How One Graduate Teaching Assistant Restructured a Course on Teaching Undergraduate Research

Joseph Starr
University of Iowa

Lori Adams
University of Iowa

Keywords: GTA development, Ungrading, Gradual release, backward design

Expectations that undergraduate students have engaged in research activities before applying to graduate school are becoming more common. Notably lacking from these expectations is the training of those undergraduate students' instructional and communication skills. The development of these skills is critical for producing a well-rounded undergraduate student who will be a successful graduate student. The Iowa Sciences Academy is part of The University of Iowa, our mission is to support the success of undergraduate students interested in research and scientific communication. In furtherance of that mission the course t*eaching your undergraduate research* has been on offer for around five years and is based on the prior work of Hoffmann and Lenoch (Hoffmann & Lenoch, 2013). The course's established goal is to provide experience in instructional design and implementation to undergraduates whose intention is to continue to graduate school. This poster describes a course redesign which focused on implementing a gradual release of responsibility model (Fisher & Frey, 2013) with ungrading assessments (Stommel, 2023) and was carried out by a Graduate Teaching Assistant (GTA).

For the redesign, the following goals were established:

1. Students can engage in teaching as a structured activity.
2. Students are confident to go rogue in their own learning.
3. Students acknowledge that failure breeds success.

Using qualitative methods, we gathered evidence for how the undergraduate students in one course section (n=7) met these three goals. Course discussions and presentations, student created artifacts, regular instructor touchpoints, and peer feedback from multiple teaching sessions all provided rich examples of students working toward these goals. Our preliminary analysis provides an overview of the ways undergraduate students met these three goals. Goal one was met in the creation of a teaching portfolio documenting student, most students selecting the instructor modeled backward design paradigm (Wiggins & McTighe, 2008). Student feedback during touchpoints indicates an increase apperception for the intricacies of instruction as well as increased confidence in students' self-identification as an instructor. Goal two seemed to be more challenging for all the students possibly because their previous success in school was contingent upon their following the rules, where going rogue was likely to have negative effects to their grades. Goal three is seen in the students own retrospective analysis. Students acknowledge failures in their teaching and improvement strategies for their materials. Ungrading, moving assessment from a rubric evaluating teaching to the conversations on the act of preparation seems to have allowed for students to decouple the failure of an aspect of their preparation from the students' failure in the course.

Overall, the gradual release and ungrading models were successful for this small group of undergraduates. Extending these ideas to other course sections would provide additional broader data that would help us disaggregate data across several subgroups of students. We will continue using these instructional strategies and look for others that will help support our three goals.

References

Fisher, D., & Frey, N. (2013). Better Learning Through Structured Teaching: A Framework for the Gradual Release of Responsibility. ASCD.

Hoffmann, D., & Lenoch, S. (2013). Teaching Your Research: A Workshop to Teach Curriculum Design to Graduate Students and Post-doctoral Fellows. Medical Science Educator, 23(3), 336–345.

Stommel, J. (2023). Undoing the Grade: Why We Grade, and How to Stop. Hybrid Pedagogy Inc.

Wiggins, G., & McTighe, J. (2008). Understanding by Design. Association for Supervision and Curriculum Development.