Executive Summary

The public perception of children and teens as technologically savvy "digital natives" persists among adults, particularly parents, who are seen (often by themselves) as hopelessly out of their depth. How close this image is to reality is the question that MediaSmarts has tried to answer in this report, which examines students' skills based on MediaSmarts' model for digital literacy. The model illustrates the many interrelated elements that fall under the digital literacy umbrella. [http://mediasmarts.ca/digital-media-literacy-fundamentals/digital-literacy-fundamentals]

Use as a Component of Digital Literacy

Use represents the technical fluency that's needed to engage with computers and the Internet. Skills and competencies that fall under ***Use*** range from basic technical know-how – using computer programs such as word processors, web browsers, email and other communication tools – to the more sophisticated abilities for accessing and using knowledge resources, such as search engines and online databases, and emerging technologies such as cloud computing.

Access to the Internet and digital platforms and devices is fundamental to acquiring digital literacy skills.

- Canadian students are highly connected: access to the Internet from outside of school is universal at 99%.
- Access, however, is not evenly distributed:
    - Older students are more likely than younger students to access the Internet from home over portable devices such as laptops and cell phones, have networked devices in their classrooms or use technology to do their school work.
    - High affluence students are more likely than medium affluence students to have their own cell phone and to access the Internet outside of school over a variety of portable devices, including portable computers, MP3 players, cell/smart phones and game consoles.
- Most Canadian youth have at least a basic level of digital literacy with respect to the ***Use*** competencies:
    - Nearly all students use digital technology outside of school to engage in a wide range of activities using digital platforms such as social networks, video streaming sites and online games.
- A significant number of students have some level of advanced proficiency with respect to some activities, including:
    - tagging photos;
    - blocking unwanted people;
    - using privacy settings on social media sites; and

- bypassing school filters that block access to websites they want to visit.

The activities suggest that students may be more motivated to acquire advanced technical skills when doing so provides them with a direct benefit that affects them personally or socially.

- Students show a moderate ability to find information online:
  - 61% use more than one search engine.
  - 61% start a search over if they're not happy with the results.
  - Just over a third (35%) of students in grades 7-11 use advanced search engine tools.
  - 50% scan the full first page of search engine results before clicking on a link.

Understanding Contexts, Evaluating Content

Understand refers to the set of skills that help us comprehend, contextualize, and critically evaluate digital media so that we can make informed decisions about what we do and encounter online. Overall, the survey findings give a mixed assessment of Canadian students' skills relating to the ***Understand*** aspect of digital literacy.

- The good news is that a large percentage of students of all ages attempt to verify online information:
  - 89% verify online information for school work.
  - 71% verify information that they are providing to a friend or family member.
  - 66% verify information that they are seeking for their own personal interest.
  - 60% verify information from an online news story, blog, etc.

The varying rates of verification suggest that young people are more likely to apply digital literacy skills when they see a likelihood of immediate consequences – when they will be graded, for example, or when friends or family members are relying on them.

- Interestingly, the number of students that verify online information for school work remains relatively stable across grades:
  - The rate rises from 82 percent in Grade 4 to 90 percent in Grade 5.
  - Between grades 6-11 the rate fluctuates between 87 percent and 93 percent.
- Students use a variety of methods to verify information they find online:
  - The most common verification strategies are to search inside a site that the student thinks is reliable and to look at other sources to see if they say the same thing ("triangulation").
  - The next most popular method is to see if the source of the information is an expert in the field.
  - Half of the students check to see if the opinions on the site are backed up with facts that can be checked.

    - Less than half of students conduct further research to see if others consider the source to be reliable and/or to confirm whether or not the site only shows one side of an issue.
- Teachers play an important role in recommending or confirming reliable sites for around one half of students:
    - Over half of students ask teachers which sites to use when looking for information or for advice on whether a site is a good one.
    - Grade 4 students are most likely to turn to a teacher for guidance (67%).

Other important aspects of the ***Understand*** competencies include the ability to make informed decisions and an awareness of the ethical implications of one's actions.

- Students express a limited amount of knowledge about the commercial aspects of the sites and platforms they use online:
    - 39% of students incorrectly think that companies are not interested in what they say and do online.
    - 68% incorrectly think that the presence of a privacy policy on a website means that the site will not share their personal information with others.
- Digital ethics are another area of concern:
    - 14% of Grade 11 students report that they use cell phones to cheat on tests at school.
    - 46% of students agree with the statement, "Downloading music, TV shows or movies illegally is not a big deal". Agreement rises from a low of 26 percent in Grade 6 to a high of 72 percent in Grade 11.

Creating Content and Contributing to Digital Society

Create is the ability to produce content and effectively communicate through a variety of digital media tools. The ability to create using digital media ensures that Canadians are active contributors to digital society. Creation – whether through blogs, tweets, wikis or any of the hundreds of avenues for expression and sharing online – is at the heart of citizenship and innovation.

Unlike the study's appraisal of students' abilities to use and understand digital media, it didn't try to measure how skilled students are at creating digital content but *whether* and *how often* they do.

- A majority of students create some digital content fairly frequently. However, their content creation skills seem to focus mainly on their social lives:
    - Almost three quarters of students post comments or pictures on their own social network sites. One in six does this once a day or more.
- There is a small number of students who post creative content frequently, but the vast majority of students do so infrequently or not at all:

    - 38% have posted a story or a piece of artwork that they have created themselves -- but of these only one in five does so at least once a year.
    - Surprisingly, while YouTube is the number one most popular site among the students in our survey, only one third of students post video or audio files of themselves.
    - 9% of boys post a video at least once a month compared to six percent of girls.
- A small percentage of students participate in public debate and activism online:
    - Although 29 percent of students in grades 7-11 have posted comments on a news site, only a small percentage do so on a regular basis.

Filling the Gap – Where and How Students Learn Digital Literacy Skills

As well as appraising students' levels of digital literacy, the study examines the equally important questions of *how* they are learning digital literacy skills. Not surprisingly, parents and teachers are the most frequently reported sources of information about digital literacy skills, but it's interesting to see how students tend to learn *different* skills from each.

- Nearly all students (92%) say that they have learned how to search for information online:
    - Parents (47%) and teachers (45%) are the main sources for learning this.
    - Girls are much more likely to have learned from teachers (53% compared to 38% of boys). This is consistent with our finding that girls are more likely to ask their teachers for help with both finding and evaluating online information. But this is also concerning as it suggests that teaching information searching is not curriculum-based, but rather is only available to students with the interest and agency to ask for help.
- A large majority of students (80%) have also received instruction in evaluating and authenticating online information:
    - Half of these students have learned this from teachers (45%) but significantly fewer have learned from parents (37%).
- Students are more likely to say that their parents had taught them how to use privacy settings on social networks – a practical skill that might be seen as a safety concern – while teachers are a more common source for learning about how corporations collect and use personal data, a more abstract issue.
- Students are also most likely to turn to parents to learn about what is legal and illegal to do online.
    - Parents have an important role in helping students make ethical choices in this regard: for example, there is a direct correlation between families with household rules about downloading music, videos, TV shows, movies or software and the likelihood and frequency of students doing so illegally.
- When asked what they would like to learn more about in school, students were most interested in verifying online information:
    - 51% of students want to learn how to tell if online information is true.
    - 45% want to know what is legal and illegal to do online.

A third of students want to know how companies collect and use personal information, how to search for information online and how to use privacy settings.

The number of students who had learned digital literacy skills at school was nearly constant across grades, suggesting that these skills have not yet found a place in the curriculum and, when they are taught, occurs as a one-off rather than part of a larger digital literacy framework.

Technology in the Classroom and School Filters

Another issue affecting students' education in digital literacy skills may be the role of technology in the classroom. Overall, relatively few students are able to use the portable digital devices that are ubiquitous in their lives, such as smart phones and MP3 players, in school. Even when these devices and platforms are available, they are mainly used for activities that are essentially the same as traditional classroom exercises. This means that there is less exposure to collaborative work and communication with others in the community, both of which are central features of the ***Understand*** competencies of digital literacy.

- A large number of students report that their schools have teacher-focused digital technologies, including class websites (72%), digital whiteboards (68%), computer labs (74%) and computers in the classroom (66%).
- A much smaller number are able to use their own digital devices such as laptops or netbooks (53%), tablets (31%), e-readers (27%) or cell/smart phones (25%). And only 29 percent say their teachers have ever used social media to help them learn.
- Those students who are allowed to use their own digital devices in class most often use them for traditional educational activities such as:
    - research (83%);
    - reading class material (51%);
    - using educational games and programs (42%); and
    - watching videos, listening to podcasts or reading websites for class work (40%).
- A much smaller number of students use their devices to communicate with other students inside the classroom (24%), with people outside of the classroom (16%) or to contribute to a class blog or wiki (19%).
- The survey explored if school filters are an obstacle to learning and if students can circumvent filters:
    - More than a third of students (36%) said that they have had trouble finding something they needed for their school work when using a school computer due to blocking or filtering software. (Older students are more likely to say this than younger ones).
    - One quarter of students say they are able to bypass school filters. Boys are more likely to report this than girls as are older students.