



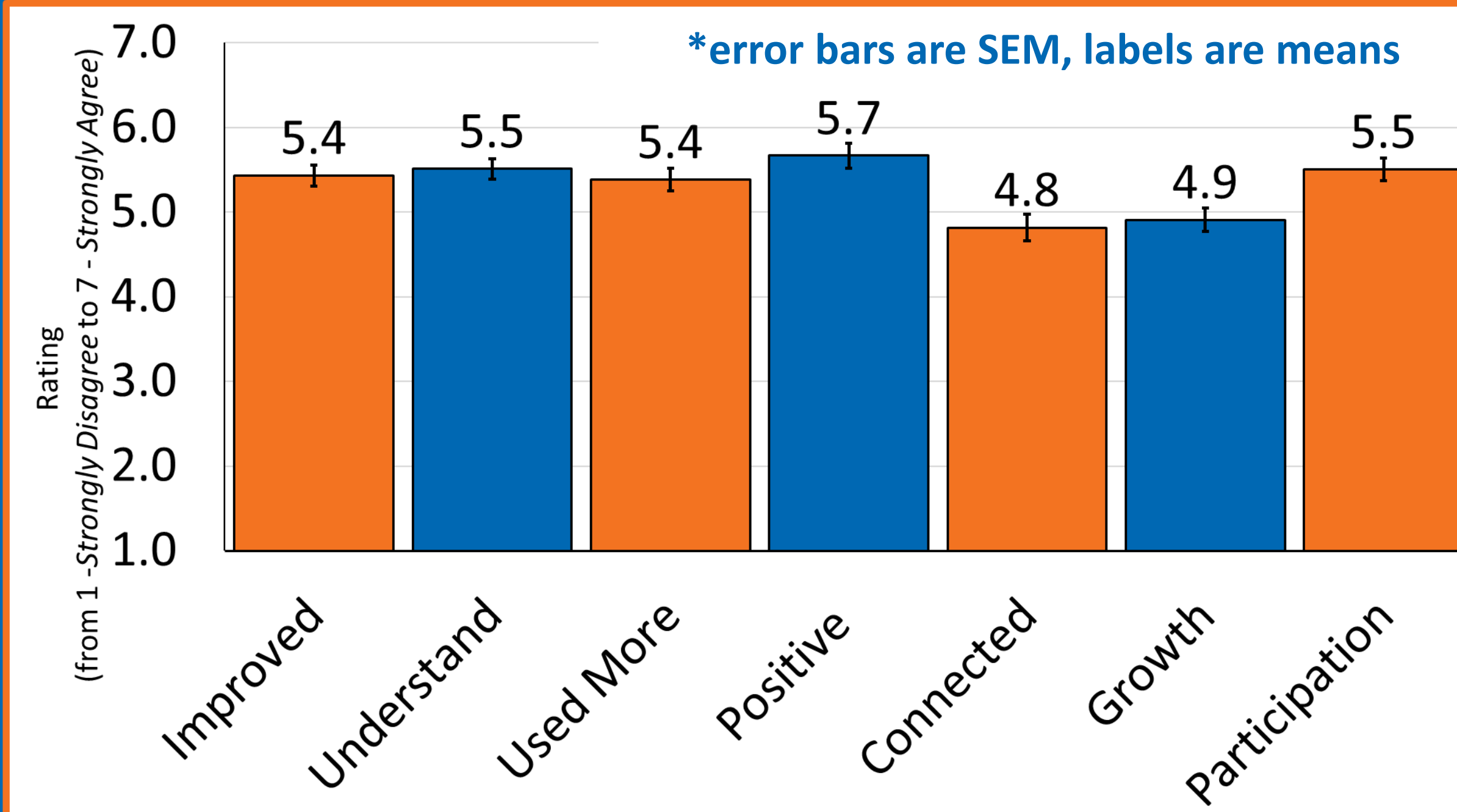
BACKGROUND

- Students have a “common sense” understanding of human behavior, often heavily influenced by popular science and armed with **misconceptions** (Lilienfeld, Lohr, & Morier, 2016)
- Best practices in teaching and learning (APA, 2014) include providing meaningful **examples** (e.g., Ausubel, 1968), encouraging student **cooperation** and **teamwork** (e.g., Johnson, Johnson, & Smith, 1998), and **active learning** (e.g., Kellum et al., 2001), to name a few
- Neulog **plug-and-play technology** offers relatively **inexpensive, portable modules** for recording **psychophysiological** data that can readily be adapted for in-class activities that emphasize **inquiry based active learning**, encourage **teamwork**, and provide **examples** of course content

QUESTIONS

- What are student perceptions of learning & participation after using psychophysiology technology & inquiry based learning in general psychology?
- Does engaging in inquiry based learning via psychophysiology technology enhance student understanding in general psychology?

STUDY 1: STUDENT PERCEPTIONS



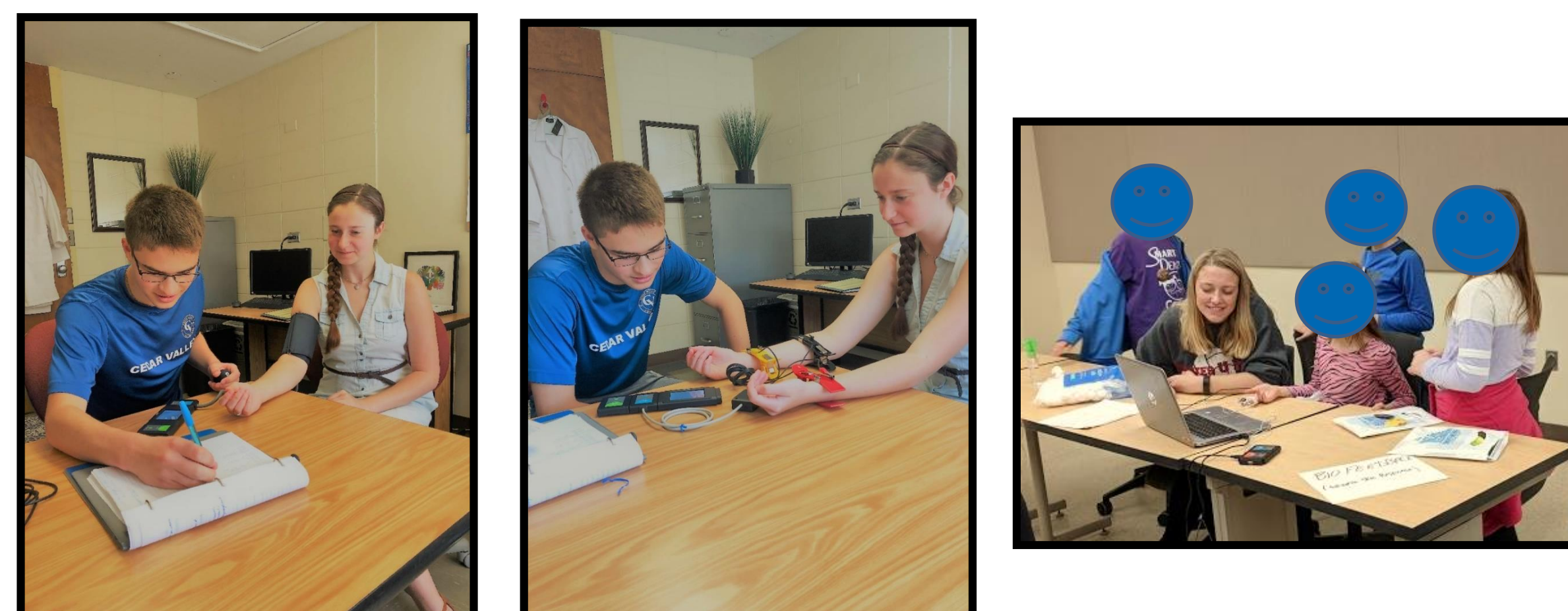
Students responded on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*) to the following questions: Technology, like the Neulog skin conductance system,

- Improved the quality of the course (*Mdn* = 6)
- Helped me **understand** course concepts (*Mdn* = 6)
- Should be **used** in **more** courses (*Mdn* = 6)
- My overall experience ... was **positive** (*Mdn* = 6)
- I felt more **connected** to my peers ... (*Mdn* = 5)
- I acquired personal or professional **growth** ... (*Mdn* = 5)
- Enhanced my experience of **participation** (*Mdn* = 6)

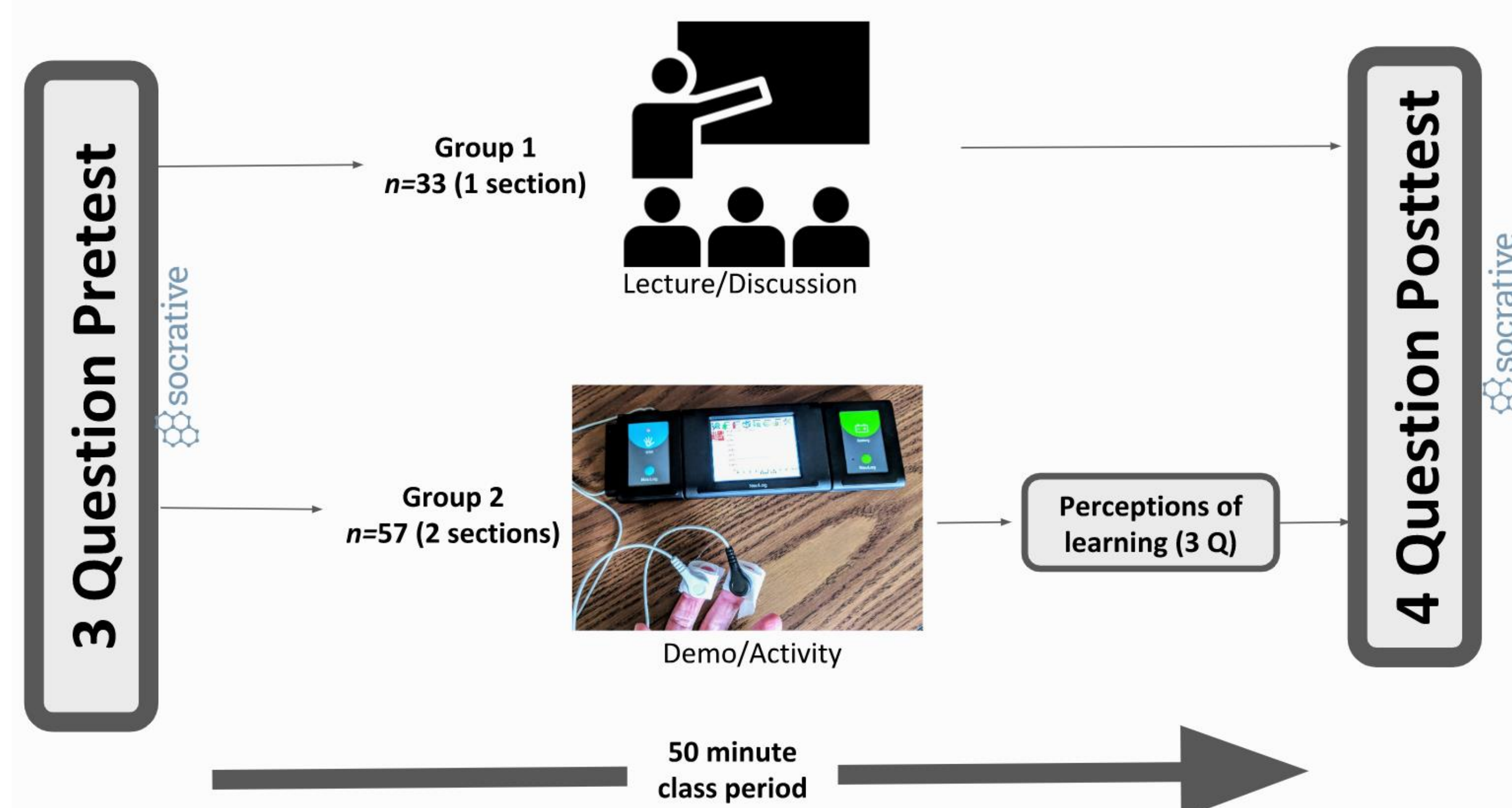
METHODS

Study 1

- Three sections of Gen Psych (*N*=98) in Spring 2018
- Students viewed GSR demo then worked in groups to measure GSR while answering a set of guided questions related to emotion, stress, psychophysiology, and the validity/reliability of lie detectors (i.e., polygraphs)
- Measured perceptions of learning (7 questions)



Study 2

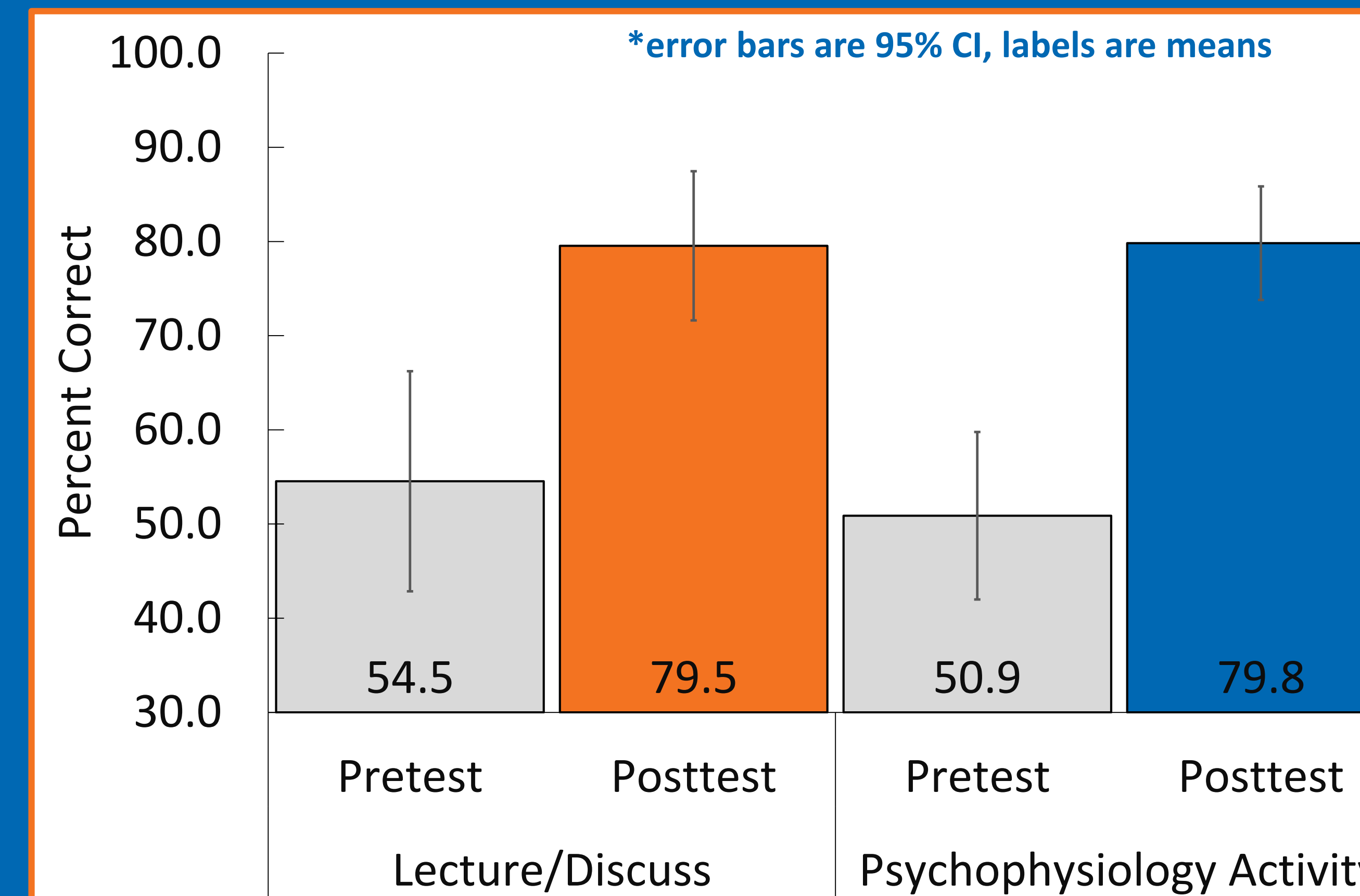
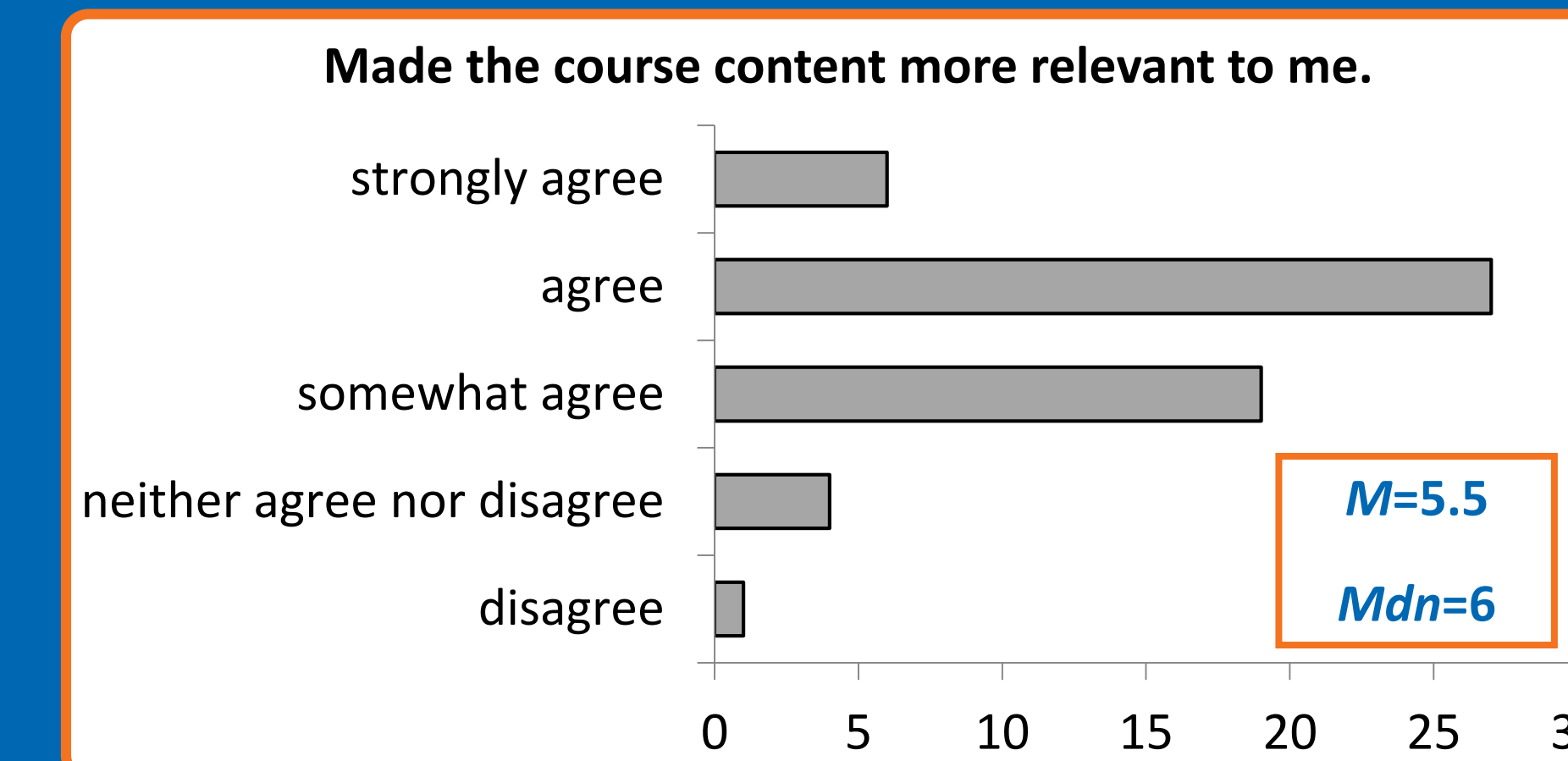
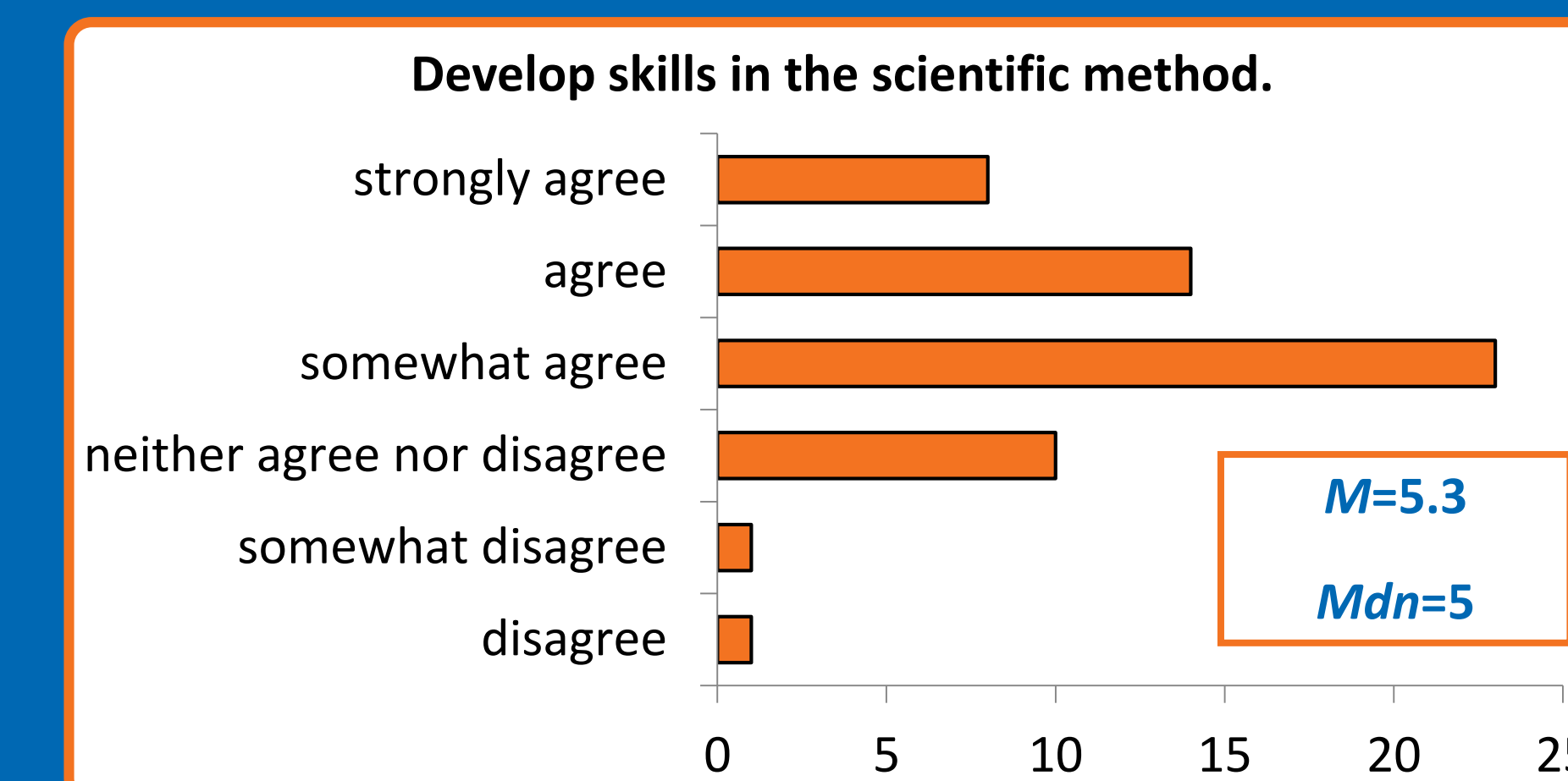


*Copy of pre- and posttests available for viewing

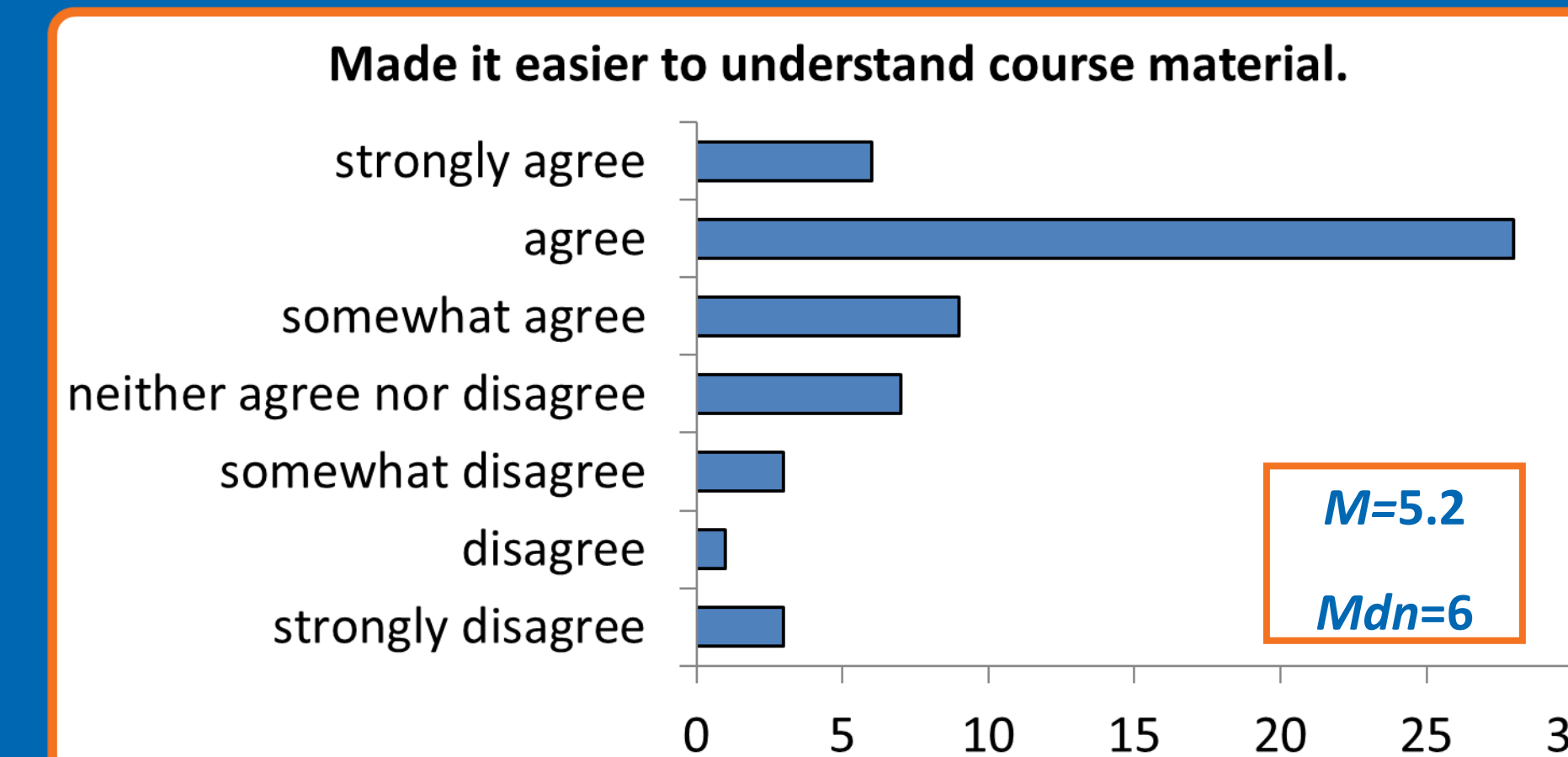
STUDY 2: STUDENT PERCEPTIONS & UNDERSTANDING

Student Understanding

- Main effect of time, $F(1, 88)=32.8$, $p<.001$, $\eta_p^2=0.27$ (posttest>pretest)
- No effect of group, $F(1,88)=0.16$, $p=.69$, $\eta_p^2=0.002$
- No interaction between time and group, $F(1,88)=0.18$, $p=.68$, $\eta_p^2=0.002$



Student perceptions of learning



Students generally seemed to agree that these activities benefited their learning

CONCLUSIONS & IMPLICATIONS

- Students mostly agreed that this activity helped them learn, improved skills, and enhanced experiences of participation. This is important because students' positive perceptions may motivate increased engagement (e.g., studying, motivation) in the long run.
- Engaging in a psychophysiology activity neither helped nor hurt student learning, which is important because instructors often feel they do not have time to engage in active learning or inquiry based learning activities.
- Future plans include
 - A second class period using a different activity (biofeedback), reversing student groups
 - Measuring student performance on exam questions relevant to this activity to examine the effect on longer-term retention of content
 - Continued data collection in the spring in experimental psychology and physiological psychology