Creating More Than Just an Intersection: Interdisciplinary Partnering of College Courses to Increase Learner Proficiency, Self-Efficacy, and Professional Identity

Presented at: South Carolina Conference on Innovations in Teaching & Learning in Higher Education (SCCITL)

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Learn how faculty members from the Departments of Nursing and Computer Science at the University of South Carolina Beaufort are using constructivist learning theory and andragogic educational practices to guide the partnering of a research methods course with a computer programming course. [Hands-on activities; Participants should bring a syllabus]
Before we begin

Think about a class you recently taught

Think about some content-related problem areas encountered by your students during that class

Now write down 2 of those problem areas
Objectives

By the end of this session attendees will be able to:

1. Discuss the value of collaborative learning among students of seemingly disparate disciplines;
2. Discuss the theoretical underpinnings of collaborative learning.
3. Identify at least one complementary discipline from which you can seek an instructional partner for interdisciplinary collaborative teaching & learning;
4. Identify at least one interdisciplinary learning activity for students across these disciplines.
Our Challenge

Nursing students **entering** our classes possess a **narrow, siloed perspective** regarding research which is limiting to both the individual’s career and the disciplines as a whole.

Nursing students **leaving** our classes possess a **narrow, siloed perspective** regarding research which is limiting to both the individual’s career and the disciplines as a whole.

Computer science students **entering** our classes possess a **narrow, siloed perspective** regarding research which is limiting to both the individual’s career and the disciplines as a whole.

Computer science students **leaving** our classes possess a **narrow, siloed perspective** regarding research which is limiting to both the individual’s career and the disciplines as a whole.
Our Proposed Solution

Students entering our classes possess a narrow, siloed perspective regarding research which is limiting to both the individual’s career and the disciplines as a whole.

During the course of the semester and across class boundaries, Nursing and Computer Science students work together on a series of shared, interdisciplinary learning activities.

Students leave our classes possess a more holistic, interdisciplinary perspective regarding research which broadens opportunities to the individual’s career and enriches the disciplines as a whole.
Our Pre-Approach Approach

Organic Development:

- Friendly colleagues
- Natural opportunities to chat informally
- Willingness to actively listen to each other’s educational concerns
- “Aha moment # 1”
  - “Aha moment # 2”
  - “Aha moment # 3”
  - …
Approach: Collaborative Learning

1. Identify areas of convergence between distinct educational disciplines to enhance students’ identification with their professions and increase opportunities for learning.

2. Determine a more effective way for students to take “ownership” of their education. We considered “how do students increase self-efficacy?”
Area of Convergence for Nursing and Computer Science:

Nursing research, a component of nursing informatics which combines “nursing science with multiple information and...to communicate...knowledge, and wisdom in nursing practice” (Nelson & Parker, 2019, para. 1).

Strengths of Collaborative Learning:

“Students develop a considerably greater commitment, helpfulness, and caring for each other regardless of differences in ability level, ethnic background, gender, social class, or physical disability. They develop more skill in taking the perspective of others, emotionally as well as cognitively. They develop greater self-esteem and a greater sense of being valued by their classmates. They develop more positive attitudes toward learning, school, and their teachers. They usually learn more in the subjects they study by cooperative learning, and they acquire more of the skills and attitudes that are conducive to effective collaboration with others.”

Theoretical Perspective to Learning

Constructivist Learning Theory encompasses a number of related learning theories and theoretical perspectives, all of which emphasize that learning is a process of constructing meaning from experiences.

“The best learning takes place when learners articulate their unformed and still developing understanding, and continue to articulate it throughout the process of learning. Articulating and learning go hand in hand, in a mutually reinforcing feedback loop. In many cases, learners don’t actually learn something until they start to articulate it – in other words, while thinking out loud, they learn more rapidly and deeply than studying quietly.”

Practical Approach to Facilitating Learning (i.e., Teaching)

Based on the works of Malcolm Knowles, Andragogy is a theoretical and practical approach to facilitate learning in adults.

Where We Are Today:

Reviewed objectives for individual classes (Nursing Research, a junior level course in the BSN program) and (Computing in MATLAB, a first/second year course) to:

• Identify a learning activity and assessment that will be shared by students in both classes
• Pair in the Fall 2019 semester to work on the assignment
• Worked with the LMS support staff to provide access for students across both classes
Challenges: Actual and Anticipated

Administrative
• Collaboration Space (LMS Access)
• Scheduling

Interpersonal
• Communication between and among students
• Maturity, motivation, and engagement: junior level Nursing students; first/second year Computer Science students

Student Assessment
• Different classes with different grade weightings
• Peer feedback
Partnered Activity

Partner with the person(s) next to you, preferably of a different discipline. Relocate, move chairs, etc. to get physically near them for easy/comfortable conversation.

Discuss with each other the **content-related problem areas** encountered by your **students**.

Think about your collective courses, identifying at least **two** areas of commonality and/or complementarity. **Write them down**.

Outline/sketch a shared learning activity for your students. **Write it down / draw it**.

Gallery Walk: What did others come up with?
If you are interested in partnering for academic gains, you may be interested in learning more about **Partnering with Your Community**

**Students Connected: Building Engaged Citizens Through Experiential Learning, Community Engagement**

Breakout Session 3  11:30 AM – 12:00 PM  ECL 440
Final Thoughts?

Thank you for your participation!
Appendix A:

Social Interdependence Theory

Collaborative learning is the leveraging of cooperation in the classroom as an instructional technique; specifically, collaborative learning is the instructional use of small groups of individuals aimed at maximizing their own and each other’s learning.

Social interdependence, the foundation of social interdependence theory, exists when individuals working toward a goal affect each other.

Appendix A:

Social Interdependence Theory

The 5 elements necessary to successful collaboration:

1. Positive interdependence
2. Individual accountability
3. Promotive interaction (i.e., support each other)
4. Interpersonal skills
5. Group processing (i.e., what is working, what isn’t)

Positive interdependence occurs when goal achievement of each individual is positively correlated with the goal achievement of others.