

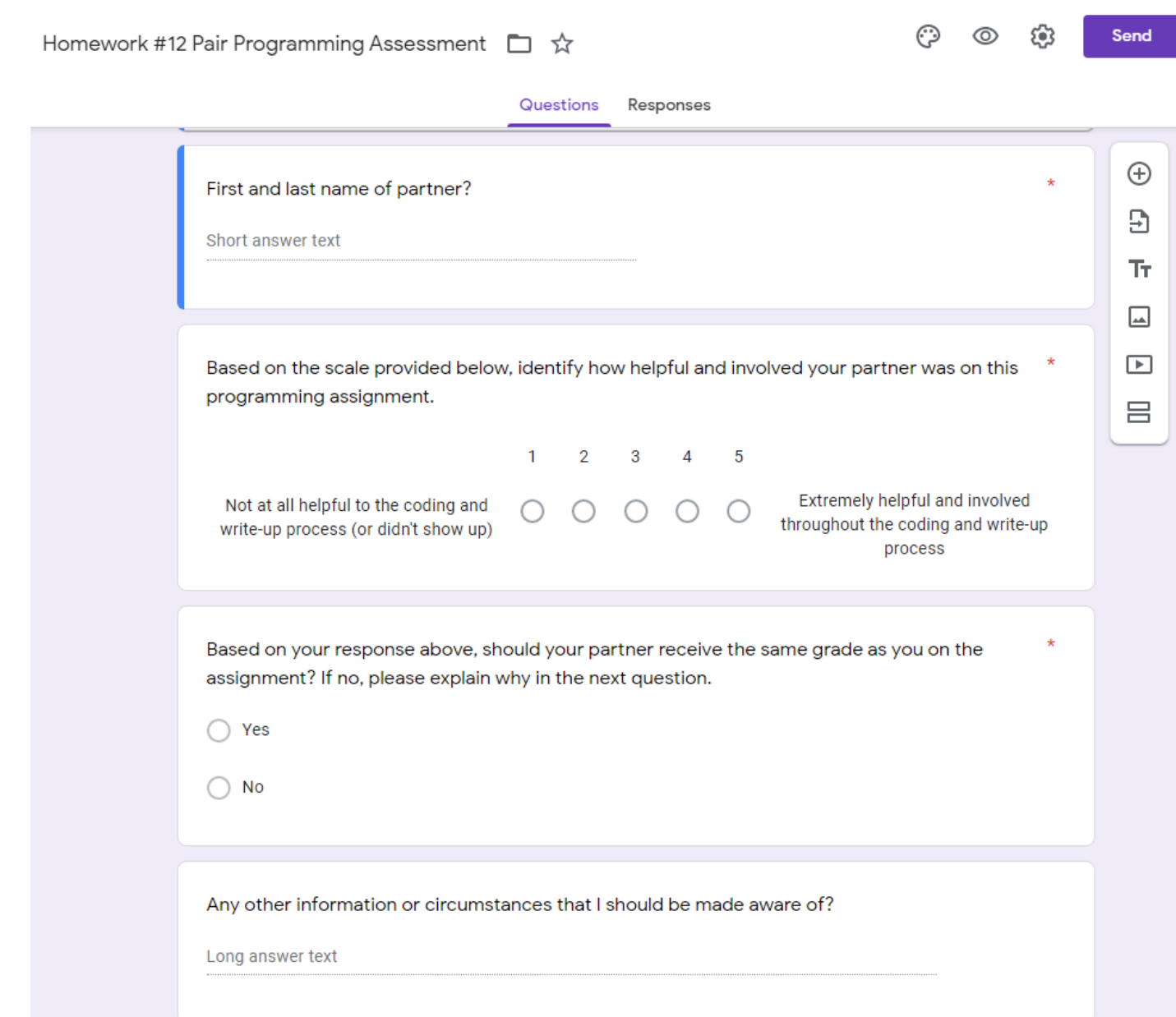
Context

- METR 4105 is a required course for meteorology majors
- The course is most often taken spring semester sophomore year
- Class size is typically 15 – 17 students
- Primary programming language used is Fortran, but some Python and visualization in GrADS is included
- Course is taught using a flipped classroom approach
- Spring 2021 offering was taught synchronously online via Zoom

Implementation

- Each week, students were randomly assigned to a partner to work on a coding assignment
 - Collaboration occurred via Zoom breakout rooms for each pair
- Students were directed to regularly trade off doing two roles:
 1. Driver
 2. Navigator

Roles were indicated via code comments
- A pair assessment was submitted to provide feedback on contributions of partner



Homework #12 Pair Programming Assessment

Questions Responses

First and last name of partner?
Short answer text

Based on the scale provided below, identify how helpful and involved your partner was on this programming assignment.

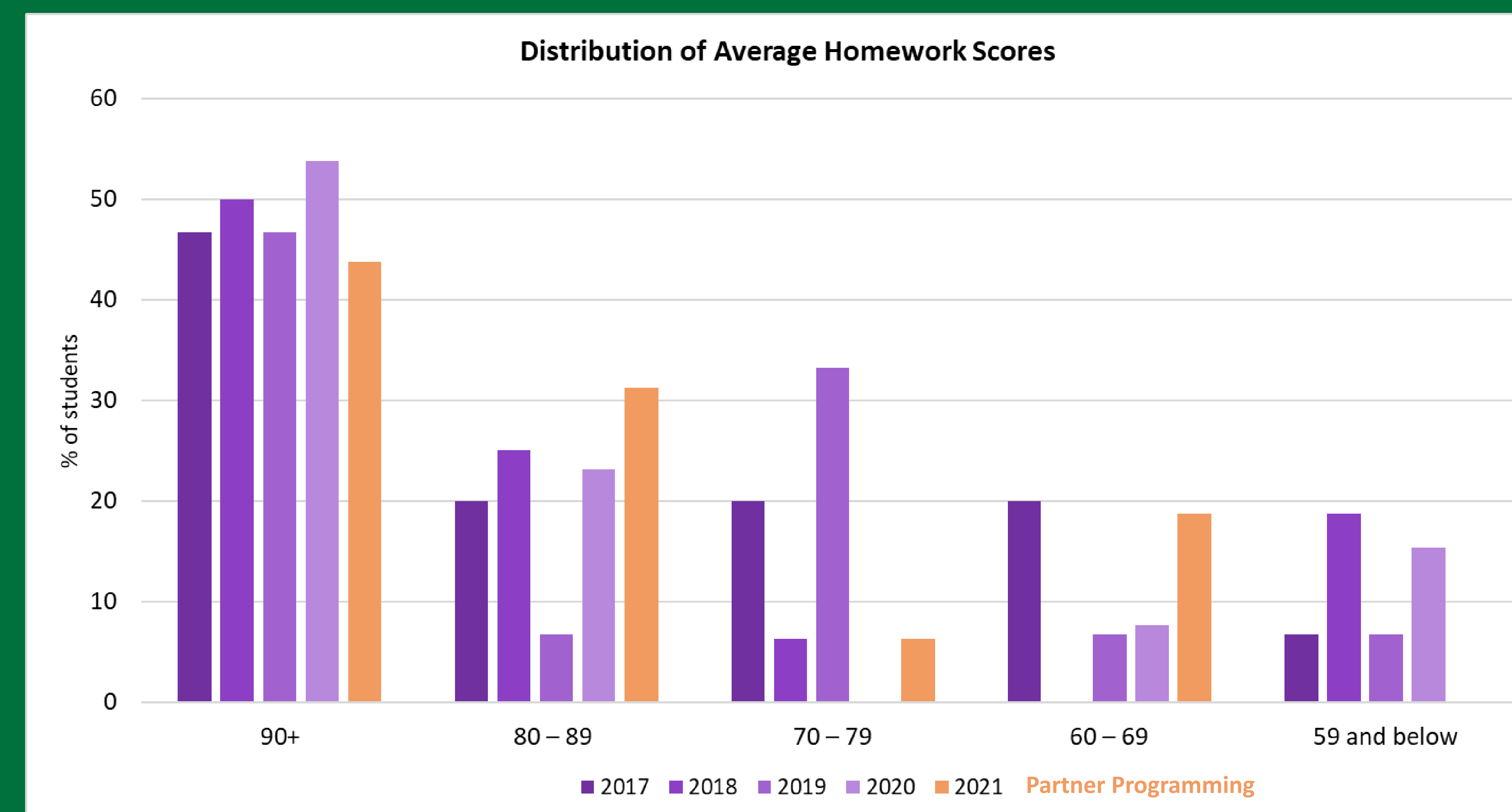
Not at all helpful to the coding and writing process (or didn't show up) 1 2 3 4 5 Extremely helpful and involved throughout the coding and writing process

Based on your response above, should your partner receive the same grade as you on this assignment? If no, please explain why in the next question.

Yes
 No

Any other information or circumstances that I should be made aware of?
Long answer text

Pair programming is an effective way to engage students and enhance student success and learning of programming concepts



Contact me: Casey.Davenport@uncc.edu

pages.uncc.edu/casey-davenport

Student Feedback

Mid-semester

- *"Still taking things with caution, but I'm much more confident than at the start of the semester."*
- *"I am a lot more confident in this class than I was before it started. Everyone I have partnered with has been awesome and helpful so far."*
- *"I am really enjoying the partner format for assignments as it helps motivate me to complete the work."*

End of semester

- *"It was great to be able to bounce ideas off of each other and come up with different ways to attack problems."*
- *"Putting two minds together and dividing the workload helped me so much in such a busy and stressful semester."*
- *"After taking this class previously, having a second set of eyes and brains on each assignment proved to be extremely valuable and for the better...working together is challenging, but it has so many benefits."*

Challenges to Consider

- Extended student absences
- Unresponsive/uncooperative students
- Random partners can be mismatched in terms of knowledge, motivation, and willingness/time to work