



Science Department

3rd Assessment Cycle 2012-2015

Assessment Plan

General Education Competency

BI120 Microbiology for Allied Health

Prepared By

Gengshi Lu

11-28-2012

Background

BI120 (Microbiology for Allied Health) course will be assessed as part of the college's third assessment cycle. Since BI120 is a prerequisite course for the Nursing program, it has a high enrollment rate. BI120 has enrollments of around 90-100 students each semester. Further, the students cannot take BI120 more than twice before they apply to the Nursing program. Therefore, the students have to do quite well on the BI120 course. With this information in mind, the department has decided it is necessary and critical to use the BI120 course to assess students' learning achievement.

The department will assess the students' Critical Thinking and Scientific Reasoning skills during the assessment. These two competencies are the main Course Learning Outcomes for the assessment project, along with the General Education Learning goals. A few main CLO's of BI120 will be assessed:

- "Identify microorganisms through structural, physical and metabolic characteristics."
- "Apply microbial virulence factors to the transmission of disease and the microbe's ability to disturb homeostasis in humans."

All these require the students to have critical thinking and scientific reasoning skills, in order to fulfill CLO of BI120 course.

Since Bacteria are too small to be seen by the naked eye, the students in general have difficulty learning the abstract subjects of the course. For this project, we will implement video clips using new technologies in an effort to improve student learning. Students will be able to watch the videos which cover specific course materials which will be assessed. This will help them follow the complex process and understand the concepts more easily. This technology will also appeal to the interests of students in this generation. These video clips can be accessed via iPhone, Smartphone, iPad and other devices so the students can watch them whenever it is convenient for them. Today's students are more proactive and engaged in learning when electronic devices are used. This assessment project aims to use videos to enhance lectures on a variety of topics which can greatly increase the number of ways students learn. This in the end can dramatically improve the students' critical thinking and scientific reasoning skills.

Methodology

During this assessment process, the department will attempt to collect data from all students enrolled in the BI120 class. This will account for around 100 students who will be assessed. Because of the high enrollments of the course, this will give the college the ability to generalize the results of this assessment to the college as a whole.

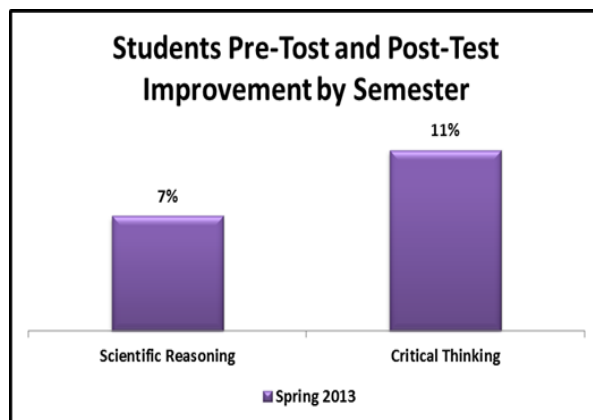
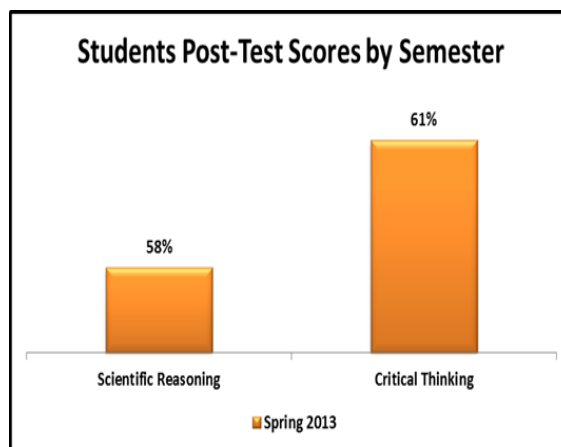
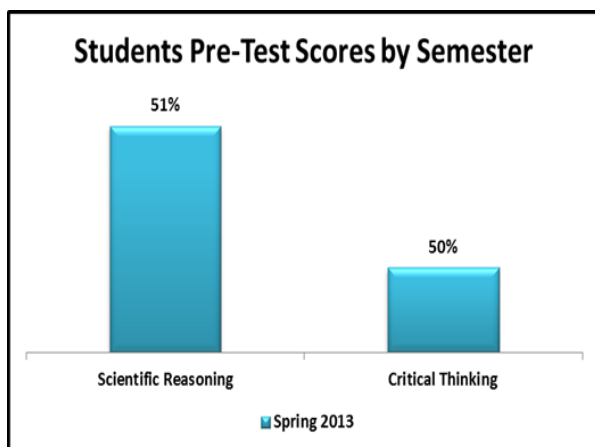
The OAC member will design 100 question exam (5 questions for each chapter) before the spring semester. Once the semester has started, the students will take the initial exam (pre-test) before the videos are implemented (treatment). After the students have completed the pre-test, students will have access to the videos and will be able to watch them as many times as they would like before the post-test. At the end of the semester, the students will take the same 100 questions test (post-test).

After all the tests have been collected, the data will be collected and sent to the Assessment Coordinator who will process the data. The Assessment Coordinator will create a report and send it back to the OAC member from the department. The OAC member will review the results and consider any changes that may need to be made to instruction or the assessment process in general. If these concerns arise, test questions, videos, and other changes will be made later.

As of now, the OAC member is designing the 100 question exam. It should be finished by the end of December 2012. The OAC representative is also currently working with the publisher to determine the best way to implement the video tutorials. At this point, the department is unsure as to whether and how they will be able to integrate them into the Blackboard supplemental learning websites. These issues will be solved as part of the methodology before the implementation of the pilot assessment in Fall 2012.

Analysis of Data

In the Spring 2013, the Science Department worked with the Assessment Coordinator to develop a process for data collection and analysis. At the end of the semester, the science outcomes assessment council representative collected all scantron exams from faculty who taught BI120 courses. Once the exams were collected, they were shared with the assessment coordinator who input the data and completed an analysis. The results of the pilot analysis are listed below.



Recommendations

In the future semesters, the following recommendations are made to improve the assessment process:

1. The science department outcomes assessment council member will work with faculty across the department to guarantee full involvement in the coming semesters.
2. The pre-test will be given at the beginning of the semester to guarantee that students do not have any previous knowledge before taking the exam.
3. A question will be added to the exam that will not be scored that will ask students if they used the tutorial videos in the course. This will allow the outcomes assessment member and the department to see if the treatment really is affecting student learning.

Assessment Timeline

<u>Semester</u>	<u>Assessment Objectives</u>
Fall 2012	<ol style="list-style-type: none"> 1. Design and present a plan to OAC. 2. Deploy initial <u>Pilot Assessment</u>. 3. Design, Research and Implement an effective assessment tool. 4. <u>Collect data</u>.
Spring 2013 (PRR Status Report is due April 1, 2013)	<ol style="list-style-type: none"> 1. Deploy <u>Pilot Assessment</u> if not completed in the fall. 2. <u>Analyze</u> initial Pilot Data. 3. Implement instructional and organizational strategies to improve the assessment project. 4. <u>Reassess</u> students and <u>collect data</u>.
Fall 2013	<ol style="list-style-type: none"> 1. <u>Analyze</u> Pilot Data. 2. Develop strategies based on that data to help improve student learning. 3. <u>Begin 1st Assessment</u>. 4. <u>Collect data</u>.
Spring 2014	<ol style="list-style-type: none"> 1. <u>Analyze</u> Assessment Data. 2. Develop strategies based on that data to help improve student learning. 3. <u>Reassess students</u>. 4. <u>Collect data</u>. 5. Present a <u>progress report</u> to the OAC.
Fall 2014 (Self-Study Begins)	<ol style="list-style-type: none"> 1. <u>Analyze</u> Assessment Data. 2. Develop final strategies based on lessons learned over the course of the assessment. 3. <u>Conduct Final Assessment</u>. 4. <u>Collect Data</u>.
Spring 2015	<ol style="list-style-type: none"> 1. <u>Analyze</u> Data Collected over the course of the entire assessment. 2. <u>Prepare Final Assessment Report</u>.