Learning Outcomes Assessment - Critical Thinking

Assessment: ID: 194

Assessment Type: General Learning Outcome **Year/Term:** 2010 / 2

Name: Rinehart, John **Email:** jrinehar@eou.edu

Program: Biology

Prefix / Course Number: BIOL / 101

High Impact Practice (HIP):

☐ First Year Experience

☐ Leadership Training

☐ University Writing Requirement

☐ Undergraduate Research

☐ Service Learning / Community-Based Learning

☐ Performance

☐ Capstone Project

☐ Learning Community

☐ Co-Curriculum

☐ Collaborative Assignments and Projects

☐ Diversity / Global Learning

☐ Internship / Practicum / Field Work

☐ Portfolio

Learning Outcome: Critical Thinking

Assessment Method/Tool: Rubric

Measurement Scale: 1 - 3

Sample Size: 18

	Developing (# of students)		Adequate (# of students)		Proficient (# of students)	
	#	%	#	%	#	%
1. Identifies and explains issues	3	16.7%	0	0.0%	15	83.3%
2. Recognizes contexts and assumptions	3	16.7%	4	22.2%	11	61.1%
3. Acknowledges multiple perspectives	0	0.0%	0	0.0%	18	100.0%
4. Evaluates evidence to reach conclusions	3	16.7%	4	22.2%	11	61.1%
Averages: (based on __18__ student sample size)	2.3	12.5%	2	11.1%	13.8	76.4%

Benchmark: 85% Institutional benchmark goal for percent of students to meet "Adequate" or "Proficient" levels

(This institutional benchmark does not take into account the level of the course and the preparedness of the students in the sample. Results will help the institution understand the learning needs of participating students.)

Percent Achieving Benchmark 87.5% Actual percent of students meeting "Adequate" or "Proficient" levels

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Question / Prompt / Assignment:
(used for the assessment)

Multiple questions. 1. Think of as many of the characteristics of life as you can in 1 minute. 2. Are adult mayflies, which never eat, and neutered dogs, which cannot reproduce, still considered alive? Why/why not? 3. Write down the levels of organization of biological systems. 4. List all the things a potted plant is doing. 5. Now imagine we grind up the plant---which of life's basic charactgeristics can the plant still do? 6. You have just independently arrived at the concept of emergent protperties (etc.---some descriptive stuff). List three emergent properties of the plant. 7. What are the steps in the scientific method?

Commentary / Explanation:
(provide context within the course/activity for the question/prompt/assignment)

The assignment expands upon and allows practice with basic concepts presented in the first chapter of the text---scientific method, the properties of living systems.

Data Analysis: What do these results mean?
(what do the results indicate regarding student proficiency in the outcome assessed)

Frankly, I think they mean very little. The sample size is insufficient for a statistically valid analysis using parametric statistics, and since it was the very first assignment that students did in the class, many of whom are fresh out of high school or haven't been in school in years, I'm quite surprised that they did as well as they did.

Closing the Loop:

How will you use the results to improve student learning?

How do these results relate to University, Program, and General Education Learning Outcomes?)

If anything, these results show that the students came in with at least an intuitive sense of some of the basic concepts in biology, which is good. However, it is explicitly stated in the instructions for this work that performance above the standard of 85% do not justify inaction. Therefore, I guess I'll have to come up with some way to make the assignment "better", though I think having students do better than the 85% on the very first assignment they did in the class suggests the assignment is appropriate.

Student Samples (optional):
(web links to posted, online files)

NOTE: Student names cannot be used on the samples.

Developing Example (web address)

Adequate Example (web address)

Proficient Example (web address)

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High Impact Practice (HIP):

- ☐ First Year Experience
- ☐ Leadership Training
- ☐ University Writing Requirement
- ☐ Undergraduate Research
- ☐ Service Learning / Community-Based Learning
- ☐ Performance
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- ☐ Portfolio

Learning Outcome: Critical Thinking

Assessment Method/Tool: Rubric

Measurement Scale: 1 - 3

Sample Size: 15

	Developing (# of students)		Adequate (# of students)		Proficient (# of students)	
	#	%	#	%	#	%
1. Identifies and explains issues	2	13.3%	8	53.3%	5	33.3%
2. Recognizes contexts and assumptions	2	13.3%	8	53.3%	5	33.3%
3. Acknowledges multiple perspectives	0	0.0%	10	66.7%	5	33.3%
4. Evaluates evidence to reach conclusions	3	20.0%	7	46.7%	5	33.3%
Averages: (based on __15__ student sample size)	1.8	11.7%	8.3	55.0%	5	33.3%

Benchmark: 85% Institutional benchmark goal for percent of students to meet "Adequate" or "Proficient" levels

(This institutional benchmark does not take into account the level of the course and the preparedness of the students in the sample. Results will help the institution understand the learning needs of participating students.)

Percent Achieving Benchmark 88.3% Actual percent of students meeting "Adequate" or "Proficient" levels

Question / Prompt / Assignment:
(used for the assessment)

Commentary / Explanation:
(provide context within the
course/activity for the
question/prompt/assignment)

Data Analysis: What do these results
mean?
(what do the results indicate
regarding student proficiency in the
outcome assessed)

Closing the Loop:

How will you use the results to
improve student learning?

How do these results relate to
University, Program, and General
Education Learning Outcomes?)

Student Samples (optional):
(web links to posted, online files)

NOTE: Student names cannot be used
on the samples.

Developing Example (web address)

Adequate Example (web address)

Proficient Example (web address)