Biology Department College-Wide Assessment – Critical Thinking - 2014

In 2011, Salt Lake Community College adopted a plan for assessing our College-wide Learning Outcomes (CWLO) and General Education Learning Outcomes.   This plan can be reviewed at the following link.

https://www.slcc.edu/assessment/overview.aspx

The CWLO's include
1. Acquire substantive knowledge in their intended major.
2. Communicate effectively.
3. Develop quantitative literacies necessary for their chosen field of study
4. Think critically and creatively.
5. Develop the knowledge and skills to be a community engaged learner and scholar.
6. Develop the knowledge and skills to work with others in a professional and constructive manner.
7. Develop computer and information literacy

Beginning in 2014, Departments developed specific activities and rubrics to assess whether or not students think critically and creatively. The Biology Department selected an assignment that was and is part of the BIOL1090 (Human Biology) course requirements. The assignment requires that students read a controversial issue of political, social or economic concern. The article they read provides students the opposing sides to an issue. The issue is phrased as a yes/no question. Which answer – yes or no – is the correct answer? Perhaps neither. Perhaps both. It is up to the student to determine which side is presenting opinions vs. facts and ultimately their own opinion about the controversial issue. The intent of the below rubric is to measure established criteria that assesses whether or not students are thinking critically and creatively.

Also shown below are the results for the Spring Semester 2014. A total of 443 students completed the assignment and were subsequently scored using the rubric. Seventy-five percent or more of the students that completed this assignment met or exceeded expectations in all criterions used to assess whether or not they were able to think critically. That is, the majority of students scored at least a 2 or 3 in each category. The area in that students tended to score the lowest was in inference. The area in which students scored the highest was demonstrating the ability to interpret what they were reading.

Scoring Rubric for BIOL1090 Critical Thinking Assignment

Criteria	1 (Unacceptable)	2 (Below expectations)	3 (Meets Expectations)	4 (Exceeds Expectations)
Interpretation	Student does not comprehend the important elements of the articles.	Student shows minimal comprehension of the elements of the articles.	Student comprehends the elements of the articles.	Student shows exceptional understanding of the elements of the articles.
Analysis	Student shows no understanding of which statements in an article are opinions and which are facts.	Student shows minimal understanding of the difference between opinions and facts in an article.	Student understands the difference between opinions and facts in an article.	Student shows an excellent ability to separate opinion from fact in an article.
Evaluation	Student shows no ability to identify important facts in an article.	Student shows minimal ability to identify important facts in an article.	Student can properly identify facts in an article.	Student shows an excellent ability to identify important facts in an article.
Inference	Student is unable to identify potential sources of bias in an article.	Student shows minimal ability to identify potential sources of bias in an article.	Student can properly identify potential sources of bias in an article.	Student shows an excellent ability to identify potential sources of bias in an article.
Metacognition	Student cannot properly reflect on their own views of the subject of an article.	Student shows minimal ability to properly reflect on their own views of the subject.	Student can properly reflect on their own views of the subject.	Student shows exceptional ability to reflect on their own views of the subject.

2014 - Biology Department Critical Thinking Assessment Results

SLCC CWLO Assessment Category	Interpretation	Analysis	Evaluation	Inference	Metacognition
4	200 (45.2%)	180 (40.2%)	193 (43.6%)	172 (39.0%)	202 (45.6%)
3	167 (37.7%)	168 (37.9%)	161 (36.3%)	158 (35.9%)	141 (31.8%)
2	52 (11.7%)	67 (15.2%)	62 (14.0%)	67 (15.1%)	76 (17.2%)
1	24 (5.4%)	28 (6.3%)	27 (6.1%)	44 (10.0%)	24 (5.4%)
Total	443	443	443	443	443