



Frederick Community College
Assessment of Student Learning

CBT Department CIS101 Assessment

3rd Assessment Cycle 2012-2015

Final Report

General Education Competency

Critical Thinking
Technical Knowledge

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Background

Introduction to Computers and Information Processing (CIS101) 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, typically referred to as the Office Suite. 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 wrote a 750 word (4-5 page) Word document that includes images, tables, charts, and proper citations and proper referencing. The research project included several parts such as article section requiring critical thinking, an outline that required distilling copious amounts of information into an understandable format, the paper itself that required forming a cogent argument for their position and findings, and finally an 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 included many projects to help introduce concepts and applications while encouraging teamwork and critical thinking. Some examples include:

- * Creating a web page
- * Participating in discussion boards
- * Classroom group discussions on privacy, IP, 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 over the period of this documented assessment cycle; there have been three Course Coordinators that have made changes designed to improve the course. The outcomes assessment project has helped determine if the students are achieving the learning outcomes and help guide the department when making changes in the future.

Methodology

The learning outcomes were assessed through a pretest/post-test format. All students completed a pretest during the first week of CIS101 Introduction to Computers and Information Processing. The pretest consisted of multiple choice questions covering computer science related information technology concepts, and critical thinking questions.

During the course, instructors lectured computer concepts and worked with students to develop their critical thinking skills. Instructors also demonstrated features of Microsoft Word, Excel, PowerPoint and Access. Students were given the opportunity to practice the skills through in class exercises, MyITLab project based trainings, MyITLab Simulation based training, and homework assignments.

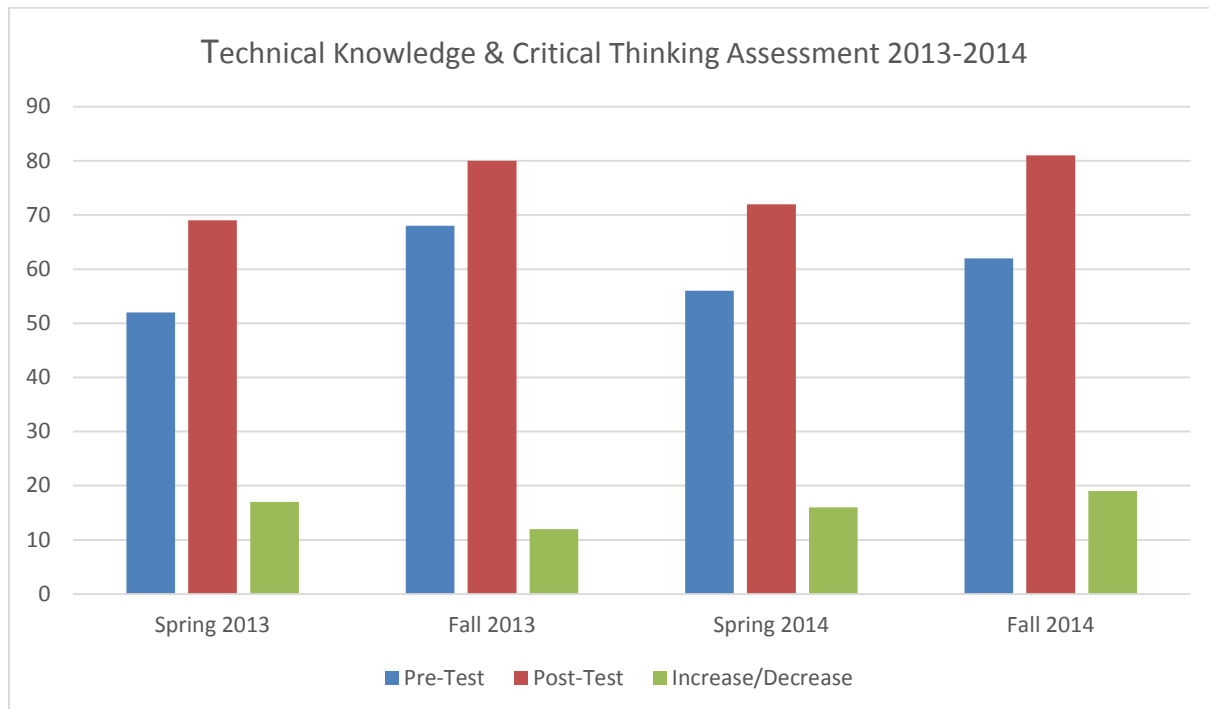
The Post Test was administered to all CIS101 students during the last week of class. Students were given a post-test that was identical to the pretest given during the first week of class. The pretest and posttest results were compared to determine if students achieved the learning outcomes required for the course.

The pretest and posttest results were forwarded to the college's Senior Researcher, Assessment and Institutional Effectiveness for evaluation. The CIS department will use the results to improve CIS101 student learning.

Analysis of Data

A standardized test was administered in Spring and Fall of 2013 under a different course coordinator than the Spring of 2014 course coordinator and a different course coordinator was used for the Fall of 2014. The pre- and post-test remained the same for Spring/Fall 2013 and Spring 2014, however slight adjustments were made for Fall 2014. All CIS 101 students were given the exam during the first week of each semester. The assessment used a multiple choice test that was designed to assess students' technological competency, understanding of concepts and critical thinking. After the Spring of 2013 session, only the Multiple Choice Pre- and Post- test was used for this assessment.

The data was collected via Blackboard LMS and given to the Senior Researcher, Assessment and Institutional Effectiveness. The data was then compiled. A total of 582 students were assessed across 4 semesters. 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:

- Continued evolution of the course to bring it up to date and to remove topics that are aging or should be regarded as historical instead of current.
- The department should construct discussion boards for all sections that engage the student in critical thinking such that it relates their daily lives with what is taught in the classroom.
- Pre-testing allows the instructor to gauge the level of technical competency at the beginning of the semester, however the pre-test in its current form is aged and in future assessment periods will need updating.

Further Research

The department has chosen to continue its research and assessment in another departmental section, Business. Research will continue in CIS101 however.

Additional research for the CIS101 section will focus on quantifying the new discussion boards that are designed to engage the student in critical thinking by combining the topics presented in the book, discussed in the class, and their daily lives.