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# Group Retesting to Promote Learning Self-Awareness and Individual Accountability

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# Group Retesting to Promote Learning Self-Awareness and Individual Accountability

## **Abstract**

Allowing students to retake tests in groups provides them with the immediate opportunity to learn from their mistakes while improving their perceptions of a course. We explore Group Review Advancing Content/Concept Essentials (aka GRACE), a variation on group retesting, which creates a peer learning environment and emphasizes individual metacognition, concept articulation, and accountability. Through an interactive demonstration, we introduce the process, relate some of the literature-reported benefits of group retesting, and share our experiences using GRACE in a variety of disciplines at different course levels.

## **Keywords**

students, learning, metacognition, responsibility, self-perception, test-anxiety

## **Disciplines**

Christianity | Educational Methods

## **Comments**

Research presentation given at the Teaching Professor Conference in Atlanta, Georgia, May 30, 2015.



# **Group Retesting to Promote Learning Self-Awareness and Individual Accountability**

Robbin Eppinga, Kayt Frisch, Jeff Ploegstra

The Teaching Professor Conference, May 2015



# Things we wondered about GRACE

- Does GRACE help students learn?
- Does GRACE improve metacognition?
- Do students prefer GRACE for review?
- Is GRACE a good use of class time?
- Does GRACE reduce test anxiety?
- Does GRACE help students perceive that the professor cares about their learning?



# Does GRACE help students learn?

- GRACE helps me identify gaps and strengths in my knowledge (1)
- GRACE helped me identify key ideas from course content (8)
- I would learn less if we did not do GRACE (10)
- Overall I found GRACE helpful for my learning (17)



# Does GRACE improve metacognition?

- ▶ Group discussions with other students (GRACE) gives me confidence in my ability to articulate the material (2)
- ▶ Seeing how other group members think during GRACE improves my own thinking (5)
- ▶ Learning from and/or teaching others in my GRACE group improves my understanding of the material (9)
- ▶ GRACE helps me improve my critical thinking and learnings skills as I see how other students engage the material (13)



# Do students prefer GRACE for review?

- ▶ I learn more from GRACE than from seeing a posted answer key (3)
- ▶ I learn more from GRACE than from the professor telling me the test answers (7)
- ▶ I learn more from GRACE than from just getting my corrected test back



# Is GRACE a good use of class time?


- GRACE would be better accomplished outside of class (6)
- Doing GRACE in class is a valuable use of class time (14)



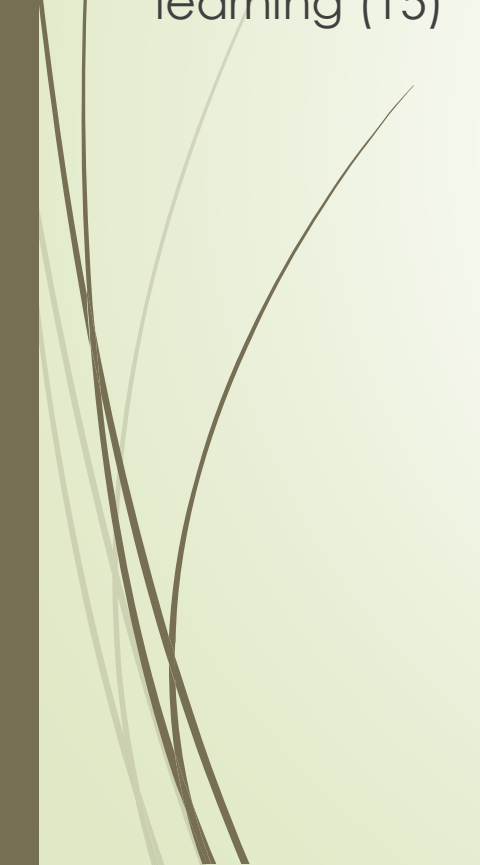


# Does GRACE reduce test anxiety?

- ▶ I feel less anxious while taking the exam knowing that we will review the exam in a group (GRACE) (4)
- ▶ Knowing that we will do GRACE relieves the pressure to study for the test (12)
- ▶ I feel less anxious about taking the exam knowing that we will review the exam in a group (GRACE) (16)



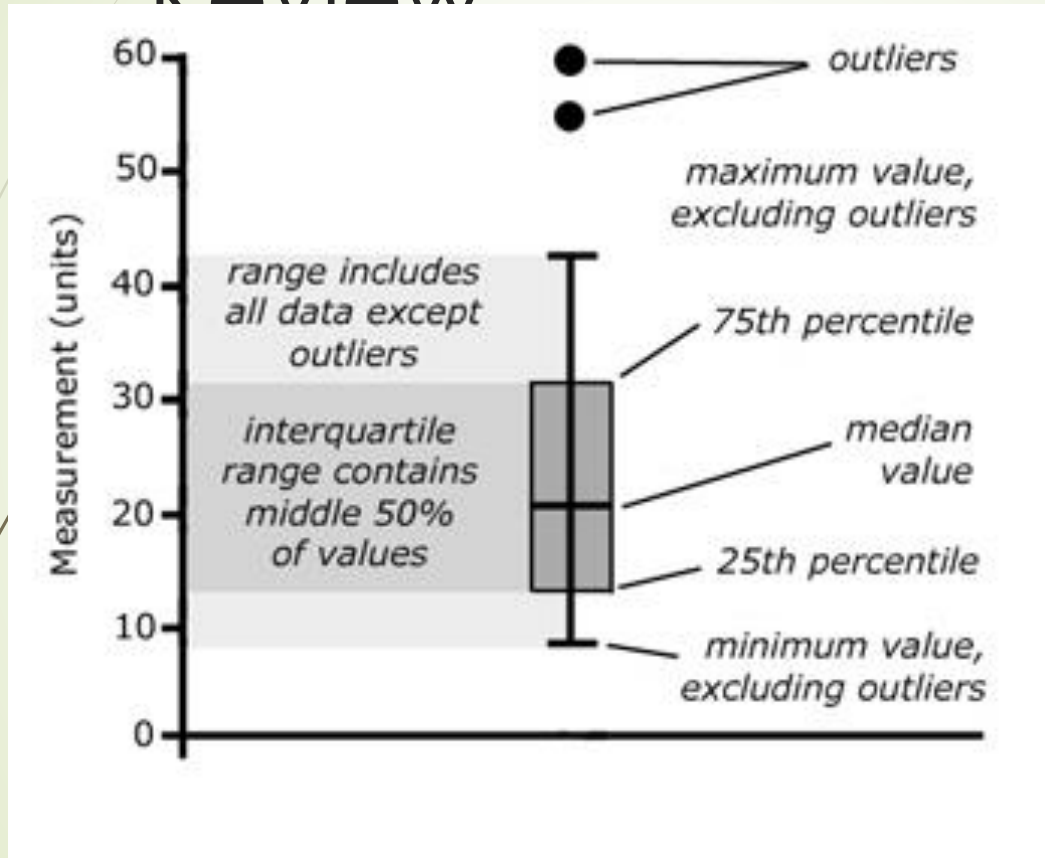
# Does GRACE help students perceive that the professor cares about their learning?

- ▶ GRACE makes me feel that my instructor cares about my learning (15)
- 

# Our Survey Respondents

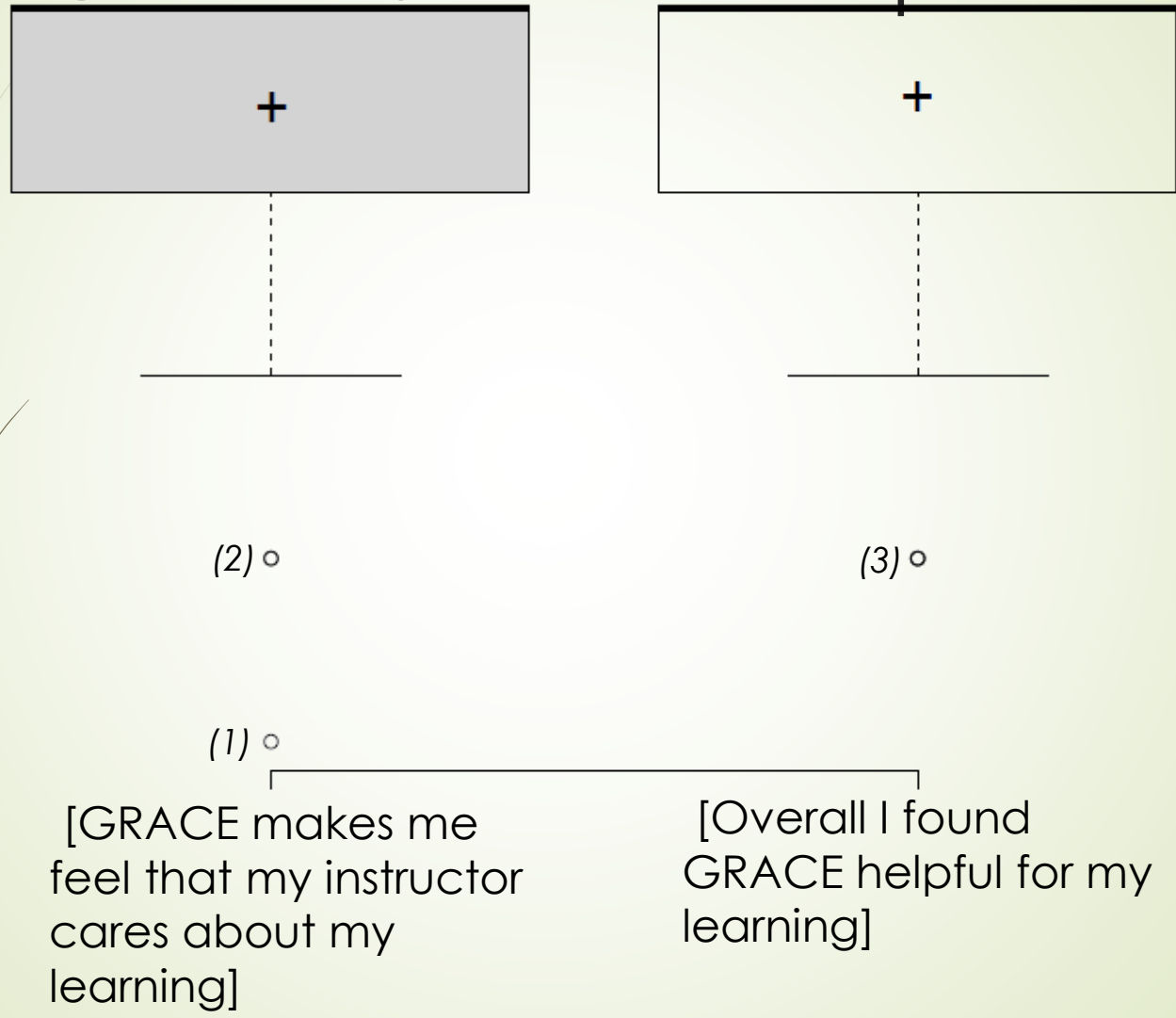
- ▶ 123 students (43 male, 80 female)
- ▶ Average GPA: 3.44
- ▶ Class Year
  - 7 different classes (2013-14)
    - ▶ Freshman: 31
      - Biology 125 (Intro to cell & molecular)
    - ▶ Sophomore: 32
      - Bio 201 (HAP I)
      - Bio 202 (HAP II)
    - ▶ Junior: 32
      - Bio 213 (Nursing Microbiology)
    - ▶ Senior: 3
      - Bio 302 (Advanced Microbiology)
      - Engineering 210 (Statics & Dynamics)
      - Physics 115/116 (Intro, Algebra-based)

# Box & Whisker Plots – A Review



# Overall Student Response

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree



# Learning the Material

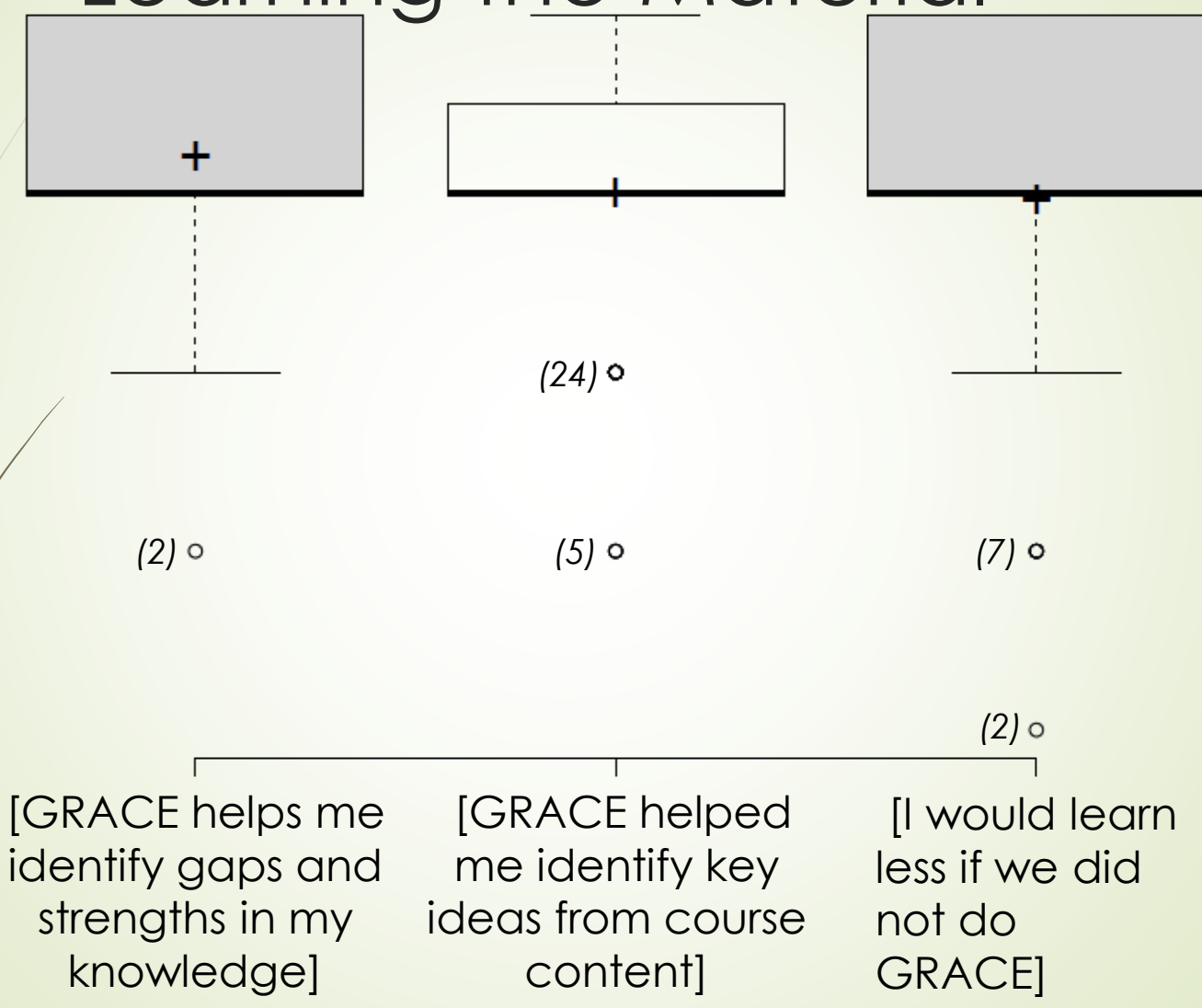
Strongly Agree

Agree

Neutral

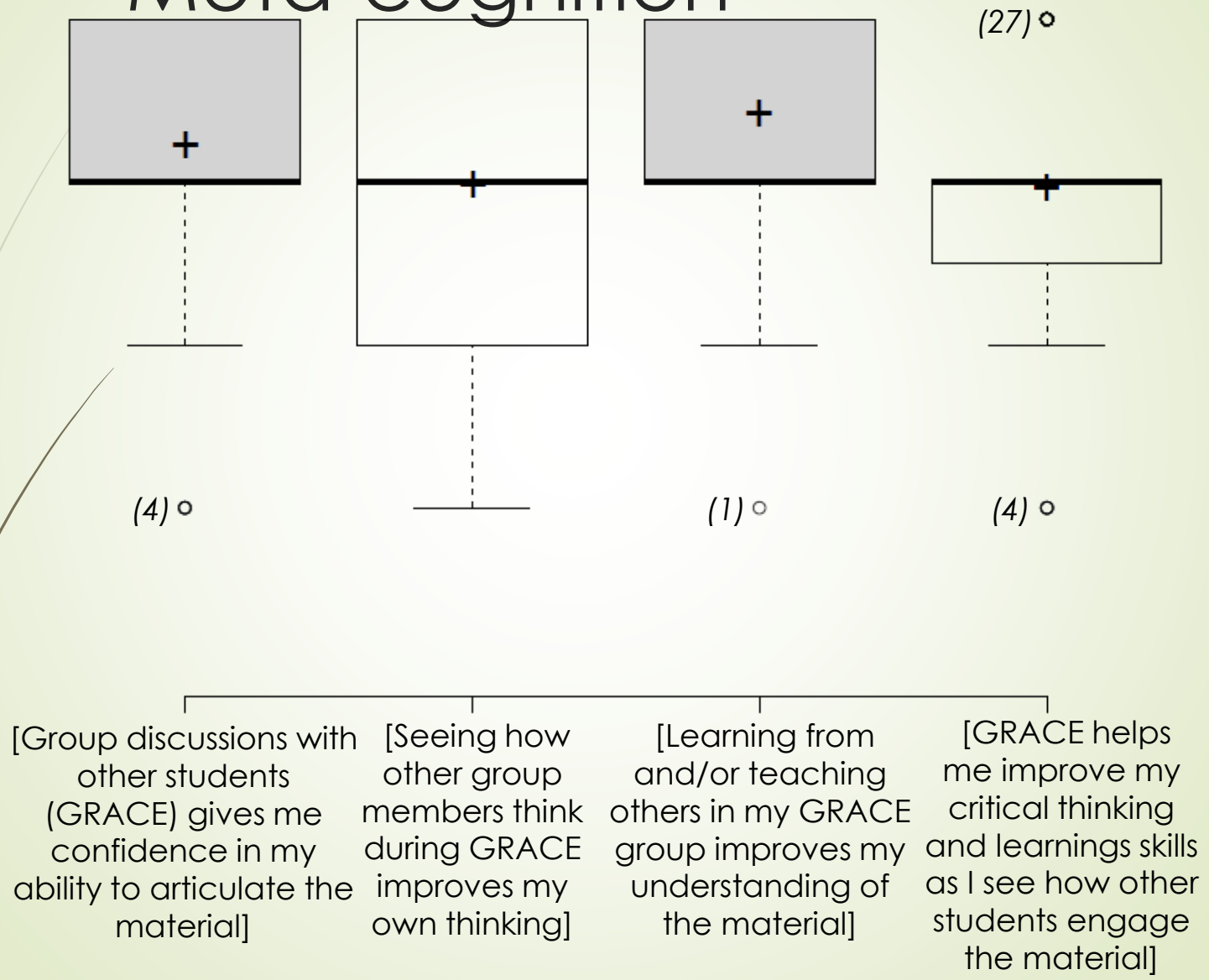
Disagree

Strongly Disagree



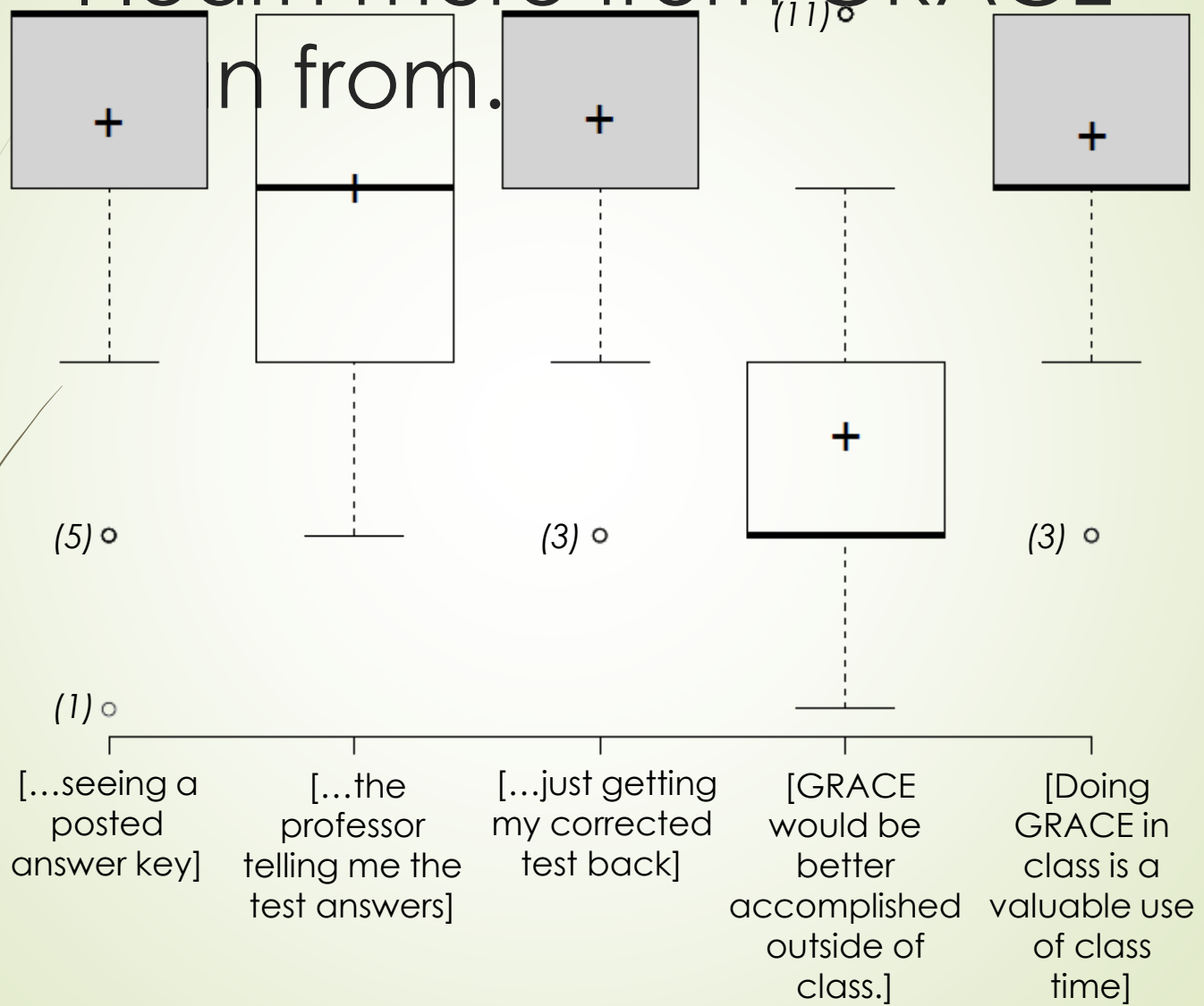
# Meta-cognition

Strongly Agree  
 Agree  
 Neutral  
 Disagree  
 Strongly Disagree



# I learn more from GRACE

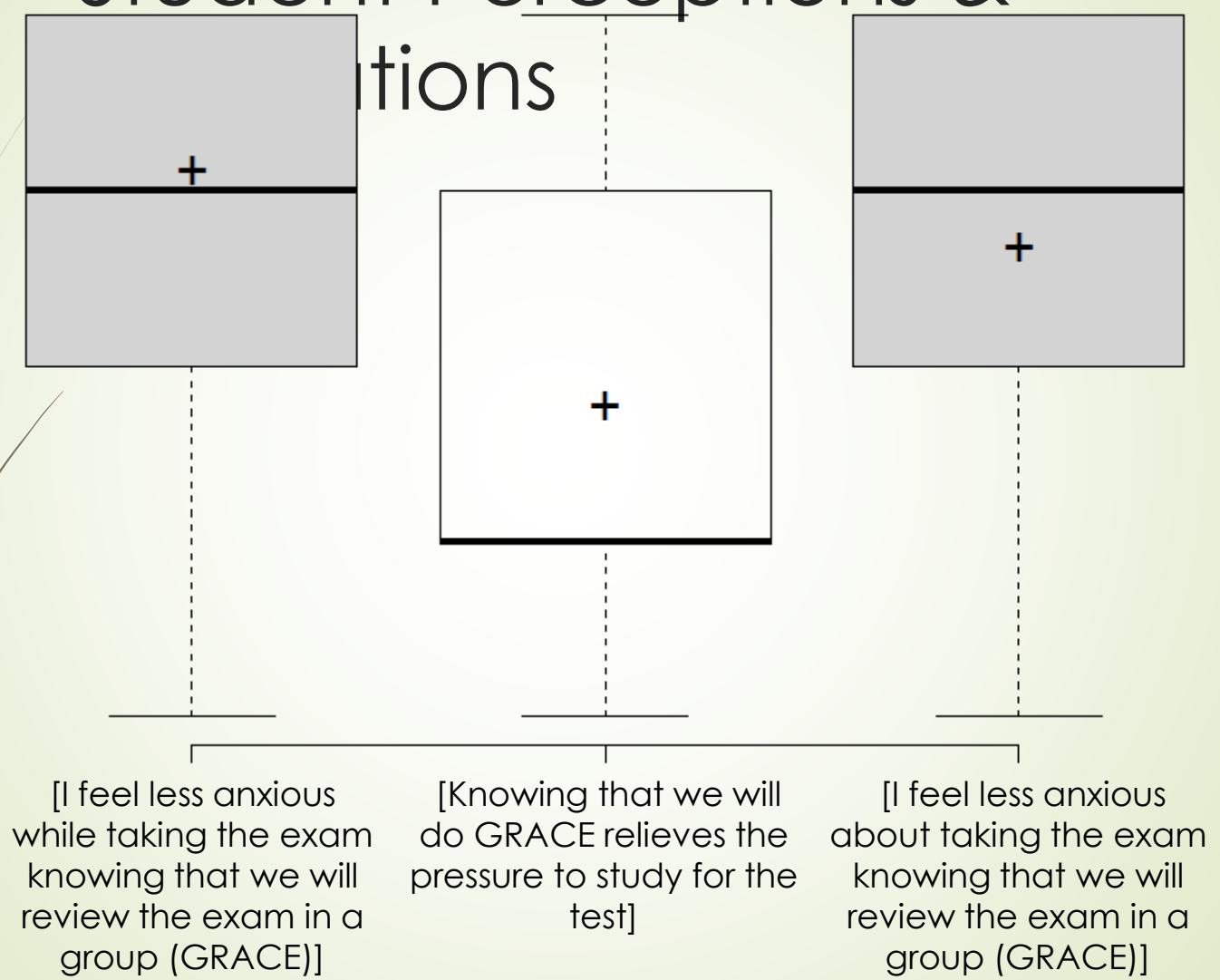
Strongly Agree  
Agree  
Neutral  
Disagree  
Strongly Disagree






# Student Perceptions & Attitudes

Strongly Agree  
Agree  
Neutral  
Disagree  
Strongly Disagree






# Some of our favorite free responses

*[GRACE] allows a professor to make a test that includes all of the information needed to know rather than a test that only includes part of the information. Complete tests, although harder, shows students how much they really need to learn and know. Grace is a way to use these tests without students' grades suffering significantly.*

*The benefits of GRACE are fairly universal in that it can be used to ensure that the key concepts are grasped.*


*[GRACE] makes learning more enjoyable and less stressful*



# Some of our favorite free responses

*Without GRACE I probably would not look over the test in as much depth, particularly since it takes a week or two to get it back...a lot is forgotten by then.*

*I get nervous taking tests and it seems like the knowledge just falls out of my head, but with GRACE I'm less nervous because I know I will have a chance to gain some points back and I can relax and think clearer...I have learned several things after taking the exam. In most classes you study for the test and then don't learn anything about that material afterward, but with GRACE you continue learning*



# Some of our favorite free responses

*I think that GRACE is a good thing because it is a great way to see where you stood in your understanding of the material while also learning the material that you weren't as confident about or never learned at all. It broadens your understanding of the entire material that was covered with the addition of what other people gathered from the information.*

*Tests don't measure learning well because in real job situations, you will most likely have group to collaborate with, less of a time limit, and less pressure. GRACE models this well.*



# Some Discussion Questions

- What other ways can we look at our data?
  - What other ways can we collect data on this group-test review strategy?
  - How can you “objectively” measure student learning?
  - Are there other variables we should consider?
- 