Why Computer Skills Are Important in
Achieving Academic Success and Improving Retention

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Computer literacy is the knowledge and ability to use computers and technology efficiently. Computer literacy can also refer to the comfort level someone has with using computer programs and other applications that are associated with computers. The precise definition of "computer literacy" can vary from group to group. However, "computer literate" often connotes little more that the ability to use several specific applications (such as Microsoft Word and Microsoft Internet Explorer) for certain very well-defined simple tasks.

Computer literacy is considered a very important skill to possess. Employers want their workers to have basic computer skills because their company becomes ever more dependent on computers. Many employers try to use computers to help run their company faster and cheaper. Computers are just as common as pen and paper for writing and for many applications – especially communicating – computers are preferred over pen and paper because of their ability to duplicate and retain information and ease of editing.

Another common definition of computer literacy is the knowledge and skills required for basic use of computer hardware, software and the Internet. These critical computer and Internet skills are valued in today's academic and professional environments. This leads to success in education and employment since computer skills are integral to all areas of study and work. The 3 R's (reading, writing and arithmetic) should now also include the 3 C's (communicating, calculating and computing) since the ability to use a computer is on the same level as reading and writing skills.

Educators are pushing greater computer literacy requirements since student exposure does not necessarily translate to understanding. Computer literacy is a crucial component for success at a higher education institution since the student interacts with the school, the faculty, and the community by using the computer. Students cannot complete their coursework or search for online solutions without this competency.

At Hennepin Technical College, we have seen the need for computer skills increase not only in the general education courses but also in many of the technical courses. Without basic computer skills, the ability to be successful in these courses is greatly reduced. This speaks to the need for early assessment of these skills to ensure students' success in subsequent courses.

Underprepared students are entering college with multiple barriers such as lack of basic skills, lack of language skills, and lack of computer skills, along with transportation, child care and money issues. How do we address the lack of computer skills? At Hennepin Technical College, General Education faculty (especially in the English and Communication areas) along with Technical College faculty have been increasingly frustrated with the lack of computer skills needed for writing college papers and for completing other written assignments.

The intent of administering any computer literacy testing is to assist students in becoming successful learners. At Hennepin Technical College we started in the fall of 2003 and used a paper and pencil test that was created by faculty for incoming computer students. Concerned faculty brought the need for computer literacy skills to the attention of Academic Affairs and Standards Council (AASC). A task force was formed in 2004 that included faculty, counselors and administration, and they recommended a Computer Literacy Pilot to begin in Fall 2005.

We purchased a license to a testing product that ran on the college computers. The Task Force kept meeting and exploring additional possibilities since problems had arisen with both of the previous testing methods. Assessment tests were not run in a secure testing environment, only minimal data results and no reporting features were available. Faculty evaluated and tested Computer Skills Placement (CSP) and felt it met the college's immediate requirement.

We began using CSP as a pilot in Fall 2007 and have recently adopted it college-wide. Some areas of the college such as Business and Information Technology chose all seven competency areas (Advanced) with 70 questions: Basic Concepts, Using the Computer & Managing Files, Information & Communication, Word Processing, Spreadsheets, Database and Presentation while other areas of the college chose the three competency areas (Basic) with only 30 questions: Using the Computer & Managing Files, Word Processing and Information & Communication. The average student completes the Basic test in about 20 minutes and the Advanced test in about 35 minutes. Faculty and staff feel that the amount of time it takes to administer the placement test is relatively small compared to the benefit received from good thorough student advising.

The feature of being allowed to choose competency areas by discipline, course or program area was one of the deciding factors among faculty in adoption of the pilot. The key features of CSP are that the assessment is a mix of multiple choice and performance-based questions; questions quickly and efficiently test a student's basic knowledge of competency areas necessary for success in today's digital world; student receives immediate test results at the conclusion of the test; and faculty are empowered to determine the cut score for passing each competency area.

The benefits of CSP are results that provide faculty, staff, and administrators with essential information needed for both proper academic advising and accurate course selection. Outcomes allow students to be assigned to classes which optimize their opportunity for success and overall increased student success and retention.

During the pilot at Hennepin Technical College, if a student's scores fell below established cut scores, students were advised by a counselor to do one of the following: take a computer literacy course, an online tutorial, a community education workshop/course, or a computer class at the workforce center. Within one semester we realized computer skills of some students were even lower than expected. Developmental courses already existed in reading, writing and math—why not computer literacy? There appeared to be a need for a developmental course that included very basic keyboarding and computer skills. Faculty created a two-credit course and gave it the title **CPLT0900 Keyboarding and Computer Basics.**

The results were very encouraging as we saw increased basic computer skills in one semester with students feeling better prepared to be successful. In most developmental courses it takes a year or more to increase skills, but here was a chance to become more successful in one area in

just one semester. Many students are challenged when they enter developmental classes, and acquiring computer skills was a relatively easy way to give them confidence that they could succeed. There was also increased satisfaction among faculty and students with course placements, and we confirmed that better student advising leads to greater student retention.

The Task Force proposed that we test all incoming students after they register for their 4th credit, and AASC approved this proposal in September 2008. We are currently implementing the new process. Counselors recommend students who test low take a computer literacy course early in their education, but it is up to each program or discipline area to set required cut scores if needed.

My experience to date has shown that possessing basic computer skills is a critical part of academic success that can be an effective tool, particularly for developmental students, to address some of the students' deficiencies. Acquiring basic computer skills gives these underprepared students the encouragement to continue their education.