

Preferred Learning Style Influences Student Perception of Collaborative Group Testing

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Background

- Testing is not the end of the learning process

Murray, 1990

- Student-to-student knowledge transfer facilitates enhanced understanding & synthesis

Rao and DiCarlo, 2000



Collaborative Group Testing

- Students complete a test individually, then take the same test as a member of a group
- Documented use in business, physiology, sociology

Zipp, 2007; Bacon, 2011; Giuliadori et al., 2008; Cortright et al., 2003; Rao et al., 2002; Nowak et al. 1996



Objective

- Evaluate student responses to CGT in agriculture classes
 - Consider factors that influence student perception of group testing



Methods

POPULATION

- 124 students
- 3 upper-division agriculture classes





Methods

SURVEY INSTRUMENT

Every group member contributed to the test.

Group testing increased my confidence in the course.

There was a lot of discussion during the group test.

Group testing improved my relationship with other students.

Group testing improved the classroom environment.

Group testing improved my perception of the course.

The group testing process was not too complicated.

The extra time required for group testing is not a problem.

1	I disagree completely
2	I disagree
3	I disagree somewhat
4	I neither agree nor disagree
5	I agree somewhat
6	I agree
7	I agree completely



Methods

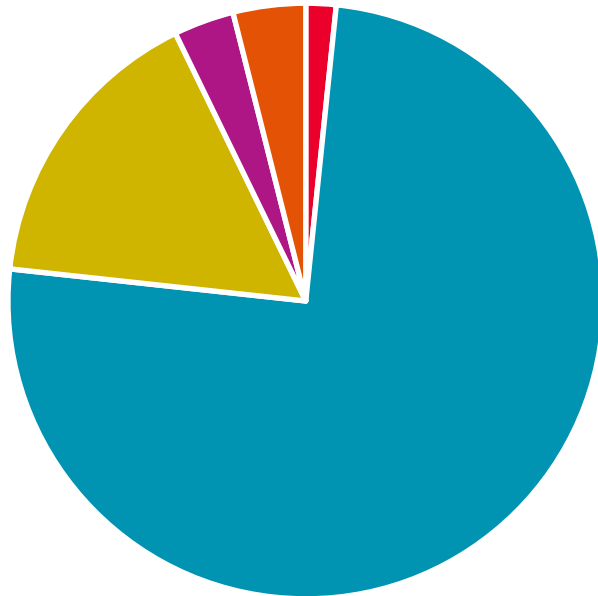
DATA ANALYSIS

- Analysis of Variance
- Correlation
- Stepwise regression



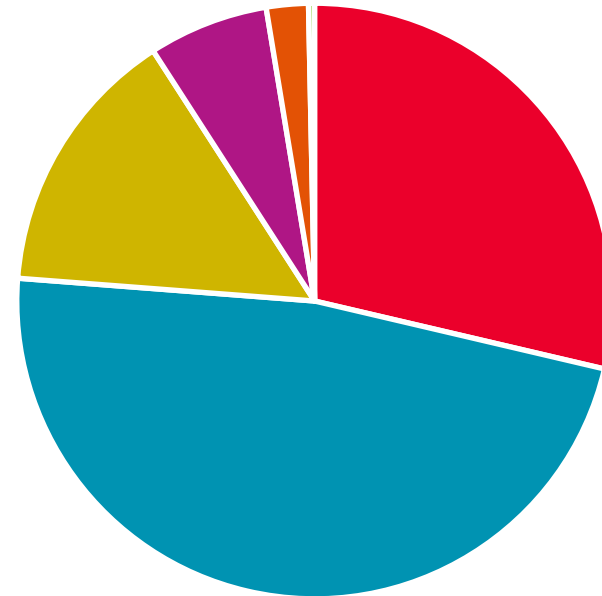
Results

Age



■ under 19 ■ 19-23 ■ 24-28 ■ 29-33 ■ over 33

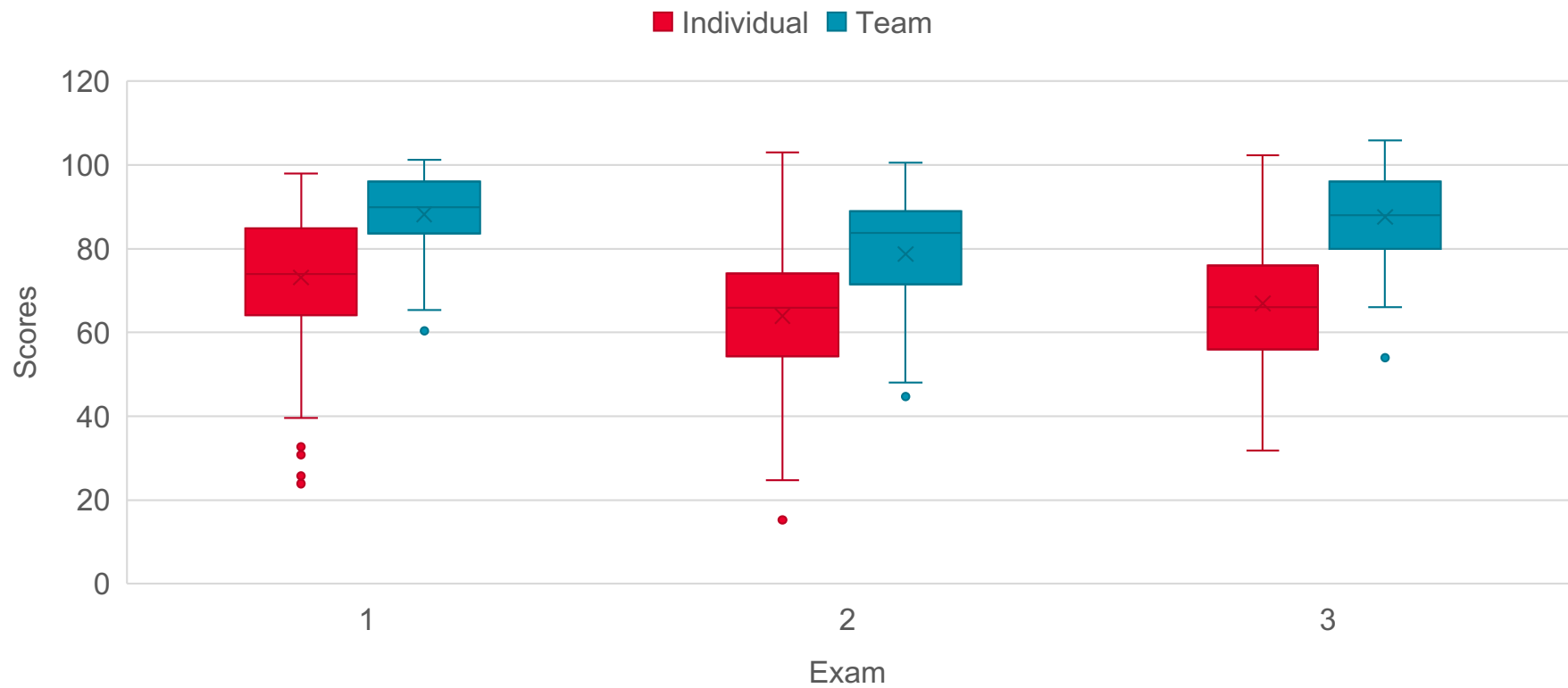
Grade



■ A ■ B ■ C ■ D ■ F ■ I/W



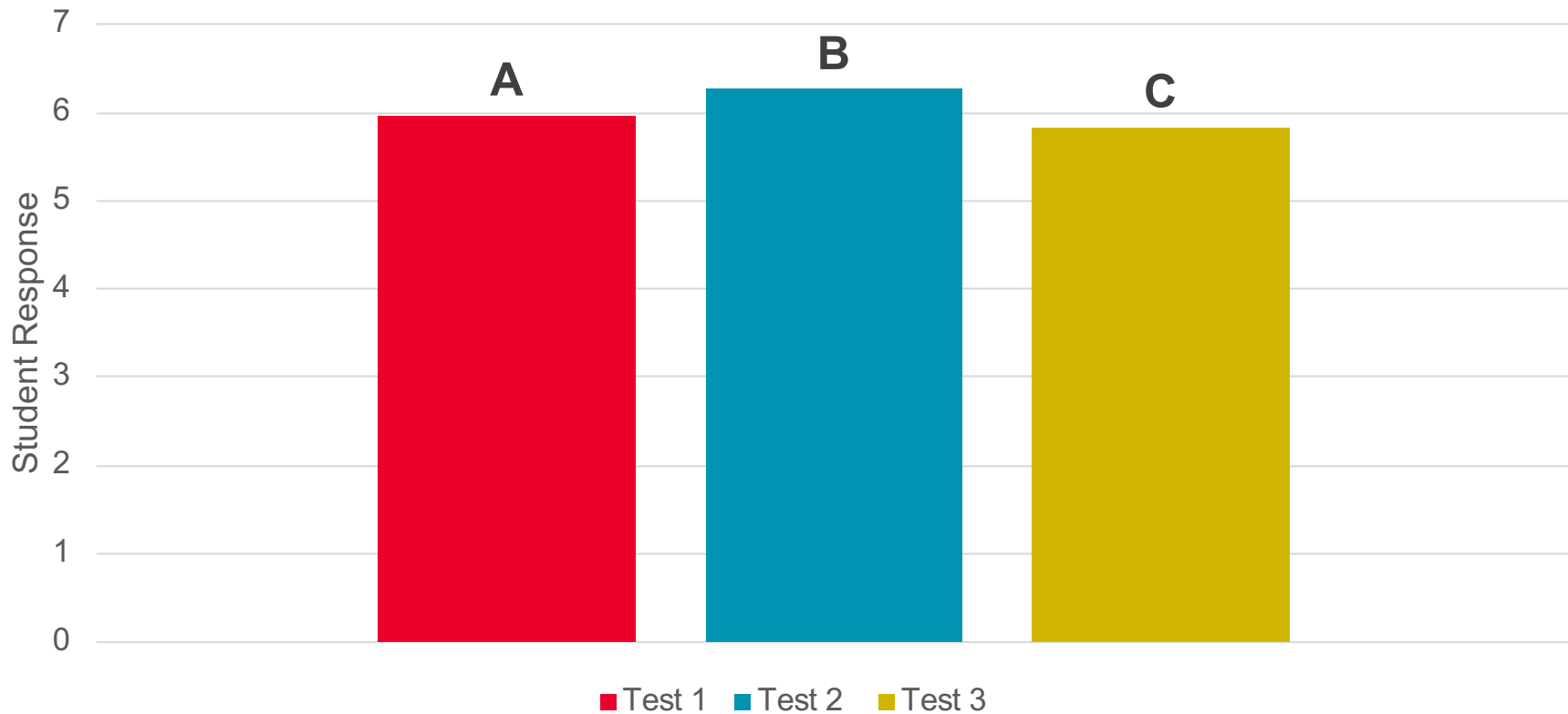
Exam Scores





Student Perception of CGT

AVERAGE RESPONSE

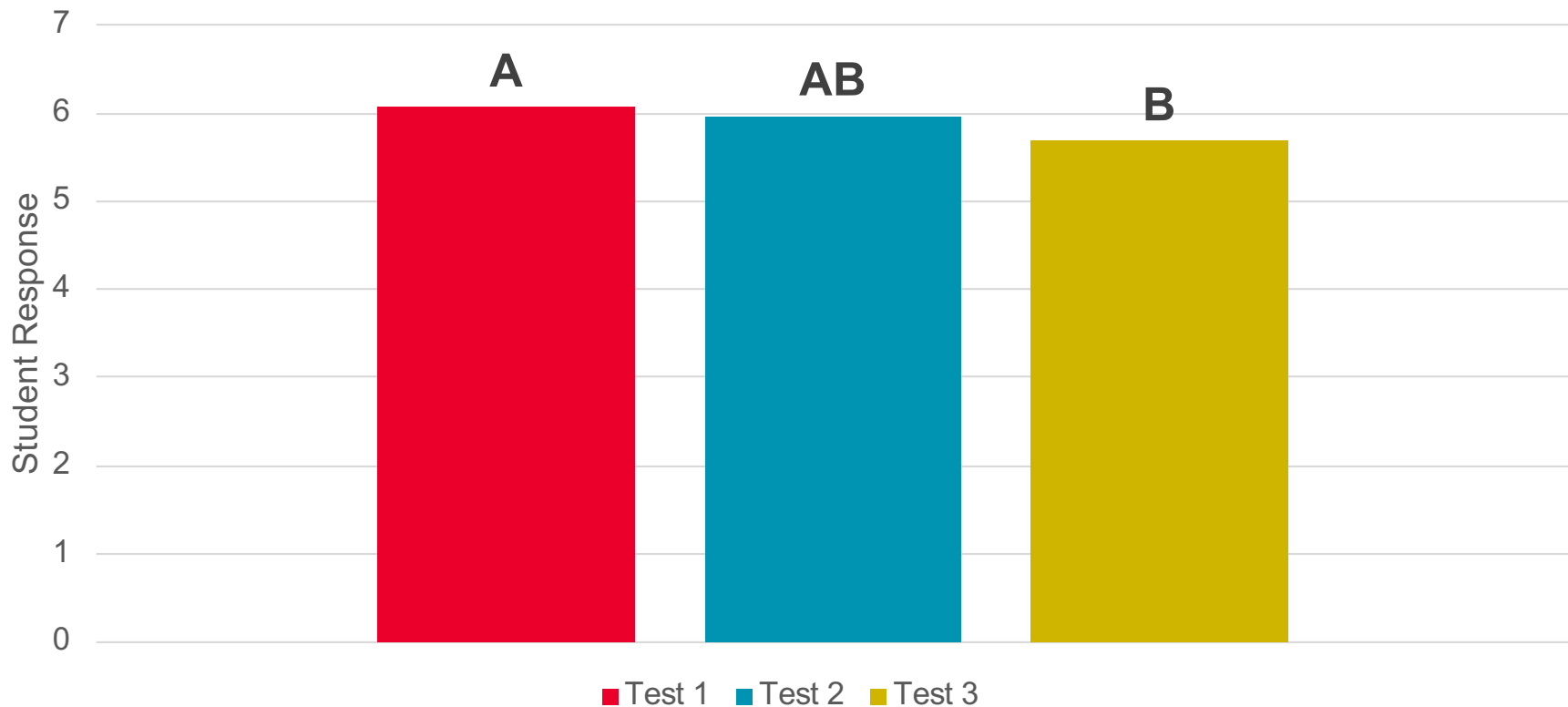


Means with different letters are significantly different according to Tukey's multiple pairwise comparisons ($\alpha < 0.05$).



Student Perception of CGT

GROUP TESTING HELPED ME UNDERSTAND THE MATERIAL BETTER

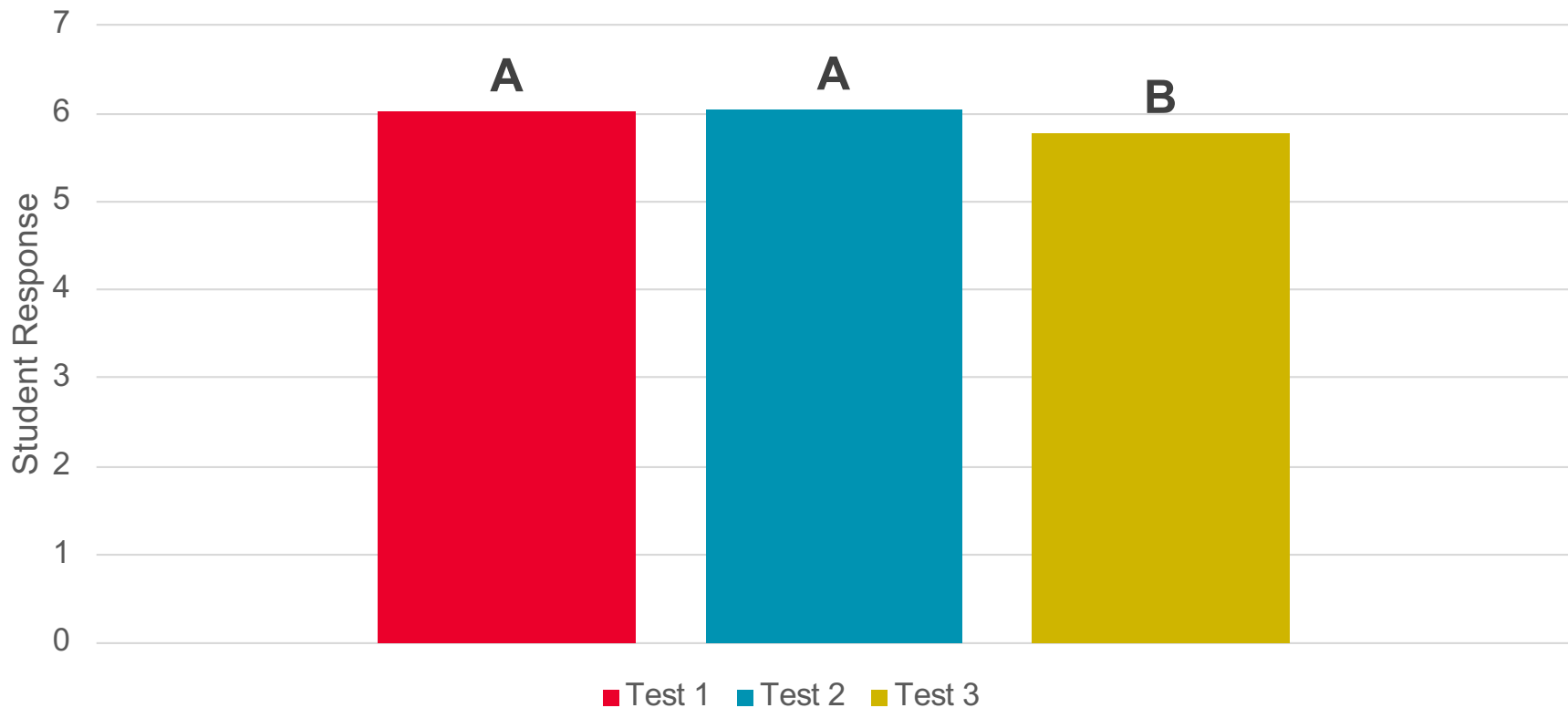


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Student Perception of CGT

GROUP TESTING ALLOWED ME TO INCREASE MY LEVEL OF KNOWLEDGE

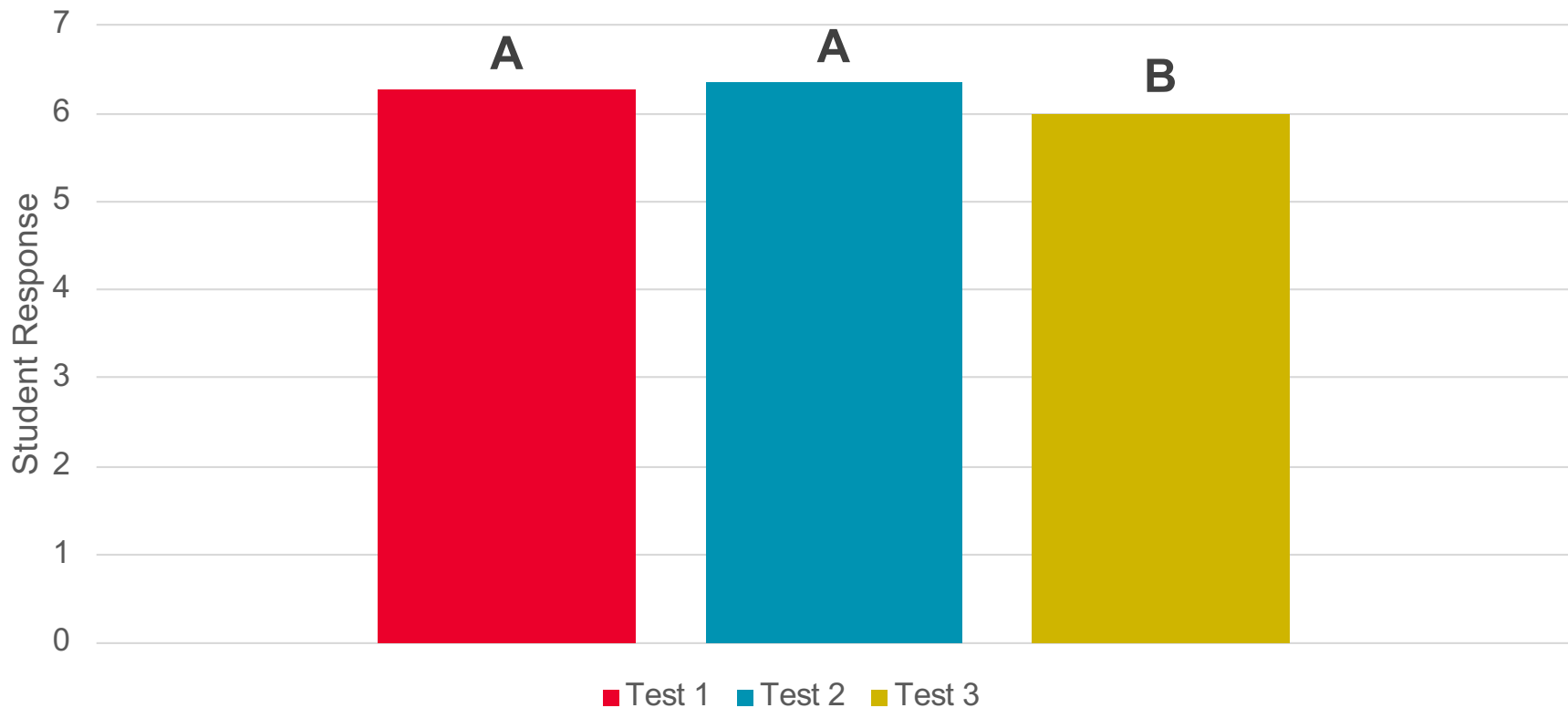


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Student Perception of CGT

GROUP TESTING IS AN EFFECTIVE LEARNING METHOD

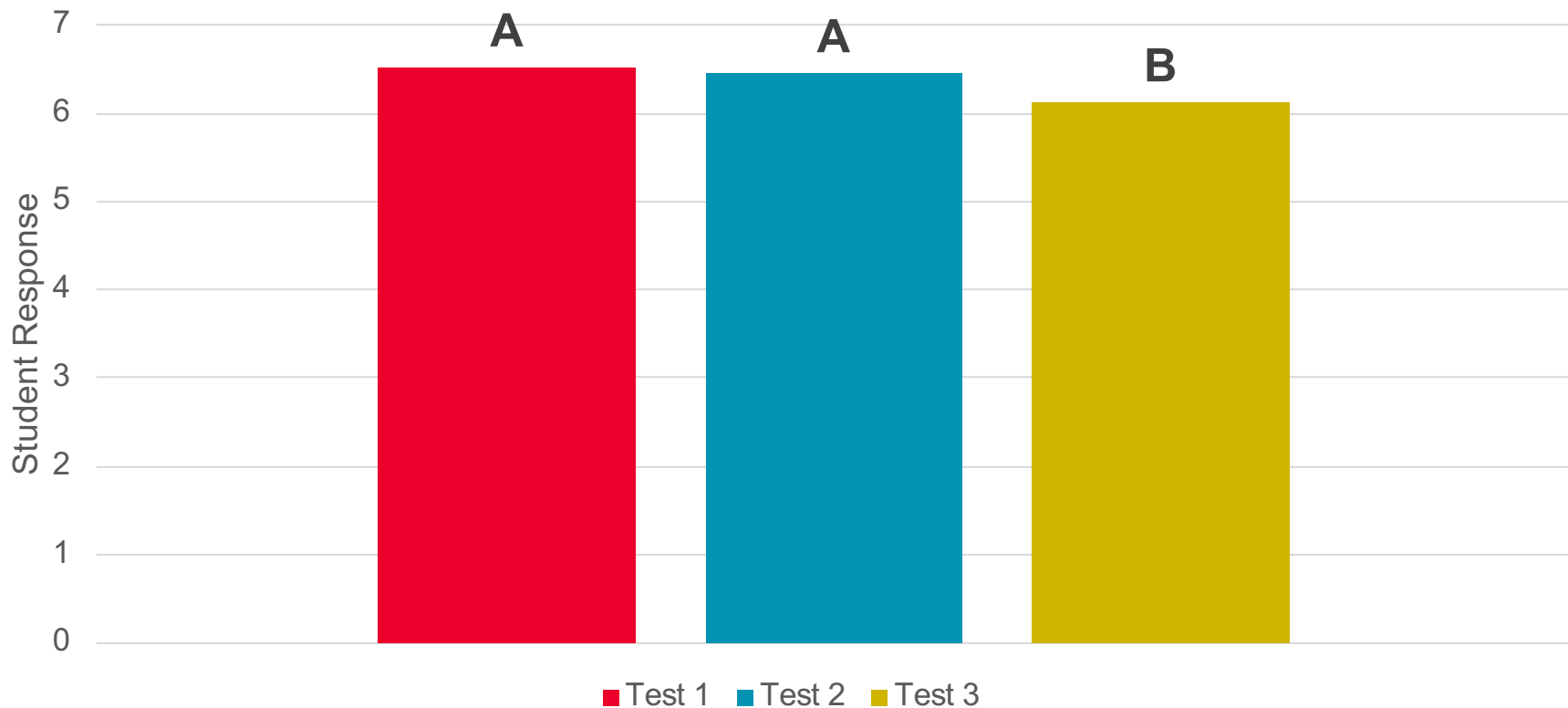


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Student Perception of CGT

I LIKED GROUP TESTING



Means with different letters are significantly different according to Tukey's multiple pairwise comparisons ($\alpha < 0.05$).



Predictors of Student Perception

ALL FACTORS

Factor	R ²	F-value	Pr>F
Learning style	0.11	2.58	0.0150

Major, minor, first generation status, gender, and credit hour were not included in the model with $\alpha = 0.15$

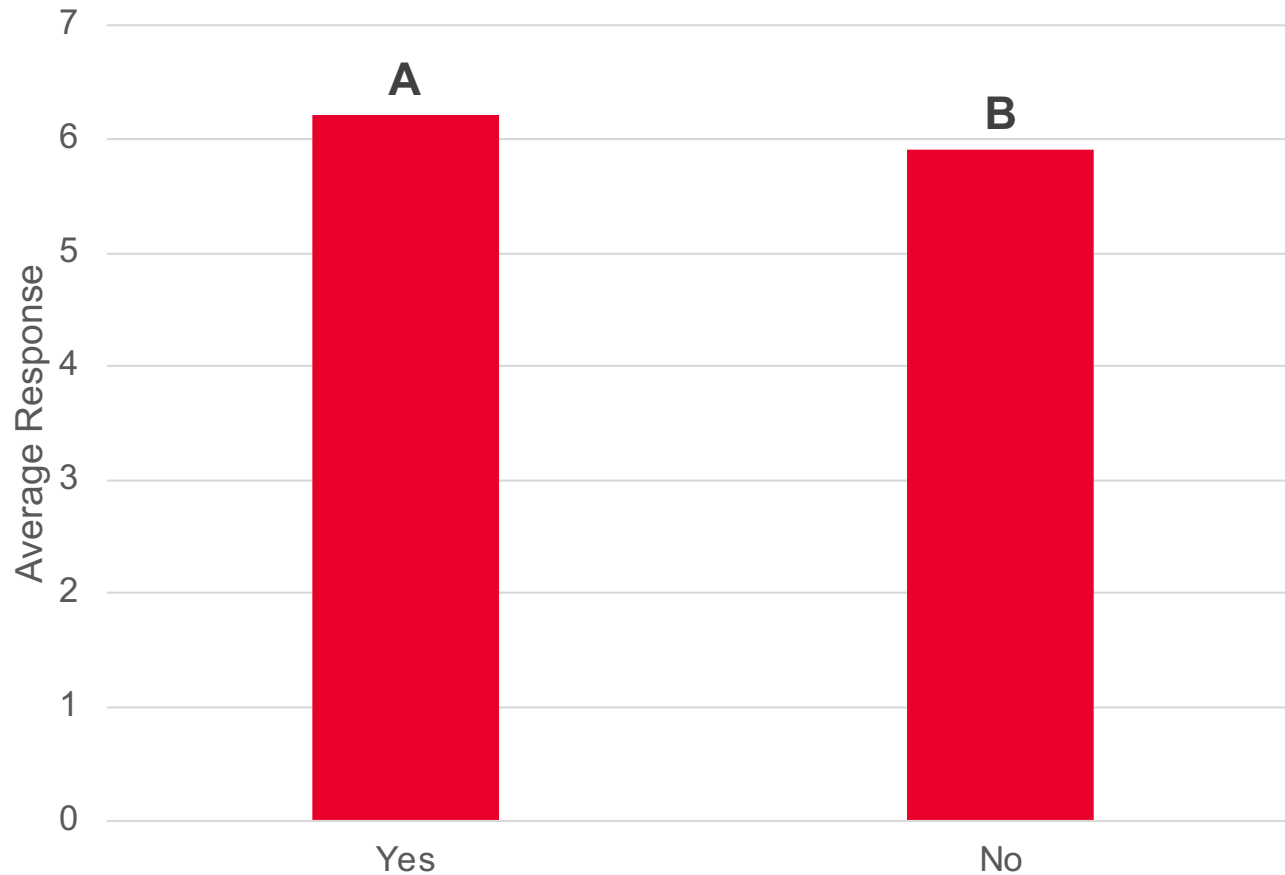
LEARNING STYLE

Factor	R ²	F-value	Pr>F
Social	0.04	13.15	0.0003

Visual, auditory, reading/writing, verbal, physical, and solitary learning styles were not included in the model with $\alpha = 0.15$



Social Learning Style



Means with different letters are significantly different according to Tukey's multiple pairwise comparisons ($\alpha < 0.05$).



Student Comments

Group testing helped me so much, I wish every class did it, I'd learn so much more.

Talking with someone/teaching each other helps ya remember things more.

I really liked it. It helped because after the test I looked up everything I didn't know and it made me review and remember everything I did know.

I am a true believer in this group testing stuff. Keep doing it. Please.

While it is good for those who struggle, some may use it as an excuse not to try as hard the first time.

I liked the group testing but my group wouldn't go over why something would either be right or wrong.



Conclusion

- Students like CGT
 - Students who view themselves as ‘social’ learners like it a little better
- Additional research relating group testing to learning style may improve effectiveness
- Little information about impact on long-term retention of information



Recommendations

- Things to consider:
 - Course difficulty
 - Exam format
 - How to form groups
 - How to submit group exams