BIOLOGICAL SCIENCES

College of Natural Sciences & Mathematics
UNIVERSITY OF DENVER

Background

- The Biology Department has never had formal teaching assessments other than student evaluations. Given how problematic student evaluations are known to be, many in our department have longed for other means to assess teaching practices. We joined the DAT to build a foundation for formal teaching assessments in Biology – with a focus on self assessment.

- The DAT offered us an ideal opportunity to create new tools for assessing teaching in our department.

Next Steps

- We have created a rubric for faculty to peer- and self-assess their teaching practices

- Rubric covers
  - Learning Objectives
  - Teaching Practices
  - Class Climate
  - Reflection and Iterative Growth
  - Student Interactions and Teaching Outside of the Classroom
  - Involvement in Teaching Service, Scholarship, or Community

- This fall quarter, we will present our rubric to the biology faculty, and it will be given a trial run as part of the NSM teaching group peer-teaching review development grant.

- Our goal is to have it fully implemented by Fall 2024 and that faculty can use it as part of their annual reviews for the 2024-25 academic year.

Acknowledgements

We would like to thank Virginia Pitts for all of her help guiding us and Joe Angleson for supporting the Biology DAT.

Three Voices
Effective Teaching Benchmarks

Effective Teaching Goals		Developing	Proficient	Expert
Learning Objectives	What are students expected to learn? Are learning objectives appropriate?	Learning objectives are not articulated or need to be clarified.	Learning objectives are articulated, appropriate, and aligned to the curriculum.	Learning objectives are well-articulated, high-quality, relevant to all students, and clearly connected to the curriculum.
	Is content aligned with the curriculum?	Content and materials are still in development; topics are not current, overly broad or narrow.	Content and materials are appropriate for course level, subject and curriculum; topics are current and have an appropriate range.	Content and materials are challenging and innovative, related to current issues or developments in the field. Topics are well-integrated and appropriate in depth and range.
	Does content represent diverse perspectives?	Content and materials do not consider diverse perspectives.	Content and materials include diverse perspectives.	Content and materials reflect diverse perspectives and promote critical reflection on these diverse perspectives.
Teaching practices	How is in-class and out-of-class time used?	Courses are not sufficiently planned or organized.	Courses are well-planned and organized; topics are well-integrated.	Course components (e.g. learning objectives, assignments, assessments) are aligned and reflect a commitment to lasting learning.
	Are students engaged in the learning process?	Standard course practices; follows conventions of discipline and institution.	Instructor uses diverse, effective, and inclusive strategies to support learning in all students.	Instructor adapts evidence-based strategies in response to class needs and in collaboration with students.
	What learning activities are implemented to help students learn?	Students lack opportunities to practice critical skills embedded in course goals.	Students have some opportunities to practice skills embedded in course goals.	In- and out-of-class activities provide opportunities for practice and feedback on important skills and concepts.
	What assignments and assessments are implemented to help students learn?	Assignments and assessments are not appropriately challenging or have not been aligned with course goals.	Assignments and assessments are appropriately challenging and aligned with course goals.	Assignments and assessments are varied and allow students to demonstrate knowledge through multiple modalities.

Effective Teaching Goals		Developing	Proficient	Expert
Class climate	What sort of climate for learning does the instructor create?	Class climate does not sufficiently promote respect or sense of belonging among all students.	Class climate is inclusive and promotes respect and sense of belonging among all students.	Class climate is respectful, open, and inclusive to all; promotes both student-student and student-instructor dialogue; instructor models inclusive language, behavior, and course policies.
	Does class climate encourage student learning?	Class climate does not intentionally encourage student motivation or self-efficacy; student engagement is generally low.	Class climate encourages student motivation and consistent student engagement.	Climate fosters motivation, self-efficacy, ownership of learning, and students show high levels of engagement.
	What are students' views of their learning experience and how has this informed teaching?	Instructor does not intentionally invest in facilitating student success.	Instructor demonstrates an investment in facilitating student success (e.g. welcoming language, accessibility).	Instructor facilitates an environment where students collaborate to create a successful class climate.
Reflection and iterative growth	What impact do courses have on learners?	Attempts assessment of student learning.	Conducts regular assessments of student learning and experience.	Conducts evidence-based assessment of student learning and experience; seeks to assess lasting learning and transformative experiences.
	How has the instructor's teaching changed over time? How has this been informed by student learning evidence?	Little or no indication of having reflected upon or learned from prior teaching, evidence of impact on learners or peer or student feedback.	Articulates some lessons learned or changes informed by prior teaching, impact on learners, or feedback.	Iteratively adjusts teaching based on reflection on impact on learners. Reports improved student achievement of learning goals and/or improved equity in outcomes based on past course modifications.
	Are there efforts to make achievement equitable?	Evidence of inequities in learning without clear attempts to improve.	Efforts to support learning in all students by examining possible inequities in performance across groups and making adjustments.	Incorporates student perspective in assessment and conducts analysis of assessment data and makes adjustments to address inequalities.

Self Voice

- Faculty will use these benchmarks to reflect on their teaching and these prompts will help faculty describe their current teaching practices and and plans for growth in evaluations.
- We provide a list of evidence that faculty can use to support their self-reflective teaching evaluations.

Peer Voice

- We are collaborating with the NSM Teaching Group to develop peer evaluation templates and teaching circles. These evaluations will incorporate the Effective Teaching Benchmarks outlined above.

Student Voice

- We proposed using Student Assessment of their Learning Goals (SALG) twice per quarter – a free course-evaluation tool that has been validated as a reliable approach to ask students to report on their own learning (Seymour et al. 2000).

Lessons Learned

- We learned it is possible to devise a simple, yet effective rubric for teaching evaluations.

- We had thoughtful discussions about teaching practices in Biology that will generate new ideas.

- One take away message is that there is general support for increasing teaching effectiveness in Biology.

Team Members

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Literature Cited

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Follmer Greenhoot, A., Ward, D., Bernstein, D., Patterson, M. M., & Colyott, K. (2020). Benchmarks for Teaching Effectiveness. (Revised 2020).