

DIFFERENTIAL FRAMING OF AN INSTRUCTIONAL LESSON REDUCES SELF-EFFICACY AND AFFECTS LEARNING

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INTRODUCTION

Previous research has suggested that how a task is framed can have a significant impact on subsequent performance. These effects seem to be especially important in educational settings where learners are already self-conscious about their likelihood to succeed. Difficult subjects have shown to cause cognitive disequilibrium when confronting dead ends and obstacles, which launches a trajectory of cognitive-affective processes until equilibrium is restored, disequilibrium is dampened, or the student disengages from the task, all of which could have negative effects on learning. (e.g., Graesser & D’Mello, 2012).

The current study was designed to explore how differences in the framing of an educational lesson can negatively impact student attitudes towards their own self-efficacy in learning a challenging content area, and potentially also impact their subsequent learning and interaction with the material.

METHODS

Participants

N = 115 native English speaking OSU students with low knowledge of HTML coding.

Materials & Procedure

HTML Knowledge Pretest

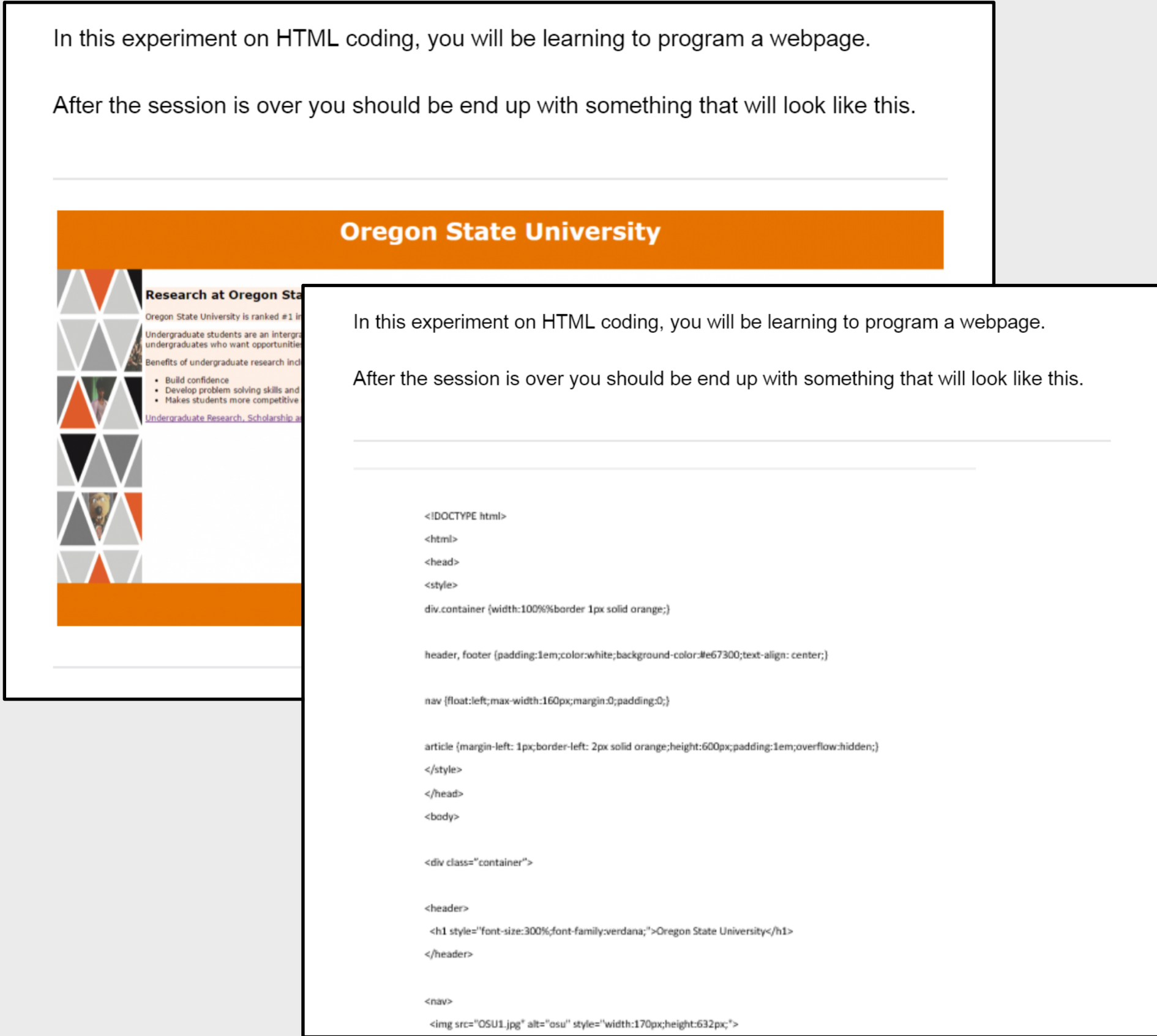
- How many computer science courses?
- Have you built your own webpage?
- How much do you know about HTML (1-10)

Task Difficulty Pretest

- How difficult do you think this task will be? (1-10)
- How successful will you be at learning HTML code? (1-10)

Lesson Framing

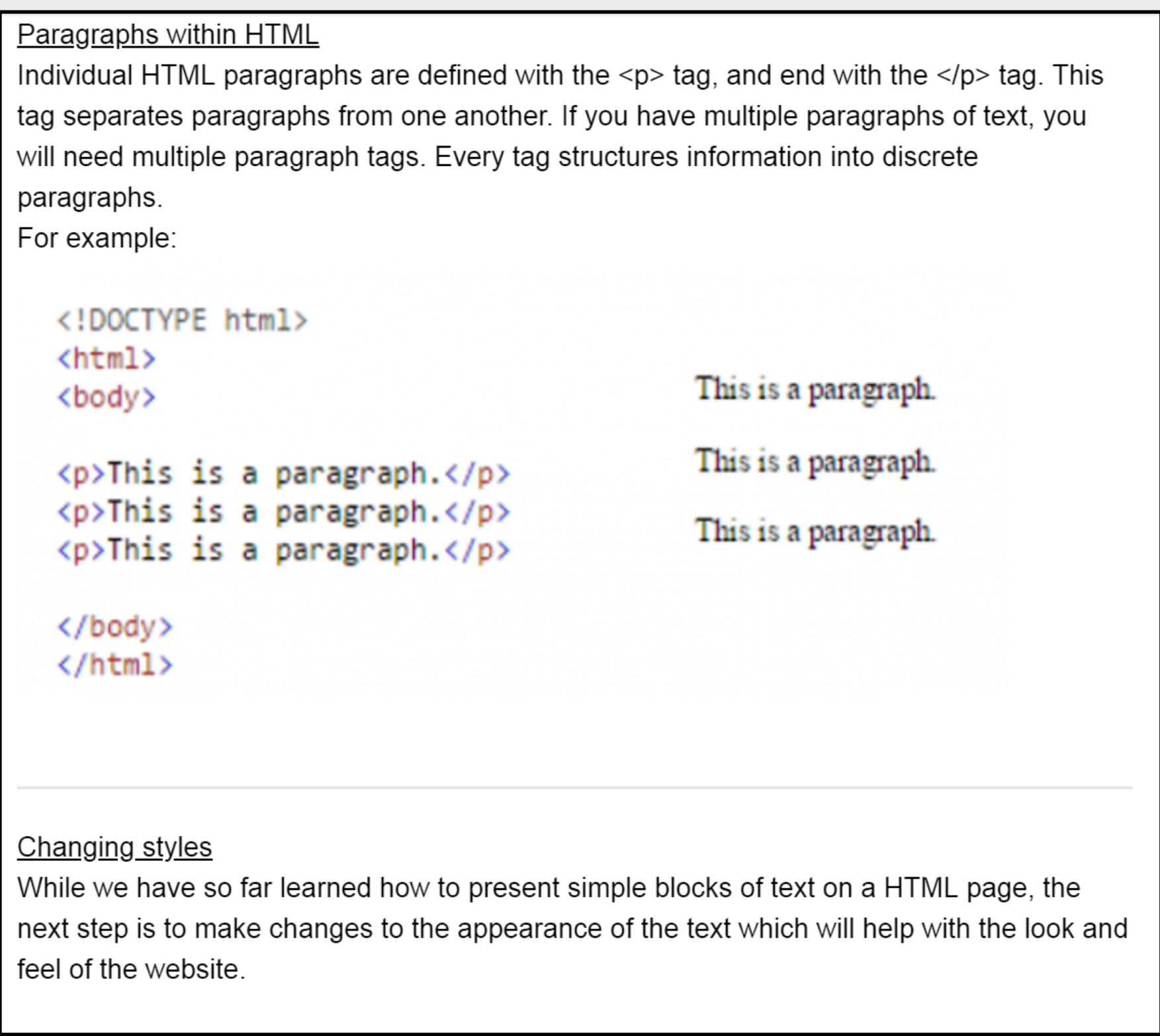
- “After the session is over you should end up with something that will look like this.”
- Code example OR Finished webpage



METHODS (CONT.)

Instructional Text on HTML

- 760 words
- Illustrated with examples.



Learning measures

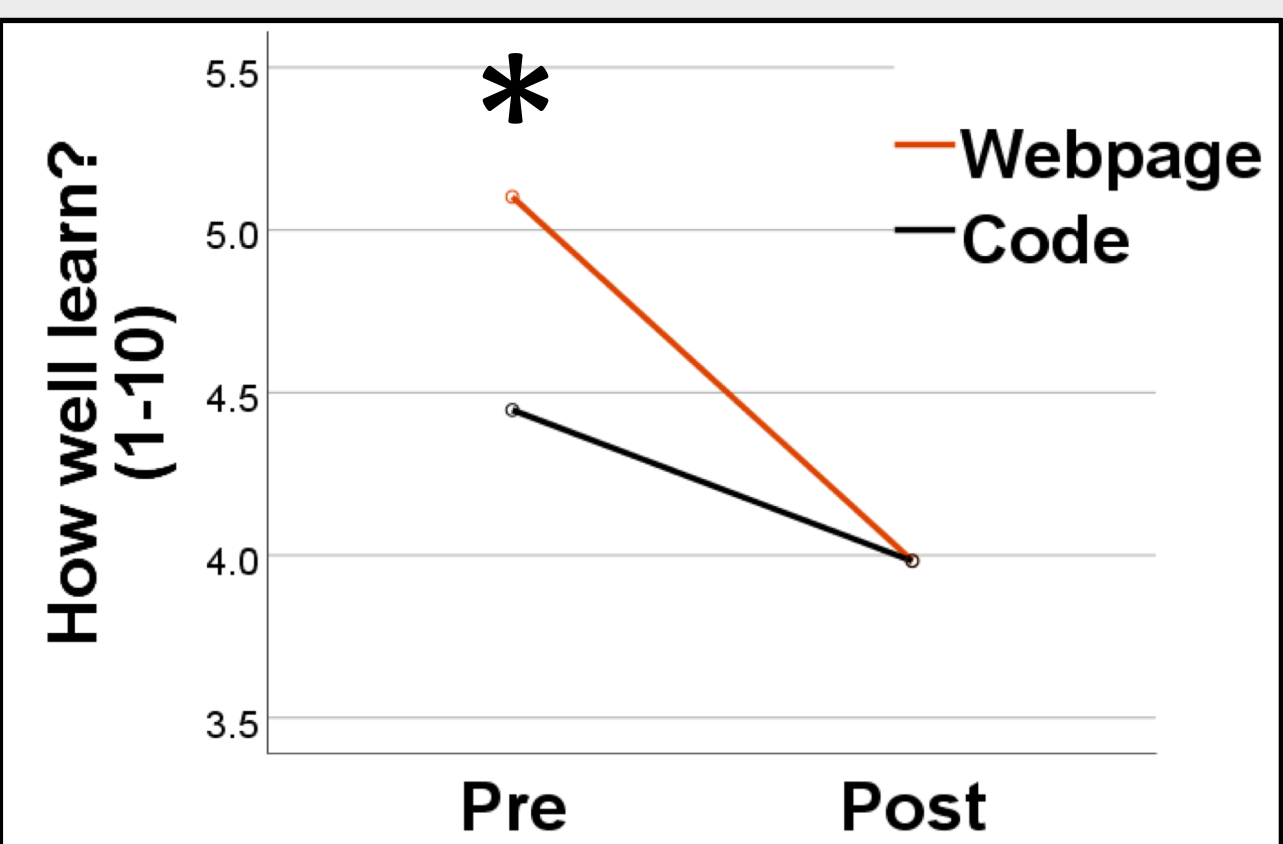
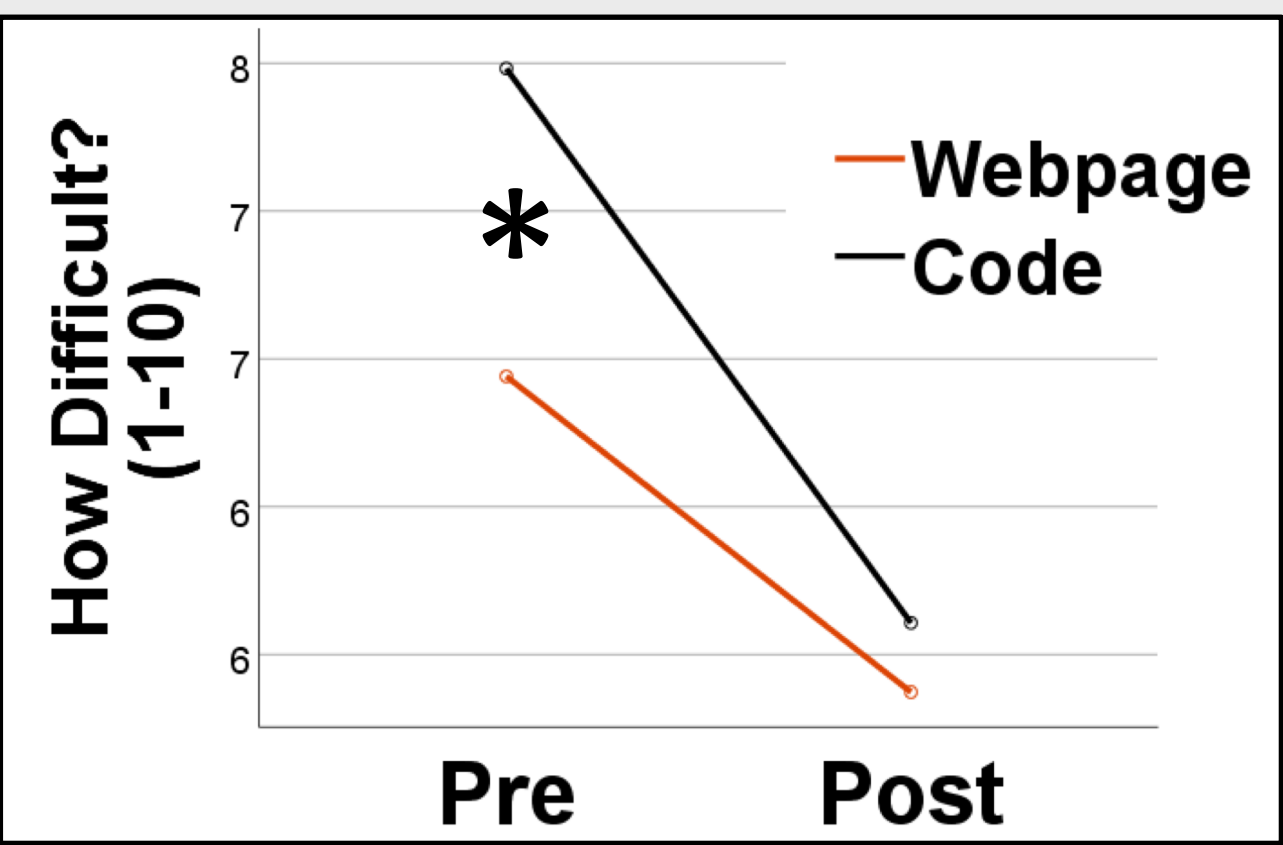
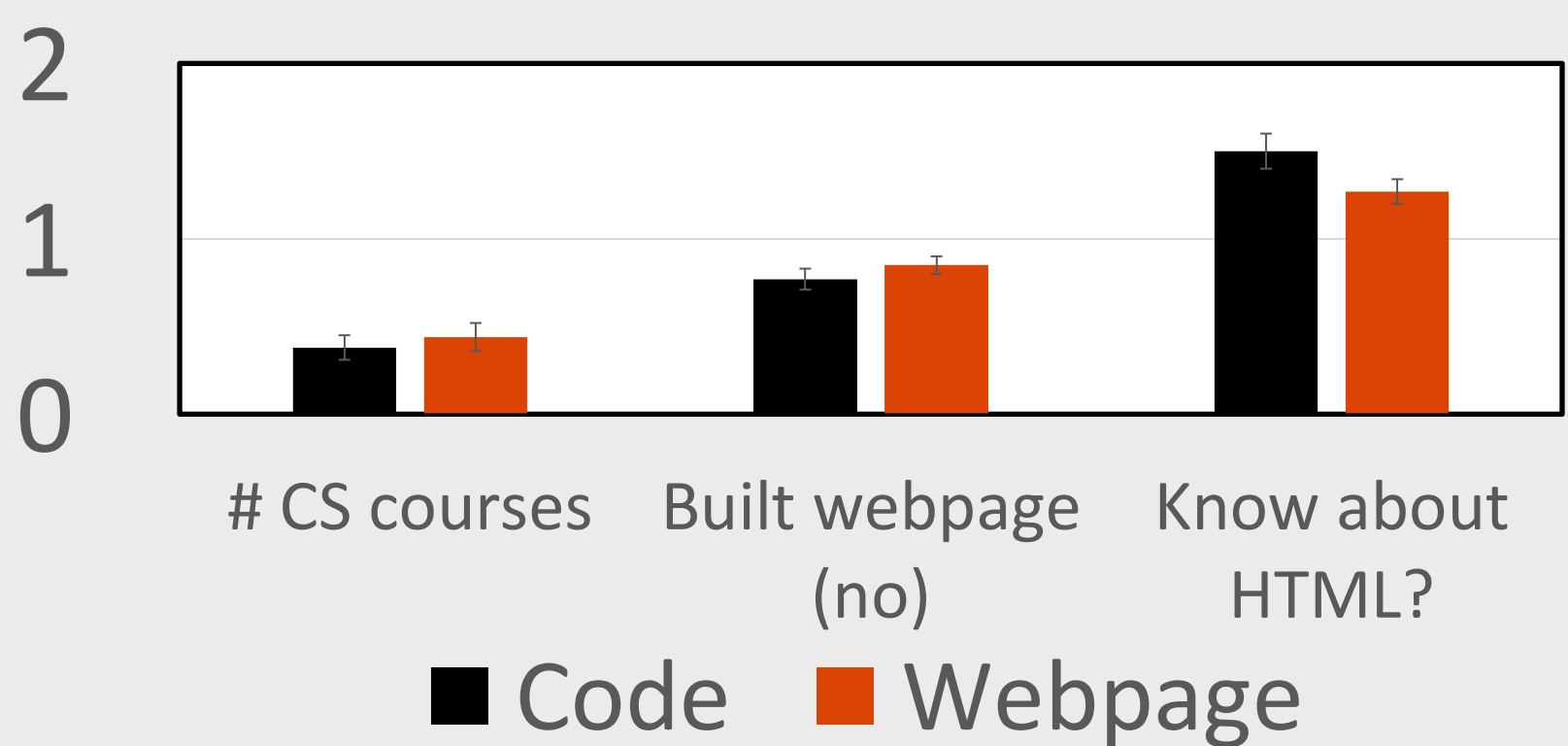
- 4 multiple-choice questions (recognition)
- 4 short answer questions (free recall)

Task difficulty Post Test

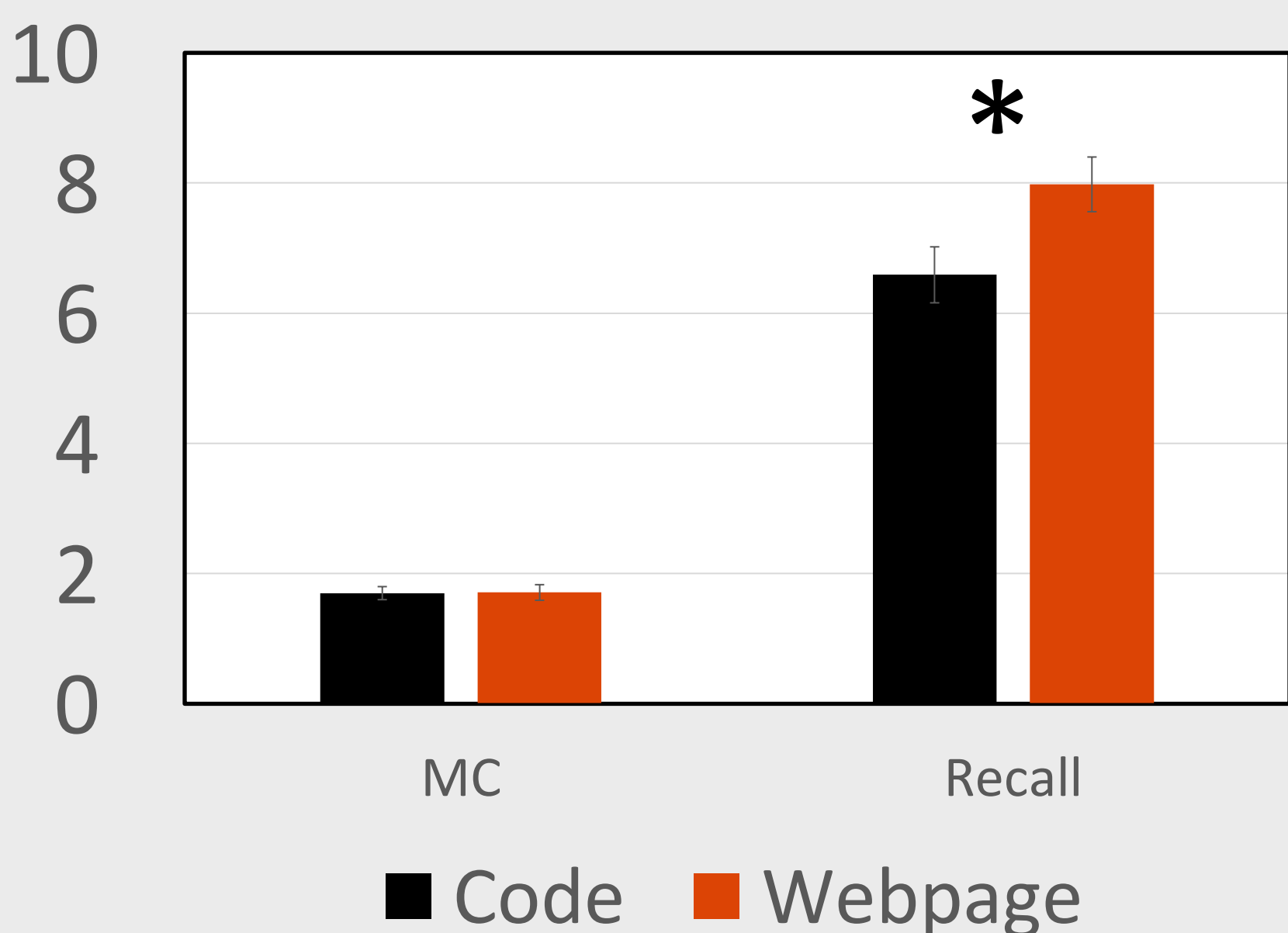
- How difficult was this task? (1-10)
- How well did you learn? (1-10)

RESULTS

Knowledge Pretest



Learning



CONCLUSIONS

These findings suggest that the way a difficult learning task is presented can have a negative effect on both self-efficacy and learning. Participants who were shown the expected outcome of their learning in Code form, not only thought the task would be *more* challenging, but also did not perform as well on the written answer. Those that instead viewed the Webpage not only thought the task would be less challenging, but also performed better on the recall questions. There did not appear to be any affect of framing on recognition performance (e.g., Chan & Kennedy, 2002).

In conclusion, the results show that how a difficult task is framed does have an effect on perceived success, which appears correlated with less optimal learning. Further, this difference only appears to manifest itself in free recall contexts, suggesting that this type of testing may be more sensitive to framing effects. Future investigations should explore this effect in other learning contexts, and also examine whether perceived success is also sensitive to other internal and external factors.

REFERENCES

- Chan, N., & Kennedy, P. E. (2002). Are Multiple-Choice Exams Easier for Economics Students? A Comparison of Multiple-Choice and "Equivalent" Constructed-Response Exam Questions. *Southern Economic Journal*, 68, 957-971. doi:10.2307/1061503
- Graesser, A. C., & D’Mello, S. (2012). Emotions During the Learning of Difficult Material. *The Psychology of Learning and Motivation Psychology of Learning and Motivation*, 183-225. doi:10.1016/b978-0-12-394293-7.00005-4

