktop conferencing applications, 10% reported applications that were grouped as ‘other’. The software that was reported by 5% or more of respondents is shown below.

Desktop conferencing application	Proportion of schools using application
Skype	86%
Adobe Connect	8%
Google based	5%
iChat	5%

Section J – ICT Support

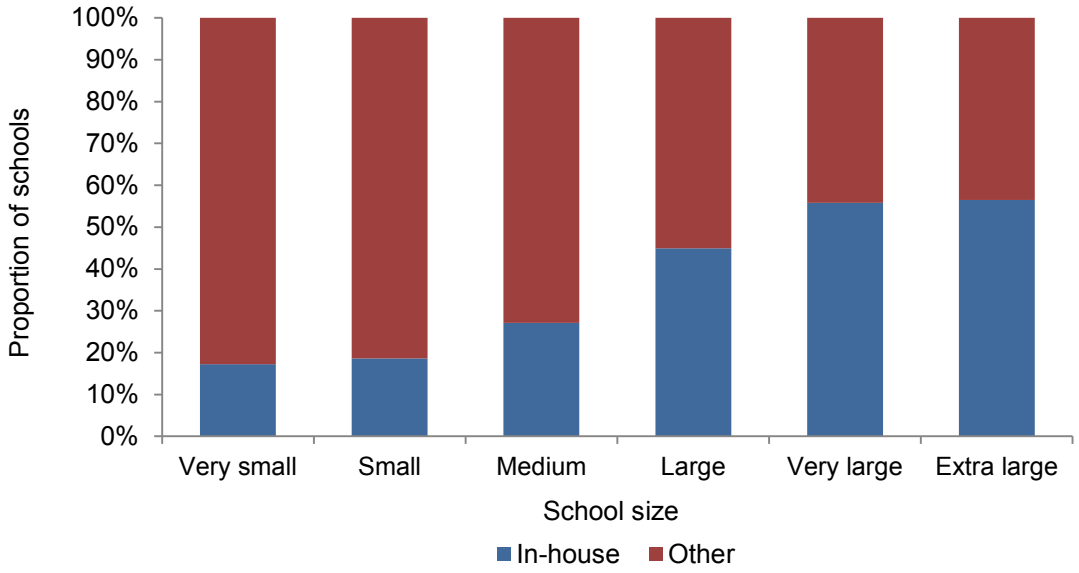
J1 – Details of school server support

Due to the large number of unique responses the results have been separated into schools that use in-house server support and those that use outside support.

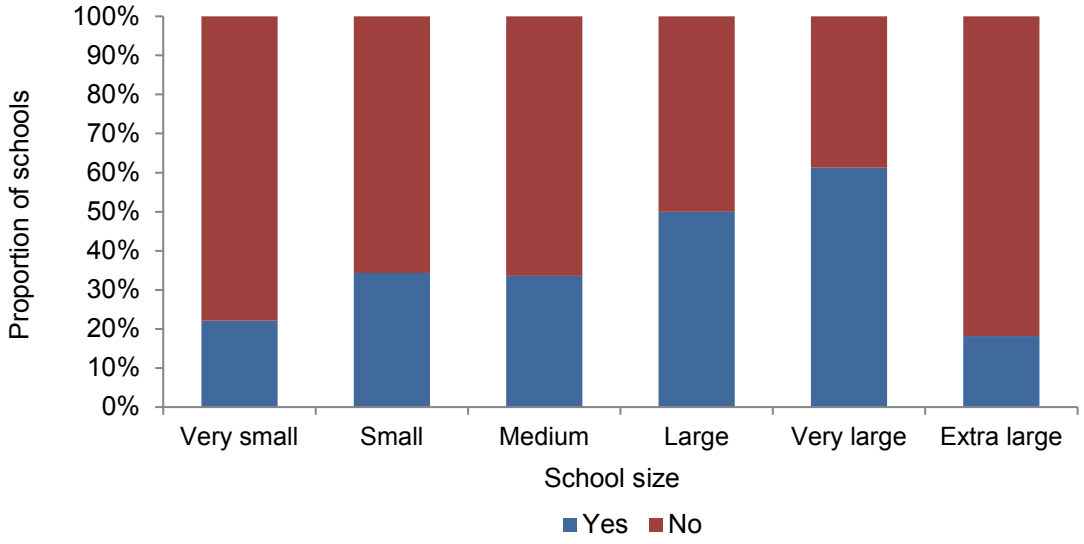


J3 – Details of school desktop support

Due to the large number of unique responses the results have been separated into schools that use in-house desktop support and those that use outside support.



J6 – The use of online forums for technical assistance or advice



Forums used

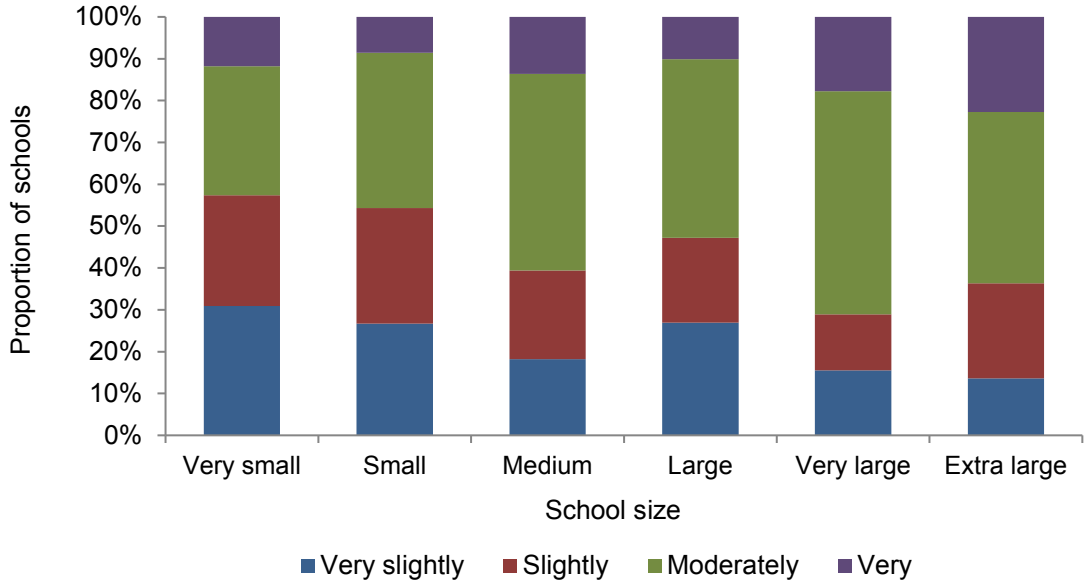
A large number of schools gave multiple responses. The results are shown across all schools rather than for each school size band.

Of the schools that indicated using forums, 53% reported sites that were grouped as 'other'. The software that was reported by 5% or more of respondents is shown below.

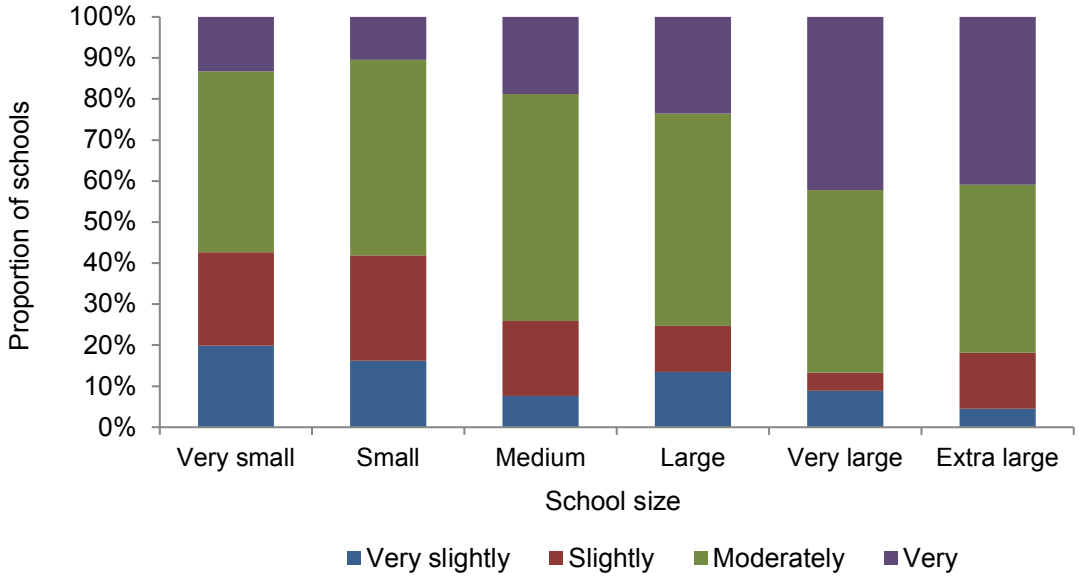
Forum used for ICT advice/assistance	Proportion of schools using forum
Google search	23%
Apple forums	17%
Microsoft forums	17%
Virtual Learning Network	13%
MLE – Reference group	10%

Section K – Internet Access

K1 – How satisfied are students and staff with the speed of school Internet connections?



K2 – How satisfied are students and staff with the reliability of school Internet connections?



K3 – Schools' Internet service details.

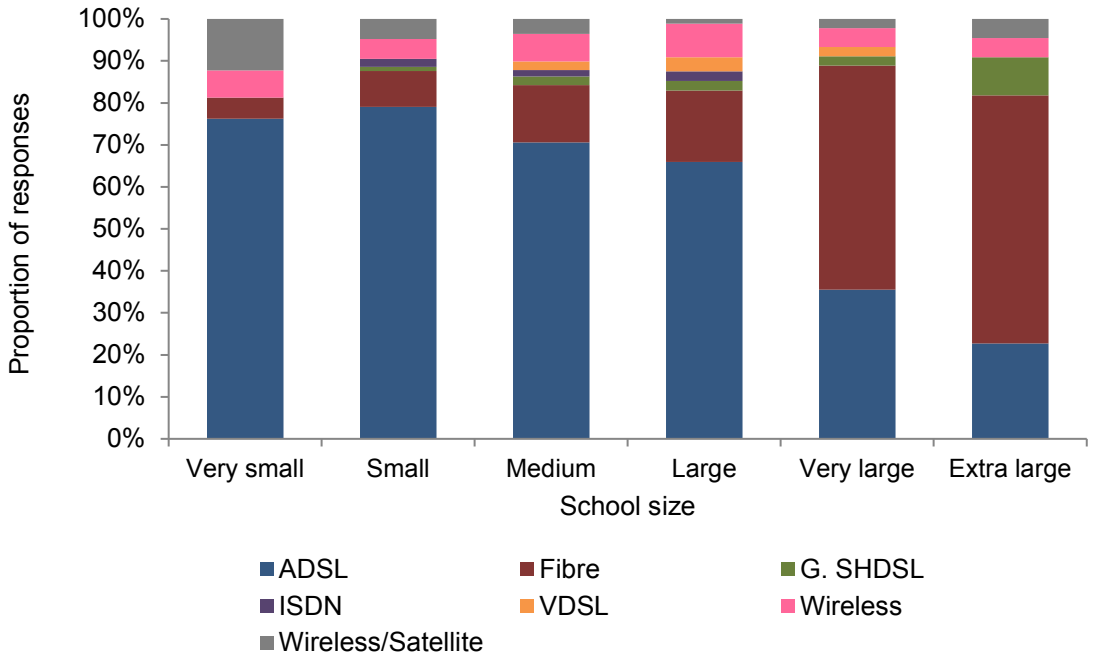
Internet service providers

The top five reported Internet service providers for each school size band are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Telecom	Telecom	Telecom; SchoolZone	Telecom	CallPlus; Snap	EduNet
	SchoolZone	CallPlus		SchoolZone		Snap
	Inspire Net	SchoolZone	CallPlus	Watchdog	Orcon; Telecom; SchoolZone	Vector; Rural Link
	CallPlus	Watchdog	Watchdog	CallPlus		
Less common	Orcon	Xtra	Orcon	TelstraClear		

Type of Internet connection

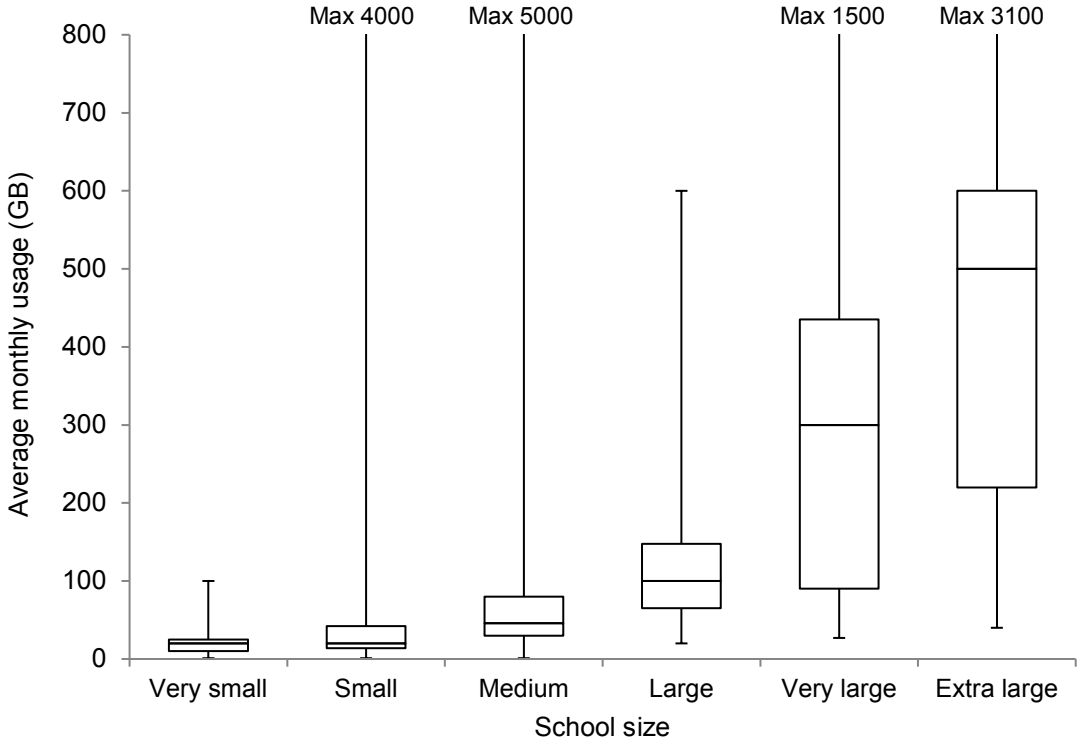
Schools selected a response from seven options.



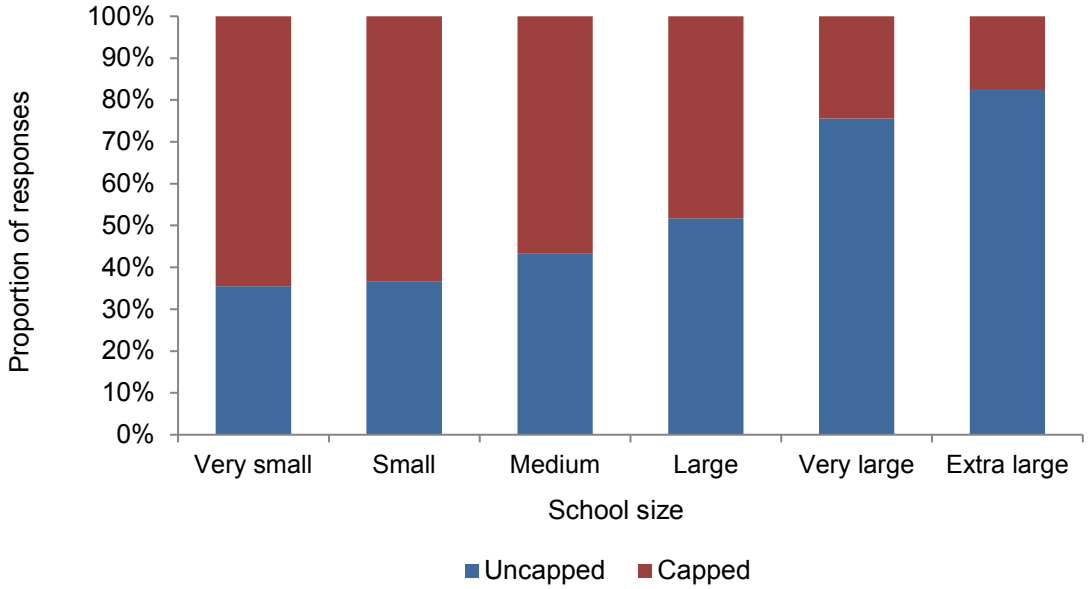
Bandwidth speed

	Very small	Small	Medium	Large	Very large	Extra large
Average bandwidth down (Mbps)	15	8	19	20	32	97
Average bandwidth up (Mbps)	11	4	11	14	23	84

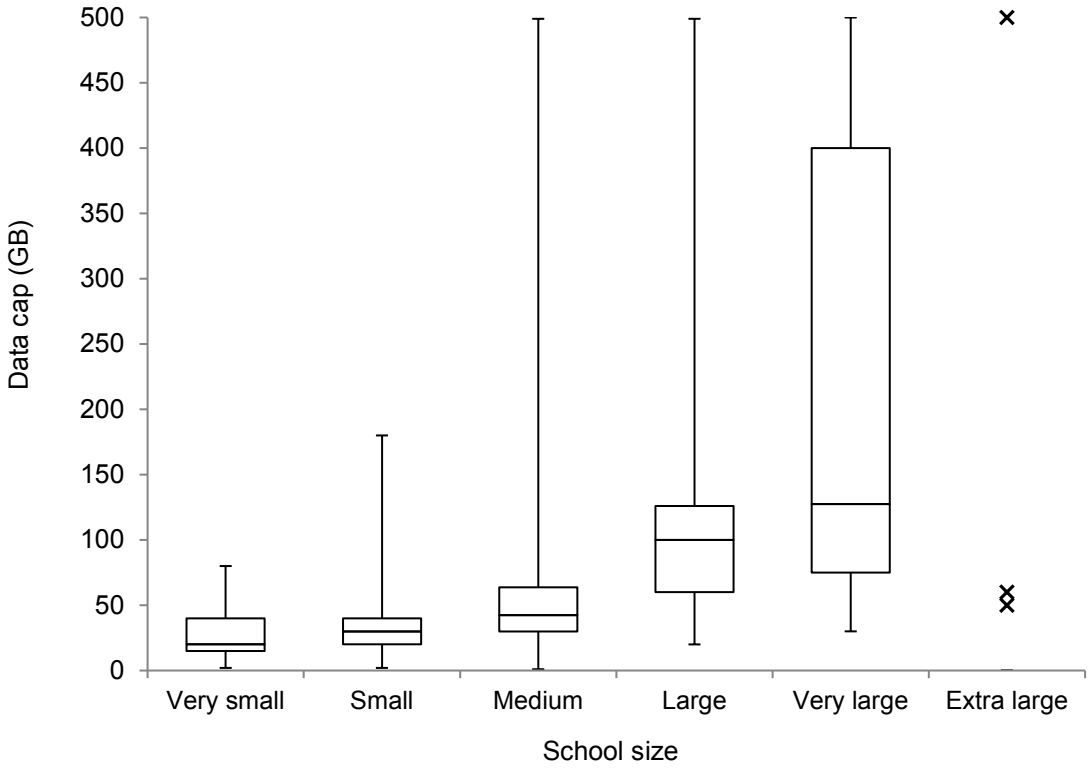
Average monthly usage



K4 – Proportion of schools with *uncapped* Internet services.



K5 – If a school has a *capped* Internet service, what is the data cap?

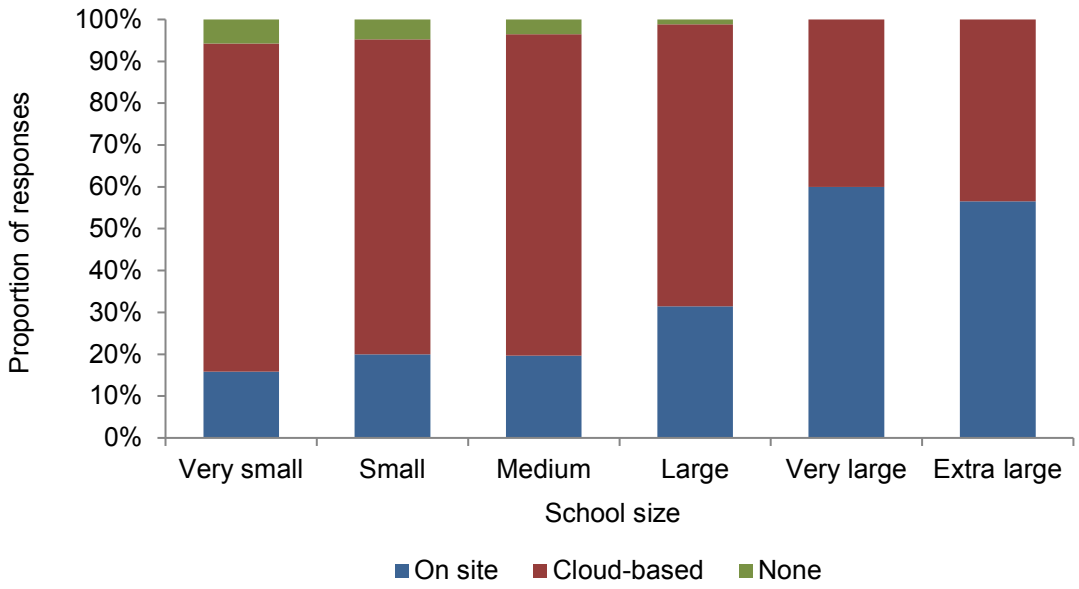


*There were only three extra large schools that responded and have been plotted as individual values

K6 – Details of content filtering at schools.

Type of content filtering

Schools selected a response from three options.



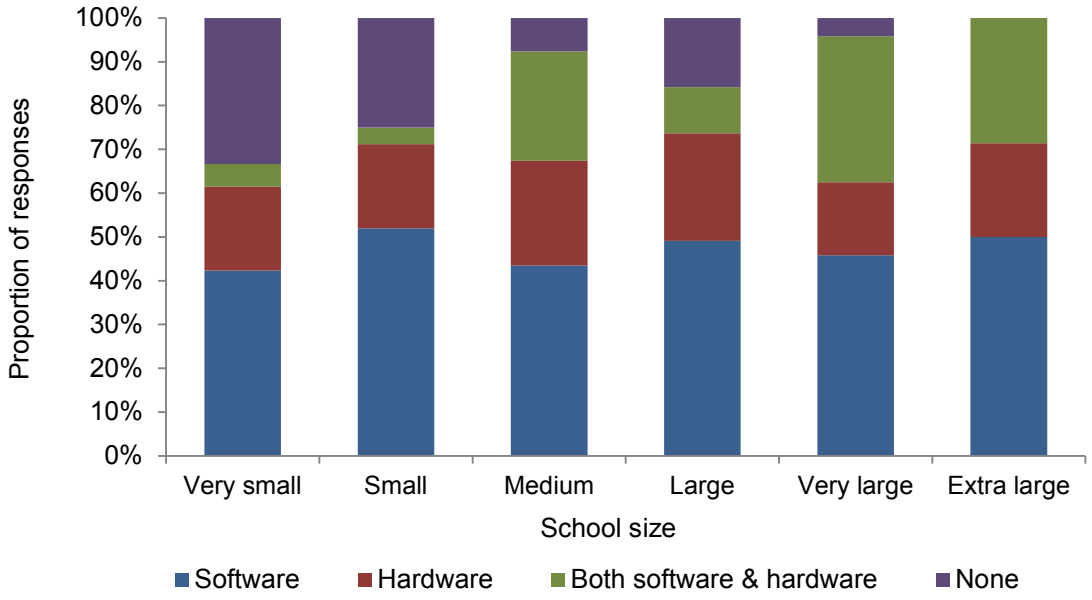
Content filtering provider/software

The top five reported providers/software used for content filtering for each school size band are shown below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Watchdog	Watchdog	Watchdog	Watchdog	Watchdog	Watchdog
	SchoolZone	SchoolZone	SchoolZone	SchoolZone	Websense	Websense
	-	-	-	WebMarshal	SchoolZone	Endian; Fortinet
	-	-	-	-	Open DNS; WebMarshal	
Less common	-	-	-	-		-

K7 – Details of firewalls used by schools.

Schools selected a response from four options.



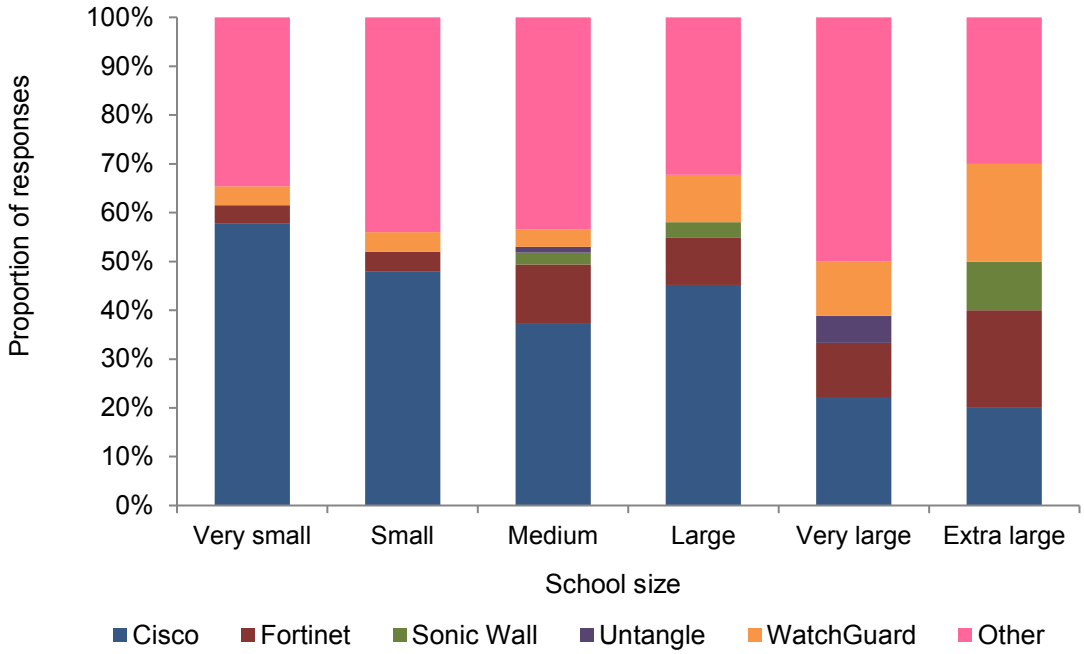
Firewall software

The top five reported software used for firewall protection for each school size band are shown below.

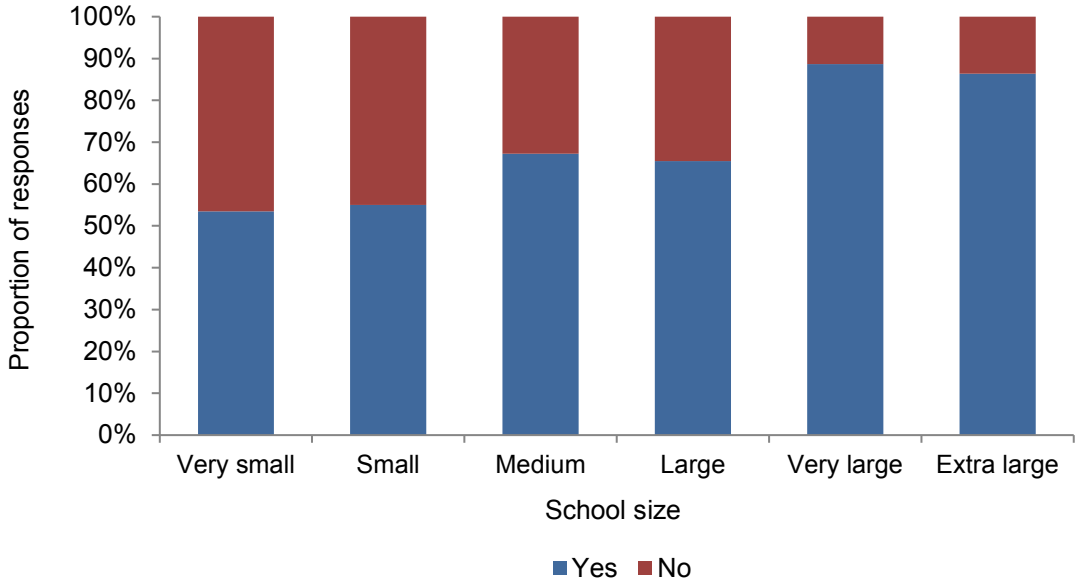
	Very small	Small	Medium	Large	Very large	Extra large
Most common	Smartnet	Watchdog	SchoolZone	Microsoft Forefront (TMG)	Microsoft Forefront (TMG)	Microsoft Forefront (TMG)
	SchoolZone	Smartnet	Watchdog	Microsoft ISA	Microsoft ISA	Microsoft ISA; pfSense
	Watchdog	SchoolZone	Microsoft ISA	SchoolZone	pfSense; SchoolZone	
	Squid	Symantec	Smartnet	Watchdog		Fortinet; Endian; UTM
Less common	-	-	Symantec	-	Fortinet	

Firewall brand

Schools selected a response from six options.

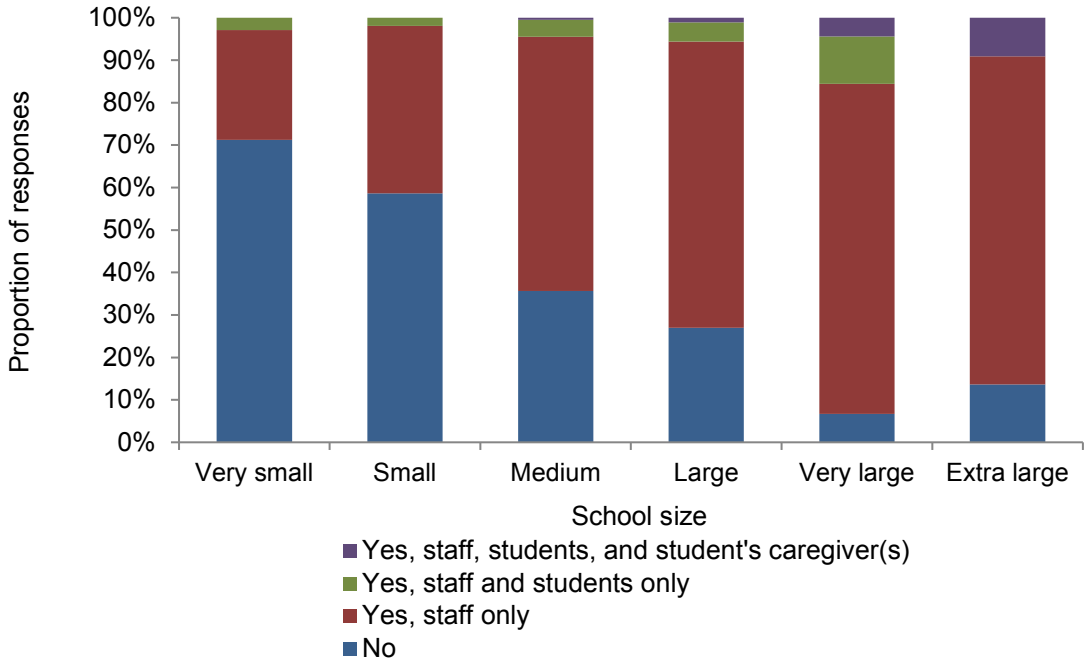


K8 – Do schools use a proxy server?

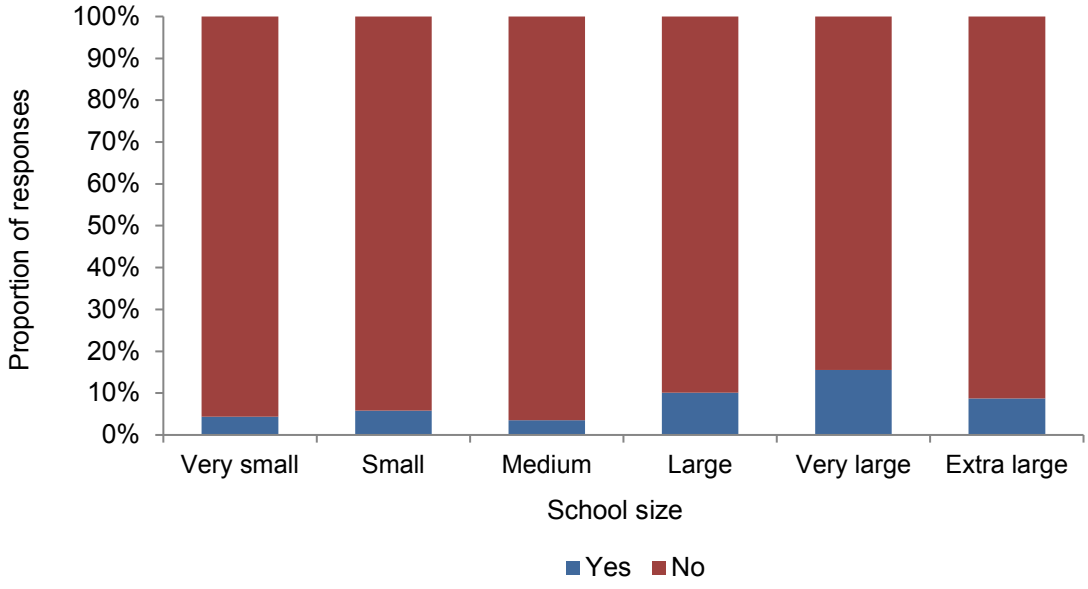


K9 – Do schools provide remote access to network services?

Schools selected a response from five options (no school reported 'staff and student's caregivers only').



K10 – Do school Internet connections get utilised regularly after hours by the community?

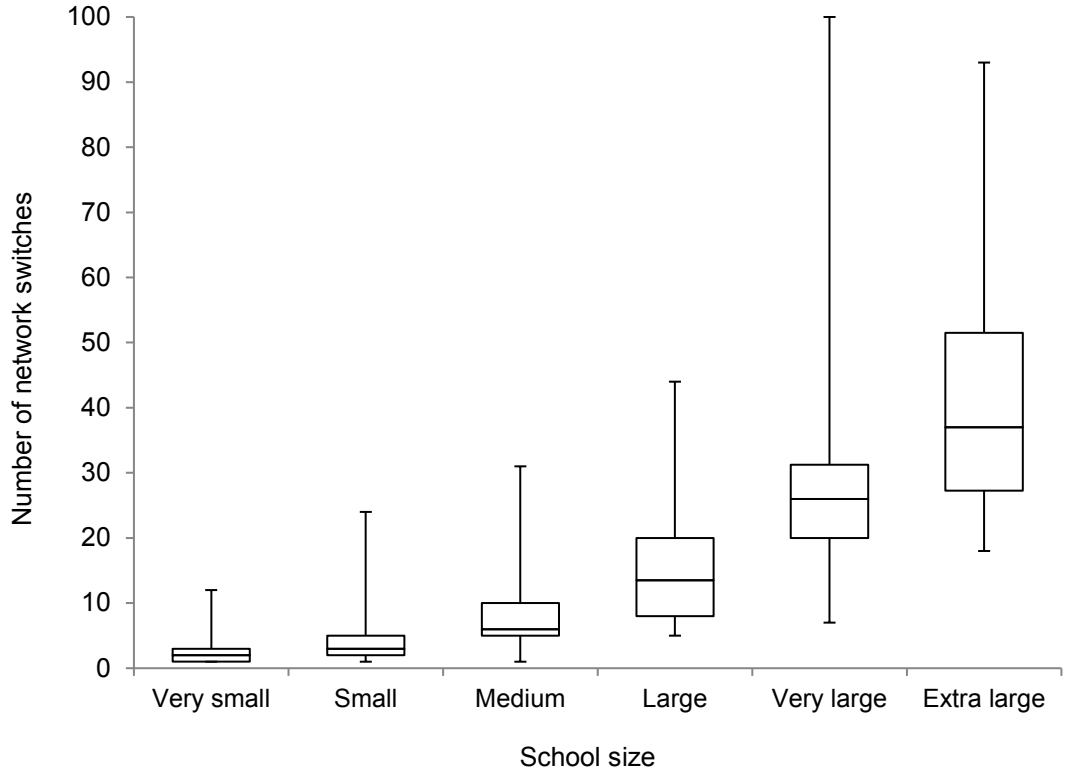


If school Internet connections are used by the community, how many hours per week are the connections used and how many devices utilised the connections?

	Very small	Small	Medium	Large	Very large	Extra large
Average number of hours school Internet connections are used by community	4.3	11.6	9.5	29.7	20	8
Average number of community devices utilising school Internet connections	6	17	7	80	71	23

Section L – Network Switching

L1 – Total number of network switches per school.



L2 – Proportion of network switches less than 5yrs old.

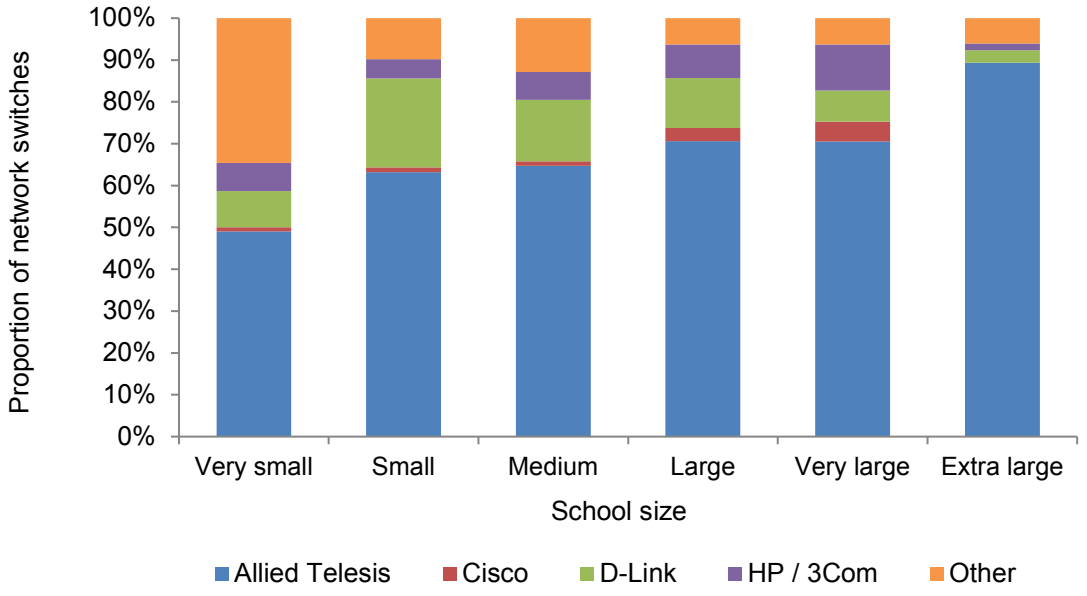
	Very small	Small	Medium	Large	Very large	Extra large
Average number of network switches	2.4	4.3	8.1	14.9	28.6	40.8
Proportion of network switches less than 5yrs old	38%	41%	55%	60%	65%	57%

L3 – Details of network switches that are less than 5yrs old.

Schools reported all the specific models of network switches that are used, along with the quantity and requested details for each listed model of switch. As such, the figures show the proportions for all reported network switches.

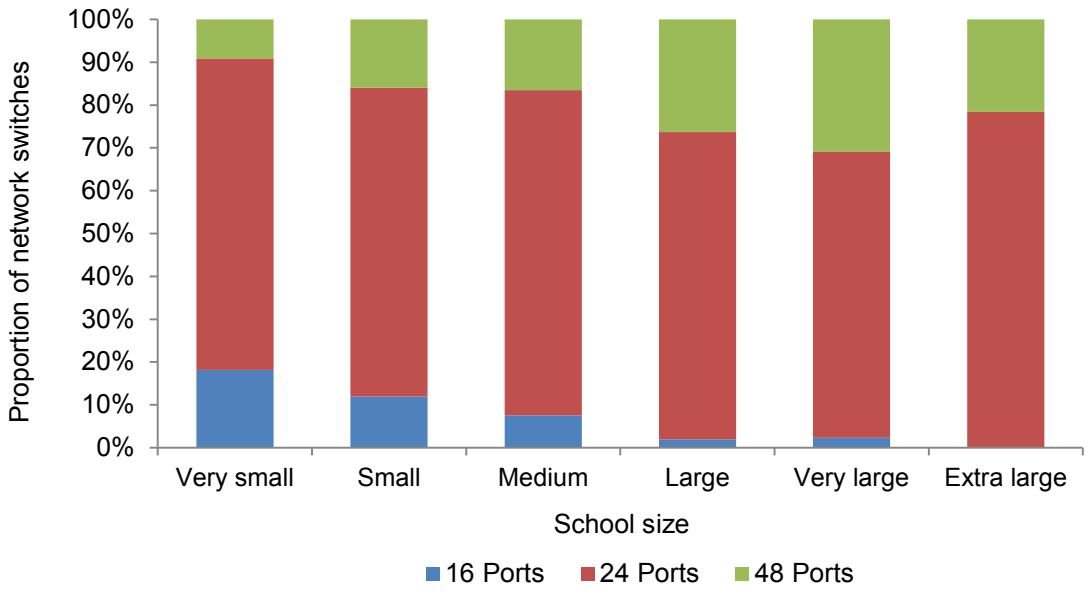
Network switch brand

Schools selected brands from five options.



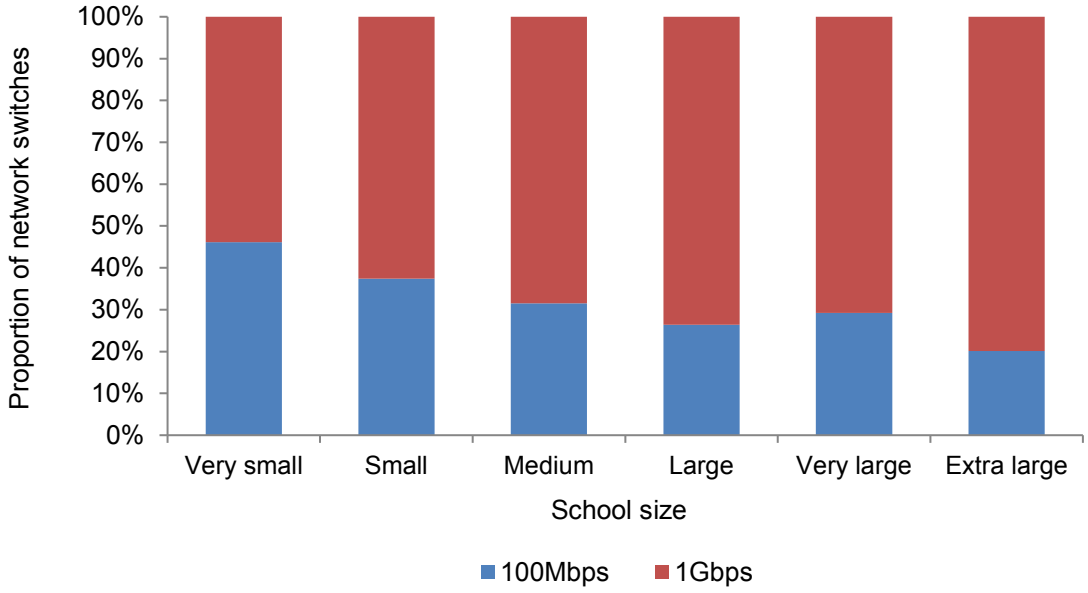
Number of ports per unit

Schools selected a response from three options.



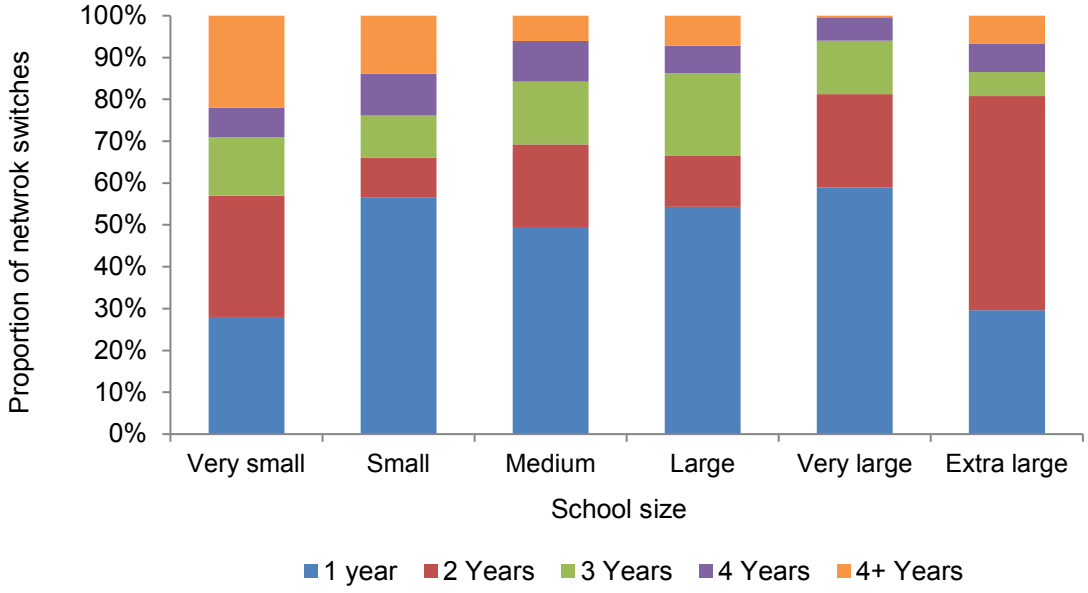
Port speed of switches

Schools selected a response from two options.

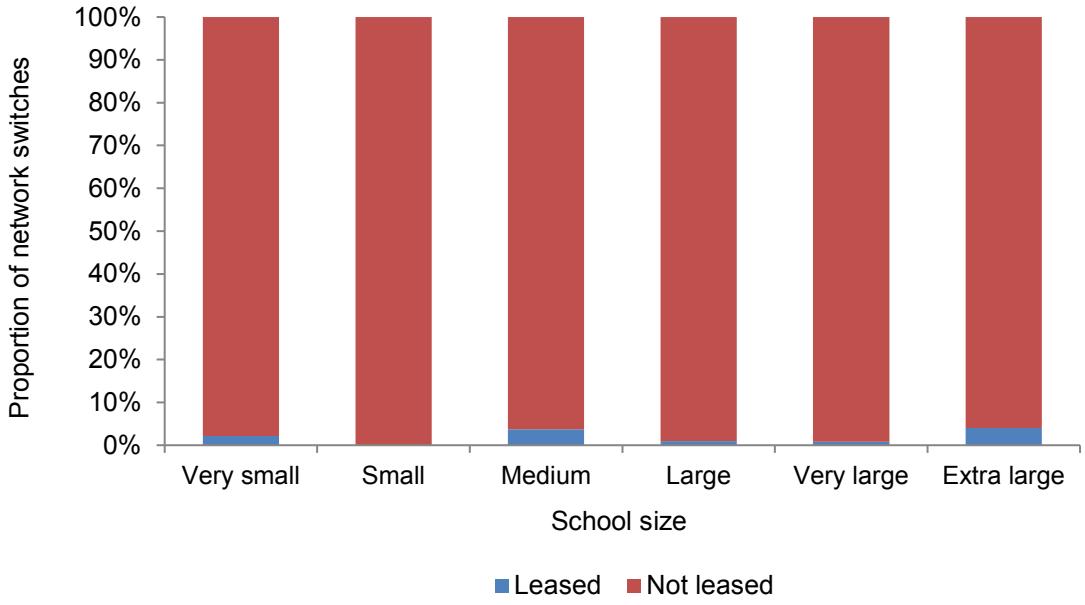


Age of network switches (less than 5 yrs old)

Schools selected a response from five options.

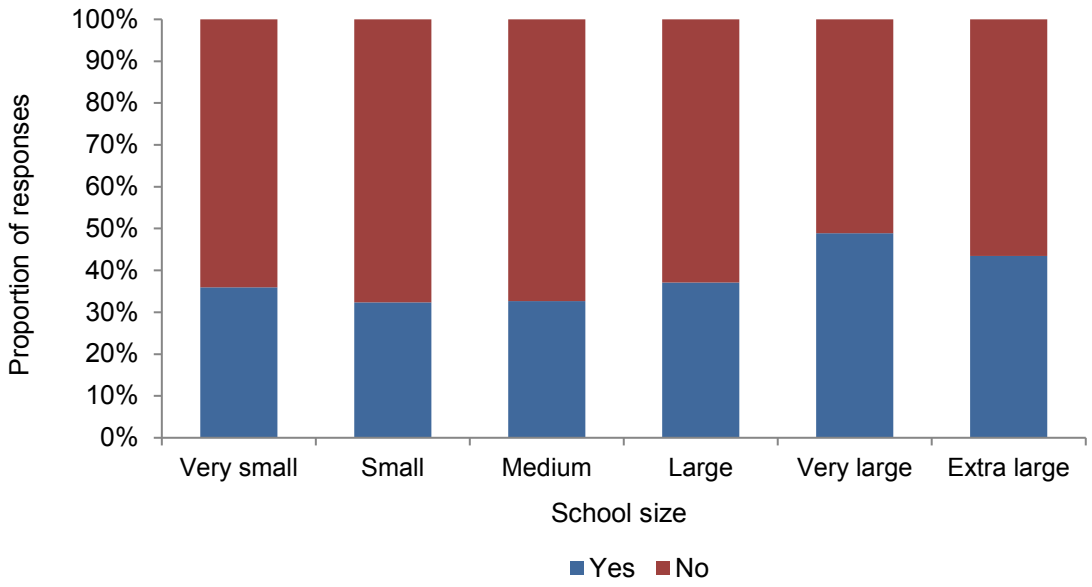


Proportion of leased switches

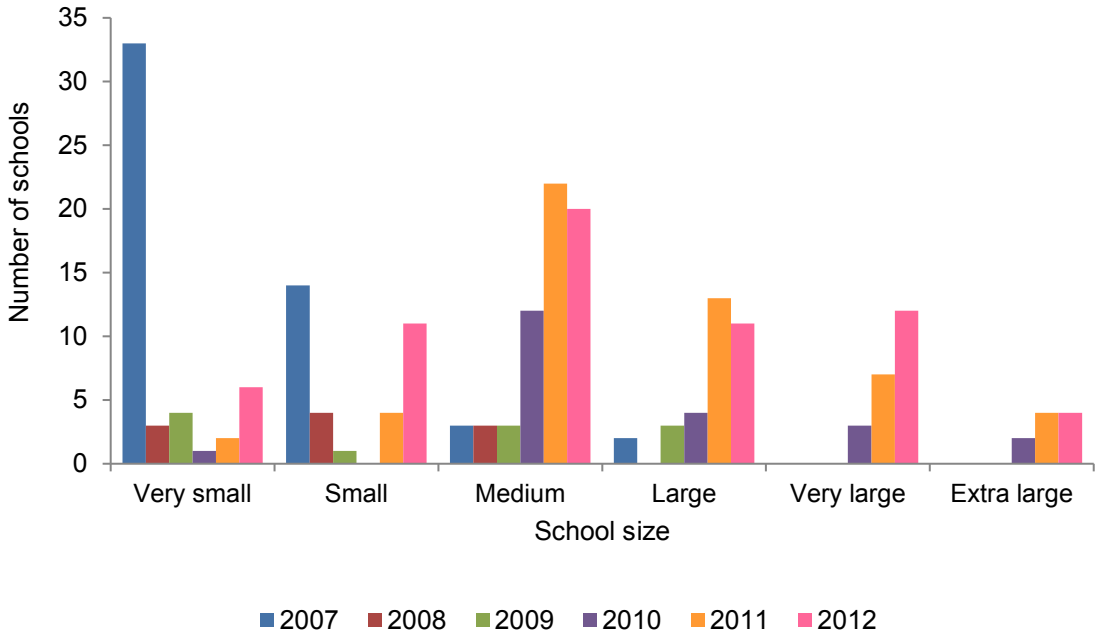


Section M – Data Cabling

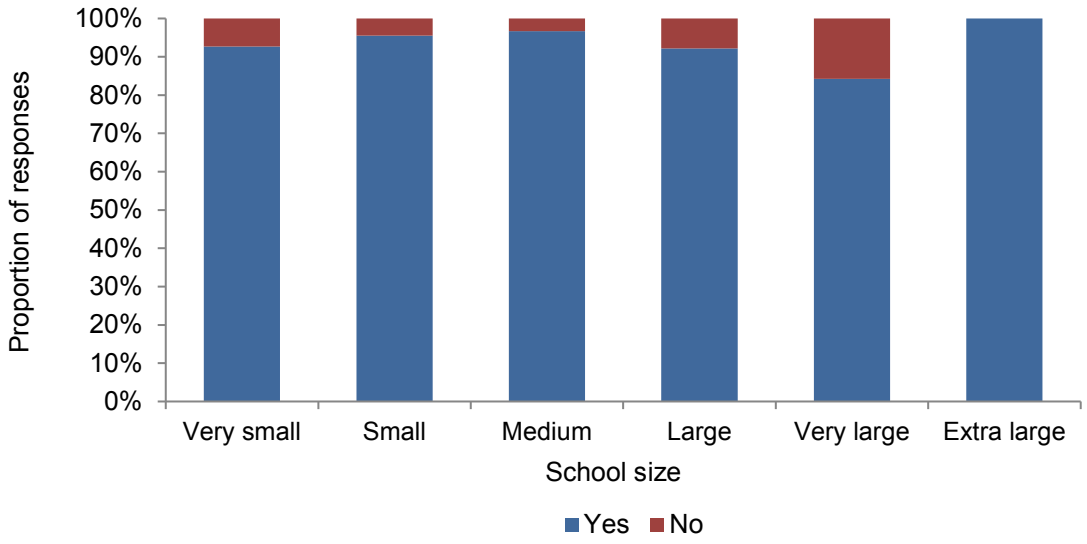
M1 – Have schools participated in the School Network Upgrade Project (SNUP)?



M2 – If a school has participated in SNUP, what year approximately?



M3 – If schools have not participated in SNUP, do they want to register their school's interest?



M4/M5 – The number of school buildings that are in use. The proportion of these buildings with data cabling less than 5 years old.

	Very small	Small	Medium	Large	Very large	Extra large
Average number of school buildings used	3	5	8	12	15	19
Proportion of school buildings with data cabling less than 5yrs old	14%	12%	17%	17%	14%	14%

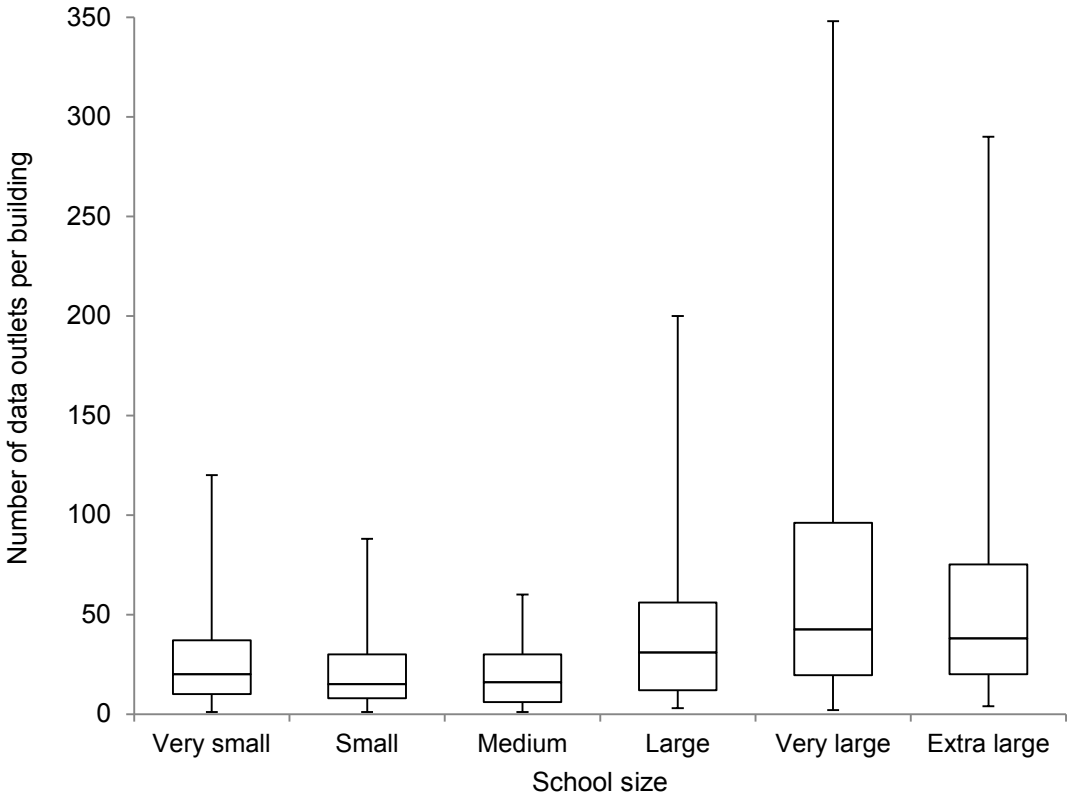
M6/M7 – The number of computer suites in schools that have *16 or more desktop computers connected to the network via data outlets*. The proportion of these computer suites with data cabling less than 5 years old.

	Very small	Small	Medium	Large	Very large	Extra large
Average number of computer suites	1.3	1.2	1.5	2.1	5.7	7.1
Proportion of computer suites with data cabling less than 5yrs old	38%	8%	22%	42%	33%	28%

M8 – Details of school buildings with data cabling less than 5 years old.

Schools that had not participated in SNUP reported all the buildings with cabling less than 5 years old and the requested details for each building.

Number of data outlets installed in each building



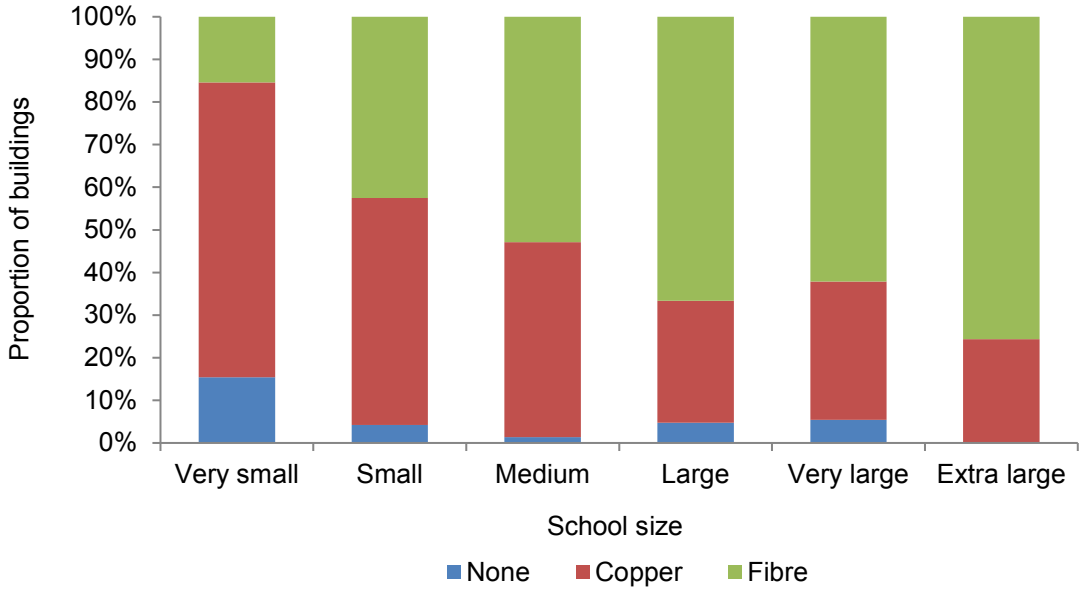
Most common cabling brand installed in school buildings

Schools selected a response from ten options for each school building with data cabling less than 5 years old. The top five reported brands are shown in the table below.

	Very small	Small	Medium	Large	Very large	Extra large
Most common	Other	Molex	Other	Other	Clipsal	Molex
	AMP; Molex	Hubbell	Molex	Molex	Hubbell	Other
		Leviton; Other	AMP	AMP	AMP	3M; Clipsal
	Clipsal; Hubbell		Clipsal	Hubbell	Krone; Leviton; Siemon	
Less common		Clipsal	Leviton	Krone		-

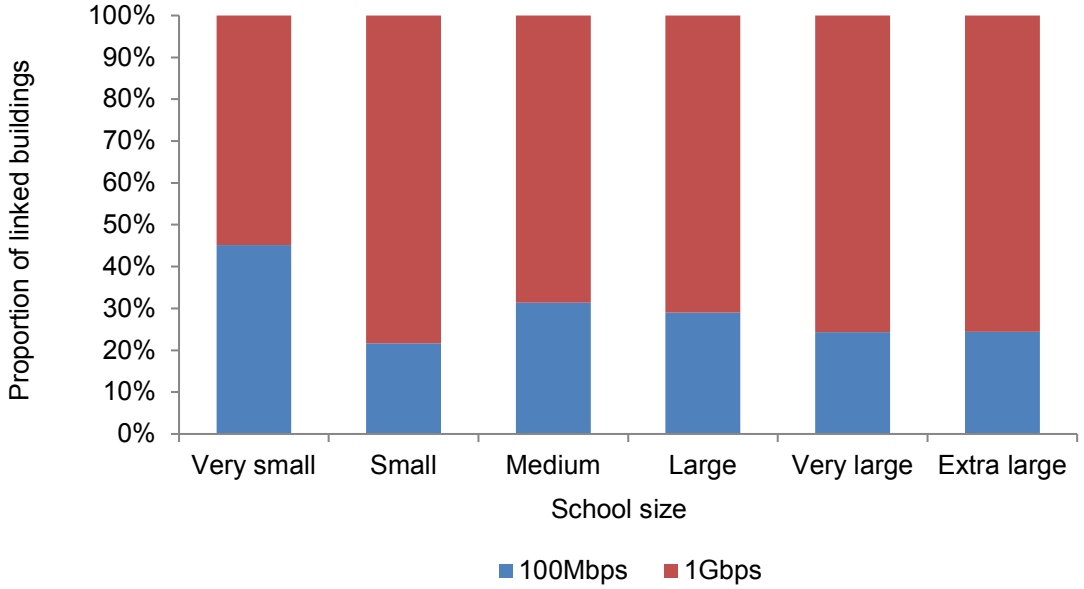
Type of cabling connection linking the building to the next building

Schools selected a response from three options.

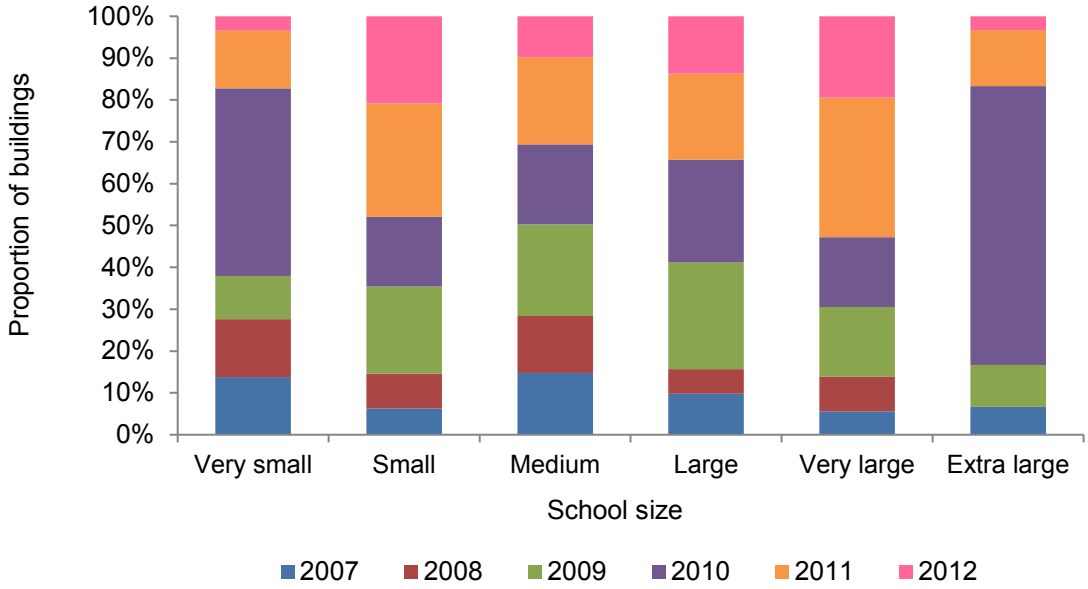


Connection speed linking the building to the next building

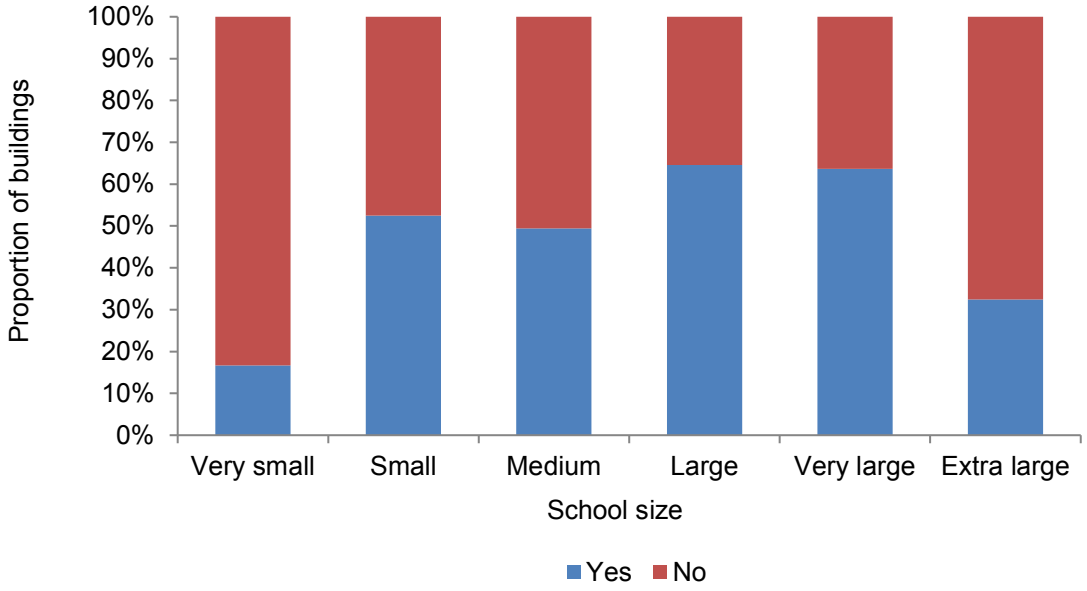
Schools selected a response from three options. The figure below shows only the buildings that are connected by cabling (it excludes the responses of 'none').



The approximate year the cabling was installed in each building



Is a warranty held for the cabling in each building?



Thank you again for participating in the Schools Infrastructure Survey