Dalhousie Conference on University Teaching and Learning 2024 Proposal Submission Form

** Please note there is a limit of two sessions per presenter.

1. Proposal title
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   Assignment Ungrading as a License to Learn: Implementing Specifications Grading in the Undergraduate Web Development Classroom

2. Session format
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   - ( ) Interactive workshop (in-person) 50 minutes
   - ( ) Interactive workshop (in-person) 1 hour and 20 minutes
   - ( ) Interactive workshop (online – breakout groups not available) 50 minutes
   - (•) Shared practices session (in-person or online) 25 minutes
   - ( ) Research presentation session (in-person or online) 25 minutes
   - ( ) Place-based/land-based (in-person) 50 minutes

- ( ) Place-based/land-based (in-person) 1 hour and 20 minutes
- ( ) Quick shares – 10 minutes (online) 4 sessions per 50 minutes

3. Please indicate **(for shared practices and research presentation sessions only)** whether you are willing to present: *

- (•) In-person only
- ( ) Online only
- ( ) Open to either in-person or online

4. Does your session include students as presenters

- ( ) Yes
- (•) No

5. Title, first name, and last name *

Dr. Raghav V. Sampangi

6. Pronouns

he/him

7. Email *

raghav@cs.dal.ca

8. Academic unit/ department/ office/ division *

Faculty of Computer Science

9. Institution *

Dalhousie University

10. I intend on presenting *

- [x] Yes
- [ ] No

11. How many co-authors are there included on this submission? The co-author may be also be a presenting author. *

The above details are required for each co-author.

2

12. Co-author details

Title, first name, and last name, pronouns, email, academic unit/department/office/division, institution

Dr. Eric Poitras (he/him), Faculty of Computer Science, Dalhousie University
Dr. Mayra D. Barrera Machuca (she/her), Faculty of Computer Science, Dalhousie University

13. Session description (maximum 400 words).

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Include relevance of topic to conference theme, importance of topic to teaching and learning, appropriate theory, research or practice, learning outcomes, and methods to be used in the session. Please remove author names and institutional affiliations from the description.

Our work is on reimagining and reorienting assignment grading toward feedback-oriented encouragement for ongoing and continuous learning. It encompasses the following features: (1) students are provided with a comprehensive list of assignment specifications, (2) evaluation of student work is centered on the attainment of specified criteria, employing a nominal scale to denote which requirements are met within the deadline, and (3) multiple opportunities are afforded to demonstrate mastery for each specification. Our assignment grading practice considers the principles of trauma-informed teaching and student stress levels associated with the numeric grading of assignments.

We will share information and lessons learned from a pilot implementation conducted within an undergraduate first-year web development course. Four assignments in this course are applied and require students to develop websites based on specifications. Assignments 2-4 have overlapping learning outcomes with the previous, which allows learners to incorporate feedback into the work for subsequent assignments. When these assignments are graded, students are given a grade of: (a) Completed, meets/exceeds expectations, (b) Completed, has scope for improvement, (c) Incomplete, does not meet expectations yet, or (d) Not submitted. We considered the best 3 performances out of the 4 total assignments, and the 15% assignment grade was computed based on securing a syllabus-specified combination of Complete, Incomplete, or Not submitted grades. Other than applied assignments, we offer a variety of opportunities for students to showcase their mastery of the course concepts, including timed and untimed tasks, in-class and out-of-class assessments, quizzes, and activities. Learners in the course were informed that the assessment and grading scheme for assignments could be different in this course as compared to other courses.

In previous iterations, these assignments had a significant percentage of the overall course grade, the rationale behind which was to reward student work and ongoing learning. To recognize ongoing learning, we incorporated ways to reward improvements in subsequent assignments by adding a small percentage of the grade from the subsequent one to the previous if there was a grade improvement. This was still a rewards-focused grading mechanism, and we wanted to move to a practice that acknowledged learning in its pure form.

14. Session abstract (150 words). *

To appear in the conference schedule.

This work is about a trauma-informed, student-centric way to reimagine and reorient assignment grading towards feedback-oriented encouragement for iterative learning. It encompasses the following features: (1) students are provided with comprehensive list of specifications, (2) evaluation of student work is centered on completing specified criteria, and (3) multiple opportunities are afforded to demonstrate mastery for each specification.

We share information and lessons learned from a pilot implementation conducted within an undergraduate first-year web development course. In this work, when assignments are graded, students are given a grade of one of the following levels: (a) Completed, meets/exceeds expectations, (b) Completed, has scope for improvement, (c) Incomplete, does not meet expectations yet, or (d) Not submitted. We considered the best 3 performances out of the 4 total assignments, and the final

15. References

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[2] James W. McGuffee, David L. Largent, and Christian Roberson. 2019. Transform Your Computer Science Course with Specifications Grading. In Proceedings of the 50th ACM Technical Symposium on Computer Science Education (SIGCSE'19). Association for Computing Machinery, New York, NY, USA, 1234. https://doi.org/10.1145/3287324.3287528
[3] Christian Roberson. 2018. Techniques for using specifications grading in computer science. J. Comput. Sci. Coll. 33, 6 (June 2018), 192–193.
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[5] Lijun Chen, Joshua A. Grochow, Ryan Layer, and Michael Levet. 2022. Experience Report: Standards-Based Grading at Scale in Algorithms. In Proceedings of the 27th ACM Conference on on Innovation and Technology in Computer Science Education Vol. 1 (ITiCSE '22). Association for Computing Machinery, New York, NY, USA, 221–227. https://doi.org/10.1145/3502718.3524750
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[9] Becker, B.A., Denny, P., Finnie-Ansley, J., Luxton-Reilly, A., Prather, J. and Santos, E.A., 2023, March. Programming is hard-or at least it used to be: Educational

16. Keywords *

Please provide up to five keywords that describe the session.

Trauma-informed Grading, Mastery Grading, Specifications Grading, Standards-Based

17. Additional requirements

Please indicate any additional support you may need

Enter your answer