# Teens and Information and Communication Technologies



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## INTRODUCTION

In the late 20th century, the digital revolution in information and communication technology (ICT) moved into the homes and private lives of ordinary people. Unsurprisingly, the early adopters of domesticated ICT have been youth, young people between the ages of 12 and 19, whose lives have become increasingly shaped and mediated by information and communication technologies. Called the "Net Generation" (Tabscott, 1998, p. 3), these young people are leading the charge toward what the United Nations has called "an unprecedented and global media culture" (United Nations, 2003. p. 311).

The focus of this article is on how young people, ages 12–19, in the early 21st century use information and communications technologies. The wide and diverse nature of the landscape, composed of multiple platforms and applications in continuous change, necessitates a broad approach. Information technologies are now bundled with communications capabilities and vice versa, making a focus on one and not the other virtually impossible. Furthermore, one of the difficulties in studying ICT use among children and teenagers is that statistics and studies are still limited, even within digitally privileged countries. Ironically, while research in this area has focused on the educational use of ICT, young people overwhelmingly use it for personal reasons. This article, therefore, looks at ICT through a wide angle and offers a snapshot of the role of ICT in the lives of young people in the early days of the 21st century, suggesting in broad terms where the emerging issues and trends may lie.

## BACKGROUND

Youth have traditionally been the early adopters of digital ICT, forging new patterns of information and communication behavior. The next generation of ICT users, those born after 2000, will move with even greater ease among the emerging information and communications technologies. This generation will enter their teen years never having known a world without personal computers, the Internet, cellular telephones (more commonly called "cell phones" in North America and "mobile phones" in the UK), and personal digital assistants. While the Net Generation's first experiences on the Web, and with ICT in general, were typically asynchronous and tied to a physical location, namely the home or classroom, young people who are now entering their teens increasingly find that information and communication technologies are accessible anywhere, anytime, and anyplace. Cell phones are quickly becoming personal digital assistants, providing a broad range of information services beyond basic voice capabilities. Portable hardware such as MP3 players and the "podcasts" used to deliver content from the Internet to the device have helped move the Internet beyond the desktop and into the street. The onset of Web 2.0 — the social Web — has further enhanced the immediacy of the experience.

For many young people living in digitally privileged societies, ICT represents a world of entertainment, the most popular activities being communicating with friends, online gaming, and downloading music (United Nations, 2003). ICT now rivals home and school as a "space" for socialization and identity development. While opportunities await technology-savvy educators and marketers — reaching young people "where they live" and in a language they understand — these same opportunities can turn to manipulation and threat in a technology-rich, media-saturated world that is sometimes disconnected from the worlds of parents and other adults significant in the lives of teens. Whether young people will be at risk in this world, or will adapt to and even shape it, is a question to consider.

## ACCESS TO ICT

How pervasive is ICT in the lives of youth? In the United States, 9 out of 10 teens are Internet users. The vast majority (84%) report owning one personal media device — a computer, a cell phone, or a personal digital assistant — and half of American families with teens have broadband connections to the Internet. Eighty-seven percent of American youth between 12 and 17 years old have used the Internet, and of that number, half (51%) report going online at least once a day (Lenhart, Madden, & Hitlin, 2005). Across the border in Canada, the situation is similar: 94% of young people in grades 4 to 11 (ages 9 to 17 years) report going online from home. Sixty-one percent of Canadian online youth have high-speed access and 23% have their own cell phone, 44% of which have Internet capability (Environics Research Group, 2005). Australian youth are among the world's leading users of computers, with 94% of Australian students reporting that they have access to a home computer for schoolwork and 100% reporting that they have access to a computer at school

(OECD, 2003). In the United Kingdom, 75% of youth between the ages 9–19 have accessed the Internet from a computer at home, and school access is nearly universal (92%). Young people in the UK use as diverse a range of platforms as those in the United States and Canada, with 71% living in a home with a computer and 38% owning a cell phone (Livingstone & Bober, 2005). Access to computers is almost universal for 15-year-olds living in countries of the Organization for Economic Cooperation and Development (OECD): 98% or more in 21 of the 25 OECD countries that participated in the 2003 PISA study have experience with computers, and the vast majority of these young people report confidence performing basic ICT skills, such as opening, deleting, and saving files, and using the Internet (OECD, 2003). Internet access is high, if not universal, in schools throughout much of Europe and large areas of Asia, specifically Australia, Singapore, Korea, Hong Kong, Taiwan, and New Zealand (Kirkman, Cornelius, Sachs, & Schwab, 2002).

Despite the seeming pervasiveness of ICT in the lives of youth, inequity of access exists. The OECD (2001) defines this as the digital divide — "the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both their opportunities to access information and communication technology (ICTs) and to their use of the Internet for a wide variety of activities."

Internationally, the lines between those with access and those without are clearly drawn between developed and developing nations. In developed countries, virtually every child has access to a telephone, a television, and a computer, either at home, school, or a public library. The same cannot be said for youth in developing countries (United Nations, 2003). Access to computers in developing countries is typically through the school, but not all children go to school because many countries do not have a universal, free education system. The Internet reaches little more than 10% of the world's population; while 331 per 1,000 people in Europe use the Internet, only 37 per 1,000 in the Middle East and Africa, 92 per 1,000 in Latin America and the Caribbean, and 15 per 1,000 in South Asia and sub-Saharan Africa use the Internet (United Nations, 2005). While these figures include all Internet users, and not just youth, young people are often the first adopters of ICT. Therefore these figures suggest a profound gap between the ICT experiences of youth in developed countries and developing countries.

Even within developed nations, the distribution of ICT access can be uneven. Physical access to a computer, a network connection, and increasingly a cell phone or personal digital assistant, is the starting point. Income, social class, and proximity to urban areas play a key role in determining the accessibility of such tools. While many schools provide computers for student use, the student-computer ratio may be so high, the quality of hardware and software so poor, and the network connection so slow, that access to technology is more theoretical than practical. Beyond the basic physical access, users of ICT must have intellectual access in the form of multiple literacies: the basic literacy skills of reading and writing, the language skills to understand and contribute to the discourse, and the critical thinking skills required to decode media messages and sift through a myriad of information sources.

## HOW ARE YOUTH USING ICT?

This section looks at what young people are doing with ICT and studies this question within the framework of "purpose" rather than format, application, or specific technology. So, how are young people using ICT in their lives? Regardless of the mode of delivery, young people use ICT for three principle reasons: as a tool for learning, a channel for human interaction, and a form of entertainment. At times, these purposes are deeply intertwined, as in the case of networked learning environments or virtual reality games that teach.

### ICT and Learning

ICT has become an essential educational tool in the 21st century, and for purposes of learning, young people most commonly use it to find information resources on the Web (OECD, 2003). Fifty-five percent of students in OECD countries report searching the Internet for information about people, things, or ideas, with the highest use of the Internet as a source for information resources in Canada (75%), the United States (74%), and Australia (74%) (OECD, 2003). For Canadian youth, searching the Internet for

information is as popular as playing games online, and they willingly choose the Internet over other information sources (Environics Research Group, 2004). American youth look for information about current events, politics, religion, careers and colleges, and increasingly, health. While its not clear whether American teens seek information on these topics for educational or personal reasons, the Internet is now a key source for information, especially for those who have access to broadband connections (Lenhart et al., 2005).

The shear volume of information on the Internet can be more frustrating than useful when it threatens to overwhelm young people. Young adults report feelings of being lost in a sea of information and say they have problems filtering the "good" information from the "bad" (Environics Research Group, 2004; McMillan & Morrison, 2006). A meta-analysis of research related to youth information-seeking behavior revealed that young people are not experiencing the richness of the Internet because of "poorly developed information-seeking skills or a propensity to take the easiest path possible" (Dresang, 2005, p. 181). For those teens who do happen to stumble upon information they feel is useful, the operative phrase "use with caution" still remains. In an environment