

Learning to Teach and Assess Problem Solving in Animal Sciences

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Animal Science BS Program

8 instructional faculty, with 3.4 FTE

Number of students in Fall 2022: 165

Number of graduates last year (SUM 21 to SPR 22): 29

Introduction

Problem-solving is defined by the AAC&U as the process of designing, evaluating, and implementing a strategy to answer an open-ended question or achieve a desired goal. The current methods used to assess student learning outcomes in the ANSC BS program include internship supervisor evaluations and course-related assignments or examinations. The goals for this project were to:

1. Understand how the ANSC BS SLO #6 **“Developing Problem Solving Skills for Lifetime Learning”** is addressed in the current curriculum
2. Develop and implement an assessment strategy for “problem solving”
3. Develop assignments that can be used to teach and assess problem solving

Examination of Current Curriculum

Obtained syllabi for the 22 courses regularly taught
Current curriculum map:

- 2 introduced Problem Solving, 13 reinforced, 3 developed mastery

Six course syllabi explicitly described ANSC SLO #6

13 courses described activities relating to problem solving

Assessment Results of Problem Solving

- Supervisor evaluations (ANSC 492 field experience) mean Likert scale (1-5) for last 5 years = 3.4
- All ranked areas, mean = 3.65

Examples of Problem-Solving Activities Used

- Development of problem statements and logic model
- Case studies (individual and group work)
- Development of animal management plans'
- Incorporation of skills into practicum exams and preparatory activities

New Assignments/Activities

- Utilizing the problem-oriented medical record approach in case studies
- Guided assignments leading to solving problems
- Stacked assignments to build skills and develop awareness

ANSC 453 (Animal Diseases) students were asked how confident were they in their ability to diagnose a condition in an animal (26 responses)

- Confident: 1
 - Somewhat, but I don't know enough about diagnostic tests: 16
 - Somewhat, but I don't know enough about diseases: 21
 - Somewhat, but I don't know enough about the problem-solving process: 10
- Reassessment is planned at the end of this semester along with reflective writing assignment about the process

Action Plans/Next Steps

- Work with faculty to develop activities, assignments, or modules to teach problem solving
- Update course syllabi to describe SLOs and corresponding development and assessment activities
- Continue to develop and incorporate rubrics into student assessments