Essential Computer Skills for College Students

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ABSTRACT

Computers have a growing presence in all levels of education and in all kinds of occupations. To be adequately prepared for their chosen professions, undergraduate college students have to be successful in their coursework. To achieve that success, and in consideration of the increasing reliance on using computers in their personal and work lives, students need a certain level of expertise in identified computer applications. Incorporating interviews and surveys, this project researched the computer knowledge needed by incoming undergraduate students in Business Administration and Social Work. The research results found that students need proficiency in Microsoft Office applications, ANGEL learning management system, Internet browser, search engines, and e-mail.

Keywords: 21st Century Literacy, College Students, Computer Literacy, Computer Skills, Higher Education

OVERVIEW

For the most part, undergraduate college students at a public four-year urban institution in the USA northeast, are expected to acquire the necessary computer skills on their own or take a course such as Computer Information Systems (CIS) 101, which is a computer fundamentals course (e.g., Microsoft Office). While the college knows that students must be able to work competently and comfortably with software applications, the curriculum in many undergraduate programs does not include sufficient number of computer courses, or space in existing courses, dedicated to educating the students on the necessary computer applications. In light of this limitation, the college advises all incoming students to arrive with a minimum level of software knowledge that is thought necessary for success in their coursework. However, that “minimum level” is not specifically defined nor do all students have the appropriate computer knowledge when they start their college programs.

Specific to this research study, although the college realizes that its students should be knowledgeable in various computer software programs, Business Administration and Social
Work are two undergraduate programs that do not include much coursework committed to teaching students the use of computers and computer software. Upon examining the curriculum for the two programs, for the most part, it was found that apart from a single computer course requirement in one of the programs, technology courses are solely options, not requirements, for students in these programs. The Business Administration program has 14 core courses, but contains only one technology course - CIS 101. Social Work added the CIS 101 course requirement in 2006, but the requirement is not stated at the Social Work online site or in the undergraduate catalog. However, Social Work does have stated Technology Standards.

All students will have demonstrated the following competencies upon completing the 300-level required social work classes:

1. Use e-mail to create, reply, save, and edit messages and attach documents.
2. Use word processing software to create, edit, save, format, spell-check, and grammar-check papers and reports.
3. Participate in Web-based activities by becoming familiar with all student features of ANGEL, our e-learning tool, including use of the drop box and sending and receiving assignments as attachments by email.
4. Know how to research material for papers and other assignments by using <deleted identity> online search and Internet Explorer to find information on social services, social work, and social policy (Social Work Department, 2009, p. 6).

LITERATURE REVIEW

In addition to reporting on the results of surveys and interviews, this paper includes a related literature review concerning what the research shows about undergraduate computer literacy and technology skills. It covers what students need to know and practice relative to using computers and computer applications in order to be successful academically, as well as workforce ready in the 21st century. The literature also reveals how computer literacy and information literacy have merged into a new 21st century literacy. Also, there are some fairly common misperceptions about what students actually know and need to learn in order to become productive citizens in a society that has become dependent on computers and technology in all walks of life.

A Brief Historical Perspective

Perez and Murray (2010) provide an historical perspective on the development of computer literacy in higher education, beginning with the early 1960s and up through 2006. They note that Neill (1977) equated computer literacy in the 1960s with programming skills and that the early 1970s brought the official use of the term “computer literacy,” along with activities by the National Science Foundation to investigate how computers were impacting individuals and organizations. Perez and Murray also note that the 1980s brought computer literacy courses into the mainstream of higher education, but Cohen (1987) pointed out that such courses focused primarily on “the study of information, its uses and its processing” (p. 321) and not on computer literacy per se.

In the early 1990s, computer literacy courses were all about learning how to use many of the software products that are typically associated with Microsoft Office, namely word processing (Microsoft Word), spreadsheet (Microsoft Excel), and presentation software (Microsoft PowerPoint). Hoffman and Blake (2003) noted that, by the late 1990s and early 2000s, learning how to use such software became more of an informal process, with students acquiring these skills on their own “just in time” or “on demand,” as opposed to taking a formal credit-bearing course.

The 1990s and the first decade of 21st century saw computer literacy and information literacy merge (Hoffmann & Blake, 2003), forming a new set of skills that students started to acquire. Being information literate, as defined by the Association of College and Research
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