Information Literacy
2002

Technology Skills
Incoming Student Competency Assessment
Pilot Study

Report Date: June 8, 2002

Outcome

Students entering the University of La Verne demonstrate effective and appropriate use of basic information technology.

Faculty and Personnel Involved

Jay Jones, Aghop Der-karabetian, Criss Sudar, and Nune Gazdhyan

Methods and Procedures

1. Performance Measure

Altogether 289 incoming freshmen were contacted and 206 took the performance test before classes started in the Fall of 2001. They were tested in five skill areas:
a. Basic computer knowledge
b. Web usage
c. Spread Sheet
d. Word Processing
e. Excel

All tests were proctored, and administration was done in small groups of mostly 5-15 individuals. They had to log on blackboard@ulv.edu to take the test.

2. Self-report

Altogether 193 incoming freshmen completed a self-report measure in conjunction with the performance test. The survey assessed their attitudes, perceived level of experience, utilization, competence, as well as their judgement about ethical issues related to the use

of information technology. The survey included 35 questions. Several questions had multiple subcategories. A copy of the survey can be found in Appendix A.

3. Results of the Pilot Study

The results in Table 1 indicate that on the performance tests 57 percent passed all five areas, and none failed all five areas. In terms of individual areas, more than 90 percent passed any one of the individual skill areas except one. Eighty three percent passed Excel. Those who did not pass a particular area were required to attend a workshop related to that area.

Table 2 summarizes the results of the self-report measure of computer competency. About one-third of the incoming freshmen report a daily use of up to three hours, and nearly 80 percent indicate average or advanced experience working with computers. While one-third mention having experience with MACs, 92 percent report experience with "IBM compatible" machines.

While four out of five freshmen report average or better experience with word processing, the percentage of those who report such experience with spread sheet, presentation software or video games is under 25 percent.

Experience with internet looks quite strong in terms of doing business, emailing, browsing, and information gathering. About one-third of incoming freshmen report experience with accessing class material on the web.

Concerning attitudes, about half the freshmen think computer technology is very important or vital, and enjoy or love using computers. Nearly two-thirds think they have adequate computer preparation for college. About 40 percent indicate that they are prepared or well prepared at this time for the job market.

In terms of legal and ethical use of computers and information technology, a substantial number are not sure of what is appropriate, or endorse illegal or inappropriate use.

Overall, the pilot assessment of competency in information technology using both performance and self-report measures appears to have worked well. The results suggest that the tests and the self-report measures are sensitive enough to differentiate individual variability.

Table 1

Percetange of Freshmen who passed the Information Technology Entrance competency

Exams in 5 skill areas (Total n=206).

Skill areas	%
Basic Computer Knowledge	94
Web Usage	90
Spread Sheet	96
Word Processing	93
Excel	83
Passed all five areas	57
Failed all five areas	0

Table 2

Percentage of self-report level of experience with information technology (n=193) -
Highlights.

Items	%

Use of computers
  1. Daily use 1/2 - 3 hours   34

  2. Average or advanced experience working with computers
     78

Experience with software
  3. Have experience with: MAC   33
                      IBM Compatible   92

  4. Average or better experience with word processing   81

  5. Average or better experience with spread sheet   24

  6. Average or better experience with presentation software
     22

  7. Average or better experience with video games   15

Experience with Internet
  8. Have purchased or sold on internet   36

  9. Novice or never used email   19

  10. Novice or never used web browser   25

  11. Novice or better experience with web authoring
     27

  12. Used internet to search for information for reports and learn on my own
     97

| 13. Use internet to access class material (syllabi, ect.) | 32 |

Attitudes and Ethics

| 14. Feel computer technology is very important or vital | 54 |

| 15. Enjoy or love using computers | 48 |

| 16. Feel computer preparation for college is adequate or better | 63 |

17. Legal to use another person's copy of Microsoft Word and install on
    one's computer   11

18. Legal to copy copyrighted music (CD or MP3) from a friend or internet site 22

19. Ethical to post class notes from a difficult class on web
    36

20. Free speech protects sending embarrassing information about faculty to
    students by email   39

Conclusions and Recommendation

The results suggest that there are areas of strength that students bring to ULV, such as word processing skills, internet exposure and a fairly positive attitude about information technology. Areas that need attention involve other applications of information technology, and a better understanding ethical and legal issues related to information technology.

It is recommended that the assessment of incoming freshmen be replicated in the Fall of 2002. The performance and the self-report measures with minor modifications could be use again. Administering the tests to transfer students, Senior and SCE students should also be considered.

Appendix

Name _____   Student ID # _____

Information Technology Self Assessment

The purpose of this instrument is to gather information regarding student's attitudes and self assessment of their information technology background. Data from first year students and transfers will be compared with those gathered from graduating seniors as part of the University's comprehensive assessment program. Your answers will in no way influence your grade point or other academic records. Rather, they will provide information regarding the effectiveness of the University's programs.   The estimated time needed to take this assessment is 12 minutes.

1. Please indicate your ethnicity. _____

2. Please indicate your academic status.
    ○ First year college student
    ○ Sophomore
    ○ Junior
    ○ Senior
    ○ Second year or greater senior
    ○ Graduate student

3. Please indicate your gender.
    ○ Female
    ○ Male

4. How often do you use computers?
    ○ Not at all
    ○ Less than once a week
    ○ Once to a few times per week
    ○ Daily, at least one half hour but less than three
    ○ I live on the computer! (more than three hours a day)

5. What is your level of experience working with computers?
    ○ No experience
    ○ Novice (beginner)
    ○ Average user
    ○ Advanced user
    ○ Expert

6. What experience have you had with specific hardware and operating systems?
Check all that apply.
- ○ Macintosh/Mac OS (Mac Operating System)
- ○ "IBM compatible " / Windows 3.1, 95, 98 etc.
- ○ DOS
- ○ UNIX (Including Linux)
- ○ Other (For example, VMS, MPE etc.) *Specify* _____

7. What is your level of experience with word processor packages? For example, Microsoft Word, Word Perfect, Works, WordStar . . . *Specify the packages you have used* _____.
- ○ No experience
- ○ Novice (beginner) (simple text editing)
- ○ Average user (moderate formatting . . .)
- ○ Advanced user (use features such as mail merge, integrate graphics, multicolumn text . . .)
- ○ Expert (used more than one word processor, customize software, extensive use of macros, convert files etc.)

8. What is your level of experience with spread sheets. (For example, Corel Quattro, Microsoft Excel, Lotus . . .) *List specific packages, if any*

_____
- ○ Never used
- ○ Novice (beginner)
- ○ Average user
- ○ Advanced user
- ○ Expert

9. Experience with presentation software. For example, Microsoft Powerpoint, Corel Presentations . . . *List package(s) if any* _____
- ○ Never used
- ○ Novice (beginner) – used once to a few times
- ○ Average user
- ○ Advanced user
- ○ Expert

10. What is your level of experience with purchasing and/or selling on the Internet
- ○ Never purchased or sold an item
- ○ Novice (beginner) – have purchase one to a few items
- ○ Have purchased and/or sold items several times
- ○ Purchase or sell regularly on the Internet
- ○ Expert (have been involved in formal E-commerce)

11. Experience using Video games. *List a few of the games you have played extensively*

_____

- ○ Never used
- ○ Novice (beginner) – used once to a few times
- ○ Average user
- ○ Advanced user
- ○ Expert

12. What experience have you had using E-mail?
- ○ Never used
- ○ Novice (beginner) – send and receive messages occasionally
- ○ Send and receive messages routinely
- ○ Send and receive mail with attachments
- ○ Subscribe to one or more lists (often supported by Listserv, ListProc . . . .)
- ○ Expert

13. What experience have you had with Web browsers? List specific browsers you have used (For example, Netscape, MS Internet Explorer, Mosaic etc. *Specify which you have used* _____ _____)
- ○ Never used
- ○ Novice (beginner) – used once to a few times
- ○ Use occasionally
- ○ Use routinely (usually daily), minor customization
- ○ Extensively customize browser

14. What experience have you had with Web authoring?
- ○ Never prepared or edited a Web page
- ○ Novice (beginner) – have prepared a simple web page
- ○ Have prepared several web pages using standard packages such as Front Page, Netscape Composer etc.
  List specific package(s) used _____.
- ○ Extensive use of HTML and some experience with JAVA and similar scripts
- ○ Extensive manipulation of pages and/or site management (For example, use of CGI, PERL and other scripts, preparation of interactive web pages, site management . . .

15. I use or have used the Internet to _____.
    Check all that apply.
- ○ Search for information for reports and other assignments
- ○ To search for interesting information and learn on my own
- ○ Purchase items
- ○ Register for classes

- o Access class material (syllabi, etc.) on the web
- o Take one or more web based classes
- o Chat
- o Listen to Internet music or radio
- o Download and exchange MP3's and other files for personal use (For example, from Napster.com)
- o Download or exchange graphics (avi, mov, jpg, gif and other files)
- o E-mail
- o Gain access to or participate in e-mail Lists
- o Participate in see you see me or video conferencing
- o To keep in touch with friends and relatives
- o To meet new people
- o Other _____

16. What experience have you had using Statistical packages (SPSS. SAS . . .)?
      Indicate those used _____
- o No experience with statistics
- o Some experience with statistics in spreadsheets
- o Some experience with major statistical packages such as Minitab, SAS, SPSS but only for simple statistics
- o I have a moderate amount of experience using major statistical packages, including inferential statistics.
- o I have used major statistical packages extensively, including a broad rang of both descriptive and inferential statistics

17. How extensively have you used computer technology for academic purposes?
- o I have not used computing technology for class assignments or other academic purposes
- o I have used computing technology occasionally for class assignments
- o I regularly use computing technology for academic work
- o I have used computing technology for most of my classes
- o I have used a broad range of information technology for academic work (For example, word processing, spreadsheets, presentation software, WEB searches, Library databases . . .)

18. What computer peripherals have you used?
     Check all that apply.
- o Printers
- o High capacity disk drives (Zips, Jazz, . . .)
- o Modems
- o Flatbed or other scanners
- o Cameras

○ External sound systems

○ Other *Specify* _____

19. What is your level of experience with computer programming?
- ○ None, I have never written or modified a program
- ○ I have written simple programs
- ○ I have written several programs and/or have used more than one language
- ○ I feel comfortable programming and do so often
- ○ I program often and know a number of languages

20. What experience have you had with data base software? (for example access, paradox . . .)
- ○ None, I have never worked with data base software
- ○ I have some experience using data bases but not in designing them or modifying them
- ○ I have written constructed some simple data bases and/or reports
- ○ I have constructed several databases and designed reports
- ○ I have extensive database experience and have written and modified complicated database structures for entry and reports

21. What experience have you had manipulating images? (For example using packages such as Photoshop . . .)
- ○ None, I have never worked with images on a computer
- ○ I have only used such packages to view images
- ○ I have made minor modifications such as cropping, lightening etc.
- ○ I have made rather extensive modifications including color balance, contrast etc.
- ○ I have extensive experience, including image "repair", creating composites . . .

22. How important do you feel computer technology knowledge and skills are?
- ○ Not important at all
- ○ Useful but not very important
- ○ Quite important but not vital
- ○ Very important, it would be very difficult to succeed without them
- ○ Vital for my success

23. How do you generally feel when using computers?
- ○ I find working with computers very stressful and difficult
- ○ Working with computers is not my favorite thing to do but it is tolerable
- ○ I don't mind working with computers but it is not very exciting
- ○ I enjoy working with computers and learning new skills

○ I love to work with computers and suffer from withdrawal when I can't get access

24. How do you feel about your computer (information technological) preparation for college?
    ○ I do not feel adequately prepared and lack the needed skills
    ○ I am somewhat prepared but have much to learn
    ○ I am prepared but will need to brush up
    ○ I am well prepared and can hit the ground running
    ○ I am a computer geek and know much more than I will need here

25. How do you feel about your computer (information technological) preparation for entering the job market now.
    ○ I do not feel adequately prepared and lack the needed skills to enter the job market now
    ○ I am somewhat prepared but would have much to learn
    ○ I am prepared but would need to brush up some skills
    ○ I am well prepared and could hit the ground running
    ○ I am a computer geek and know much more than I would need for most jobs

26. Is it legal to use another person's copy of Microsoft Word and install it on your computer?
    ○ Yes
    ○ No
    ○ Don't know

27. Your friend is upset with a professor about a bad grade. He/she posts derogatory but true information about the professor and emails it to the other students in the class. The professor is embarrassed but otherwise unharmed. Is this protected by "Free Speech"?
    ○ Yes
    ○ No
    ○ Don't know

28. You obtain freeware from a web site. Can you legally distribute it, without modification, to your friends?
    ○ Yes, if the terms given allow this
    ○ No, if it is copyrighted or rights are reserved you can never distribute it
    ○ Don't know

29. Is it legal to copy, copyrighted music (CD or MP3) from a friend or Internet site for your own use?
    ○ Yes
    ○ No
    ○ Don't know

30. If you have a valid purchased copy of Corel Office, can you legally give a friend or family the disks to put on their computer as well?
    ○ Yes
    ○ No
    ○ Don't know

31. Is it appropriate for a photography student to go to a site with nude photographs as part of a class project where other people could see the pictures?
    ○ Yes, if no one complains
    ○ No, it is a public space
    ○ Don't know

32. You create an MP3 file from a music CD you purchased? Is it legal to post it on a list or web site where others can freely access it?
    ○ Yes
    ○ No
    ○ Don't know

33. You have taken excellent notes in a difficult class and post them on a web site. Is it ethical to do so?
    ○ Yes
    ○ No
    ○ Don't know

34. Your University has an academic license for web building software. You create a web page for a local business using the school software and get paid for it. Is this legal?

- ○ Yes
- ○ No
- ○ Don't know

35. Is it proper to copy figures from the Web and put them in your reports without referencing the source?

- ○ Yes
- ○ No
- ○ Don't know