

COURSE and PROGRAM SLO ASSESSMENT REPORT, SCC

Department: Biology Course: Biology 212 Animal Diversity & Ecology

Year: 2013 Semester: Spring

1) Outcome to be assessed	2) Means of assessment and criteria of success	3) Summary of data collected	4) Analysis of data	5) Plan of action/what to do next
<p>Conduct laboratory investigations based on the scientific method procedure, collect and analyze resulting experimental data, and formulate valid conclusions based on the results.</p>	<p>A lab experiment comparing the species diversity of barn owl prey found in the Northwest versus Southeast regions of the U.S. was conducted. Using the basic steps of the scientific method, students wrote a question reflecting the species diversity of barn owl prey in these two areas, a hypothesis which tentatively answered the question, and a prediction as to the outcome of the experiment which would test their hypothesis. After conducting the experiment, a conclusion accurately reflecting the results was to be written indicating whether the hypothesis was supported. It is expected that 25% of the student reports would contain a valid question, hypothesis, prediction, and conclusion based on the experiment. 40% would have one part of the exercise that was not an accurately reflection of the experiment, and the remaining 35% would have more than one aspect of their report that was not valid.</p>	<p>24 students responses: 6 (25%) were correct in all parts, 10 (42%) were correct in 3 of 4 parts, 6 (25%) were correct in 2 of 4 parts, and 2 (8%) were correct in 1 of 4 parts. Question: 17 correct responses (71%) 3 did not state the question 4 questions did not reflect the study but considered prey size, prey numbers, or predation rate. Hypothesis: 11 correct responses (46%) 8 were incomplete restating the question 5 did not reflect the premise of the experiment Prediction: 16 correct responses (67%) 7 did not reference the hypothesis 1 was actually the hypothesis Conclusion: 24 correct responses (100%) 8 responses did not justify their conclusion</p>	<p>It was expected that 25% of the student reports would contain a valid question, hypothesis, prediction, and conclusion while 40% would contain one inaccuracy and 35% would contain more than one inaccuracy. The results fall within the expected range. However when looking at the individual components of the exercise it became obvious that students had the greatest degree of difficulty with recognizing and expressing a valid hypothesis.</p>	<p>This SLO was expanded upon relative to its previous assessment to include formulating a valid question. The expectations were also modified to include this additional component. A greater emphasis needs to be made regarding the role of a hypothesis in the scientific method. Due to the small sample size, more data needs to be collected to be able to make a valid assessment.</p>

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