

Developing a

Community of Practice

through

Interdisciplinary Research

WELCOME



Bobbie Seyedmonir

West Virginia State University, Center for Online Learning

Kevin Barry

West Virginia State University, Biology Department

Mehdi Seyedmonir

West Virginia State University, Education Department

and

Mark Chatfield

West Virginia State University, Biology Department

Learning Objectives

- ✓ Describe the importance of using a Community of Practice (CoP) model when developing online faculty development
- ✓ Describe the methodology used by the researchers to conduct their study of flipped classroom design
- ✓ Discuss the preliminary results of the study and their implications

Context

Wenger's Community of Practice model

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.

Move away from a technical approach to training and toward the development of **reflective practitioners**

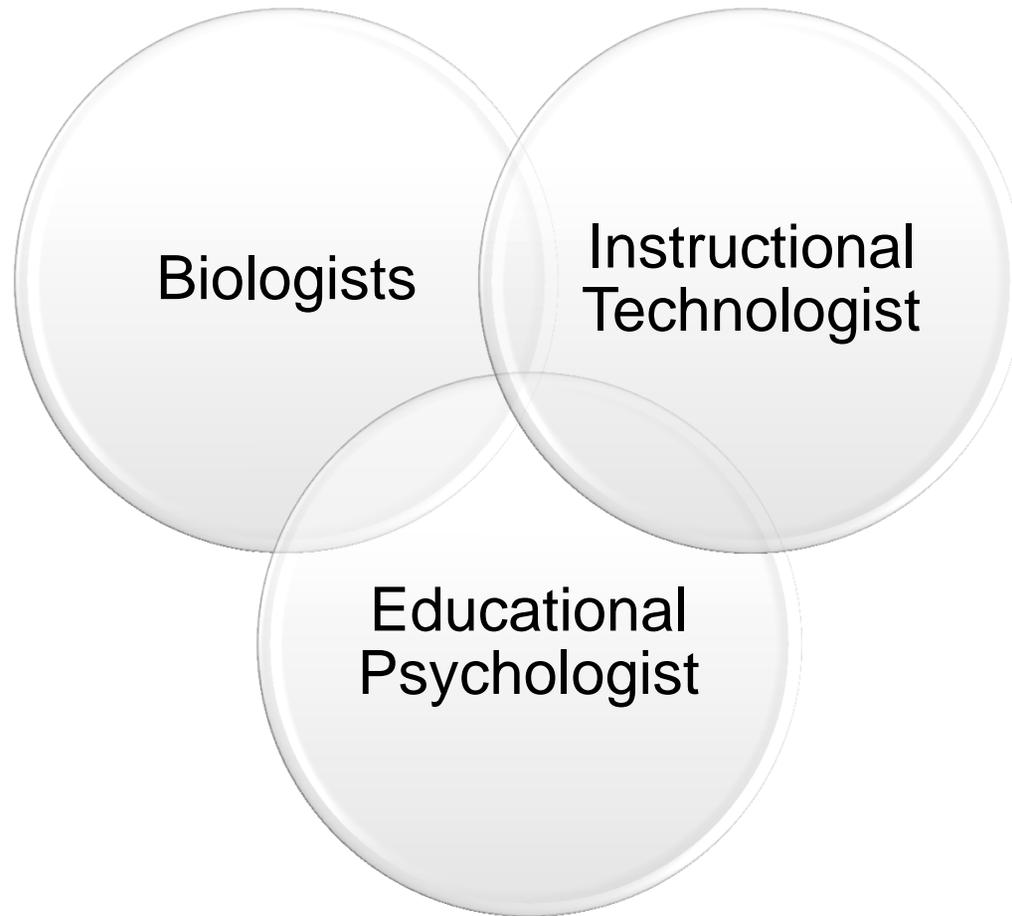
Baran, E., Correia, A. P., & Thompson, A. (2011). Transforming online teaching practice: critical analysis of the literature on the roles and competencies of online teachers. *Distance Education*, 32(3), 421-439.

Statewide affiliation with **Quality Matters**

Center for Online Learning

Online Teaching Institute





Biologists

**Instructional
Technologist**

**Educational
Psychologist**

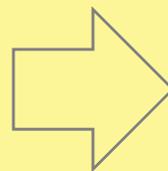
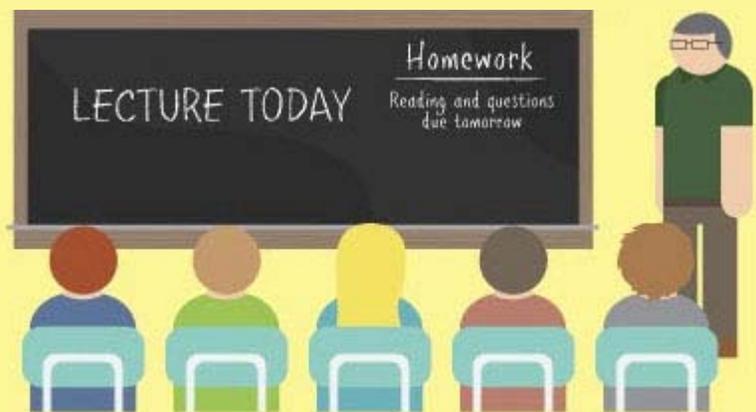
Flipped

Flipped

Classroom



**What is Flipped
Classroom?**



$$C \quad \frac{6.256g}{12g} \times 1 \text{ mol} = 0.521 = 1$$

$$H \quad \frac{1.392g}{1g} \times 1 \text{ mol} = 1.392 \text{ mol} = 2.67$$

$$O \quad \frac{8.352g}{16g} \times 1 \text{ mol} = 0.522 = 1$$

The image also features a digital scale with a blue weighing pan and a calculator. The calculator screen displays the following values:

 6.256/12 = 0.5213333333

 8.352/16 = 0.522

 1.392/1 = 1.392

 2.671705829

Source: <http://flippedclassroom.org/video/the-flipped-classroom>

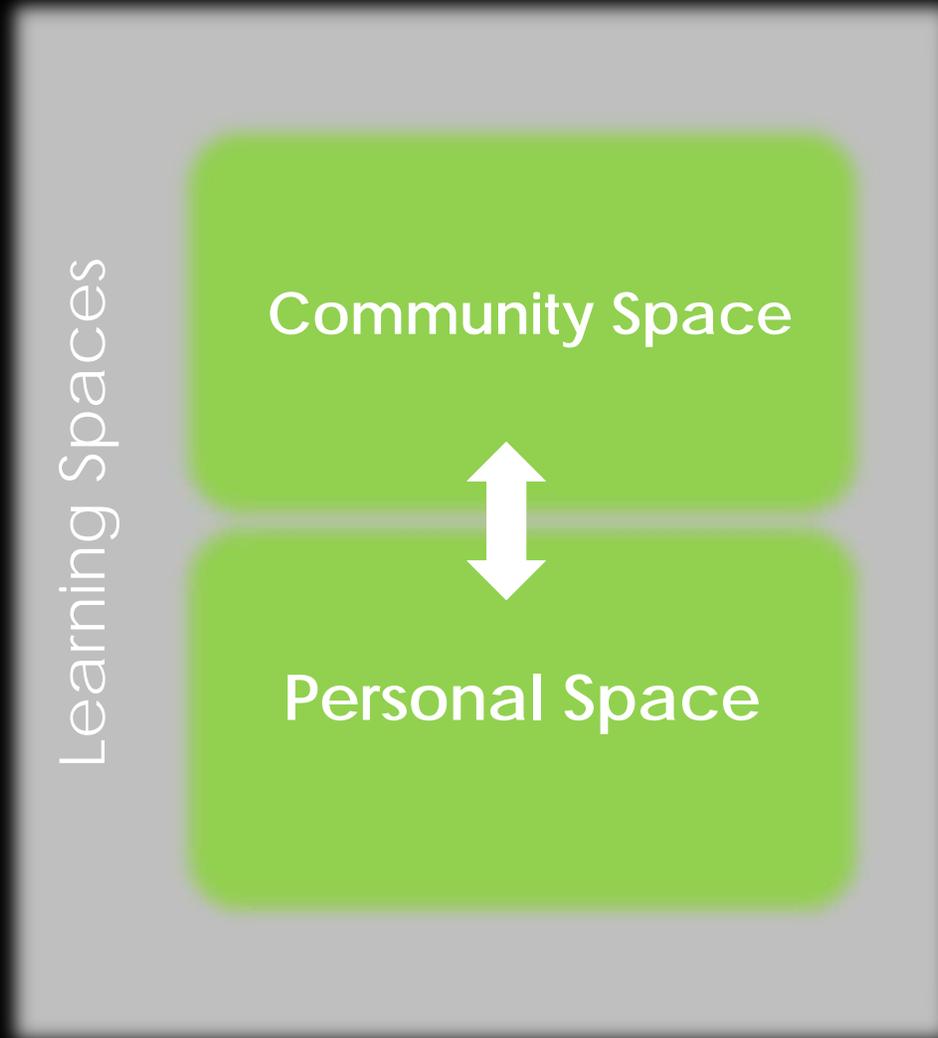


Source: www.ted.com

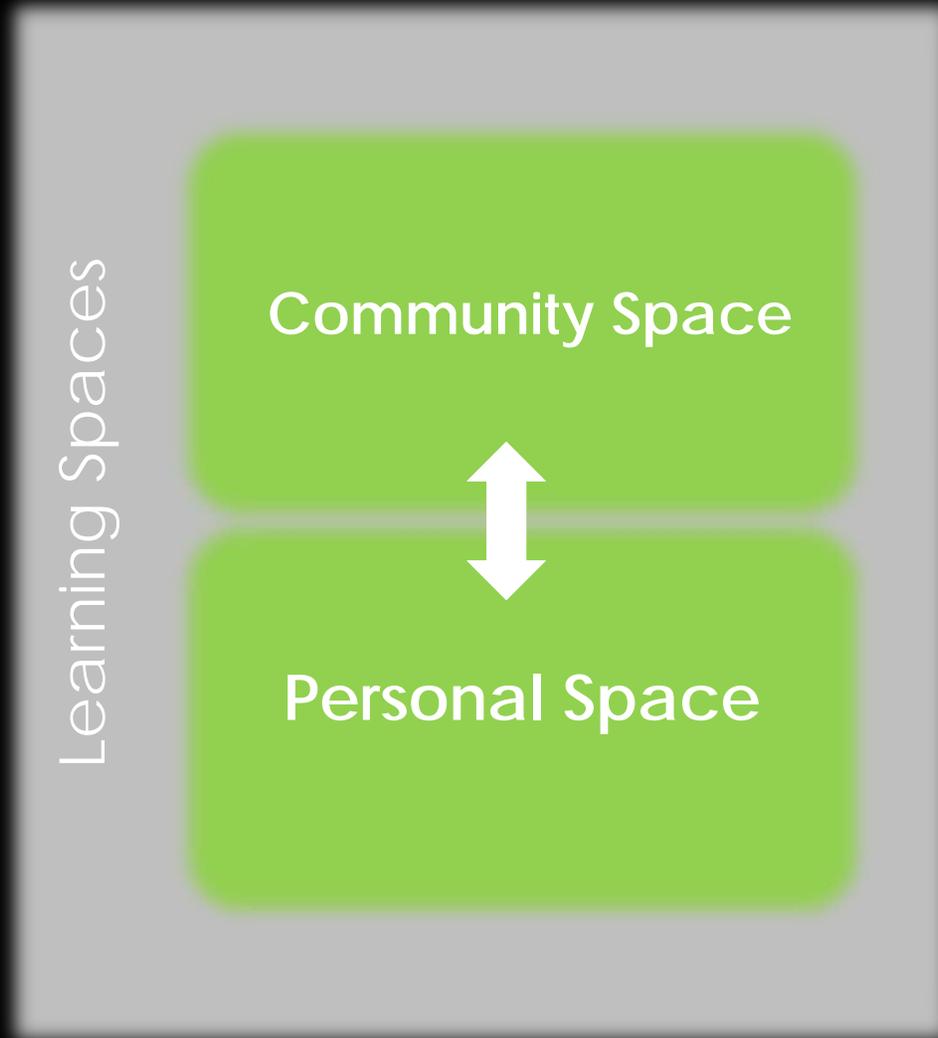


**What is Flipped
Classroom?**

Rethinking Learning Environment as **Learning Spaces**



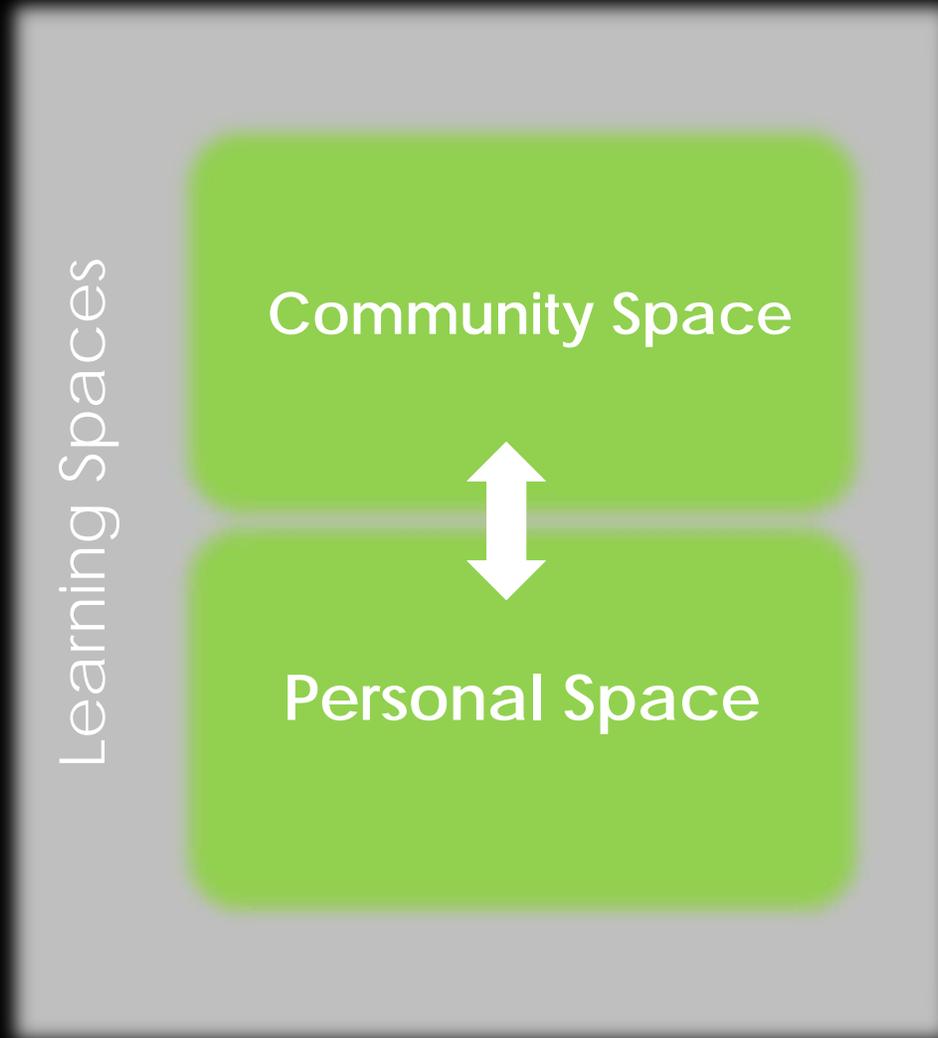
What learning activities take place in each space?



The Critical Question in Managing Learning Spaces

What is the best use of the community space (especially the F2F class time)?

What learning activities take place in each space?



FLIPPED LEARNING MOVEMENT

Instructional
Design

+

Learning &
Cognitive
Science

+

Content &
Pedagogy



Research Questions

Does flipped classroom design lead to better learning outcomes?

How do students perceive the efficacy of this format?

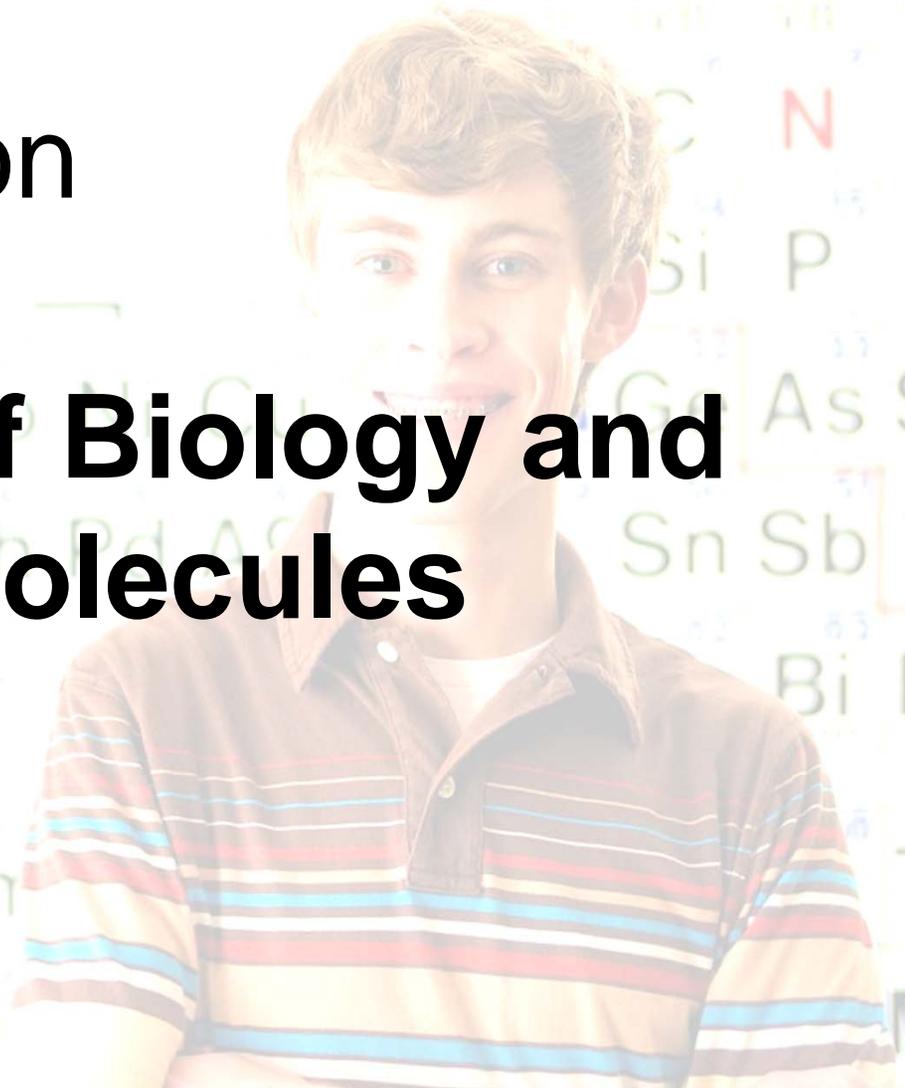
Four sections of Biology 101



PERIODIC TABLE OF THE ELEMENTS

Flipped unit on

**Chemistry of Biology and
Biological Molecules**

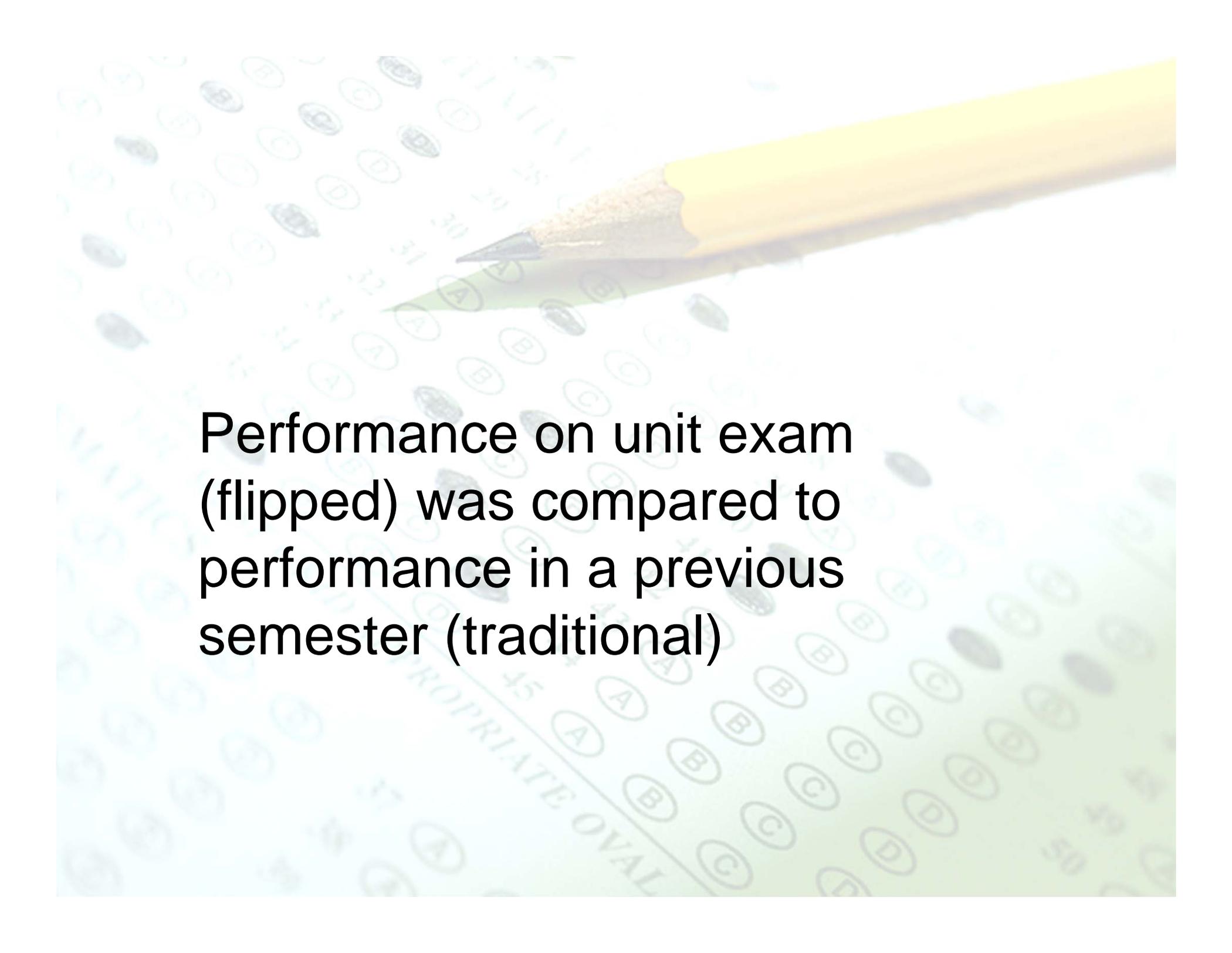


Outside of
class students
watched
videos on
content

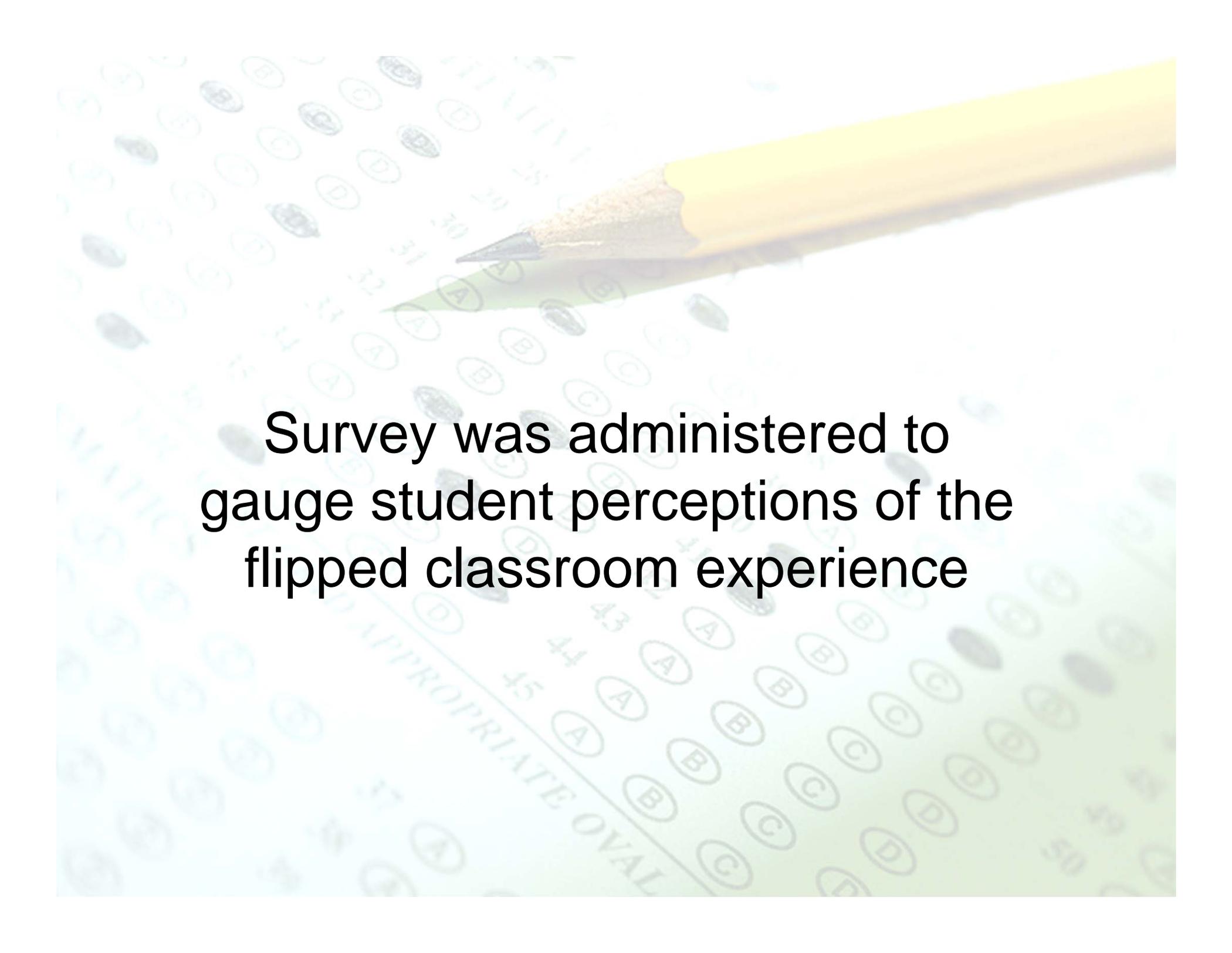


Class time
was spent in
groups
working on
application
activities

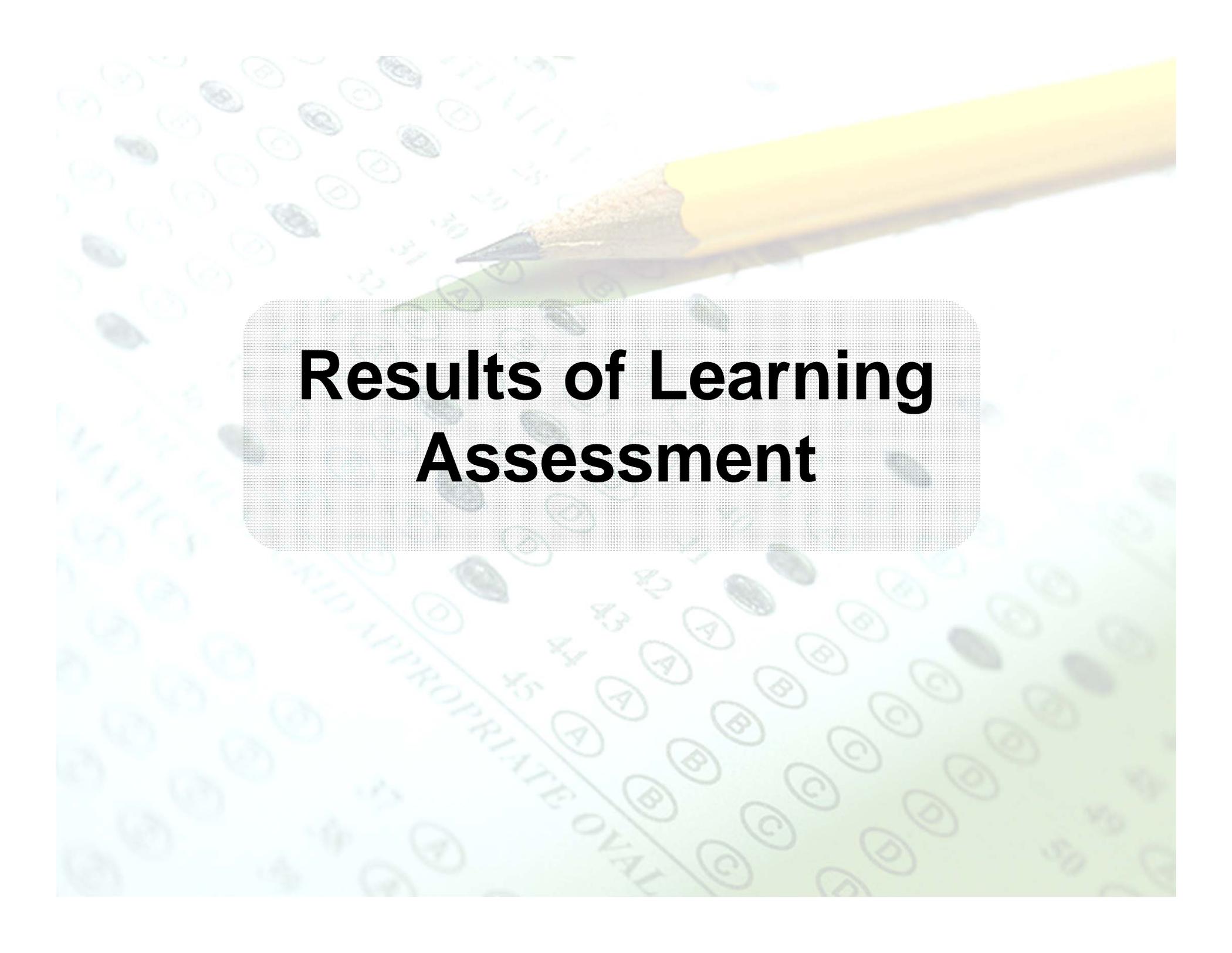


A yellow pencil is positioned diagonally across the top right of the image, pointing towards the center. The background is a blurred image of a multiple-choice test paper with various options (A, B, C, D) and question numbers (25, 29, 30, 31, 32, 33, 34, 45, 47, 50) visible. The text is centered on the page.

Performance on unit exam
(flipped) was compared to
performance in a previous
semester (traditional)

A yellow pencil is positioned diagonally across the top right of the image, pointing towards the center. The background is a blurred image of a survey form with multiple-choice questions. The questions are numbered and have options A, B, C, and D. The text is in a light blue color. The overall image has a soft, light green and yellow color palette.

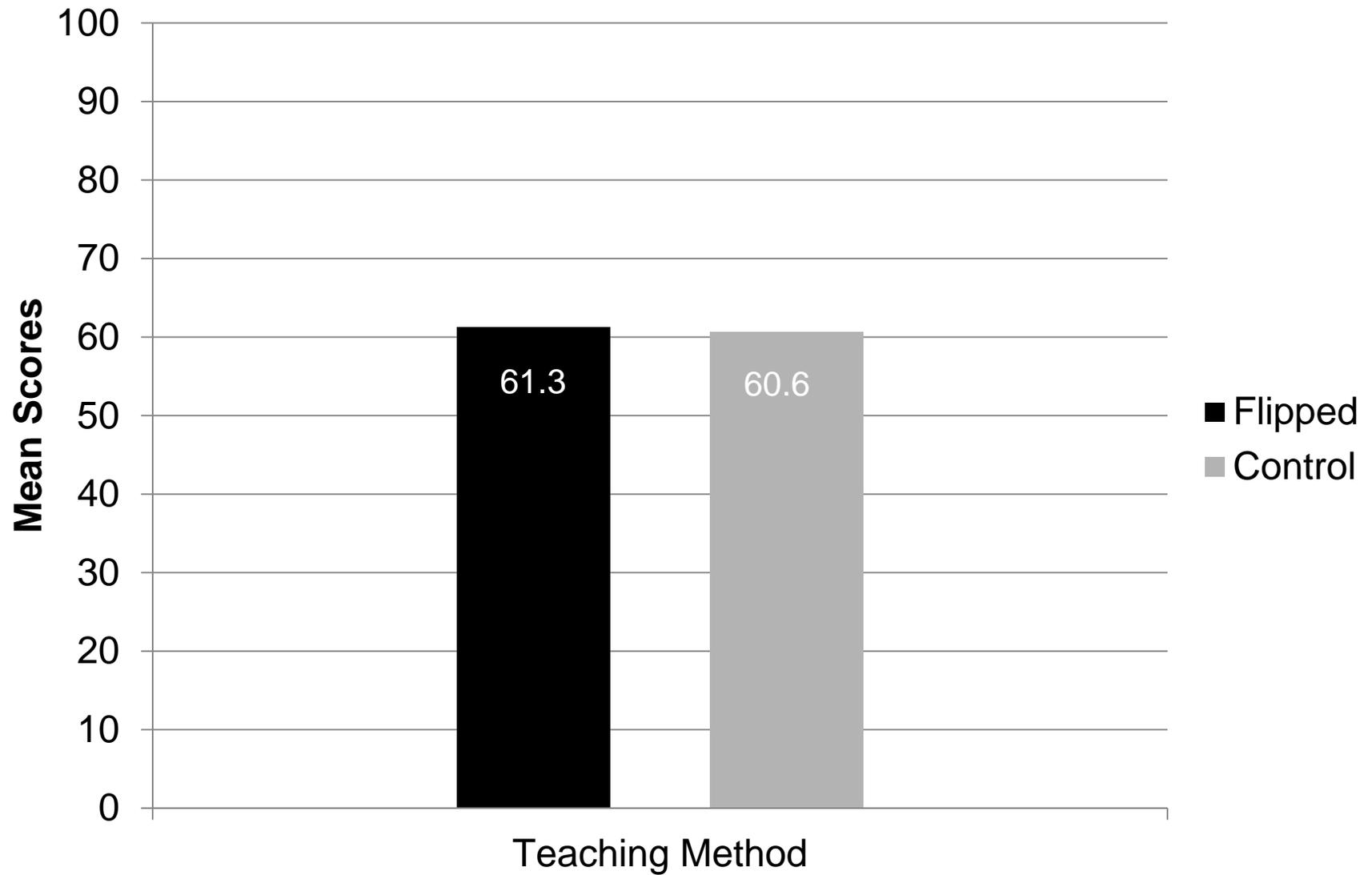
Survey was administered to gauge student perceptions of the flipped classroom experience

A yellow pencil is positioned diagonally across the top right of the image, pointing towards the center. The background is a blurred image of a multiple-choice test paper. The paper features a grid of bubbles, each containing a letter (A, B, C, D) and a number (e.g., 28, 29, 30, 31, 32, 42, 43, 44, 45). The text 'APPROPRIATE OVAL' is visible on the paper. The overall image has a soft, light green and yellow color palette.

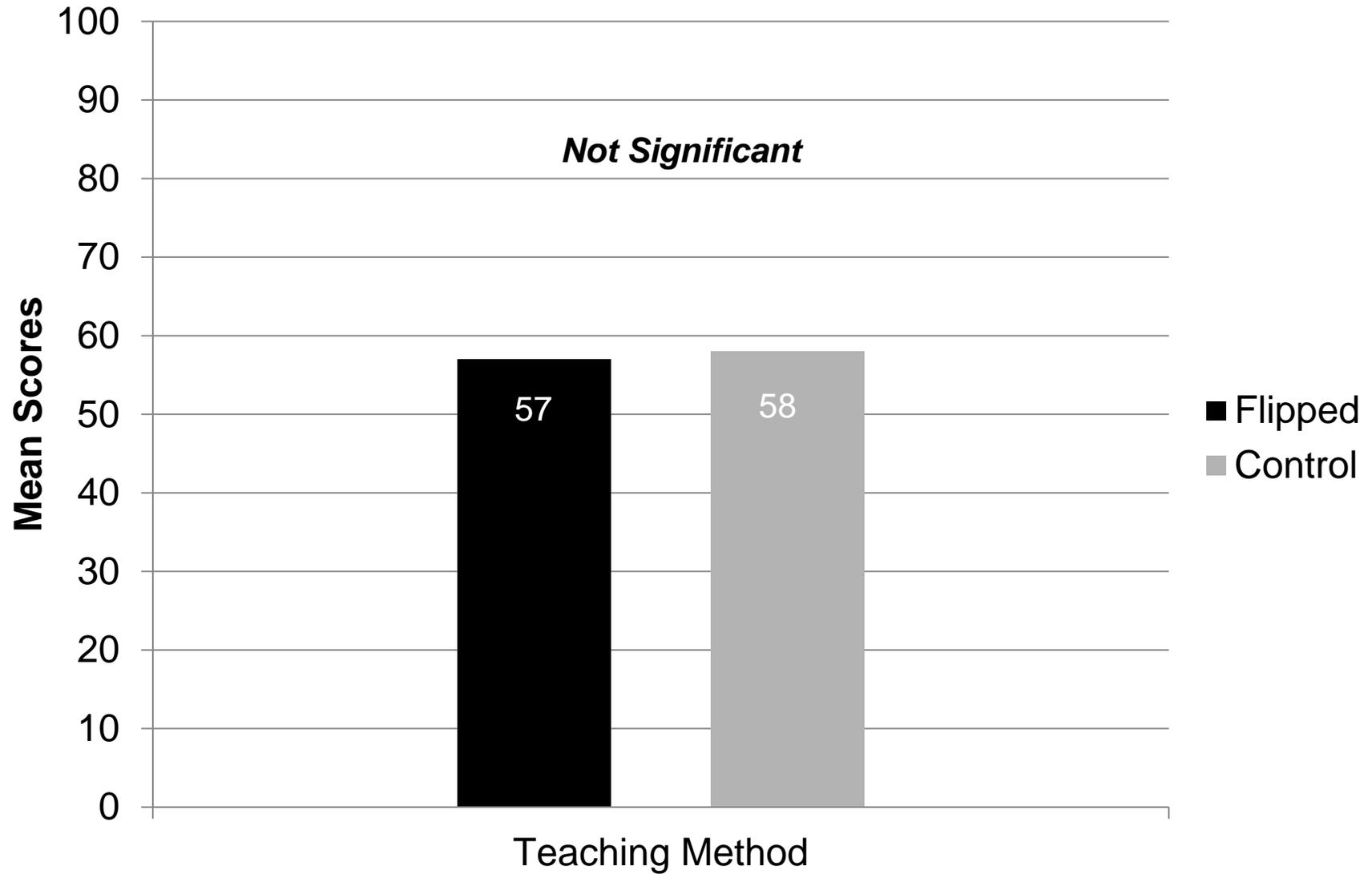
Results of Learning Assessment

Overall performance on exam was not significantly different

Overall Performance

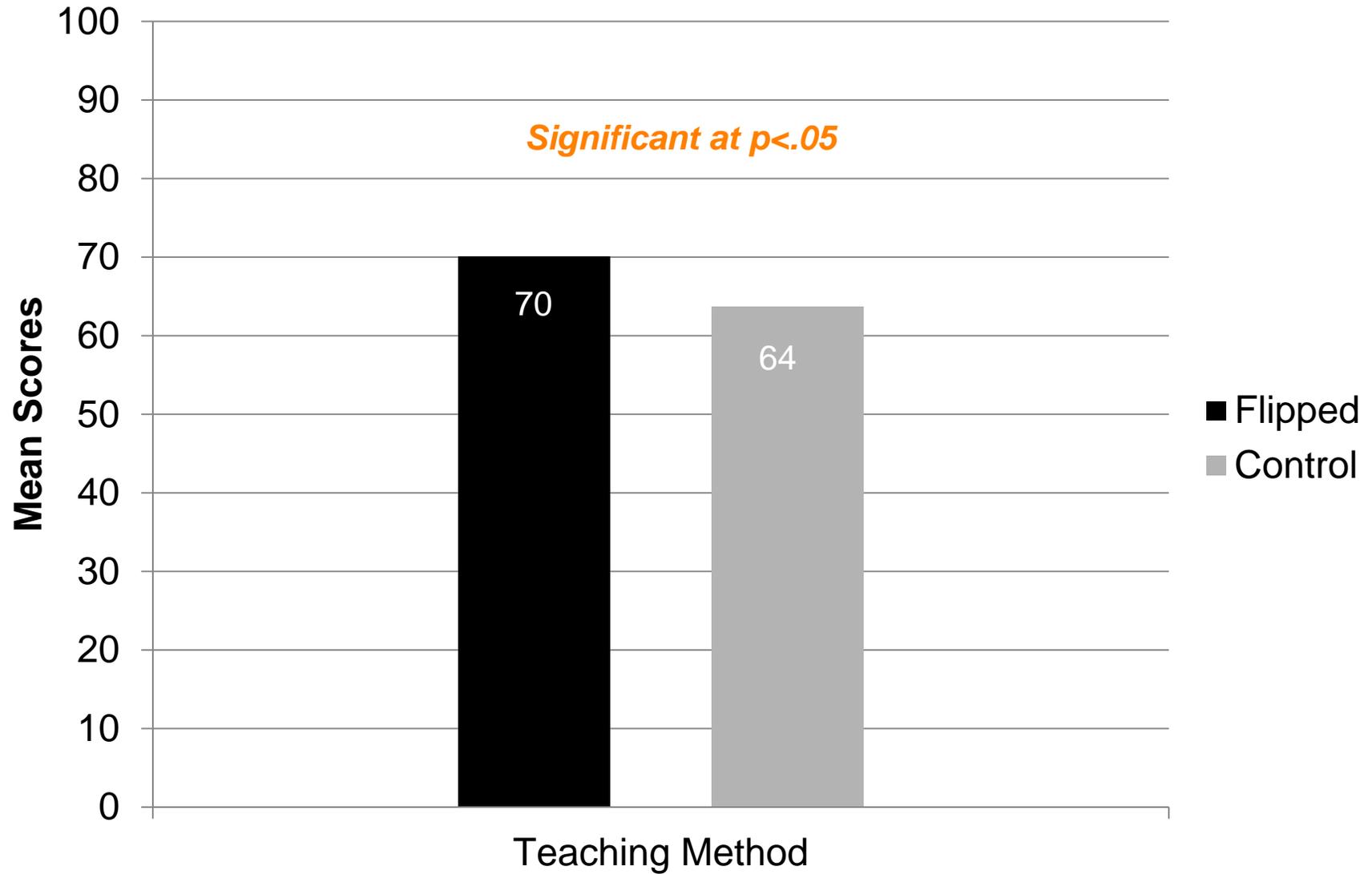


Performance on **Factual/Recall** Questions



Performance on
application type questions
was significantly higher in
the flipped group

Performance on Application Questions



A yellow pencil is positioned diagonally across the top right of the image, pointing towards a grid of bubbles. The bubbles are arranged in rows and columns, with letters A, B, C, D, and E inside them. Some bubbles are filled with a dark grey color, while others are empty. Numbers 28 through 50 are printed next to the bubbles, likely indicating a sequence or score. The background is a light greenish-yellow color.

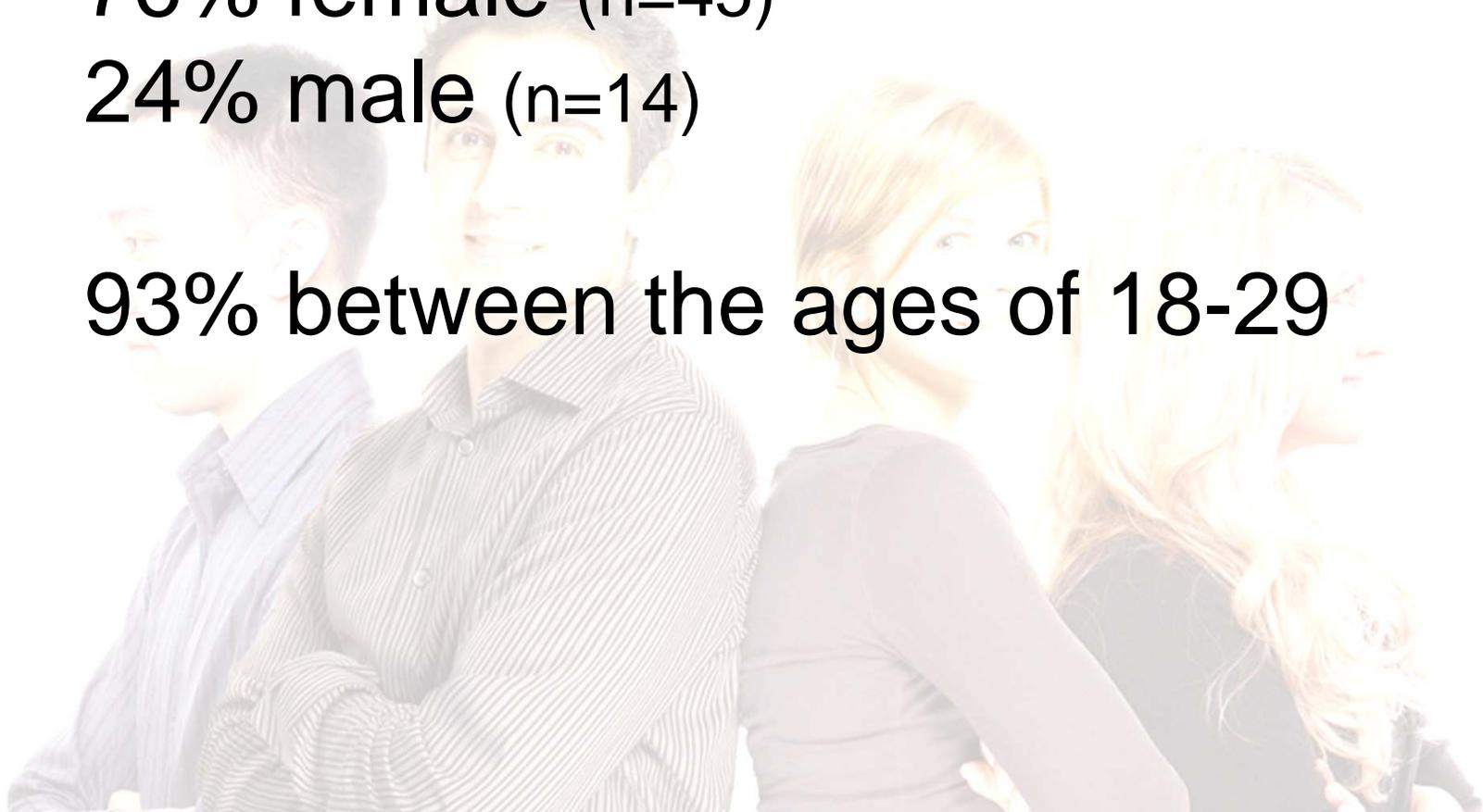
Results of Self-Report Survey

62% response rate (n=61)

76% female (n=45)

24% male (n=14)

93% between the ages of 18-29

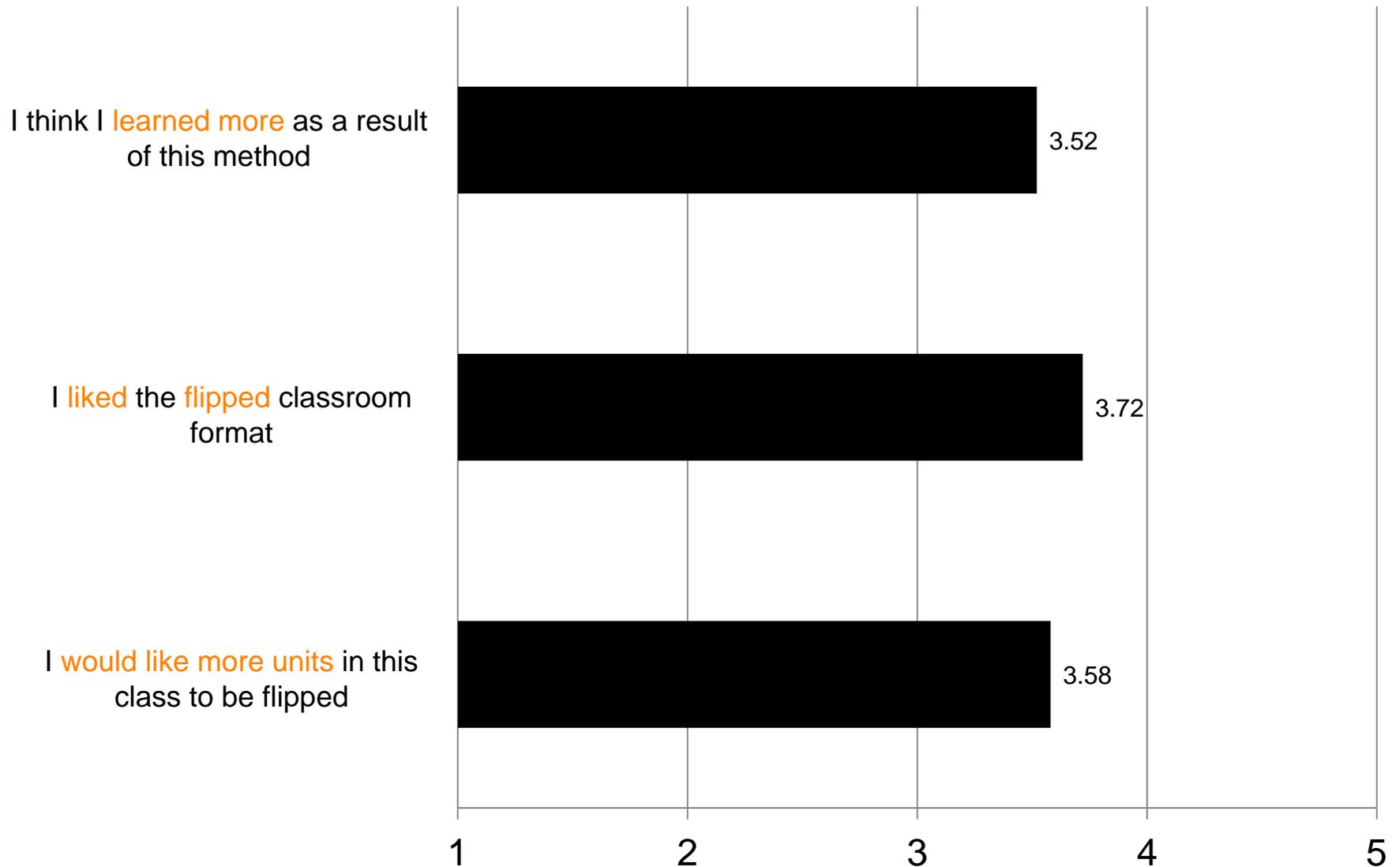


Students reported general satisfaction with the format

Rank the following statements in terms of your level of agreement (1-Strongly Disagree – 5 Strongly Agree)



Rank the following statements in terms of your level of agreement (1-Strongly Disagree – 5 Strongly Agree)



Learner Autonomy

“ *I thought the flipped classroom method was effective because I could watch it on my own time. I enjoyed the fact that I could rewind parts that I did not understand and I could rewatch the videos if necessary.* ”

Active Classroom

“ *I liked the flipped classroom method, because I could watch the videos and go through the PowerPoint on my own. Then it was great to do the homework in class because I had already seen the videos and PowerPoint, so if I had any questions I could ask them. Lecturing in the classroom just gets boring, but when we engage in the class and work together, I feel like it was easier to learn. ”*

Loss of Real Time Response

“ *I did not like not being able to communicate and ask questions.* ”

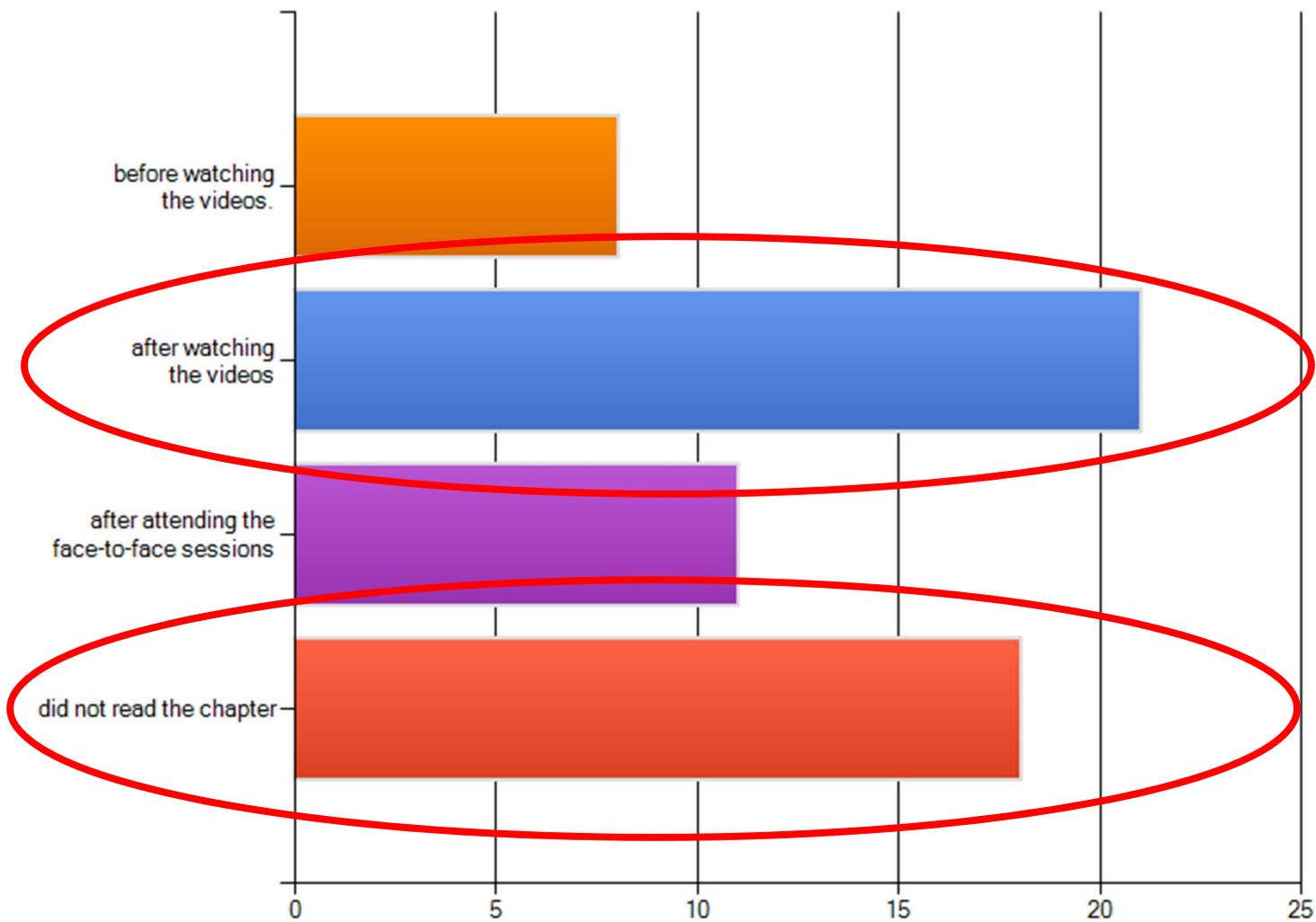
Technology Problems

“ *Something that was ineffective was the quality sometimes it worked and sometimes didn't it would go back to a different slide but It wouldn't repeat anything he said on that slide.* ”

More Work for Student

“ *I did not like spending so much time out of class working for the class.* ”

I read the assigned textbook chapters...



Lessons Learned

Questions



Thank You