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# Internet Connectivity Comparison Between Canadian and United States' Schools

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## **Background**

Both Canada and the United States have recently conducted surveys that explore the level of Internet connectivity in their respective public schools and classrooms. Statistics Canada conducted the main Canadian survey as part of the Second International Technology in Education Study, SITES. The results were released in October 1999. In the United States, the National Centre for Education Statistics, NCES, has been conducting surveys regarding school connectivity annually since 1994 with the latest results released in February 2000.

Both these surveys posed questions relating to what method(s) elementary and secondary schools use to access the Internet as well as to how the Internet is being used in their schools and classrooms.

## **Survey Methodologies**

SITES was a random sample covering 4,000 Canadian schools, each of which received two questionnaires; one completed by the principal and the second by the individual responsible for technology in the schools. Data for SITES was collected during January and February 1999.

Since 1994, NCES has surveyed nationally representative samples of approximately 1,000 public schools in the fall of each academic year on Internet access and, since 1996, on the types of Internet connections used.

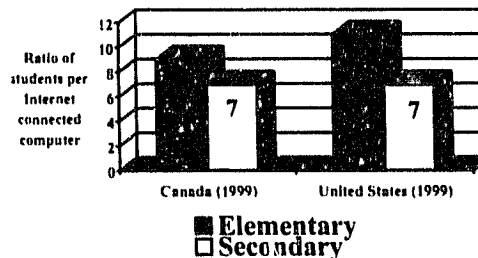
## **Schools' Level of Connectivity**

According to SITES, in 1999 more than 9 out of every 10 Canadian students attended a school that had access to the Internet for educational purposes. This parallels the NCES's finding that in 1999, 95% of their public schools were connected to the Internet.

## **Students per Internet Connected Computer Ratio**

At the time of SITES the national ratios of students per Internet connected computer were 7:1 at the secondary level, 8:1 at the intermediate level and 9:1 at the elementary level. In addition, SITES provides a breakdown of these ratios for each province and level. The range of ratios varies from a low 5:1 for secondary students in Manitoba to a high 15:1 for elementary students in Nova Scotia.

With respect to United States' students per Internet connected computer ratios, the 1999 NCES survey indicates a national ratio of 9:1. Similarly to SITES, the NCES provides an elementary and secondary breakdown of this ratio. At the elementary level, the 1999 ratio is 11:1, down from its 13:1 level in 1998, while the 1999 secondary ratio is 7:1, down from its 1998 level of 10:1.



### **Location of Connected Computers**

The Center for Research on Information Technology and Organizations, CRITO, recently conducted a survey relating to Information Communication Technologies in 655 schools during the spring of 1999. They published their results in June 1999.

CRITO's 1998-1999 survey derived a national probability sample of elementary and secondary principals and technology coordinators in United States public and private schools.

The chart below illustrates the different focuses by Canada and the United States with regards to the location of Internet connected computers.

### **Methods of Accessing the Internet**

SchoolNet just completed its survey of 236 school boards representing approximately 50% of school boards, 36% of schools and 32% of students. The survey collected data on the quality of Internet connections in schools and classrooms. According to the survey results, responding school boards report that, 53% of schools connect to the Internet via their school board's network, (1.5 Mbps or better), 21% via a dial-up modem, (28-56 Kbps or less) 19% via their provincial network, (T3-OC 3, up to 45Mbps); while the remaining 7% connect via a satellite link, (10-56 Kbps).

<i>Location of Connected Computers)</i>	<i>Canada's (%) *</i>	<i>United States' (%) **</i>
<b>Elementary</b>		
✓ Computer labs	60	37
✓ Classrooms	20	57
✓ Other	20	6
<b>Intermediate</b>		
✓ Computer labs	67	44
✓ Classrooms	14	40
✓ Other	19	16
<b>High school</b>		
✓ Computer labs	65	49
✓ Classrooms	14	42
✓ Other	21	9

\* Canadian percentages obtained from SITES

\*\* American percentages obtained from CRITO

The preceding chart illustrates that in the United States, Internet connected computers are located primarily in classrooms, while in Canada they are located primarily in computer labs. In addition, the following table presents the national percentages relating to where the Internet connected computers are located.

<i>Country</i>	<i>Computer labs</i>	<i>Classrooms</i>	<i>Other</i>
Canada *	59%	32%	9%
United States **	43%	48%	9%

\* Canadian percentages obtained from SchoolNet

\*\* American percentages obtained from CRITO

When the NCES conducted its survey in the fall of 1999, it found that 63% of public schools connected to the Internet via a dedicated line, 14% via a dial-up connection while 23% identified another type of connection including ISDN, cable modem, wireless, etc.

### **Further Information**

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