

# From Isolation to Engagement: COI Supported Design Strategies for Online Student Success

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## Abstract

Students in online courses often struggle with isolation, motivation, and connection. Using the Community of Inquiry framework, we redesigned a three-course educational research sequence to improve retention and engagement. Key design elements included consistent base groups, critical friends, and reflective research journals. Students in the revised sequence reported significantly higher levels of Teaching, Cognitive, and Social Presence.

## COI Framework

Table 1

Community of Inquiry Framework

Characteristics of each ‘Presence’	Form of ‘Presence’		
	Teaching	Social	Cognitive
	<ul style="list-style-type: none"><li>• Design and Organization</li><li>• Facilitation</li><li>• Direct Instruction</li></ul>	<ul style="list-style-type: none"><li>• Affective Expression</li><li>• Open Communication</li><li>• Group Cohesion</li></ul>	<ul style="list-style-type: none"><li>• Triggering Event</li><li>• Exploration</li><li>• Integration</li><li>• Resolution</li></ul>

Garrison et al., 2000)

## Methods

### Participants

- Students enrolled in a Masters of Arts in Teacher were requested to complete the COI Inventory at the end of each of their courses from Spring 2021 – Fall 2023.
- 2749 surveys were collected from students enrolled in all Graduate Education courses. After removing partially completed surveys 2404 surveys were included in the final dataset.

### Materials

- Community of Inquiry Inventory (Arbaugh et al., 2008).

### Procedure

- Community of Inquiry Surveys were added to the end of all of the online LMS courses in the graduate education program.
- Students were requested to complete their course evaluations and the Community of Inquiry survey after completing each course.
- Data were categorized by program for analysis.

## New Course Sequence Design

### Previous Sequence

- Course 1: Educational Research**
- Introduction to research methodology
  - Students developed a research proposal
  - Most assignments were completed individually

### Current Sequence

- Course 1: Educational Research and Theory**
- Purpose of Action Research
  - Discussion of influence of theory
  - Develop a series of possible research questions

- Course 2 : Data Analysis and Interpretation**
- Data collection occurs
  - Students learn either quantitative or qualitative data analysis and interpretation techniques

- Course 2: Readings in Content Area**
- Conduct mini-lit review in an area of research interest

- Course 3: Reporting Educational Research**
- Students finalize their findings and write the Results and Discussion sections.

- Course 3: Designing Action Research**
- Practice designing research projects
  - Both qualitative and quantitative approaches

- Course 4: Analyzing Action Research**
- Student learn both quantitative and qualitative analysis strategies
  - Update their research proposal

- Course 5: Educational Research in Content Area**
- Students conduct their action research study from start to end.
  - Close mentoring with faculty

- Base Groups**
- Regular discussion board in small group
  - 3-4 students, stay in same group for whole course.
  - Used to share ideas, peer-review, discuss content.

- Research Journals**
- Utilizes Google Docs to maintain a research journal that students contribute to through all 5 courses.
  - Share ideas about research questions and designs, ask questions of the instructor.
  - Comments allow for individualized feedback and asynchronous discussions between student and instructor.

- Critical Friends**
- Utilized in the final course
  - Student pairs work together so support one another during their data collection and writing of the final paper.

- Instructor Mentorship**
- Present through each of the courses in many ways
  - Feedback on research journals.
  - Support in the idea generation phase of the research project.
  - Support with research designs.
  - Close mentorship during the final course with final course design, IRB process, data analysis, and writing.

## New Course Elements

## Results

A series of independent samples t-tests were conducted to compare students who were in the old research sequence with the students in the revised research sequence. Results found statistically significant differences for all comparisons with effect sizes in the moderate range (see handout for specific values).

Figure 1

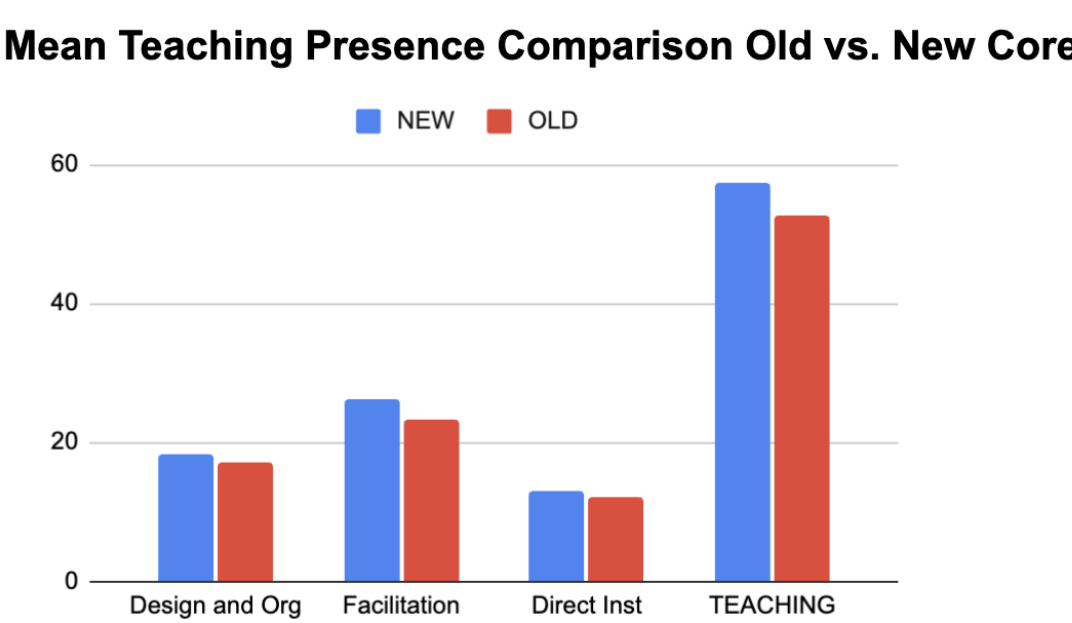


Figure 2

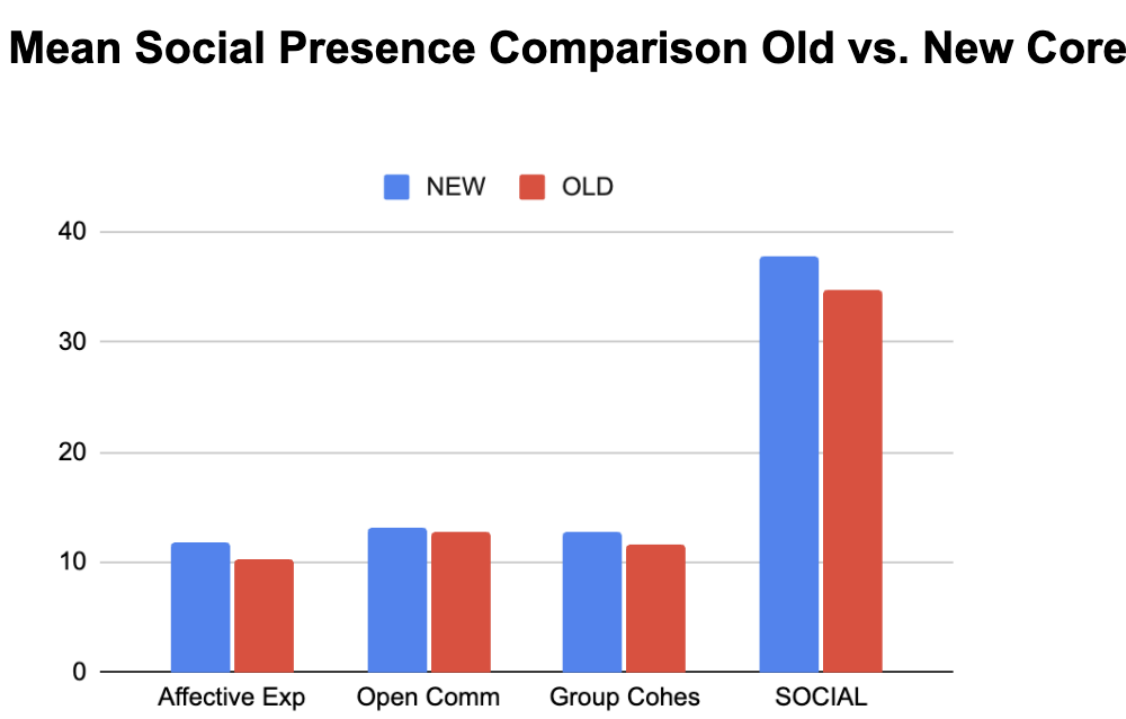
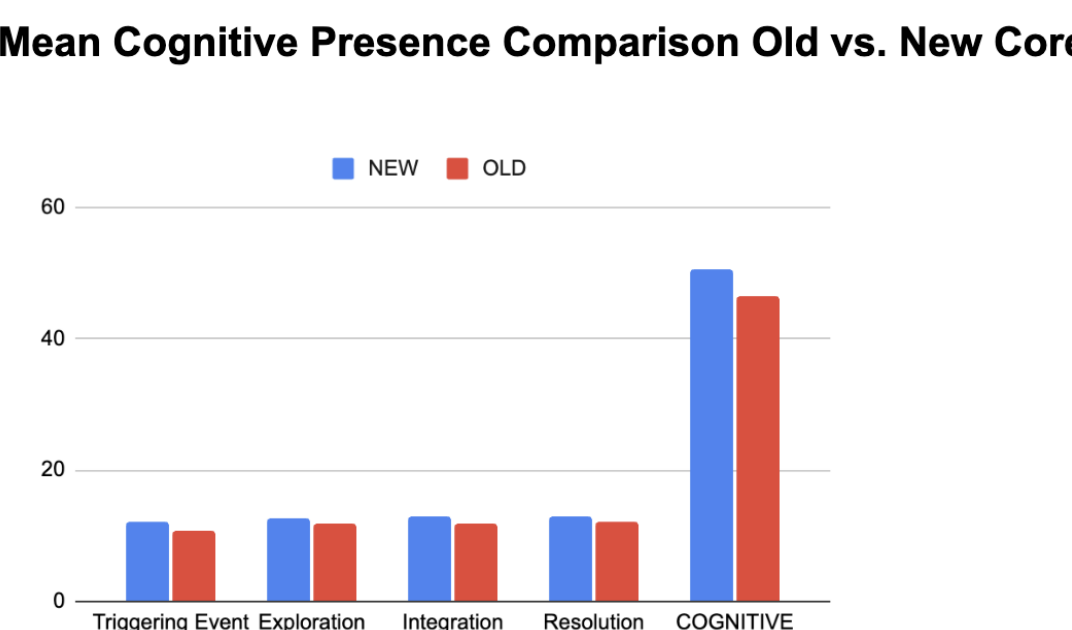


Figure 3



## References

- Arbaugh, J.B., Cleveland-Innes, M, Diaz, S., Garrison, D.R., Ice, P, Richardson, J., Shea, P., & Swan, K. (2008). Developing a community of inquiry instrument: Testing a measure of the community of inquiry framework using a multi-institutional sample. *Internet and Higher Education*, 11, 133-136.
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education model. *The Internet and Higher Education*, 2(2-3), 87-105.