WELCOME TO OUR NEW CLASSROOM: MY150

Susan McCahan & Sarah Mayes-Tang

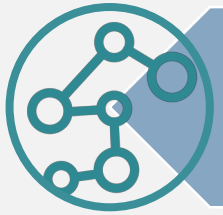
Teaching & Learning Symposium

May 28, 2019

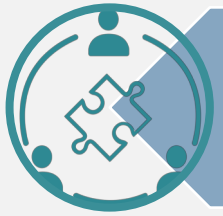
COURSE CONTEXT

- Introductory Calculus for Science Majors
- Final Math Course for Many Students
- Mostly First-Year Students

COURSE FOCUS



Understanding connections between concepts



Building problem-solving & communication skills

Instilling confidence

ACTIVE LEARNING

Active learning comprises a wide range of activities that are defined as "any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing" (Prince, 2004).

- Centre for Teaching Support & Innovation

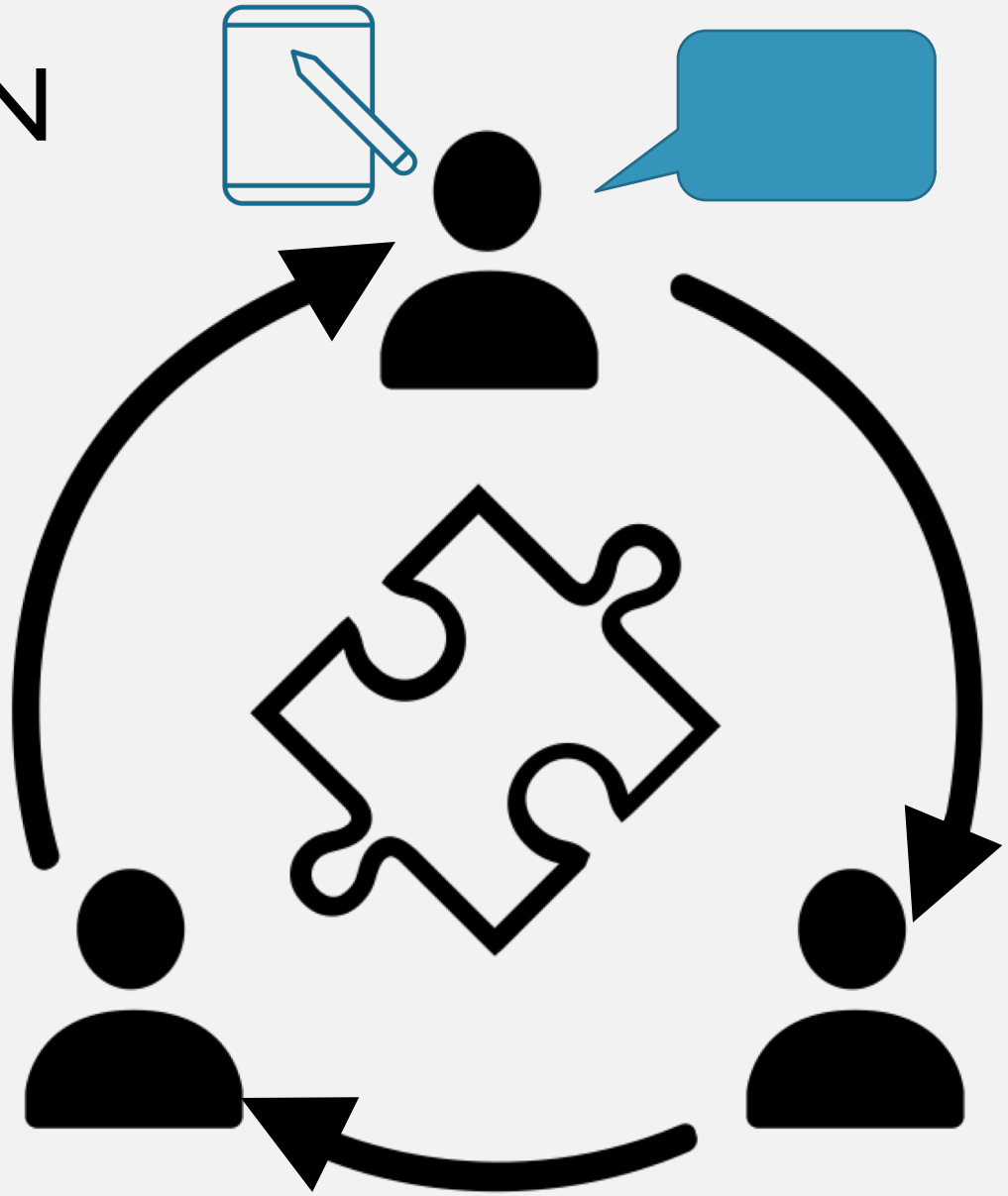
Classroom environments in which students are provided opportunities to engage in mathematical investigation, communication, and group problem-solving, while also receiving feedback on their work from both experts and peers, have a positive effect on learning… we call on institutions of higher education, mathematics departments and the mathematics faculty… to invest time and resources to ensure that effective active learning is incorporated into post-secondary mathematics classrooms.

- Conference Board of the Mathematical Sciences Statement on Active Learning

GOAL FOR TODAY

Think about issues in preparing to teach in an Active Learning classroom, while demonstrating the use of MY150

ROUND ROBIN



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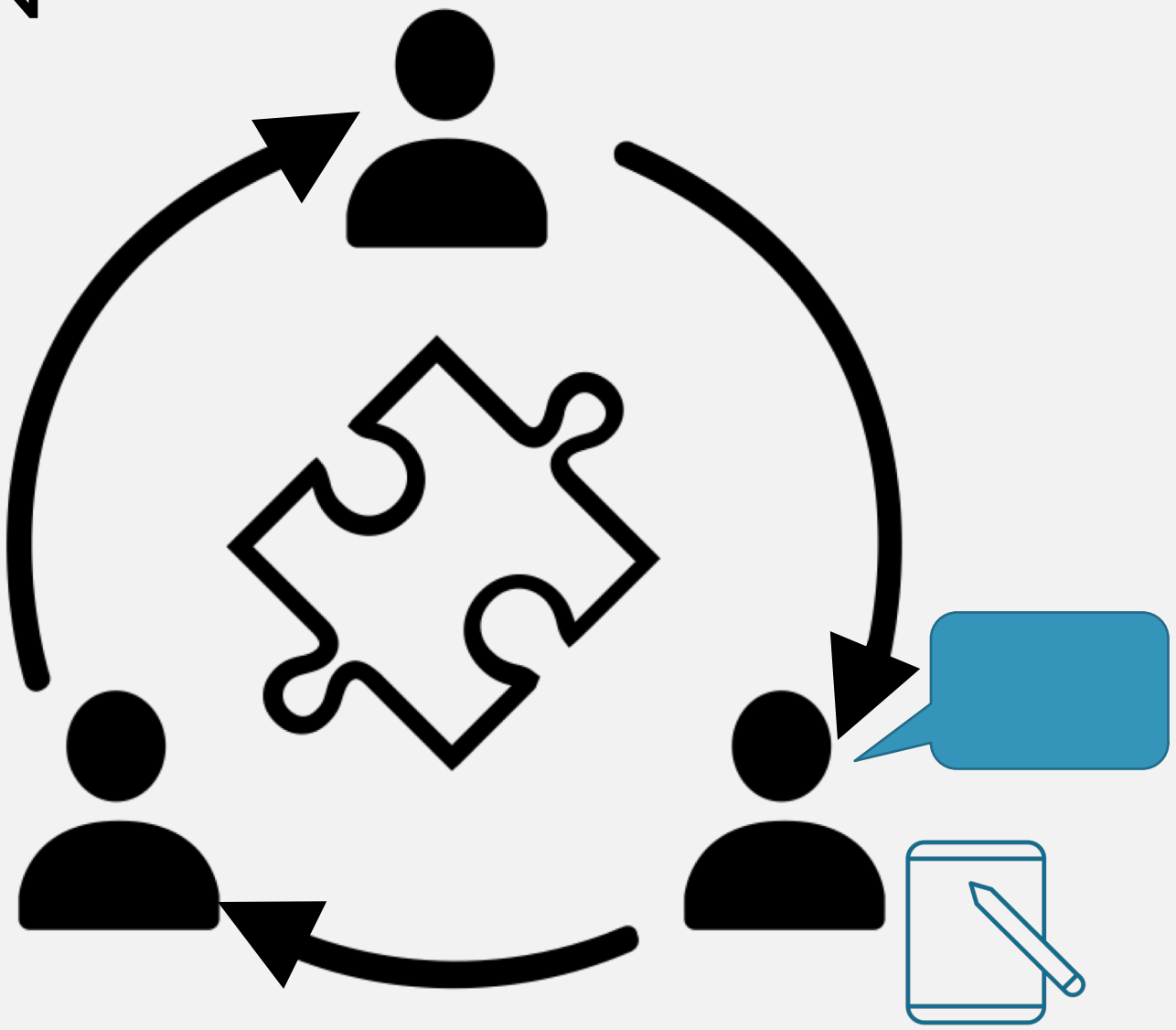

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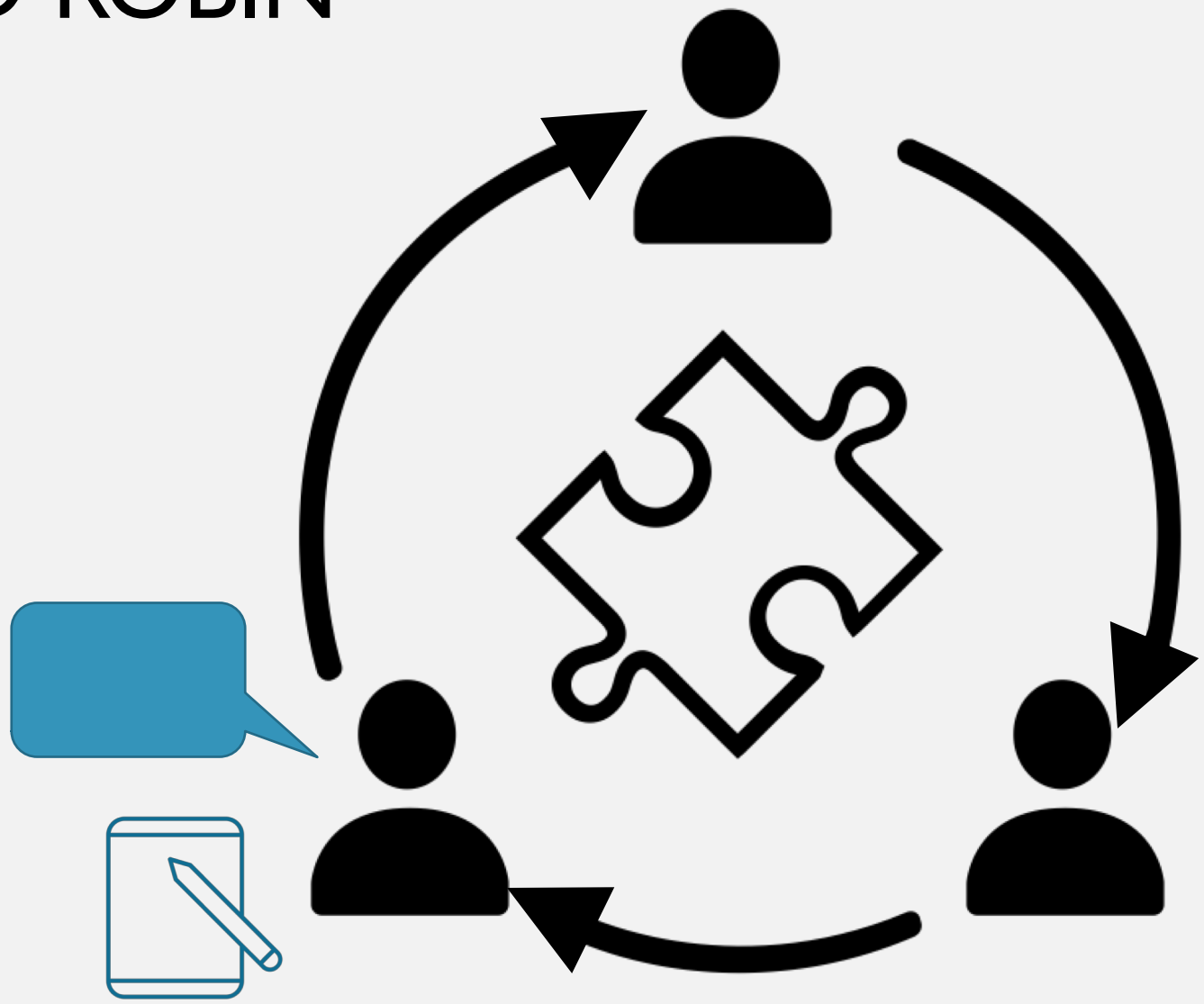
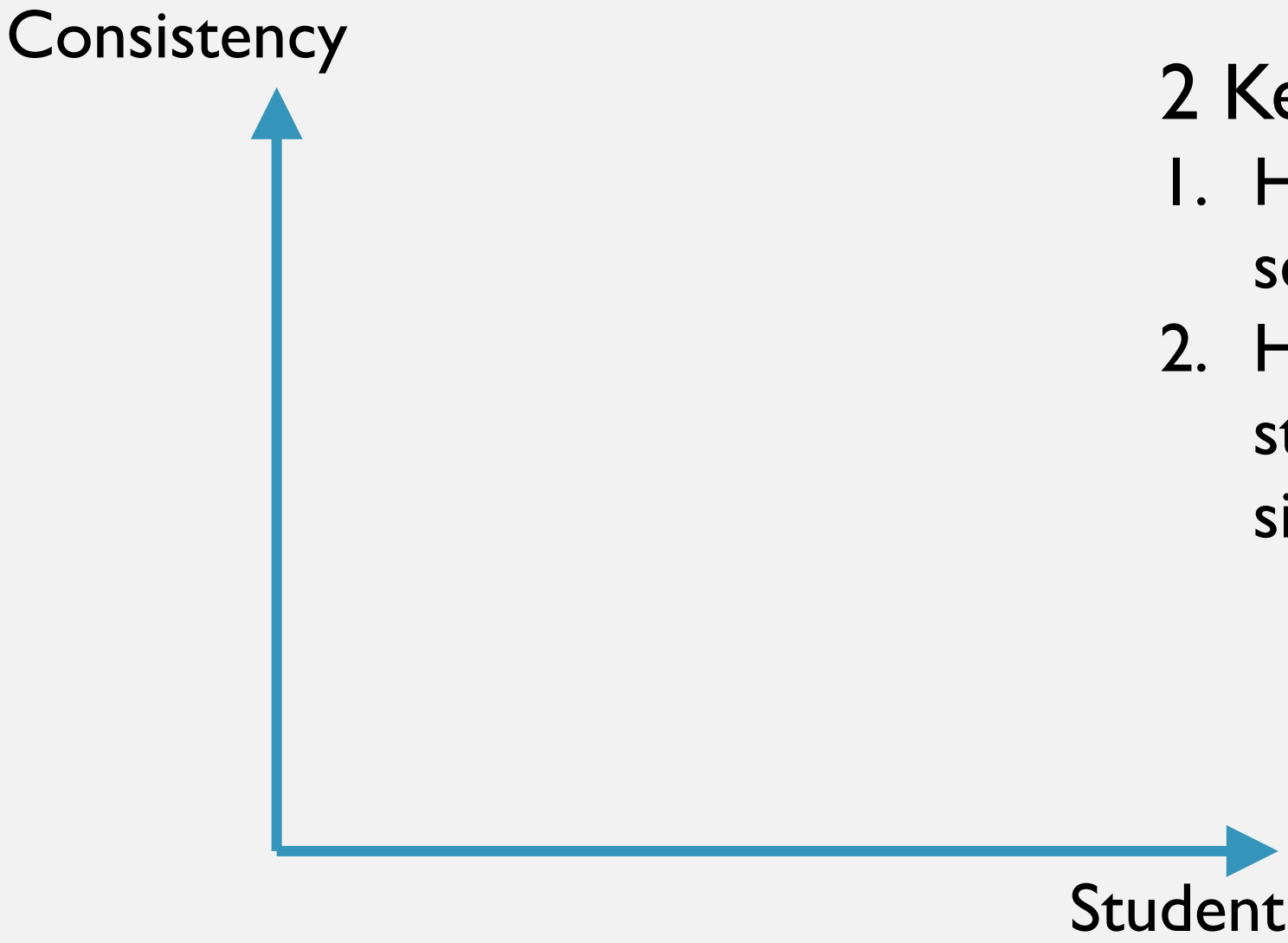


Share a question you might have when preparing to teach in an active learning space like MY150

Round Robin Prompt

How should seats be assigned (or not) to take advantage of the seating in MY150?

My Focus Question



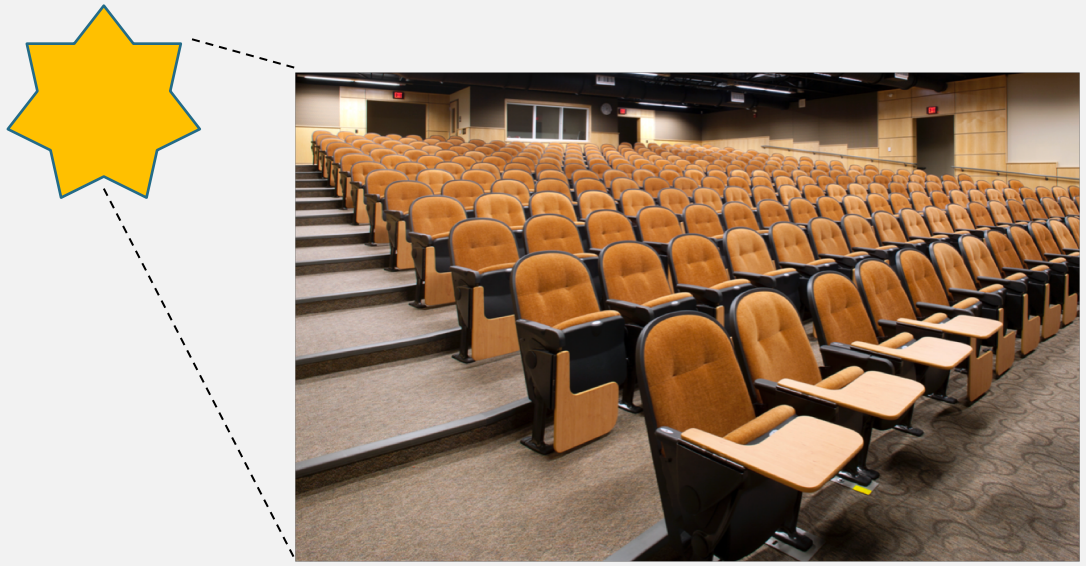
2 Key Decisions:

1. How consistent should seating be?
2. How much choice should students have in where they sit?

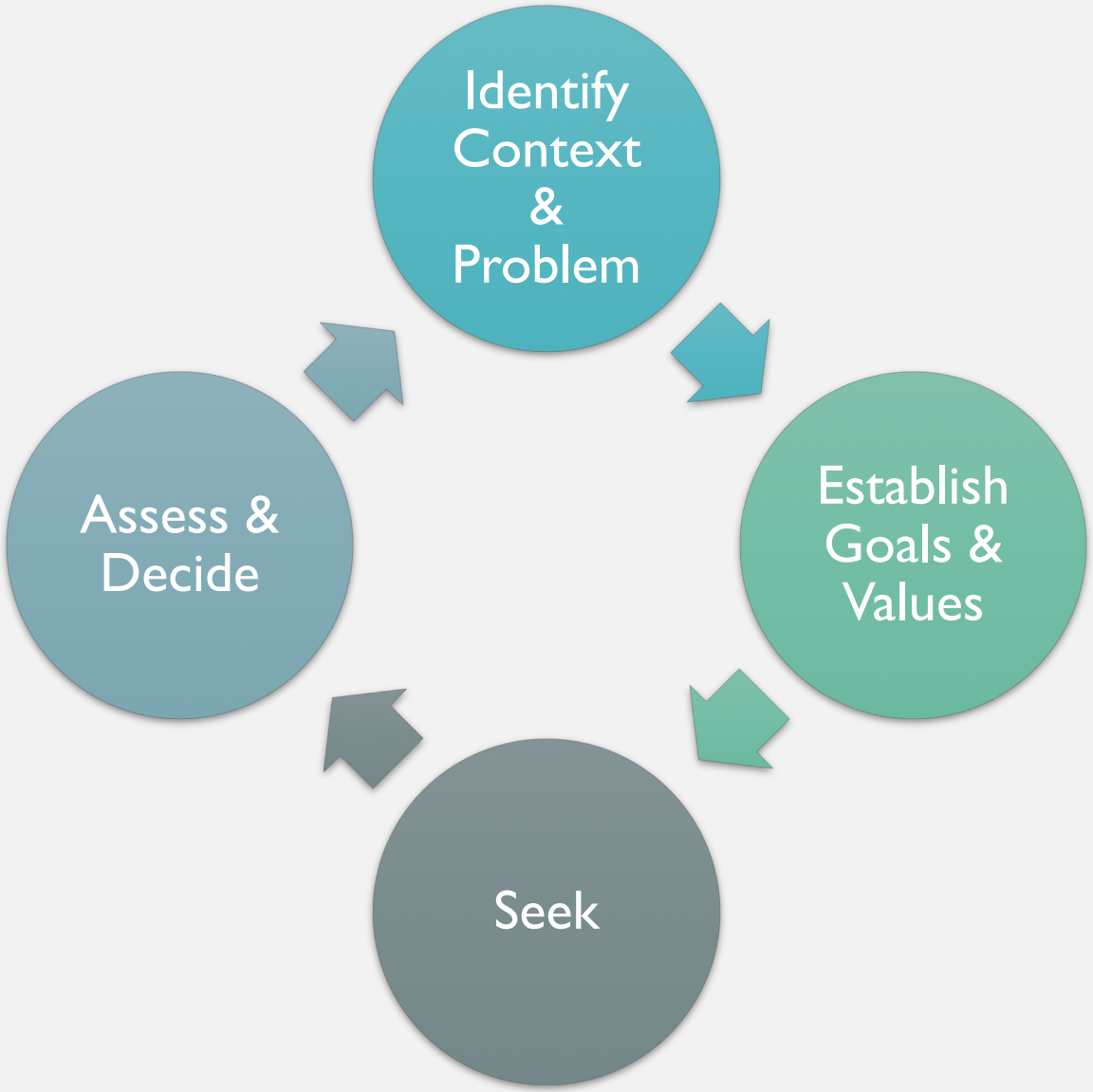
Consistency

Student Choice

Consistency

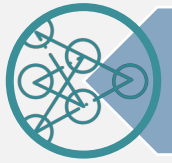


Student Choice


Identify Context & Problem
Establish Goals & Values
Seek
Assess & Decide

MY GOALS & VALUES

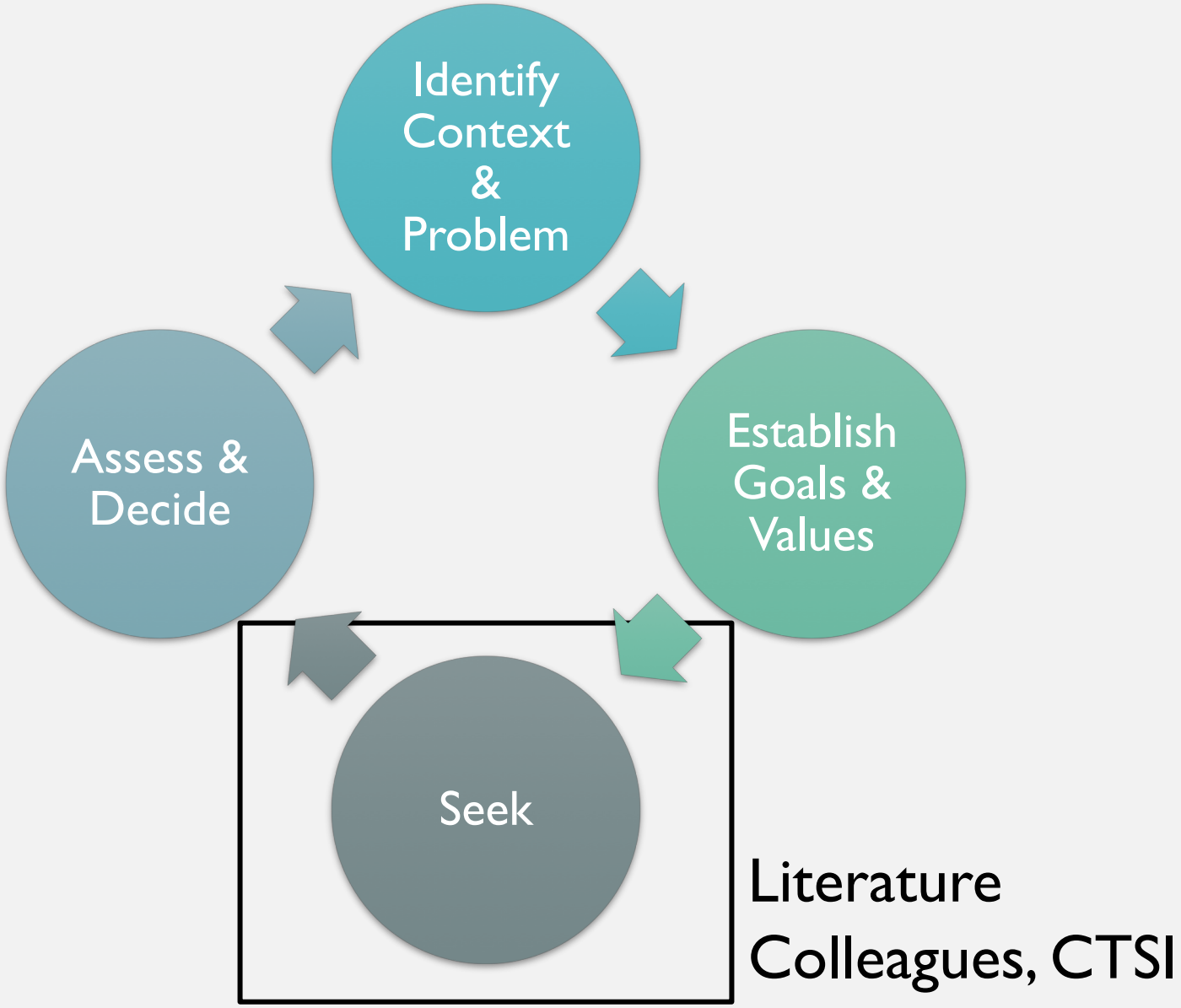
Focus on Course Goals



Keep Student Learning Central

Promote Equity

Leverage Advantages of Physical Space



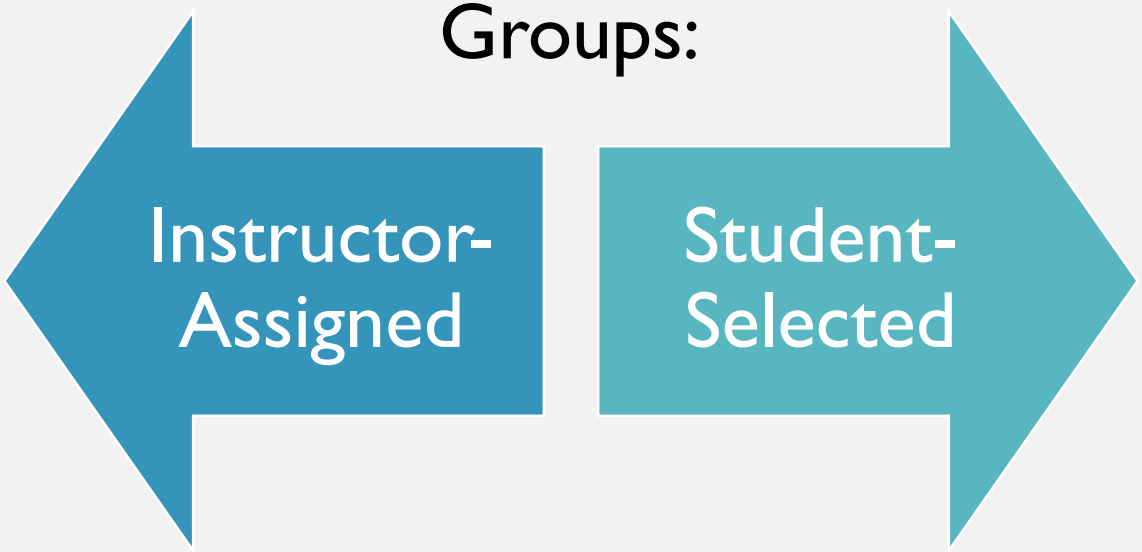
Literature
Colleagues, CTSI

“Classroom community has been shown to play an integral role in the advancement of student learning”

- Summers & Svinicki, 2007

"More likely to present social, communication, and organizational challenges that groups will need to overcome by exercising or developing team skills."

Groups:



More harmonious experiences

Source: Hilton and Phillips, 2010

"These base support groups promote a sense of trust and inclusion, and serve as support structures during the formal classes at the university."

- Rolheiser & Hundey, 1995

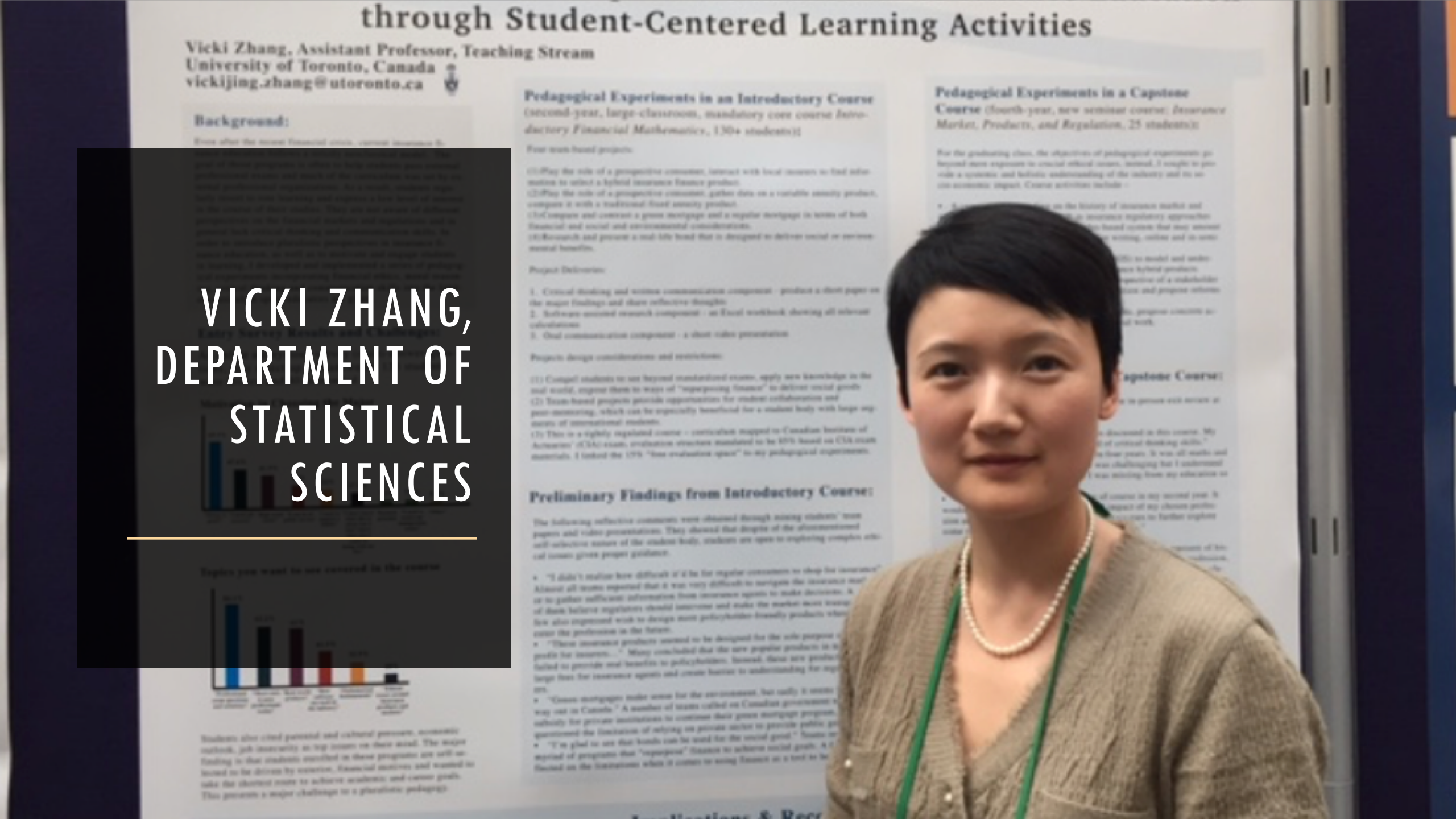
WHEN ACTIVE LEARNING IS NEW STUDENTS OFTEN FEEL…

SURPRISED

SHY / NERVOUS

BETRAYED

FEEARFUL



VICKI ZHANG, DEPARTMENT OF STATISTICAL SCIENCES

SELF-SEGREGATION AT UOFT

Why?

- Large cultural gaps
- Off-campus tutoring centres targeting Chinese Students
- Challenges learning English & content simultaneously

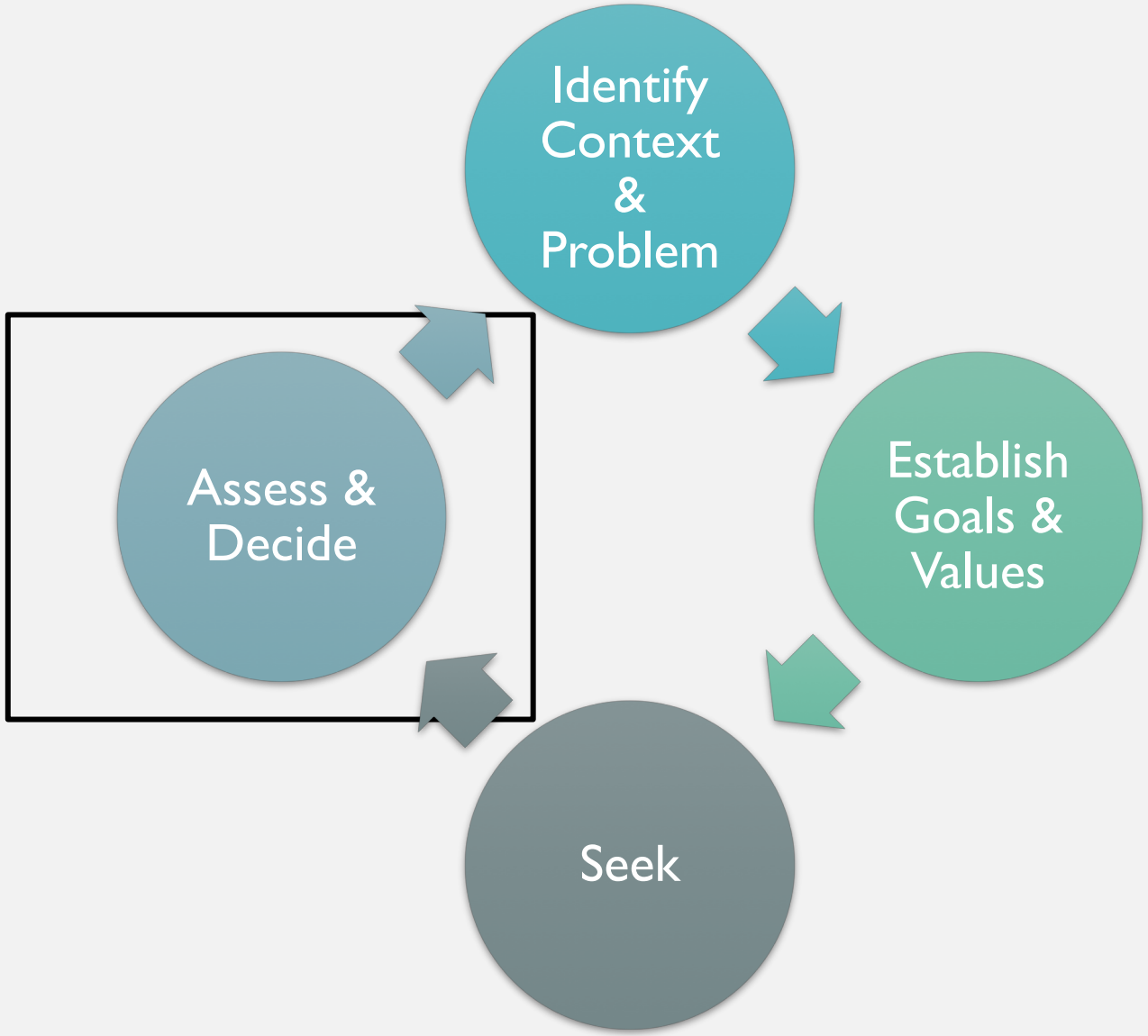
Consequences

- Groups not as heterogeneous
- Non-Chinese students do not benefit from getting to know Chinese students
- Chinese students do not achieve all goals of studying in Canada

Source: Zhang, 2018

TO BUILD COMMUNITY & SUPPORT STUDENTS…

- Recognize benefits of permanent groups
- Student-formed and Instructor-formed groups both have benefits
- Do not force international students to work with other students… but make it easy for them to do so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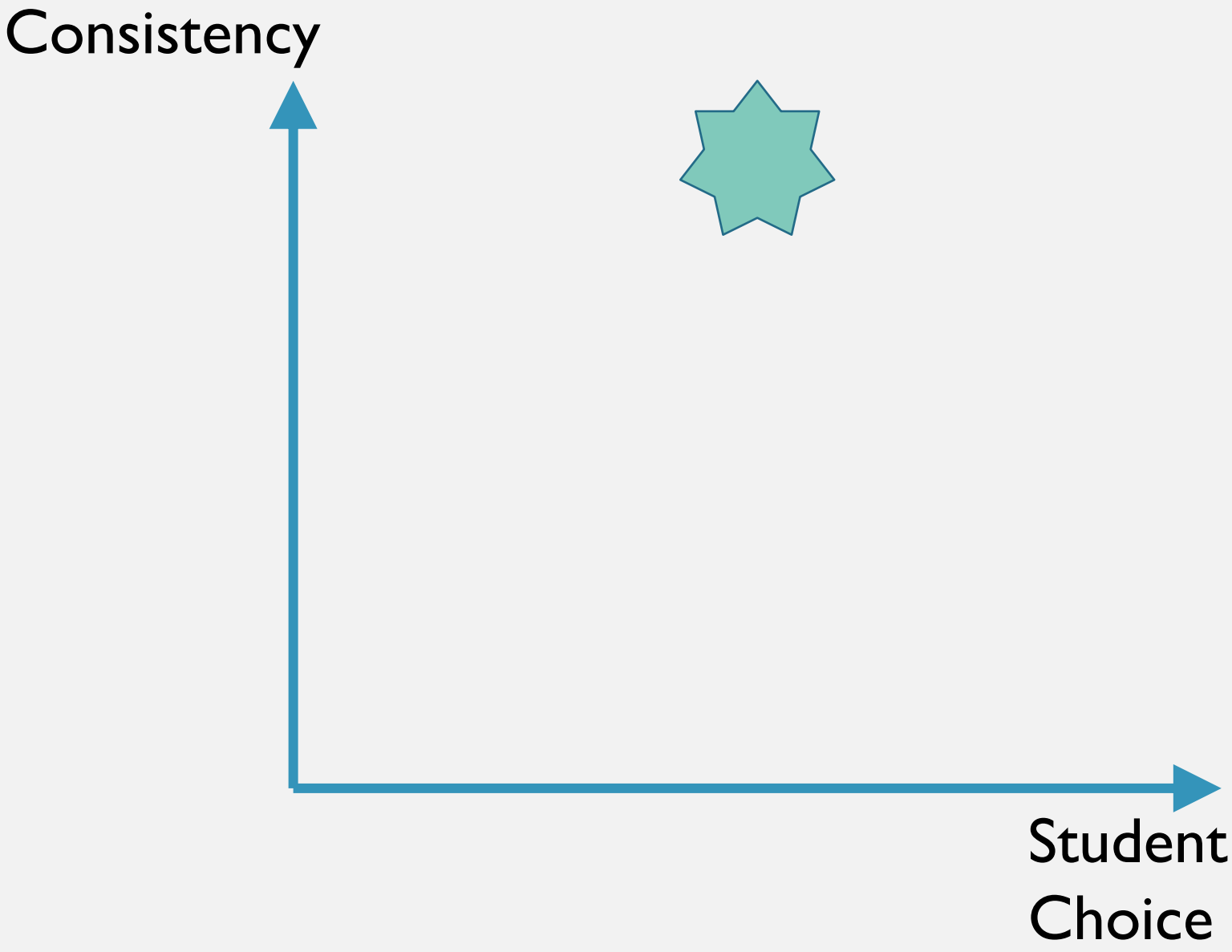

Group Allocation:

1. 2-Day window to submit group choices
2. Random allocation of remaining students to groups

1-MINUTE PAPER

Write down…

- 1 Thing you learned
- 1 Idea you had to apply to your own teaching

REFERENCES

Hilton, Sandy, and Fred Phillips. "Instructor-assigned and student-selected groups: A view from inside." *Issues in Accounting Education* 25.1 (2010): 15-33.

Rolheiser, Carol, and Ian Hundey. "Building norms for professional growth in beginning teachers: A learning consortium initiative." *School Effectiveness and School Improvement* 6.3 (1995): 205-222.

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Zhang, Vicki Jingjing. "The Multiple Forces Behind Chinese Students' Self-segregation and How We May Counter Them." *Transformative Dialogues: Teaching & Learning Journal* 11.2 (2018).