Frederick Community College

Assessment of Student Learning

Computer Science and Information Technology

2rd Assessment Cycle 2012-2015

Assessment Plan

Background

Introduction to Computers and Information Processing provides students with an overview of hardware, software, networking, security, programming, and database technology concepts. The course is also designed to train students in the use of Microsoft Word, Excel, Access, and PowerPoint. This course is listed as an Interdisciplinary & Emerging Issues course in the General Education course list.

As a general education course, students are required to complete both a written and oral report. Students write a 750 word Wiki page that includes images, videos, tables, or charts, and appropriate referencing. The Wiki project includes three parts: writing the Wiki page, adding content to other students' Wiki pages, and creating a PowerPoint presentation which is used when giving the oral presentation.

During the course students are presented with many opportunities to develop critical thinking skills, and are exposed to a variety of technologies. The course includes many projects to help introduce concepts and applications, and encourage teamwork and critical thinking. Some examples include:

- Creating a web page
- Participating in discussion boards
- Classroom group discussions on privacy, copyright and security issues
- Team debates on computer ethics
- Learning Object Linking and Embedding

The core learning outcomes are designed to provide students with a comprehensive knowledge of computers and information processing, while encouraging teamwork and critical thinking. This course is under continuous review and changes are made each semester to improve the course. The outcomes assessment project will help determine if the students are achieving the learning outcomes and help guide the department when making changes in the future.

Methodology

The learning outcomes will be assessed through a pretest/posttest format. All students will complete a pretest during the first week of CIS101 Introduction to Computers and Information Processing. The pretest will include two parts. The first part includes multiple choice questions covering computer science and information technology concepts, and critical thinking questions. The second part of the pretest will assess student skills using Microsoft Word.

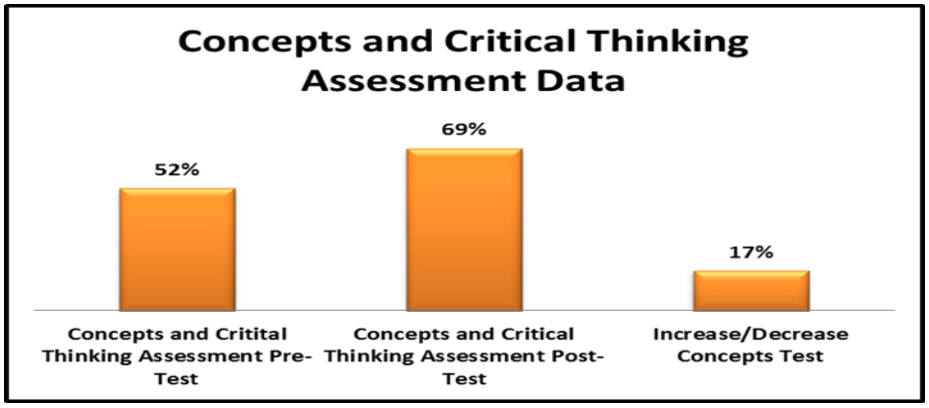
During the course, instructors will teach computer concepts and work with students to develop their critical thinking skills. Instructors will also demonstrate features of Microsoft Word, and students will be given the opportunity to practice the skills through in class exercises, MyITLab project based trainings, and homework assignments.

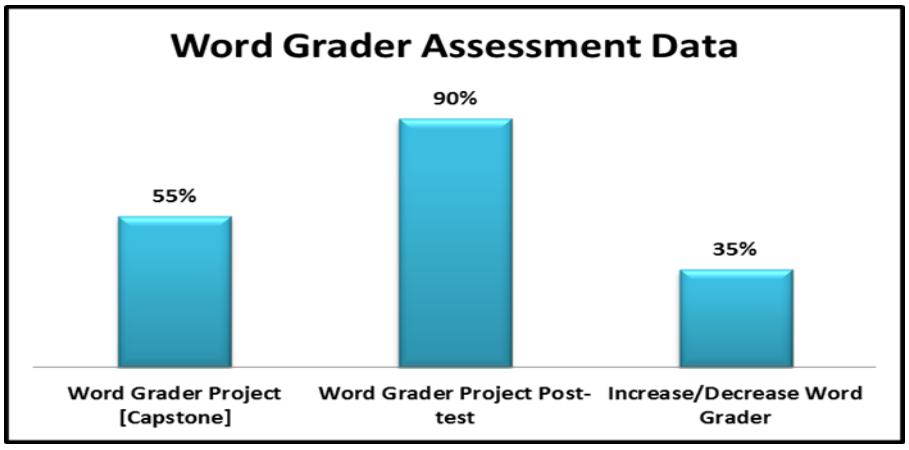
The post test will be administered to all CIS101 students during the last week of class. Students will complete a two part posttest which is identical to the pretest given during the first week of class. The pretest and posttest results will be compared to determine if students are achieving the learning outcomes for the course.

The pretest and posttest results will be forwarded to the college's Assessment Coordinator for evaluation. The CIS department will use the results to improve CIS101 student learning.

Analysis of Data

A standardized test and assignment were administered in Spring 2013 to all CIS 101 students as part of FCC's 3rd Outcomes Assessment Cycle. The assessment used a grader project that was designed to assess students' technological competency and a test on concepts that was designed to assess students' technological competence and critical thinking. Students were given the grader and concept tests at the beginning of the Spring 2013 semester. They then went through the semester receiving instruction from faculty. At the end of the semester students completed the same grader project and concepts test. The data was collected and pulled the MyITLab software and given to the Assessment Coordinator. The data was then compiled and analyzed using SPSS statistical analysis software. Only students who had complete records were included in the assessment. A total of **121 students** were assessed. The department will evaluate all data compiled for this report and determine the most effective strategies to help improve student learning.





Recommendations

- The following are points that the department should continue to consider as data is collected in the coming semesters:
    - Students without complete records were not included in the assessment data. A large number of students were removed from the assessment results because of missing data. This could be because instructors did not implement or understand the implementation of the assessment. Some sections did not have any assessment data. A meeting or discussion with faculty may need to be undertaken to improve assessment results in the coming semesters. This lack of complete records could affect changes in the average scores in the coming semesters.
    - The department should collect StudentID data as well as name so that assessment data can be merged with other institutional data (ex. grade data)
    - The department should consider providing the concepts and critical thinking test results as a breakdown of student responses for each question and how those questions correlate with critical thinking or technological competence as opposed to a total score.

Assessment Timeline

Semester	Assessment Objectives
Fall 2009	1. Design and present a plan to OAC. 2. Deploy initial **Pilot Assessment.** 3. Design, Research and Implement an effective assessment tool. 4. **Collect data**.
Spring 2010	1. Deploy **Pilot Assessment** if not completed in the fall. 2. **Analyze** initial Pilot Data. 3. Implement instructional and organizational strategies to improve the assessment project. 4. **Reassess** students and **collect data**.
Fall 2010	1. **Analyze** Pilot Data. 2. Develop strategies based on that data to help improve student learning. 3. **Begin 1st Assessment**. 4. **Collect data**.
Spring 2011	1. **Analyze** Assessment Data. 2. Develop strategies based on that data to help improve student learning. 3. **Reassess students**. 4. **Collect data**. 5. Present a **progress report** to the OAC.
Fall 2011	1. **Analyze** Assessment Data. 2. Develop final strategies based on lessons learned over the course of the assessment. 3. **Conduct Final Assessment.** 4. **Collect Data.**
Spring 2012	1. **Analyze** Data Collected over the course of the entire assessment. 2. **Prepare Final Assessment Report**.