

# An Alternative to Graded Homework: Online Discussion Boards

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# Background

- In Winter 2021 and Spring 2021, I used Forums (online discussion boards) to facilitate class discussion about Practice Problems.
  - STS 327: Statistical Computing for Data Management (SAS)
  - STS 347: Statistical Computing for Simulation and Theory (R)
- Why?
  - There was not enough **time** for class prep and grading.
  - To incentivize doing the work to **learn**.
  - Encourage meaningful **collaboration** and **community** in my hybrid class.
  - Ability to assign questions that would be hard to grade but good **practice** for students.
  - Provide **flexibility**

# Other assessments used in this course

- Daily warm-up questions
  - Completed individually on Mondays/Fridays (~5 minutes)
  - Completed in groups on Wednesdays (~15-20 minutes)
  - Provided daily information on student progress
- Mini-projects with culminating product and reflection paper
- Exams

# How were Forums Used

- Each week students were required to post in a Forum.
- There were 2-3 required posts related to a set of **Practice Problems**.
- There were 2-3 required posts related to **reviewing the solutions** for the previous week's Practice Problems.
- Additional required posts were sometimes assigned as well (introductory videos, other course topics, and creating sample exam questions for peers)

# Example Forum

## Forum #10 - due Tues, 5/9

### Forum #10

The goal of forums is to provide a place to build relationships with other students, practice problem solving skills, motivate learning the content over completing practice problems for a grade, providing continuous support, looking at answers to questions that have already been answered, giving an opportunity for students to practice explaining code/problems, etc.

Meaningful posts move the conversation forward. "I did that." is not a meaningful response. "I used `?norm` to look at the help file and saw that the first argument was sample size." is helpful. You may post **partial** solutions to Practice Problems, but not entire solutions. Posting screenshots is helpful. Posting links to online examples is helpful.

Posts are due by 11:59 PM on Sunday, May 9.

There are **seven** required posts in Forum #10:

- 1) **Two** posts: Review the solutions to Practice Problems 10. Discuss any parts of the solutions that you still don't understand, that spark some curiosity in you, or that you successfully did using alternative methods, or that were not fully answered in the solutions.
- 2) **Three** posts: Complete the Practice Problems 11. Post comments, discussion, questions, and responses to other students' questions in the Forum related to this. You must post at least two comments related to the Practice Problems.
- 3) **One** post: Write a review problem for the final exam.
- 4) **One** post: Write a solution with explanation.
- 5) **Optional** post: Discuss any other course topics.



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Every week, I listed the goal.

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Weekly required posts.

Extra posts for this week.

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# How were Forums Graded

- Each required post was worth 1 point (the previous example was worth 7 points).
- Students could earn 1, 0.5, or 0 points for each response.

The screenshot shows a Blackboard forum post and its grading interface. The forum post is titled "Re: Practice Problems 11 (THREE posts)" by Laura Taylor, dated Friday, May 7, 2021, 1:39 PM. The post content is: "You have an extra [i] after your p.value statement." Below the post is a "View discussion" button. The grading interface on the right shows the post is "Not graded" (1 out of 28). The grader's name is Laura Taylor. The grading section is titled "Grading (Forum #10 - due Tues, 5/9)". There is a "Grade" field with a text input box. Below the grade field is the text "The grade to award the student for their work." There are "Notifications" options: "Yes, send notification to student" (radio button) and "No" (radio button, selected).

# My interactions

- I regularly interacted with students on the Forums.
- Sometimes questions were directed at me (how would this be grade don a test) and sometimes I wanted to provide feedback to a student who had been waiting for an answer for a while.

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# Why you should consider Forums!

1. **Flexibility!** If students do not complete the entire set of Practice Problems by the due date of the Forum, there is no penalty.
2. Motivates working on the Practice Problems to **learn** as opposed to get a grade.
3. Builds an online class **community**.
4. Builds **accountability** for reviewing solutions and encourages sharing new ideas.
5. Student **grades** on other assessments did not seem impacted by the voluntary nature of Practice Problems.

# Why you should consider Forums!

6. Students share **alternative** ways to complete problems which students would not have seen if they hadn't used the forums.
7. Once I **answered a question** in the Forum, all students could see my responses.
8. I receive **notifications** when students post and can respond to urgent questions as they appear.
9. Students do a lot of problem solving **for each other**.
10. **Grading** was so much easier and took a lot less time.

# Grading Forums

All of a student's posts could be grouped together for review.

The screenshot shows a grading interface for a forum post. At the top, there are 'Save' and 'Close' buttons. The main content area is divided into two columns. The left column displays a list of forum posts by a student, Laura Taylor. The first post is titled 'Re: Practice Problems 11 (THREE posts)' and contains the text 'You have an extra [i] after your p.value statement.' Below this post is a 'View discussion' button. The second post is also titled 'Re: Practice Problems 11 (THREE posts)' and contains the text 'The data is being generated from the F distribution, but our test statistic (the value you are calculating) should follow a t distribution with n-1 degrees of freedom regardless of what the population looks like thanks to the Central Limit Theorem.' Below this post is a 'View parent post' button. The right column shows the grading details for the selected post. It includes a 'Not graded' status, a search icon, and the student's name 'Laura Taylor'. Below this is a 'Grading (Forum #10 - due Tues, 5/9)' section with a 'Grade' input field. A note below the input field reads 'The grade to award the student for their work.' There is also a 'Notifications' section with two radio button options: 'Yes, send notification to student' and 'No' (which is selected).

Type grade here!

# Why you should consider Forums!

11. I can **assign problems** I wouldn't want to have to grade, but were good experiences for students.

12. I often gained **insights** about the topics students most struggled with based on the questions being posted or lack of answers being shared.

13. The Forums preserved the class discussion about the topics and provided a **reference** for future assignments. Students mentioned looking back at the forums when they studied or worked on future assignments.

# Some drawbacks.

1. Some students are still **hesitant** to ask questions because they don't want to be wrong.
2. Some students completed all of their Forum postings on the last day in the last hours and posted questions that ultimately went **unanswered**.
3. Some students have a harder time being **accountable** to get the work done if it isn't turned in for a grade.
4. Students don't get **personal feedback** from me on all homework questions (only those they asked about).
5. Sometimes responses were not really meaningful or borderline which added some **subjectivity** to the grading.

# Next steps

- How will/should I use this in my introductory statistics courses?
  - Incentivize pre-readings?
  - Use the settings where they all have to answer a discussion topic, but can't see other posts until they have posted?
  - Have students share solutions for different problems?
  - Use them for post class muddiest point questions?
- Contact me: Laura Taylor, [LTaylor18@elon.edu](mailto:LTaylor18@elon.edu)