Assessing scientific literacy across the Animal and Veterinary Science curriculum

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Assessing at **different points in the curriculum** ensures a successful skill development pathway for students.

Are students demonstrating scientific literacy skills at appropriate stages of development across the AVS curriculum?

BACKGROUND

Animal science graduates must utilize scientific knowledge to make management decisions that improve the lives of animals in their care.

SLO new to curriculum in 2019: “Interpret and critically evaluate scientific information as it applies to the field of Animal Science.”

Scientific literacy is a *process skill* that requires scaffolding and practice to develop.

Establish assessment methods that allow objective quantification of skill development occurring across the curriculum

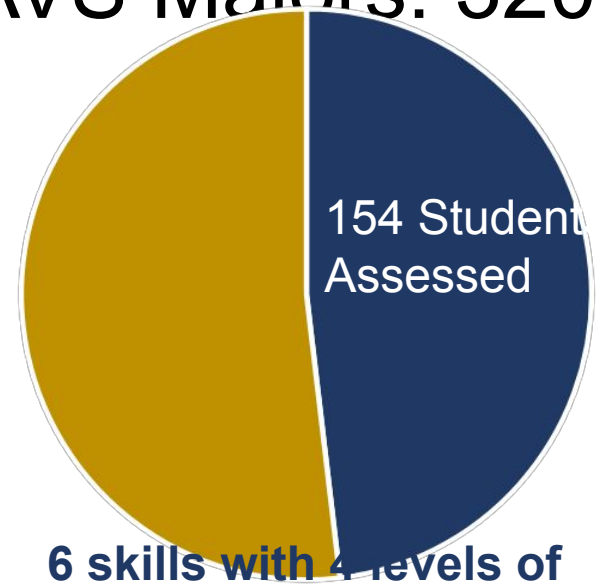
APPROACH

1. Create an assessment tool that identifies the skills required by AVS graduates and captures the process students must take to develop these skills, such that each level of achievement reflects a measurable skill. Rubric based on published literature and ATL consultation.
2. Match existing assignments from courses across the curriculum to levels of achievement (1-3 skills per assignment) appropriate for that stage of development. Set specific indicators within the assignments for each level of achievement.
3. Create assignments in AVS 101 that ensures all students can establish benchmark level skills early in the curriculum.

Assessing across the curriculum will identify strengths and weaknesses in the skill development pathway

DATA

AVS Majors: 320



6 skills with 4 levels of achievement consistent with Bloom's Taxonomy: Benchmark, Milestone #1 and #2, Capstone

Course	# Students (Semesters)	Skills Assessed and expected levels of achievement (Benchmark, Milestone 1 and 2, Capstone)
AVS 101 Introduction to Animal Science	87 (1)	1. Use of Scientific Knowledge (B or M1) 2. Accessing Scientific Knowledge (B or M1) 5. Communicating Scientific Knowledge (B) 6. Analyzing Applications to Animal Care and Management (M1)
AVS 343 Behavior of Domestic Animals	85 (2)	1. Use of Scientific Knowledge (M2) 2. Accessing Scientific Knowledge (M2) 3. Interpreting Scientific Knowledge (M2)
AVS 327 Zoo Animal Management	63 (2)	6. Analyzing Applications to Animal Care and Management (C)
AVS 443 Applied Animal Behavior	44 (3)	4. Practical Construction of Scientific Knowledge (C) 5. Communicating Scientific Knowledge (C)

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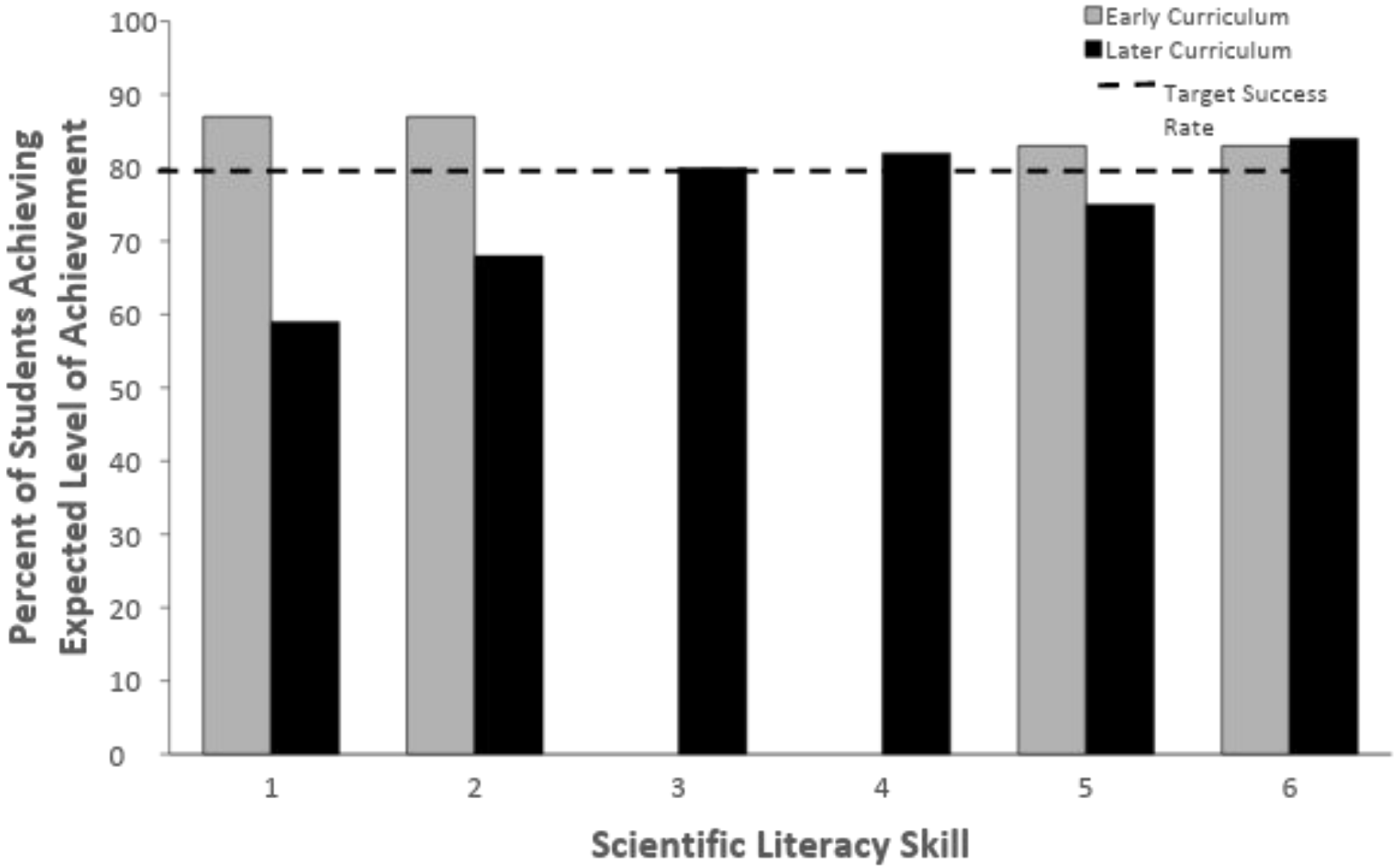
RESULTS

686 rubric assessments across the 6 skills

All 4 skills assessed early in the curriculum and 3/6 skills assessed later in the curriculum met the target success rate (80% of students demonstrating skills at the expected level of achievement)

Interobserver Agreement: 85% across a sample of 100 rubric assessments



Future assessments will emphasize closing data gaps in the developmental pathway and ensuring all students in the major can reach at least Milestone #2, with opportunities to reach highest levels of achievement with upper-level electives.

DISCUSSION

Early curriculum assignments broadly successful in providing foundational skills

Students in upper-level courses did not receive this training when they took AVS 101, such that later curriculum achievement did not meet our goals for all SLOs

We expect that students who do receive this training will achieve greater success and expectations later in the curriculum can be raised over time

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THANK YOU