General Education Core Requirements Assessment AY 2011-2012

Course name & number:
CPLA 100, CPLA 101 – Computer Literacy I, Computer Literacy II

Instrument or assessment mechanism:
We used activity and exam scores from the Fall 2010, Winter 2011 and Spring 2011 offerings of CPLA100/101, sections 1, 2, and 3. See attached for details of the instrument for each objective.

Summary of the results from your instrument or assessment mechanism:

- Students are clearly mastering the material for the following objectives:
  - CPLA 100, Objective 1a: The student will demonstrate an ability to manipulate directories and files, including copying to and from external media (all students completed a task that demonstrates this objective).
  - CPLA 100, Objective 2a: The student will use a computer to complete course assignments (all students completed tasks that demonstrate this objective).
  - CPLA 100, Objective 2b: The student will learn basic use of word processing software (94% correct).
  - CPLA 100, Objective 2c: The student will effectively use presentation software (96% correct).
  - CPLA 100, Objective 2d: The student will effectively include graphics in a presentation or document (97% correct).
  - CPLA 101, Objective 1a: The student will demonstrate an ability to organize data in a spreadsheet (97% correct).
  - CPLA 101, Objective 1b: The student will demonstrate an ability to perform simple analysis on spreadsheet data (98% correct).
  - CPLA 101, Objective 1c: The student will create meaningful plots of data in a spreadsheet (97% correct).
  - CPLA 101, Objective 1d: Students will perform what-if analysis using a spreadsheet (98% correct).

- Performance on the following objectives indicated room for improvement:
  - CPLA 100, Objective 1b: The Student will be able to distinguish the difference between hardware and software. Four problems were assessed, with average correct responses of 82%, 79%, 67%, and 62%.
  - CPLA 100, Objective 1c: The student will be able to distinguish the difference between data files and executable files. This objective was not measured.
  - CPLA 100, Objective 1d: The student will identify ways to protect data and devices. Performance on the assessed question was 68% and the data falls short in measuring if the student knows how to protect data and devices.
- CPLA 101, Objective 2a: The student will use Boolean logic and wildcards for advanced searches. Four problems were assessed, with average correct responses of 75%, 75%, 98%, and 90%.

Interpretation of the results to determine what changes, if any ought to be made to improve student learning:

- CPLA 100, Objective 1b: The Student will be able to distinguish the difference between hardware and software.
  - The marginal score of 67% reflects failures to classify a monitor as an output device. However, the two second most chosen answers were communication device and input device.
  - The low score of 62% reflects failures to classify a mouse as an input device.
  - The objective does not accurately reflect what is being taught or measured.
  - We thus propose two actions:
    ▪ Change the objective statement to: Students will be able to distinguish between system software and application software, and between the following types of hardware: input devices, output devices, storage devices, communication devices and processors.
    ▪ Cover device classification earlier in the class, and review prior to testing.
- CPLA 100, Objective 1c: The student will be able to distinguish the difference between data files and executable files.
  - This objective was not measured, because it was not covered in the class. The chapter used to cover Objective 1d (below) includes material on protecting digital data and devices. This will provide opportunity for instructors to also discuss and give examples of data files and executable files, which they will be instructed to do.
- CPLA 100, Objective 1d: The student will identify ways to protect data and devices.
  - The marginal score of 68% reflects failures to indicate that RAM storage is volatile. Moreover, the assessed question falls short in measuring if the student knows how to protect data and devices.
  - We thus propose that the following material in Chapter 9 be covered and assessed: What can I do to protect my computer from viruses? What is a firewall, and how does it keep my computer safe from hackers? How do I create a secure password and manage all my passwords?
- CPLA 101, Objective 2a: The student will use Boolean logic and wildcards for advanced searches.
  - The marginal scores of 75% reflect difficulty in determining the best combinations of AND and OR to return either all articles on a topic or to return the fewest matches in a search. Instructors will be directed to provide more examples.
Computer Literacy 1

The following objectives were evaluated using data from AY 10/11.

**Goal 1: Students will learn basic computer operations**

**Objective 1a: The student will demonstrate an ability to manipulate directories and files, including copying to and from external media.**

This objective is met when students complete assignments 5B, 6A, 6B, 15A, 15B, 16A, and 16B. Students are required to download a starter to file to a folder they create on either a jump drive or netstorage.

**Objective 1b: The Student will be able to distinguish the difference between hardware and software.**

This objective does not represent what we measure. The book that we use categorizes the type of hardware and we ask that students choose what type of hardware a device represents. Similarly, we ask students to categorize software by type.

We thus propose that the objective above be changed to:

Students will be able to distinguish between system software and application software, and between the following types of hardware: input devices, output devices, storage devices, communication devices and processors.

**Questions chosen to represent the objective, taken from exam:**

Microsoft Word is an example of:

- a. application software
- b. utility software
- c. system software
- d. communication software

81.84% of students were able to identify Microsoft Word as application software. I believe that these results show that students are meeting the objective.

Windows XP is an example of:

- e. application software
- f. utility software
- g. system software
- h. communication software
79.35% of students were able to identify Microsoft Windows as system software. I believe that these results show that students are meeting the objective. I would suggest that this material be introduced earlier in the course and reviewed prior to testing.

A monitor is classified as what type of device?

a. storage device  
b. communication device  
c. output device  
d. input device

67.29% of students were able to classify a monitor as an output device. The two second most chose answers were communication device and input device. This objective is only being met marginally. I suggest that this material be covered earlier in the class and then reviewed before testing is done.

A mouse is classified as what type of device?

a. storage device  
b. communication device  
c. output device  
d. input device

62.48% of students were able to classify a mouse as an input device. This objective is only being met marginally. I suggest that this material be covered earlier in the class and then reviewed before testing is done.

**Objective 1c: The student will be able to distinguish the difference between data files and executable files.**

This objective was not measured. The chapter material mentioned in objective 1d (below) covers information on protecting digital data and devices. Using this chapter would be the opportunity for instructors to talk about and give examples of data files and executable files. Student would then be able to identify the file types based on their file extensions.

**Objective 1d: The student will identify ways to protect data and devices.**

**Example Question chosen to represent the objective taken from exam:**

Data contained in RAM can be lost when power to the computer is lost.

a. True  
b. False
68.36% of students were able to identify that RAM can be volatile. This question falls short in measuring if the student knows how to protect data and devices. I suggest that the material covered and tested be taken from Chapter 9 in the book the students use. These are some topics covered in that chapter: What can I do to protect my computer from viruses? What is a firewall, and how does it keep my computer safe from hackers? How do I create a secure password and manage all my passwords?

**Goal 2: Students will learn to use basic productivity software.**

**Objective 2a: The student will use a computer to complete course assignments.**

Every assignment in CPLA100 is done on the computer. I believe that the results show that this objective is being met.

**Objective 2b: The student will learn basic use of word processing software**

The average score for students on the Word portion of the exam was 94%. I believe that these results show that students are meeting the objective.

**Objective 2c: The student will effectively use presentation software.**

The average score for students on the PowerPoint portion of the exam was 96%. I believe that these results show that students are meeting the objective.

**Objective 2d: The student will effectively include graphics in a presentation or document.**

Activity chosen to represent the objective taken, from activity-based exam:

Activity 16.06, Inserting a Picture Using a Content Layout

97.43% of students were able to insert a picture into a presentation using content layout. I believe that these results show that students are meeting the objective.
Computer Literacy 2

The following objectives are evaluated using data from AY 10/11.

**Goal 1: Students will use a computer for basic data manipulation and analysis.**

**Objective 1a: The student will demonstrate an ability to organize data in a spreadsheet.**

*Question chosen to represent the objective taken from activity-based exam:*

Activity 11.10 Sorting and Filtering in an Excel Table.

96.98% of students were able to create a table, sort data in a field, and filter data in a field. These results indicate that this course objective is being met.

**Objective 1b: The student will demonstrate an ability to perform simple analysis on spreadsheet data.**

*Question chosen to represent the objective, taken from activity-based training (homework):*

Activity 10.14 Performing What-If Analysis and Using Paste Special

98.44% of students successfully performed what-if analysis. Students change cell values referenced in a formula to see what would happen with different values. These results indicate that this course objective is being met.

**Objective 1c: The student will create meaningful plots of data in a spreadsheet.**

*Example Question chosen to represent the objective, taken from activity-based exam:*

Activity 9.24: Creating a Pie Chart and a Chart Sheet

96.89% of students were able to create a pie chart and chart sheet. Students create a pie chart on a chart sheet. These results indicate that this course objective is being met.

**Objective 1d: Students will perform what-if analysis using a spreadsheet.**

*Question chosen to represent the objective, taken from activity-based training (homework):*

Activity 10.14 Performing What-If Analysis and Using Paste Special

98.44% of students successfully performed what-if analysis. Students change values in a cell to see the effect it has on the results of a formula or function. Students then copy the value computed by the
formula or function and paste it into another part of the worksheet, where it can be compared and charted. These results indicate that this course objective is being met.

**Goal 2: Students will explore uses of a computer for tasks beyond web browsing and the creation of office documents**

**Objective 2a: The student will use Boolean logic and wildcards for advanced searches.**

Questions chosen to represent the objective taken from activity based exam:

You have to write a paper on the topic of parking tickets among college students. Your instructor told you that another term for parking tickets is parking infraction. What would be the BEST search strategy to locate all articles on this topic?

a. (parking tickets and parking infractions) and college students
b. Parking tickets or parking infractions
c. (parking tickets or parking infractions) and college students
d. Parking tickets and college students

74.55% of students were able to identify item c as the best combination of Boolean operators to return all articles on a topic. I believe these results indicate that this course objective is being somewhat met. Instructors will give more examples of using Boolean logic and wildcards in searches.

Which search would give the FEWEST results?

a. (car OR truck) NOT boat
b. (car AND truck) AND boat
c. (car OR truck) or boat
d. (car OR truck) AND boat

74.65% of students were able to identify item b as returning the fewest results in a search. I believe these results indicate that this course objective is being somewhat met. Instructors will give more examples of using Boolean operators.

Which of the following are the three most common Boolean Operators?

a. AND, OR, NOT
b. IN, OR, OUT
c. NEXT, NOW, PREV
d. NOT, AND, NEAR
e. AND, BUT, NOT
97.94% of students were able to identify item a as the three most common Boolean operators. I believe these results indicate that this course objective is being met.

Which of the following are the two most common Wildcard Characters?

a.  ? and $

b.  & and *

c.  # and %

d.  * and ?

89.68% of students were able to identify item d as the two most common wildcard characters. I believe these results indicate that this course objective is being met.