

Self-Graded Assignments Promote Metacognition and Build Self-Efficacy

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- Teach Laboratory Procedures course series in the clinical (sophomore) year
- Teach the freshman Intro to Vet Tech FYE course

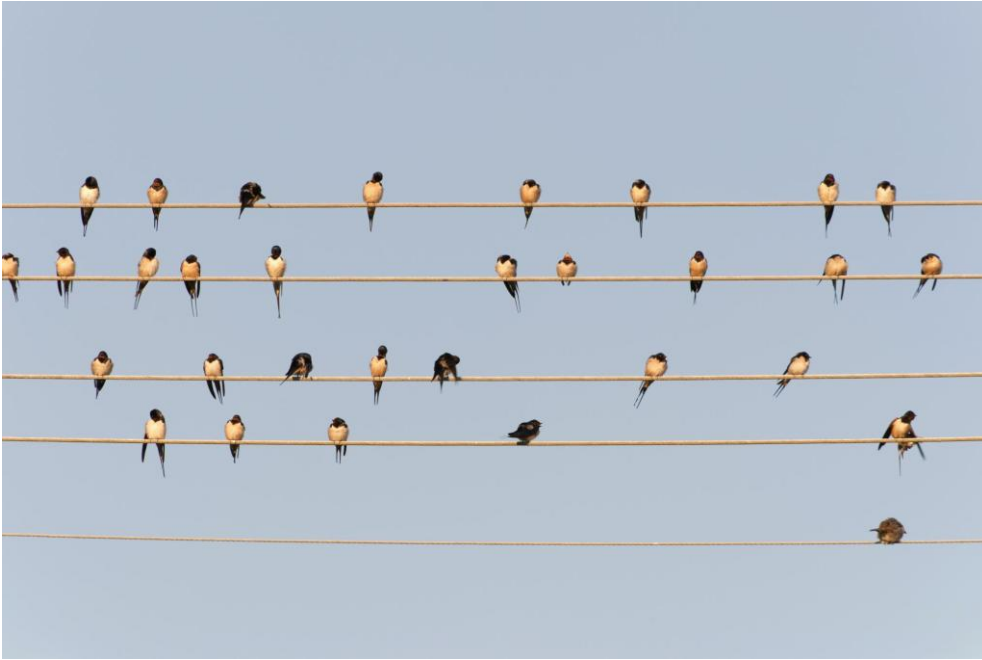
Overview

How self-graded assignments are used in my courses

Classroom research project design and results

Effective low-stakes tool to raise self-awareness and build self-efficacy

First... A short lesson



- Learning outcomes
 - List how songbirds use their song.
 - Distinguish between the sensory and motor phases of song learning in birds.
 - Explain the genetic basis of song learning.

Note on missing slides

- This will be an active learning session to demonstrate the value of self-assessment and reflection in learning complex material.
- Several slides related to the activity have been withheld from this published version of the presentation.
- Join me at AVTE to participate in real time!

Background



- Study guides align with the learning outcomes and demonstrate the clinical application of course material
- Graded with meticulous feedback so students could grasp the nuances of incorrect answers
- Students would make same mistakes on exams
 - They were not looking at my feedback or reviewing the study guides!

Self-Graded Assignments in Lab Procedures

- Students complete the study guides as a two-part self-graded assignment
- **Part 1:** complete the study guide for full credit (5 points)
- **Part 2:** compare to an answer key marking corrections or missed details, and resubmit “graded” study guide
 - Also includes a reflection of the learning process to demonstrate comprehension of the concepts
 - Full credit (10 points) awarded for submission of a visibly graded study guide and thoughtful reflection

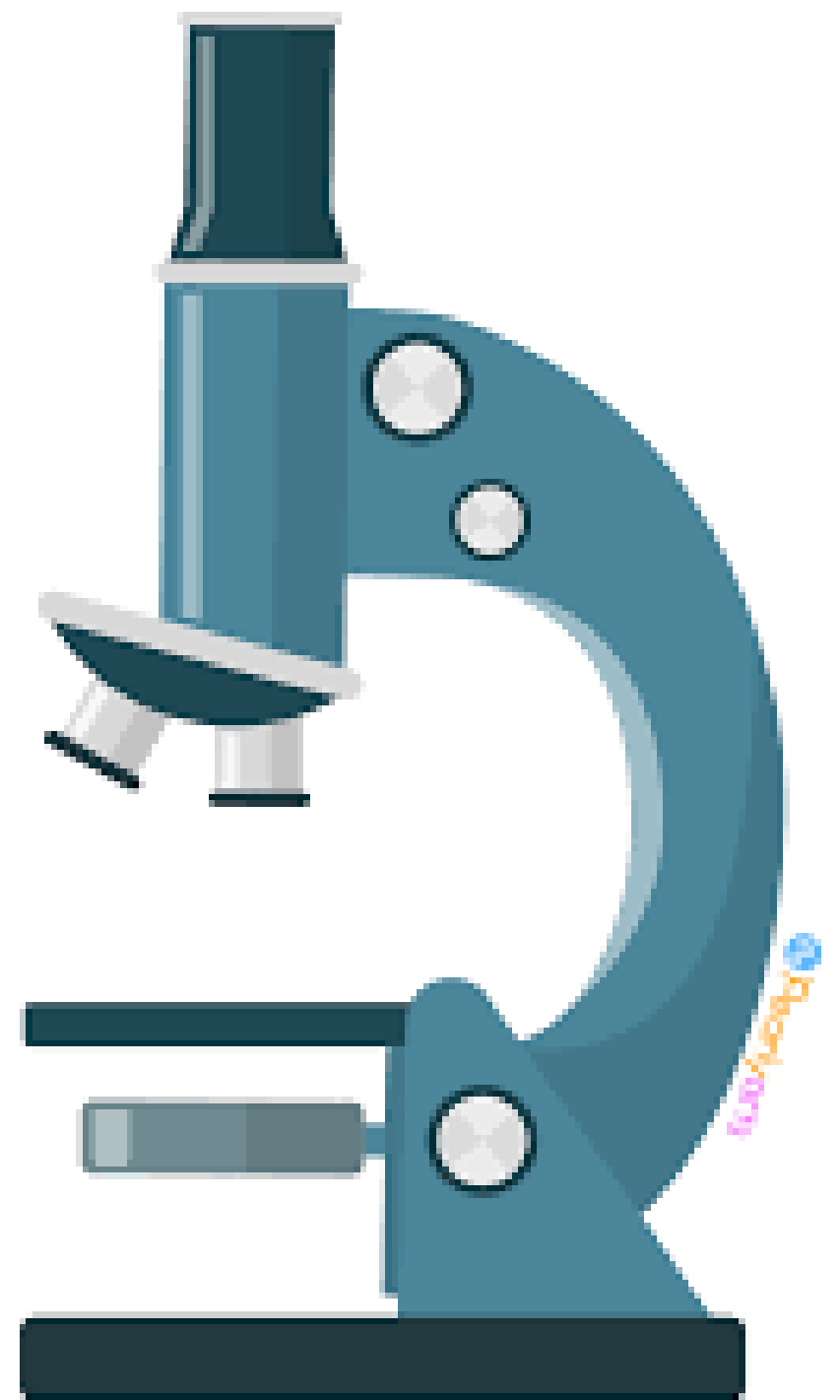
Reflective Piece

- Students like this part least, but it's the most important!
 - Students provide their own feedback and identify knowledge gaps
 - Allows them to self-correct in real time and better focuses their study efforts
- Iterations:
 - "Explain why your initial answer was wrong and include an explanation of the correct answer to demonstrate mastery of the concept."
 - "List the learning outcomes covered in this worksheet. Choose one or two learning outcomes and explain them based on your understanding after grading your worksheet."
 - "List the learning outcomes covered in this worksheet. Identify and explain the learning outcome you feel least confident about. Include at least one question you need to answer through additional study to feel more confident in your understanding of the material."



Classroom Study

- In Lab Procedures I, students assigned numerical scores to their answers in part 2
- I did the same, and compared my score to students scores
 - Difference score = my score – student score
 - Positive score means the student graded themselves more critically than I did
 - Negative score means the student was less critical than me when evaluating their answers

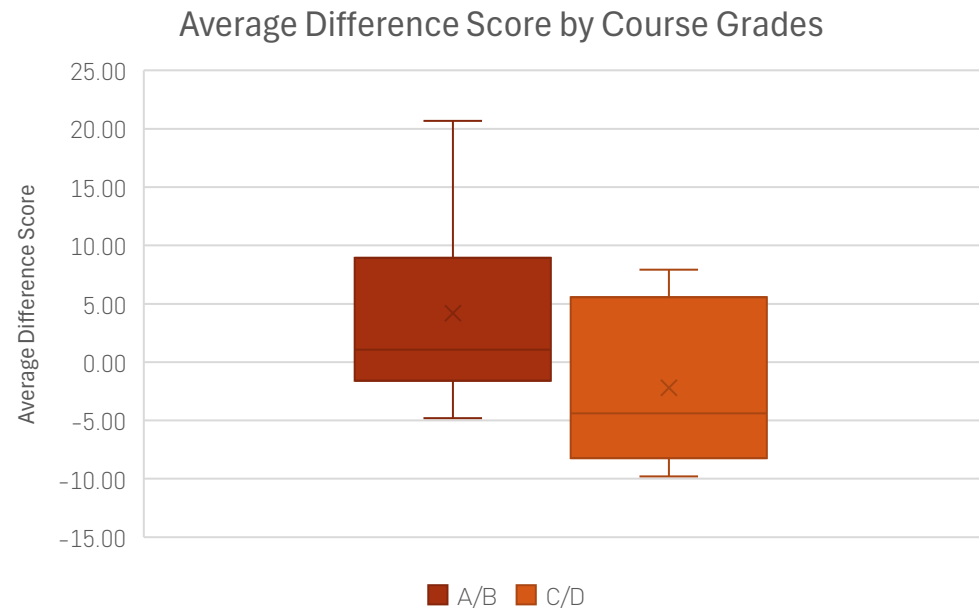


Classroom Study

- In Lab Procedures II, students completed a comprehensive survey
 - Asked how each component of the self-graded assignments was approached and used for studying
 - Compared self-graded assignments to other types of assignments used in my courses



Study Results



- High performing students (A/B) had statistically higher difference scores than lower performing students (C/D) (student's t-test, $p=0.032$)
 - A/B students were more critical of their answers that I was
 - Avg. difference score of +4.2%
 - C/D students were less critical of their answers that I was
 - Avg. difference score of -2.2%

*Benton S. Self-Graded Assignments Promote Metacognition and Build Self-Efficacy. JAVTE, 2026; winter:16-18.

Study Results

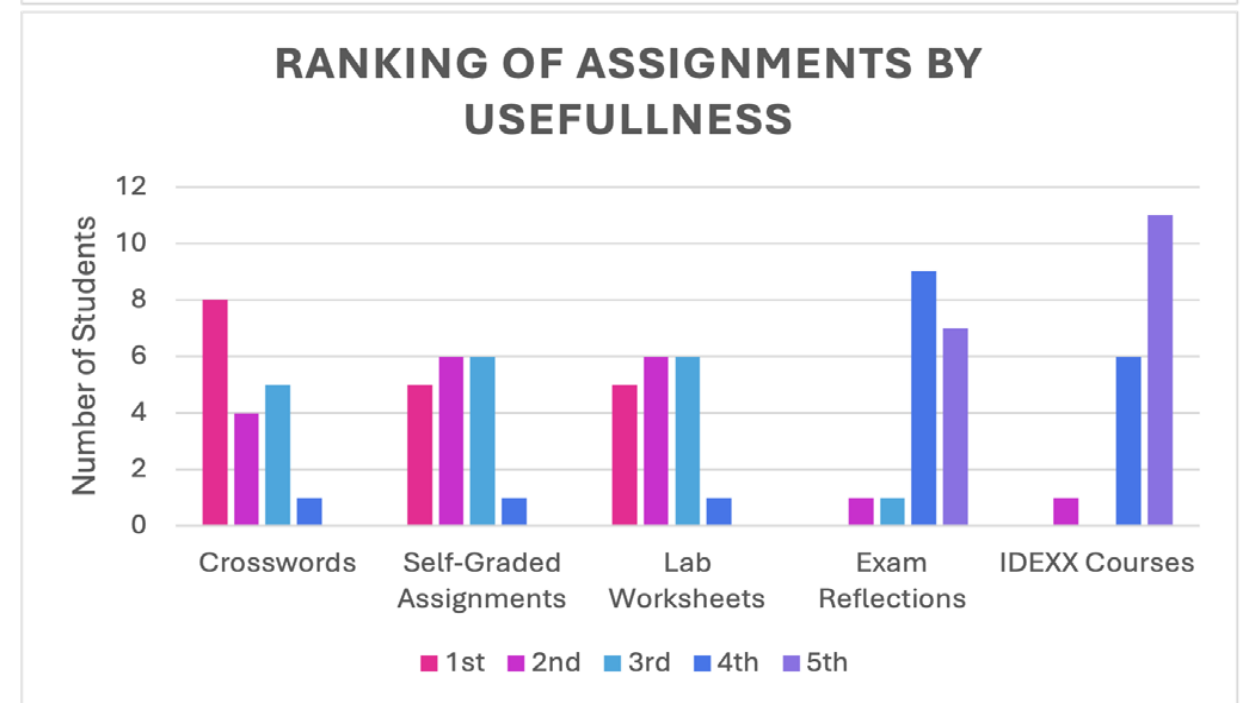
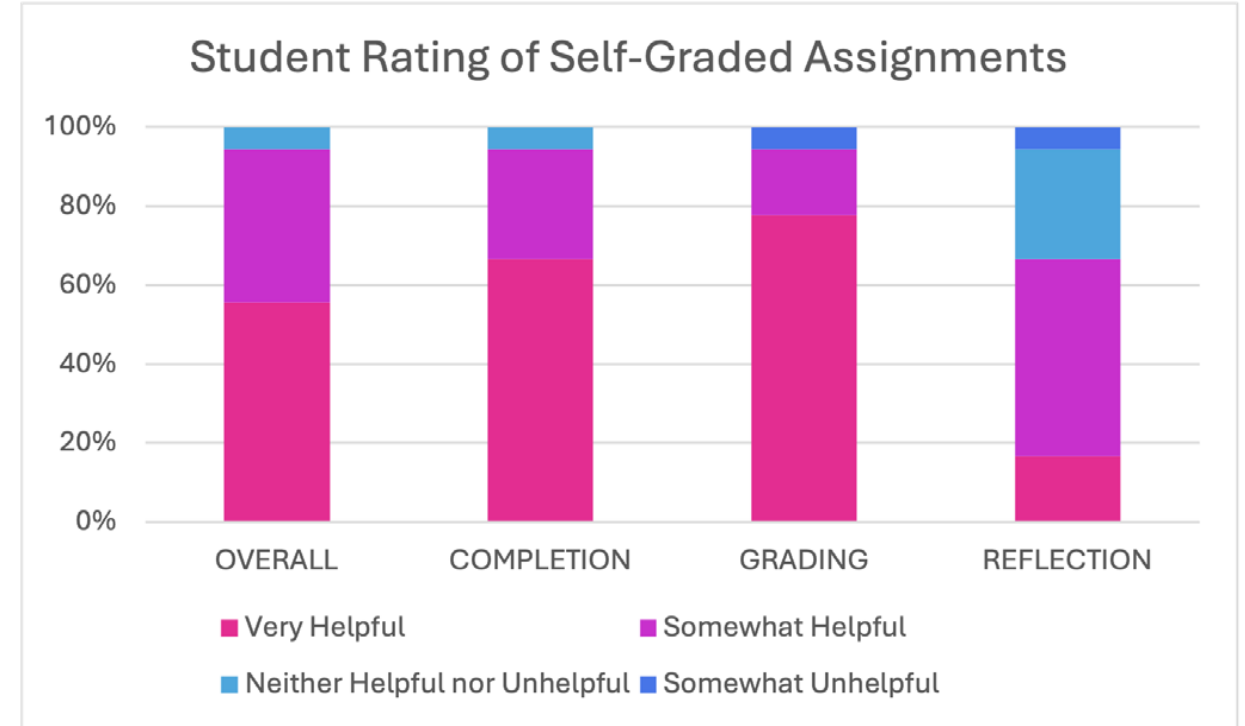


- Most students (72%) attempted initial completion using recall with notes as backup
- High performing students (A grade) focused on the details more than other students:
 - 71% vs. 27%
- B/C students more likely to assign full credit for “general concept” answers

Student Response

- Students really like these assignments!
 - Majority rate them as helpful
 - Among most useful assignment types

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Student Response



- I've just introduced self-graded assignments in my FYE course as a bonus assignment
 - "I think doing the study guides and having to self check them really helped me understand the content of each week... and having to write a reflection for each study guide helped me fully understand what I missed."

Building Self-Efficacy



- Low-stakes assignments that encourage students to test their recall
 - Mistakes do not affect the grade
 - The answer key makes my expectations clear
- Learning from mistakes is the foundation of a growth mindset
 - Empowers students to test their knowledge in both the classroom and the clinic
- Reflection raises students' self-awareness
 - Helps approach and organize dense material in a way that aligns with their own style of learning

Self-graded assignments are a simple but effective learning tool to build confidence and self-awareness that translate across academic and clinical experience

And they also decrease time spent grading- time that's often wasted because students don't read or integrate your comments





Questions?



Thank you!

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