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Creation and Delivery of a Faculty Workshop on Grading - Practical Implications

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Creation and Delivery of a Faculty Workshop on Grading – Practical Implications

Abstract

This paper is an evidence-based practice paper describing practice techniques encapsulated in a workshop covering grading by engineering faculty. Engineering faculty are under increasing pressure to manage their time while providing value and a quality learning experience for students. When surveyed, faculty indicate that one of their least enjoyed tasks is grading student work. Yet, the importance of feedback in the overall learning process has been well documented. This conflict – between the importance of grading versus faculty perceptions of the activity – led to the development of a faculty workshop on grading that sought to address both of these issues. The goals of the workshop were thus to: (a) provide resources to faculty that would allow grading to provide meaningful and helpful feedback to students during the grading process, and (b) provide practical guidance to faculty on how to make the grading process more efficient, streamlined, and time-on-task effective. The current paper describes the creation and implementation of this workshop. It includes a survey of the literature on grading practices and includes the perceptions and feedback of the participants. It also provides the practical content of the workshop, allowing readers to use this material and these methods to create impactful experiences on their own campuses. Participants of this workshop rated the effectiveness highly and indicated that the material presented had the opportunity to change their grading practices for the better.

Introduction

LeTourneau University administers a Student Satisfaction Survey each year that covers issues such as academic advising, campus life, climate, and safety, instructional effectiveness, financial aid and support services. Of 19 questions that were identified as “Strengths,” 13 were clearly linked to faculty traits or behaviors – 68%. Among them: (a) “Nearly all of the faculty are knowledgeable,” (b) “The instruction in my major field is excellent,” (c) My academic advisor is concerned about my success as an individual,” (d) “Faculty are usually available after class and during office hours,” and (e) “Faculty care about me as an individual.” Among the 13 questions that were identified as “Weaknesses,” only 2 can be clearly linked to faculty – 15%. These two are: (a) Faculty are fair and unbiased in their treatment of individual students,” and (b) Faculty provide timely and accurate feedback about student progress in a course.” Our conclusion from this snapshot was that even programs where teaching quality is high need to be concerned with how to get better. This paper summarizes actions taken to address the second of these two items (although one can argue that the first is also grading related, and the actions undertaken and described here can clearly help to address this area also) – grading.

Motivation

During the 2023-2024 academic year, engineering faculty were asked to describe their ‘least favorite’ portions of their job, and their ‘most favorite’ portions of their job as faculty members. These questions were open-ended and free-response from which themes were then identified. For their favorites, Figure 1 summarizes the results:

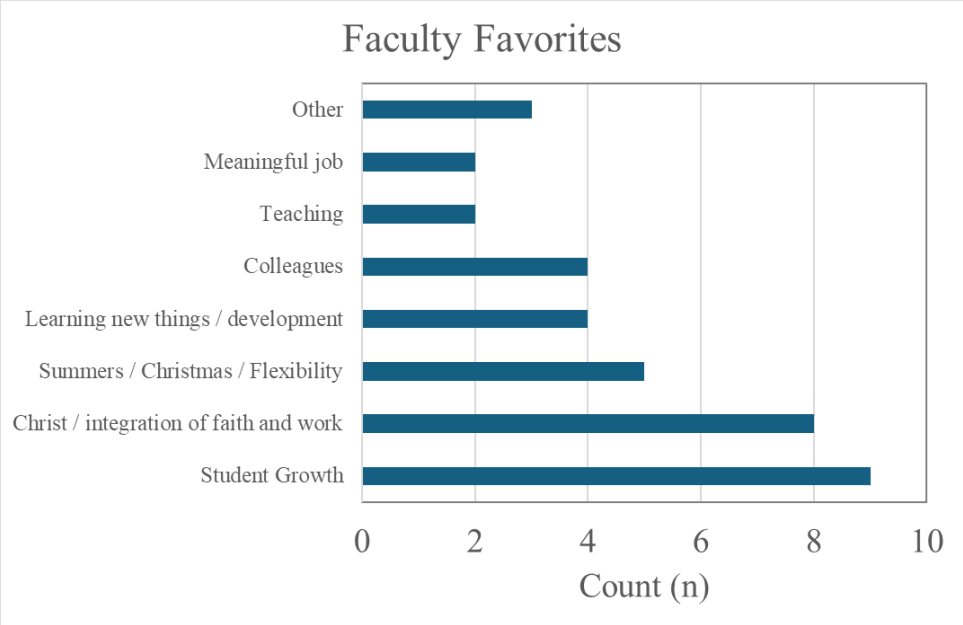


Figure 1: Faculty favorite aspects of their job

For their least favorites, the results are as follows in Figure 2:

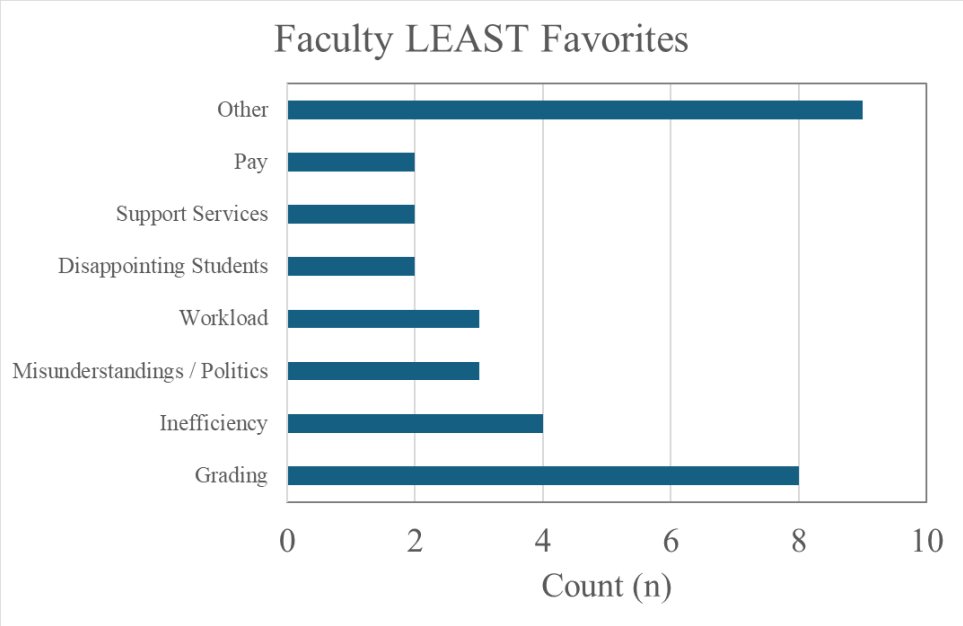


Figure 2: Faculty least favorite aspects of their job

Unlike for their favorites, there is a clear concentration in one area: grading, receiving twice as many mentions as the next closest item. (the 'other' category included various un-related items – major themes are identified by the categories in the figure). One faculty member wrote:

> "I find doing a good and timely job grading reports to be extremely taxing (actually, I don't do a good and timely job of grading reports, probably because it is my least favorite thing to do and there is so much other stuff to do; it's my least favorite thing because the students are so bad at it and it takes so much time to provide meaningful input."

Background on Grading:
There are official records of grading systems dating back nearly 250 years [1], it is thus likely that there have been discussions of the challenges and purposes nearly that long. While the most common system in the US remains the 'A-F' system, there are several others that have strengths and weaknesses, among them pass/fail, norm-referenced, criterion-referenced, standards-based, contract grading [2], and specifications grading [3]. Major issues associated with grading include subjectivity and bias, grade inflation, a focus on grades over learning, and the allocation of faculty time [4]. Grading may also have political and social dimensions, and can involve power dynamics, issues of agency, and other complex ethical issues [5]. The paper by Schinke and Tanner [6] provides a good summary of the history of grading, a discussion of the primary purposes of grading, and examines some of the pitfalls and challenges. For decades, educators have been exploring ways to make grading more effective and efficient (e.g. [7]). However, in engineering in particular, papers specifically describing studies of grading practices are few [8]. While grading practices of engineering faculty are informally discussed (e.g. [9]), and formal professional development opportunities in this space occur, the author could not find a paper that described the creation, implementation and assessment of a workshop directed toward grading for engineering faculty (two excellent example resources that are *adjacent* to this gap are in Felder and Brent's description of the NETI workshops [10], and Estes et al.'s assessment of the ASCE ExCEEd workshop [11] which describe general engineering *teaching* workshops). This paper focuses on presenting the content and outcomes of a workshop focused on grading efficiently both in terms of student learning outcomes and faculty time spent on task – references describing various aspects and methods of grading are provided below in the section describing the content of the workshop.

Actions:
Our Engineering College created and delivered a faculty workshop directed at Grading as part of the welcome back activities in the Fall of 2024. All engineering full time faculty attended, and several adjuncts. The workshop was targeted to take approximately two hours and had the agenda as shown in Table 1.

Table 1: Workshop Agenda

Introduction
Why do we Grade?
What should we grade?
When should we grade?
Who should grade?
Where should we grade?
How should we grade?

The content for each of the modules is described below:
Introduction: History of grading, and motivators to grade well.
Why do we grade: Group discussions and activities ensuring all faculty are on same page about the reasons for grading. Focused on the following five major reasons: (a) Students need feedback to learn effectively, (b) Faculty need to know to tailor class, (c) Grading can stimulate effort, (d) Grading allows faculty to recognize and document mastery, (e) Grading can form part of

program assessment activities. Also discussed the impact of grading and reminded that most literature finds that grading is inherently demotivating, especially for intrinsic motivation (as contrasted with extrinsic motivation) [12], [13].
What should we grade: Discussed the concept that NOT everything needs to be graded and linked having a grading plan back to the 'why's' of grading. Discussed spot grading, rotating grading, completion credit (with potential benefits of time efficiency, targeted feedback and improved student focus). [14]
When should we grade: Discussed grading rhythms (grading earlier in the semester is more useful for the formative aspects of the grading function), time between due dates and returning graded work, and the idea of being a project manager role model in the grading area [15], [16].
Who should grade: Discussed the pros and cons of self grading (by students), peer grading, and graders.
Where should we grade: Discussed grading within apps and on canvas; providing audio and video feedback and the advantages [17], [18], [19].
How should we grade: Discussed the tasks of grading, setting clear expectations and pairing them with gradable assignments, different grading techniques and types of rubrics, and the appropriate length of time it 'should' take to grade various types of assignments. Discussed the impacts of lenient versus strict grading policies and procedures [20].

A major objective was to present information in the most practical way possible.

Results and Measures

Pre-Workshop

Faculty were given a short survey prior to the workshop, with the questions as outlined in Table 2, with responses calibrated on a five-point Likert scale.

Table 2: Grading Survey Questions (BOLD is used in the following figures)

I feel I am **efficient** at grading,
I feel I am **knowledgeable** about best grading practices
I can clearly articulate the **impact** of different grading practices on how and how much students learn
The amount of **time** I **spend** grading is 'uncomfortable'
Students rate my grading practices as:
I can clearly articulate **why** I grade every assignment that I choose to grade
I have an **intentional** plan regarding what activities I grade in my classes
I feel I know how to maximize the benefit of having a student **grader** assigned to me
I would like additional **training** about how to make grading more efficient and more impactful to student learning

The results of this pre-survey are shown in Figure 3 (faculty results with an "N" of ~25 out of ~30 workshop participants).

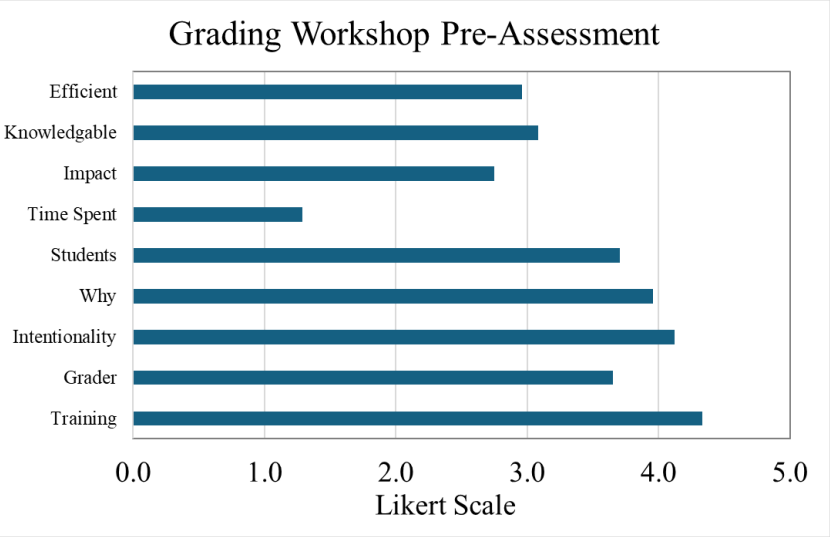


Figure 3: Pre-Workshop Survey Results

Four factors were apparent in the pre-workshop survey:

1. Faculty think their grading is rated well by students.
2. Faculty are intentional about grading and feel they have a plan.
3. Lowest scores are in efficiency, knowledge and impact.
4. Most want additional training.

The average experience in teaching across the participants was 9.21 years.

Post Workshop

The workshop was well received. Chairs were informally surveyed afterward and indicated faculty were excited to spend time on this topic. Comments from faculty on the pre-survey included "Good topic," and "This is a vital component that rarely gets discussed outside of complaining ("I have so much grading") and accountability ("You're behind, students complaining, get to work"). Never how to get better."

Received the following comments via email from one faculty member the night after the workshop:

> "A quick email to let you know how encouraged and inspired I was yesterday by your leadership and presentation yesterday. I am not exaggerating when I say that I felt the same uplifting and blessing during your SEET workshop as I felt during the President's and Provost's presentations earlier this week."

Post-survey assessment was done across the week following the workshop. Figure 5 shows the quality of the workshop elements as rated by participants, with the last two categories ratings of the workshop's helpfulness and it's impact on faculty motivation. All items received at least a 4 on the Likert scale, except the session on 'Where we should grade.' The 'Where' session focused on providing resources on how to grade better in Canvas and on Apps. This session was mostly providing helpful links and also included a discussion on audio and video grading. There was not enough time to get into the specific details of techniques in these spaces, more an encouragement to use the provided resources to work out issues on faculty's own time. Thus, not surprising that this was the lowest. The "Why we grade" session received the highest rating – a good finding since this was a major point of emphasis for the workshop. It is the current author's belief that any effort to improve a faculty member's grading practices must start and be anchored by this

fundamental question. Overall, Faculty seemed to think the workshop was helpful and motivating.

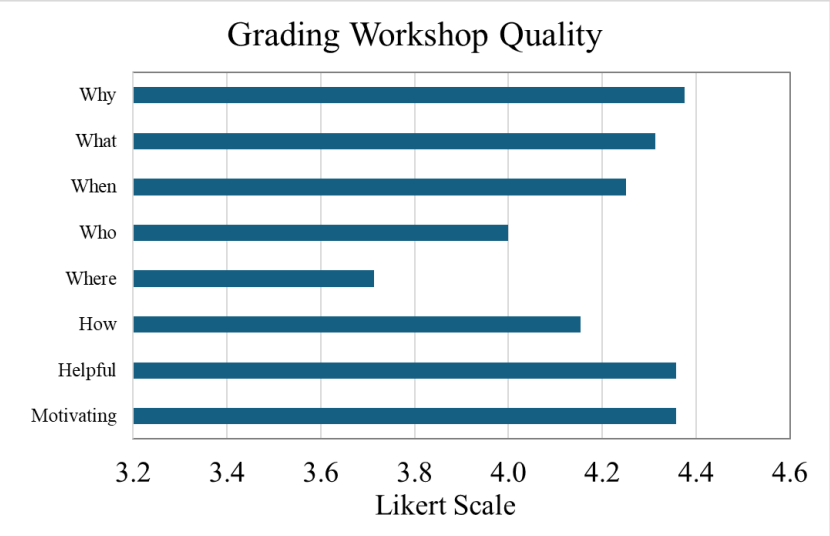


Figure 5: Quality of workshop as rated by Faculty Participants

Participants were also asked the questions noted in Table 2 – Figure 6 shows the differences from the Pre-Survey results.

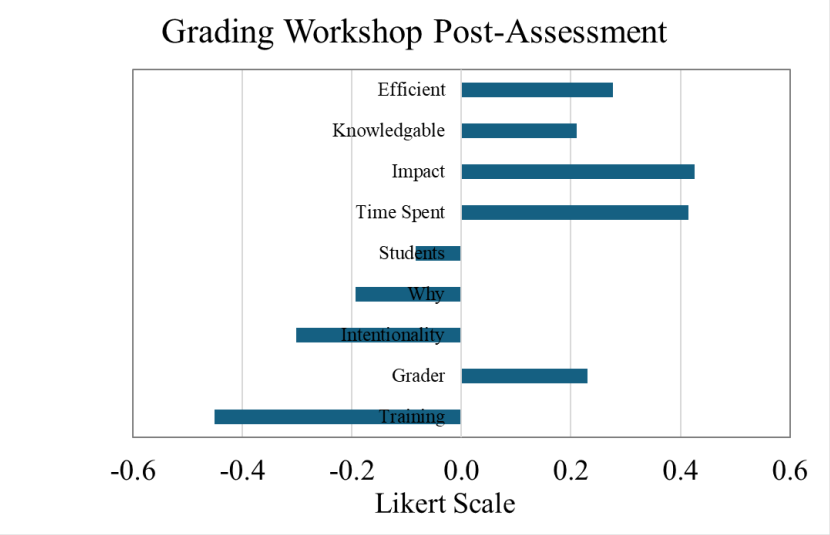


Figure 6: Change in Participant Ratings Post Workshop

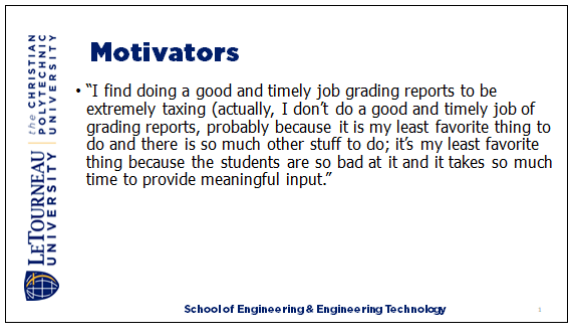
Takeaways: (1) Faculty felt after the workshop that they might be more efficient at grading, (2) Faculty seem more confident in describing the impact of their grading practices, (3) Faculty seem to feel better about the time spent grading, (4) We had a workshop, so the faculty feel less strongly that additional training is needed. These were the items with the biggest changes from Pre to Post workshop and all are positive findings. An unexpected finding was in the intentionality ("I have an intentional plan regarding what activities I grade in my classes") question, which fell between pre and post surveys. Perhaps with more awareness of the impact of

grading on student learning, more awareness of methods of grading, and more time spent in deep thinking on these issues, faculty were less convinced that their current methods were directed in productive areas. We also performed a follow-up survey approximately 3 months following the workshop, after a lunch-and-learn 30 minute session that was created as a follow-up and to cover aspects of specifications grading [3]. The positive results exhibited in Figure 6 were shown to be stable – faculty still evinced gains in their perceived grading efficiency, knowledge and time spent (1.04, 0.42 and 0.71 on the Likert scale, respectively), which represent large, lasting relative changes in these attitudes and skills.

Summary and Conclusions

The following conclusions are made:

1. We can confirm that one source of faculty dissatisfaction is centered around grading and that many faculty would like additional training on how to make their grading more impactful and more time efficient.
2. A workshop was held emphasizing many aspects of the faculty grading enterprise. The workshop provided guidance on goals for grading and practical advice to make grading more impactful and more efficient, with content specifically directed at the reasons for grading, grading techniques, bias, and grading methods.
3. This type of training was found to be effective – faculty self reported scores in the following four areas were particularly positively affected: (a) efficiency, (b) knowledge of grading techniques and methods, (c) the impact of grading on student learning, and (d) faculty perception of time spent on grading.
4. The final figure displays the slides used as part of this workshop – they could provide the backbone for a similar effort at other institutions.



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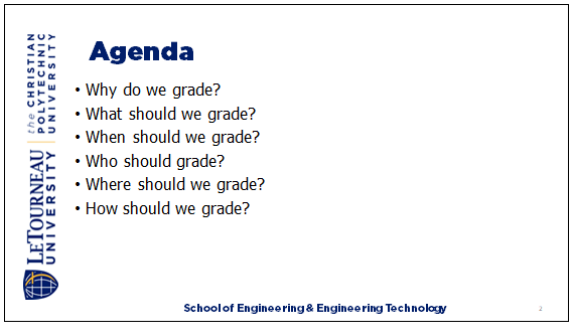

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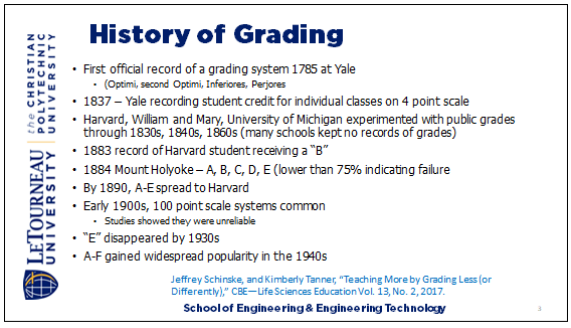

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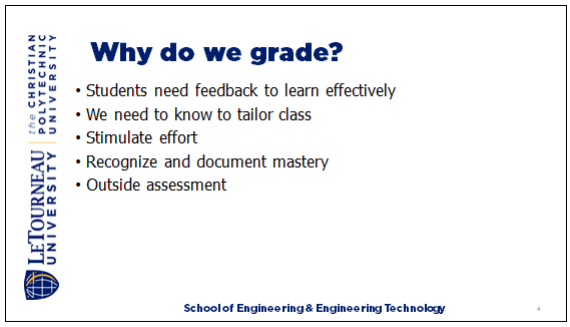


4

Impact of Grading

- Grades appear to play on students' fears of punishment or shame, or their desires to outcompete peers, as opposed to stimulating interest and enjoyment in learning tasks (Pulfrey et al., 2011).
- Grades can dampen existing intrinsic motivation, give rise to extrinsic motivation, enhance fear of failure, reduce interest, decrease enjoyment in class work, increase anxiety, hamper performance on follow-up tasks, stimulate avoidance of challenging tasks, and heighten competitiveness (Harter, 1978; Butler and Nisan, 1986; Butler, 1988; Crooks, 1988; Pulfrey et al., 2011).
- Even providing encouraging, written notes on graded work does not appear to reduce the negative impacts grading exerts on motivation (Butler, 1988).
- Rather than seeing low grades as an opportunity to improve themselves, students receiving low scores generally withdraw from class work (Butler, 1988; Guskey, 1994).
- While students often express a desire to be graded, surveys indicate they would prefer descriptive comments to grades as a form of feedback (Butler and Nisan, 1986).

Jeffrey Schinske, and Kimberly Tanner, "Teaching More by Grading Less (or Differently)," CBE—Life Sciences Education Vol. 13, No. 2, 2017.

5

Why do we grade?

r/ Professors Reddit Tips for Grading Less/Faster

- Teaching is a science experiment
  - Student work is the results
  - Need to examine those results!
- Backwards engineering
  - What's the goal?
  - Most efficient and effective way?
  - Test / tweak / repeat [LETU – Design, build, test]

University of South Carolina Techniques for Making Grading Efficient While Remaining Objective

- Grade work that is aligned with course objectives

20 Ways to Cut Your Grading Time in Half – Jennifer Gonzalez Cult of Pedagogy 2014

- Use "Practice" and "Feedback" instead of 'Assignment' and 'Grading'

6

What should we grade?

- 5 In-Class Quizzes
- 10 'Mini'-HW Assignments
- 3 'Major' HW Assignments
- 1 Semester Design Project
- 5 Discussion Board Posts
- 1 Semester Writing Assignment
- 2 Semester Mid-terms
- 1 Final Exam

7

What should we grade?

- Don't grade everything
  - Consider spot grading
  - Consider completion credit
  - Consider rotating who gets graded
- Don't assign busywork
  - Again, why are you assigning things?

8

When should we grade?

- What is the correct length of time between a due date and returning a graded assignment?

9

When should we grade?

- Grade more early in the semester
- Consider your own calendar
  - You are a project manager role model
  - If you can't grade it, are you sure you should assign it?
- Consider Monday due dates
- A week is too long

10

Who should grade?

- Consider peer grading, self grading, group grading

11

How to – Self Grading

- Need to provide guidance
  - What assignments lend to self grading?
  - How to self grade

12

How to – Peer Grading

- Need to provide guidance
  - What assignments lend to peer grading?
  - How to peer grade

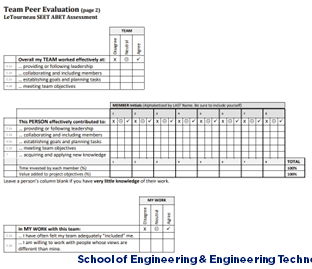
13

How to – Group Grading

- What assignments lend to group grading?
- How to group grade
  - Does SEET already have a method?
  - Group assessment worksheet
  - Effort impacts grades
  - Consider/require division of labor report

14

How to – Group Grading


Team Peer Evaluation (page 2)
LeTourneau SEET ABET Assessment

15

Graders Grading

- Are we maximizing?
- Who is the expert in the room?
- Do we need to follow up on this?

16

Where should we grade?

- On-line?
- On-paper?
- In-apps?

17

Aside – Why Audio Feedback?

- Students perceive more effective at nuance
- Feeling of increased involvement, better learning community
- Increased retention of content
- Perception instructor cared more about student

Ice, P., Curtis, R., "Using asynchronous audio feedback to enhance teaching presence and students' sense of community" January 2007, Online Learning 11(2)

https://davestuartjr.com/how-and-why-to-leave-audio-feedback-on-student-work-distance-learning/

18

Where should we grade?

- Canvas Grading
  - https://www.youtube.com/watch?v=R3h6Wfg_kW4
  - https://www.youtube.com/watch?v=1iFBy9_0Nys
- Google docs audio
- https://practicaledtech.com/2021/06/01/three-ways-to-add-audio-notes-to-google-docs-word-docs-and-pdfs/
- Other apps?

19

How should we grade?

- Tasks of grading
- Expectations
- Time budget
- Commenting style
- Techniques
- Examples

20

Tasks of Grading

- Mark
- Comment
- Record
- Reflect

20 Ways to Cut Your Grading Time in Half – Jennifer Gonzalez Cult of Pedagogy 2014

Clear Expectations and Gradable Assignments

- Especially helpful for under-represented groups
- Consider a syllabus statement about the purpose of grading
  - Why are you (the student) here?

How long should it take?

- 20 student class
- Assignment estimated to take 2 hours for each student to complete
- How long should it take to grade?

How long should it take?

- 20 student class
- Assignment estimated to take 2 hours for each student to complete
- How long should it take to grade?
- About as long as it takes one student – 2 hours

Consider Limiting Comments

- Just mark it wrong / Don't edit
- Consider limiting to "glow and grow" comments
- Consider a comment bank or codes
- Only 2-3 major comments per assignment
  - More may be overwhelming for students
  - Comments may not be read
- If too many comments needed, consider writing "Come see me" and following up that way

Different Grading Techniques

- Rubrics
  - My pet peeve – overly complicated rubrics
  - Different for different types of assignments
    - Completion (Y/N, 100/0)
    - 1,2,3
    - Letter grades (A, B, C, D, F, 0) (A+,A,A-,B+,B,B-,C+,C,C-,D+,D,D-,F)
    - Number grades
- "Points"
  - Start with 100, subtract for mistakes

Different Grading Techniques

- "Points"
  - Start with 100, subtract for mistakes
    - I suspect that this is the slowest type of grading

Lenient versus Strict Grading

- Student ratings impacted by grading practices and time assessment was taken
- Student learning and student ratings are positively correlated
- Grading practices had no effect on student learning (strict/lenient)

Nimmer, J.G. & Stone, E.F. (1991). Effects of grading practices and time of rating on student ratings of faculty performance and student learning. Research in Higher Education, 32, 195-215.

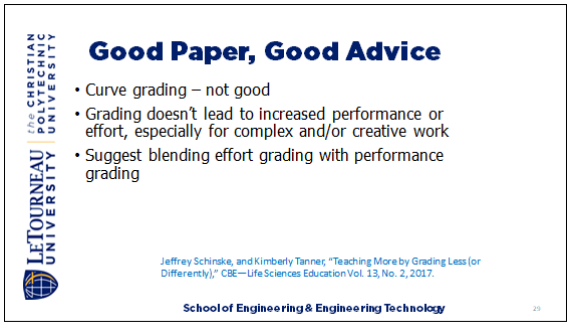


Figure 7: Abbreviated Workshop Slides

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