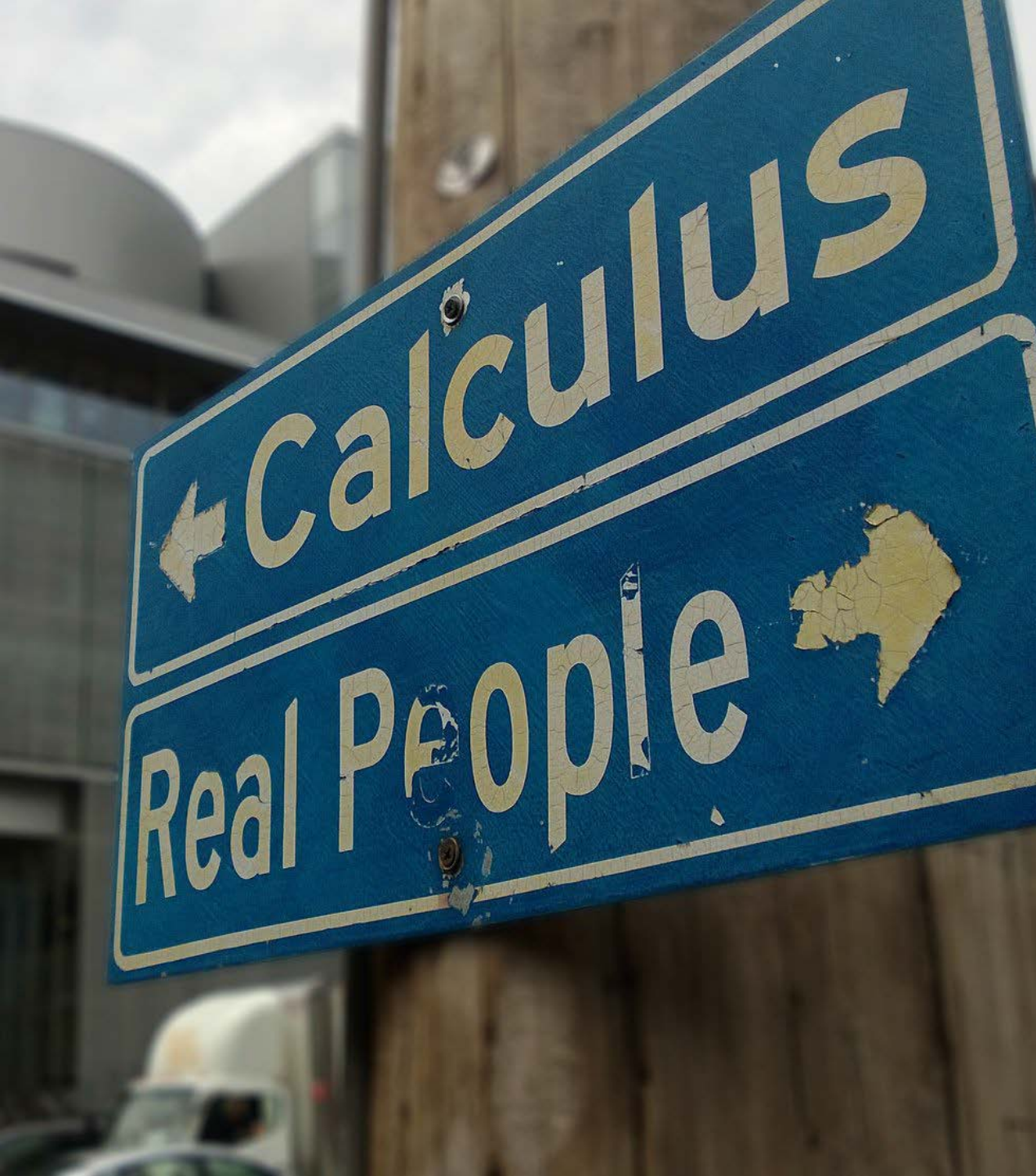


# **SCHOLARSHIP OF EXCELLENCE IN TEACHING**

**Andi Steelman**

**Mathematics Professor Rockville**

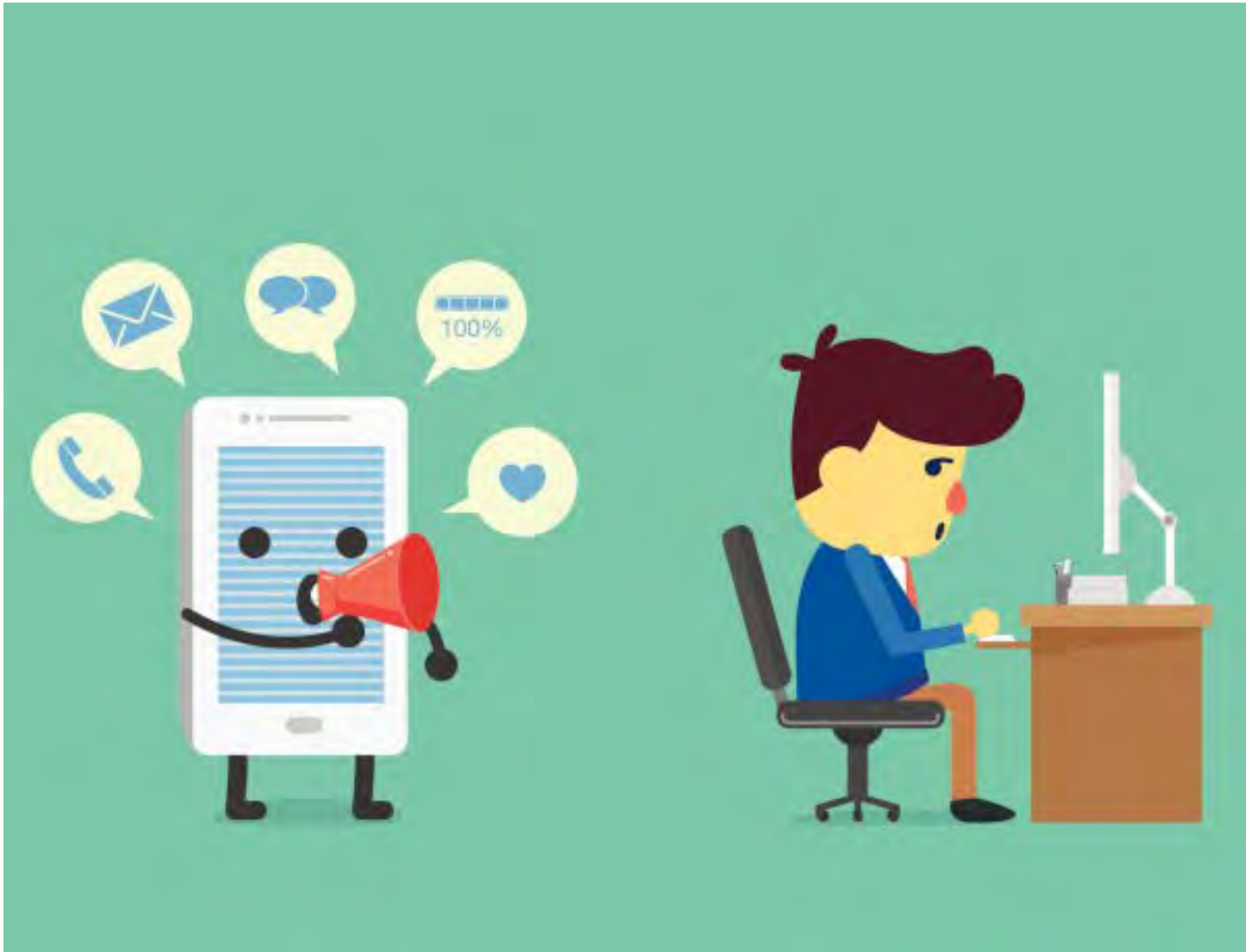




## **SEMESTER GOAL**

To Enhance  
Student  
Understanding and  
Improve Success in  
Calculus 2  
Distance Learning

# CALCULUS 2 DL CONCERNS



Student  
Expectations

Feedback

Cheating

Procrastination

Anonymity

Connections

Course Priority

Learning

# Inspirations



## 2. CREATING SIGNIFICANT LEARNING EXPERIENCES L. Dee Fink

- “We must change faculty from primarily being lecturers to faculty being primarily designers of learning methods and environments.” (Barr and Tagg 1995)
- “Studies have shown that over 75% of college instructors still teach primarily by lecture yet it has little to no effectiveness.”
- Study: Students who took a 2 semester economics course one year ago only scored 20% higher than those who never took the course. Percentage decreased to 10% after seven years.

## 1. CREATING WICKED STUDENTS Paul Hanstedt

### BRAINSTORM, ORGANIZE & DOWNSIZE

- “Pure content coverage will only get our students so far; we must make space in the syllabus for learning.”

# Implementation Strategies

Critical Thinking Skills

Feedback

Teacher/Student Relationship

Meta-cognition

Written HW Problem Sets

Discussion Boards



# STRATEGY 1

## GRADED DISCUSSION BOARDS

### SAMPLING OF QUESTIONS

- **STEP A:** What is one of your academic or personal strengths? How did you learn that behavior or skill?
- **STEP B:** Share a study strategy that worked well when studying for Test 1.
- **STEP C:** A typical Calculus 2 student spends around 5 hours in class each week and about 12-15 hours working outside of class for a total of 17-20 hours per *non-assessment* week. For the next 7 days starting Sun Nov 17 through Sat Nov 23, journal the amount of time you spend working in the class along with the activity. Be honest and only count time dedicated to this class (no phone, surfing, etc).
- **STEP D:** By Friday Nov 29, tell us something you learned about yourself by creating a course journal for one week.

## JOURNAL experience Step 4/5

Step 4/Step 5:

SO HAPPY TO SEE THIS  
REPOSE. IT WAS RATHER  
COMMON.

Seeing as today was the last day to write in how we spend our time journaling, I figured I'd share how I felt about it now before I forget...

I realized I DO NOT have enough time to take an online class and I realized that I do not study enough for this class. I was hoping I would look at my complete journal and say, "I do enough to succeed in this class," but that was not the case. I like this idea as it forces me to hold myself accountable for time spent studying, so I think I will continue journaling my time spent on calculus material until this class is over.

▲ Hide 2 replies

██████████

1 month ago

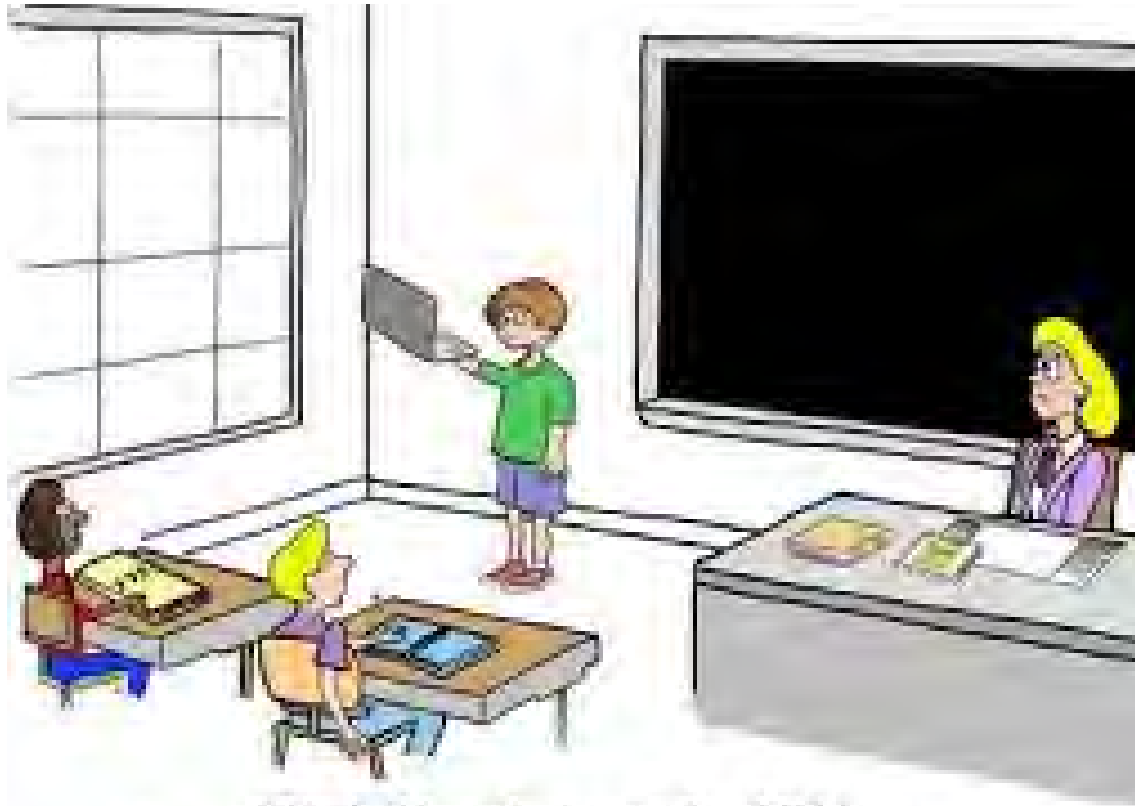
**RE: JOURNAL experience Step 4/5**

I wish I could "like" this post. I had the exact same experience! The journaling really puts things into perspective.

**Discussion Board Sample Reply**

# STRATEGY 2: WRITTEN HOMEWORK PROBLEM SETS

## Critical Thinking & Feedback Before Tests

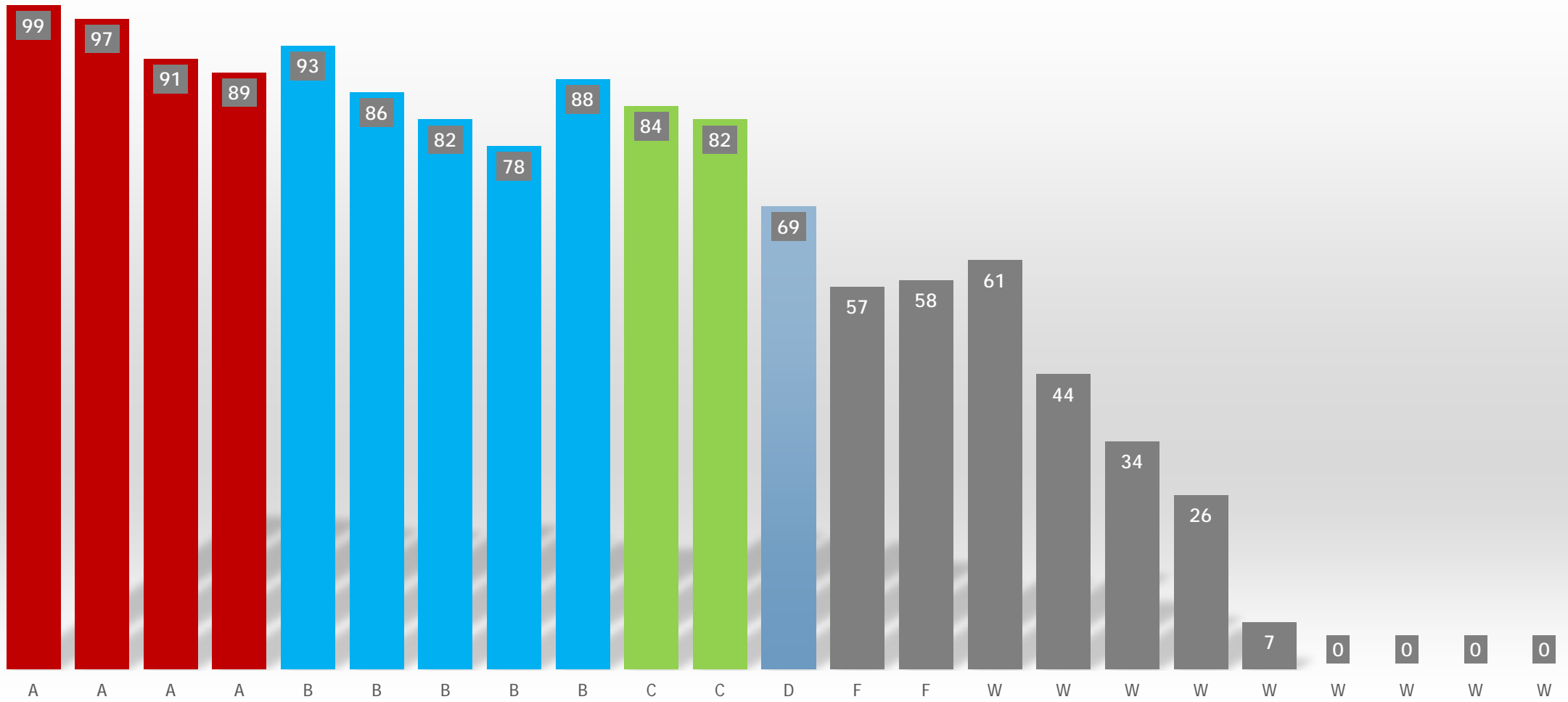


"Oh, I did my homework, alright.  
I found a paradise called 'online school helper'."

- Goal: To create problems challenging and relatable to future courses.
- Challenging to write and grade.
- Students were given 2 weeks yet many downloaded the assignment 2 hours before it was due.
- Many students cheated on first assignment so had to get creative for future ones.



Course Grade vs Written HW Average

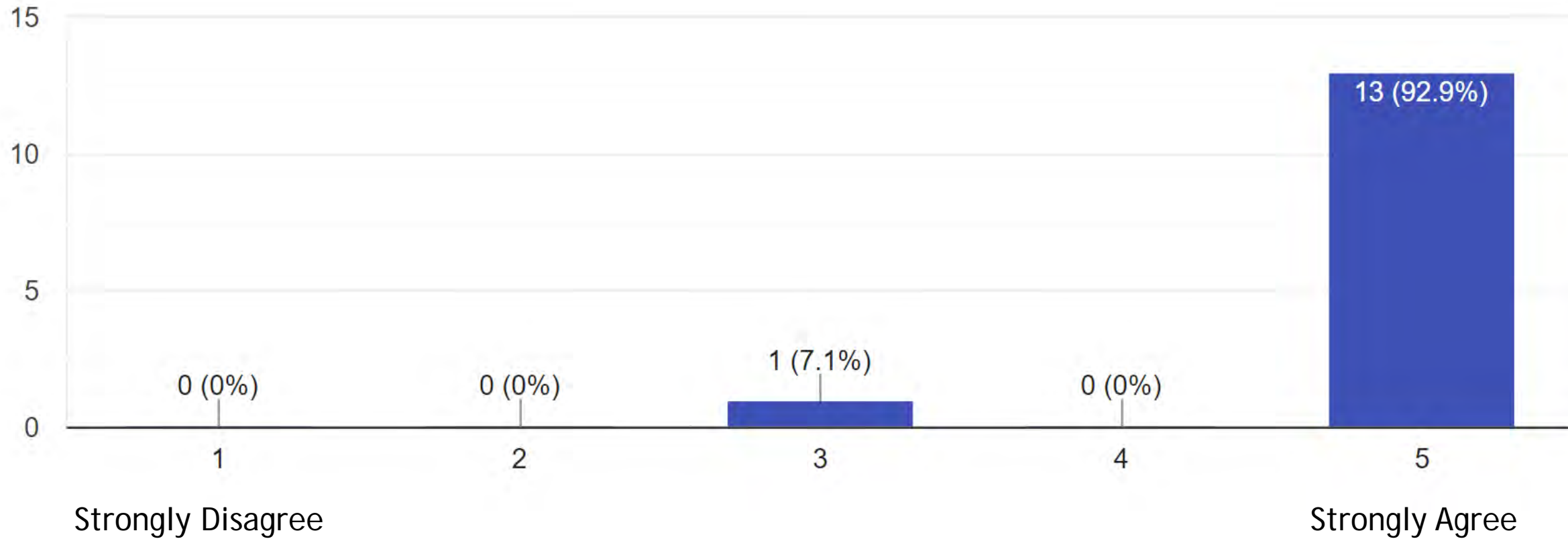


# Course Grade vs Written HW Average

The instructor was responsive to emails and questions.

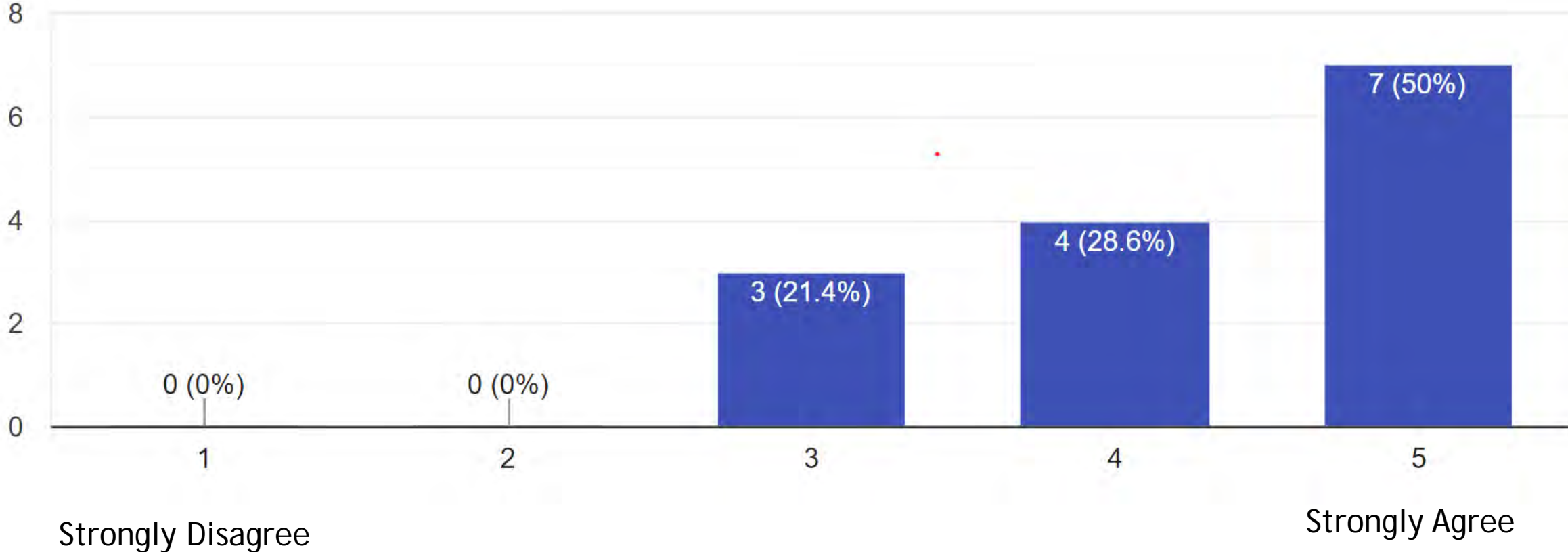


14 responses



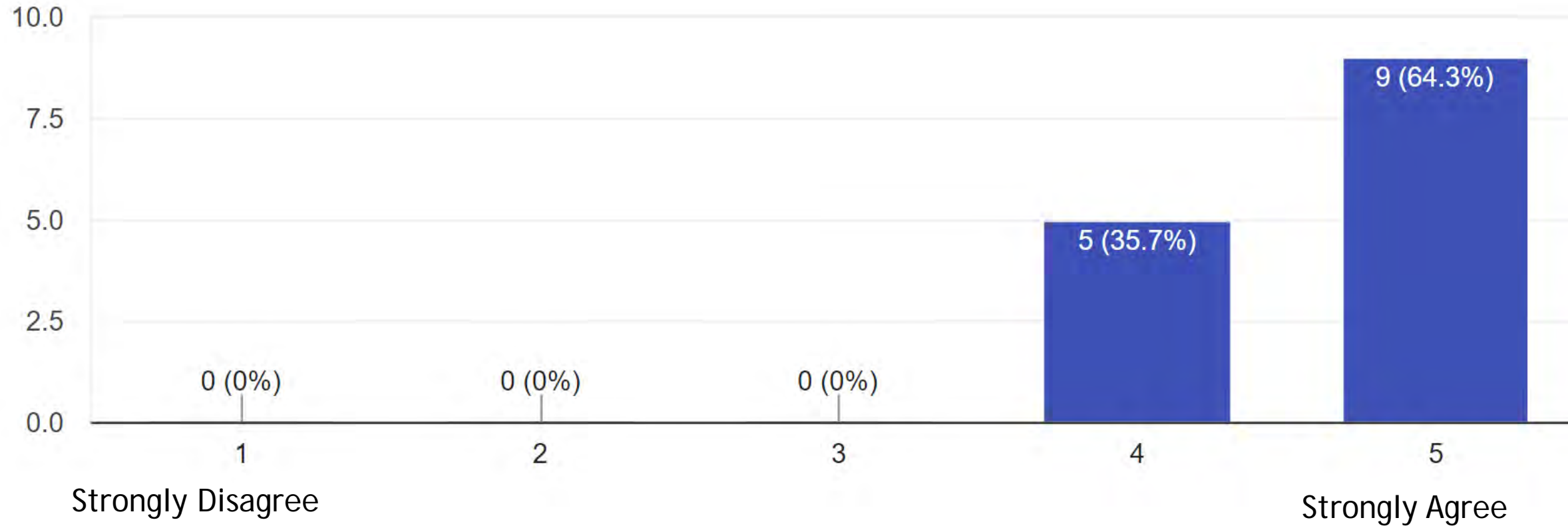
I felt connected to my instructor.

14 responses



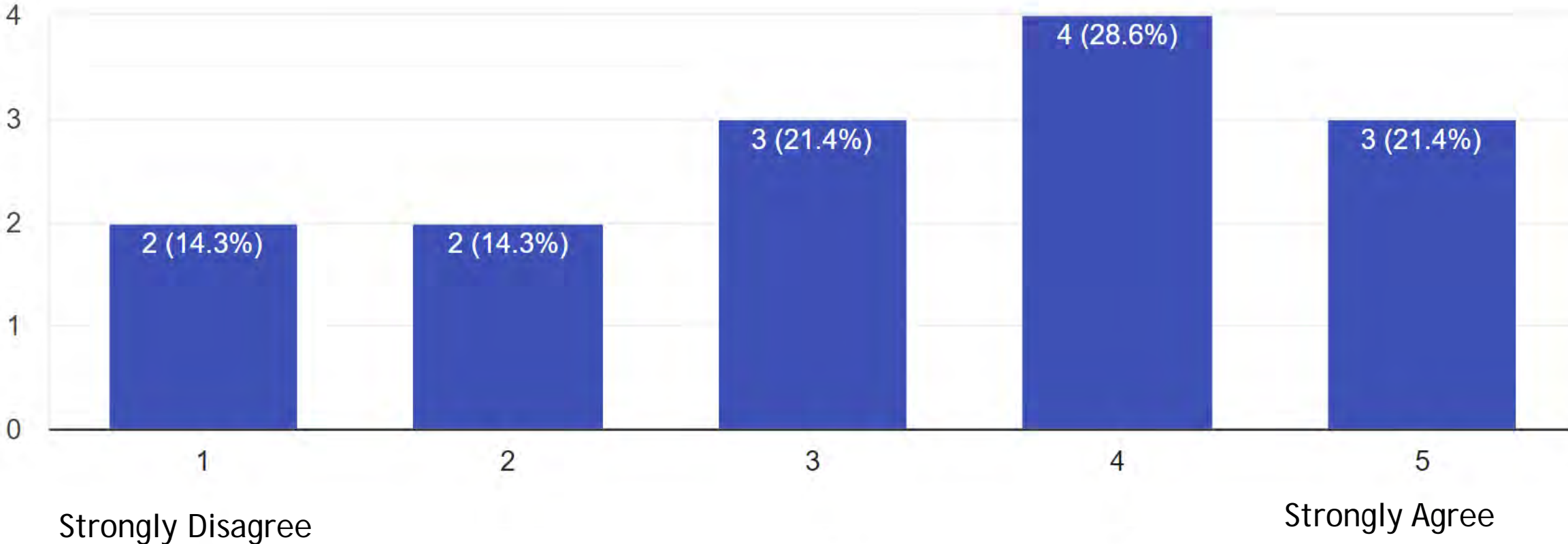
Course content was structured and well organized.

14 responses



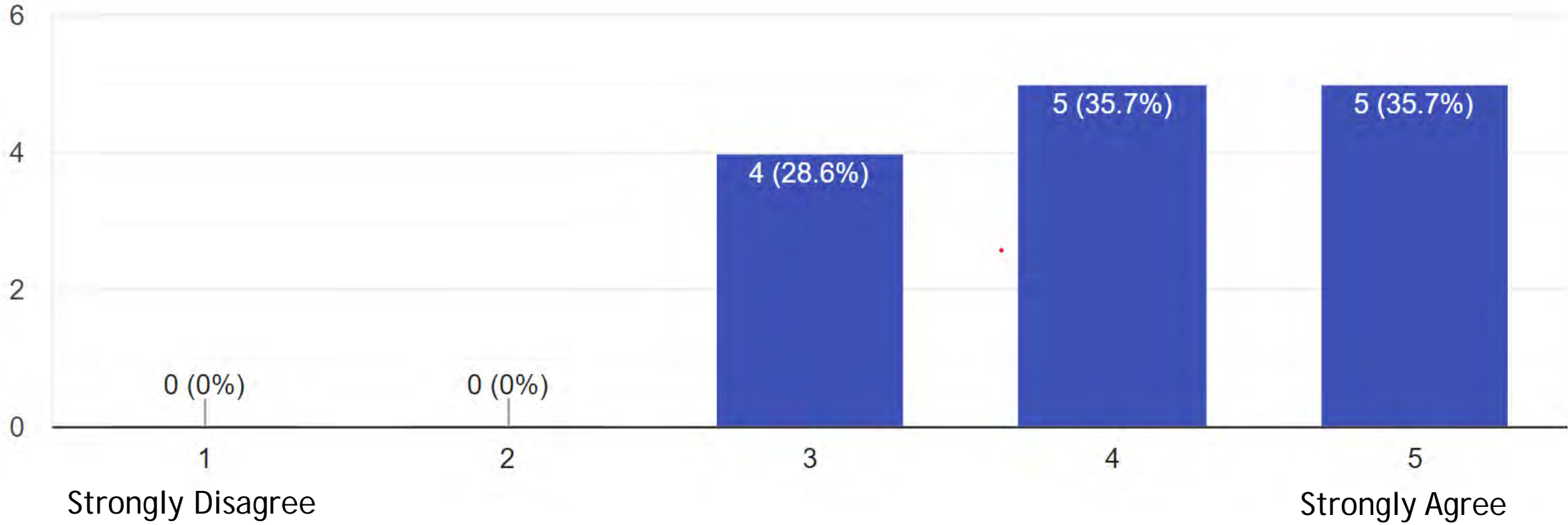
# The Graded Discussion Board posts made me reflect on my own learning.

14 responses



# The Written Homework Problem Sets made me think deeply.

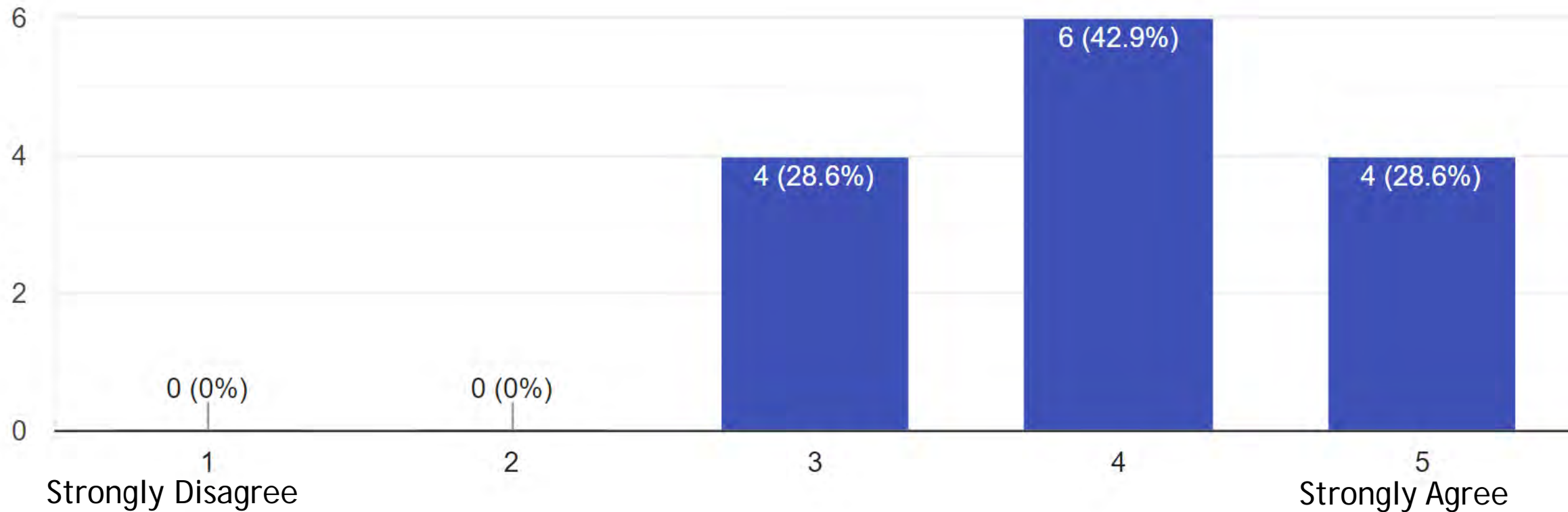
14 responses

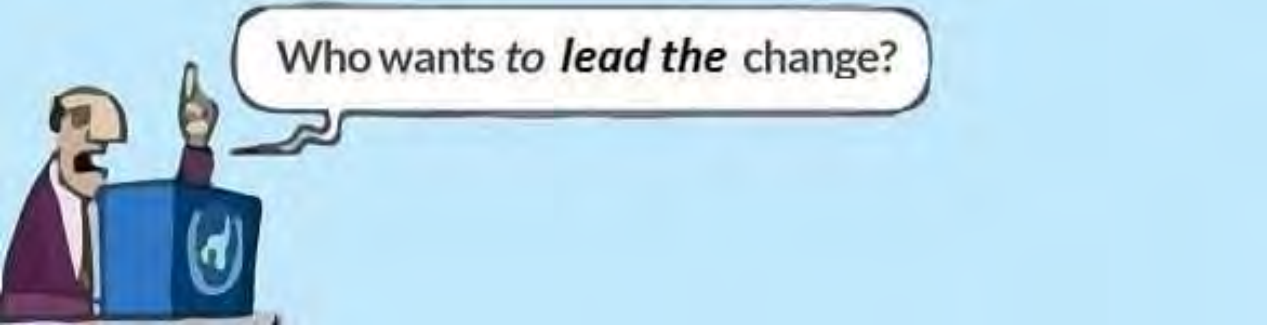


I learned from the feedback given on the Written Homework Problem Sets before each test and applied the feedback to tests.



14 responses





# CHANGES TO BE MADE

- Collect the online homework written out each week.
- Collect notes weekly.
- Add take home portion to all tests with challenging problems.
- Keep the Discussion Boards but start with journaling.



- Connections are possible in DL.
  - Don't underestimate Discussion Boards in math.
  - Challenging problems, course structure & responsiveness are important to students.
  - Feedback is appreciated.
- 
- I was naive.
  - Students knew what to do but many did not follow through.

# Learning Lessons