ACTIVE LEARNING CLASSROOMS

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I have two roles at North Carolina State University, one is as a learning spaces researcher and the other as a writing instructor. My research on learning spaces on college and university campuses is inspired directly by my own experiences as a teacher.

I've been teaching undergraduate writing courses for more than 14 years, and I've taught in many less-than ideal classrooms. However, there was one particular room that sparked my interest and inspired me to focus on learning spaces in my doctoral studies.

It was Room 12: a narrow, windowless basement classroom with dim fluorescent lighting and cramped rows of old, wooden tablet-arm chairs. Even with a small class of 22 students the room was restrictive and we struggled to maneuver around extra seating in a space that was already compact.

No space was available around the periphery of the room or between the desks, and the aisles were so tight that my students had to file in movie-theater style. The room lacked technology save for a 70s-era overhead projector.

In writing studies, small group work and peer review are considered best practices; active learning is encouraged and lecturing is kept to a bare minimum.

In Room 12, facilitating active learning and engaging my students in the writing process to share their work with their peers (a scary endeavor for many students) was very difficult. It was clear to me that this classroom was having an impact on the kinds of lessons I was planning with my students as I found myself avoiding group work.

However, it also caused me to think beyond that, to ask myself if the space was having any effect on how my students were grasping the material and their interactions with me or their peers. If my teaching in this space was difficult, then could this classroom have any influence on student learning? I felt in my gut that it did, and I've been studying campus learning spaces ever since.

As a learning space researcher, I use qualitative methods to explore how spaces impact teaching, learning, communication, and community building.

An ethnographic approach is particularly useful in the study of learning spaces, as it offers the opportunity to capture the voices of students and teachers and how spaces influence their pedagogy, learning, and sense of belonging. Ethnography can yield rich results that can also help us better understand quantitative data of learning spaces.

I've conducted qualitative and mixed-methods studies on "flexible" classrooms (technology-rich spaces with mobile furnishings) for both low- and high enrollment courses, and the results suggest that these spaces can be valuable tools to engage students. However, faculty need support, guidance, and professional development to leverage these classrooms to promote active learning.

My work has also demonstrated that students perceive that these nontraditional environments contribute to their learning when they are oriented to the classroom and the active learning model.

My current research focuses on the impact active learning classrooms (ALCs) have on students with disabilities, on which I am working with Bob Beichner of North Carolina State University.

While ALCs have been shown to have a positive effect in students' ability to solve problems and build conceptual understanding (Beichner, 2008), some students may find these environments challenging because of their more diverse learning needs.

For example, how would these highly collaborative, innovative spaces impact Alex, who is on the autism spectrum and struggles with socialization? What about Rebecca, who is hearing impaired and typically looks to the front of the room for visual cues to follow her instructor. What does she do when there is no classroom "front"?

In this work, I'm exploring these questions:

- *Are already disadvantaged students further disadvantaged by ALCs, or is the inherent flexibility of such an environment a better fit to their more diverse needs?*

- *How can we better meet the needs of students with more diverse learning needs and support them in active-learning classrooms?*

Selected publications:

Gierdowski, D. (2017). "The Flexible Writing Classroom as a Site for Pedagogical Reflection." In M. Kim and R. Carpenter (Eds.) Writing Studio Pedagogy: Space, Place, and Rhetoric in Collaborative Environments. Lanham: Rowman and Littlefield.

Gierdowski, D. and Miller-Cochran, S. (2016). "A Picture is Worth a Thousand Words: Understanding Expectations and Mapping Preferences for Writing Classroom Design." In J. P. Purdy and D. N. DeVoss (Eds.) Making Space: Writing Instruction, Infrastructure, and Multiliteracies. Ann Arbor: University of Michigan Press Sweetland.

Gierdowski, D. (2015). "Instructor Perceptions of a Flexible Writing Classroom." In R. Carpenter, R. Selfe, S. Apostle, and K. Apostle (Eds.) Sustainable Learning Spaces, Computers & Composition Digital Press, an Imprint of the Utah State University Press.

Gierdowski, D. (2012). "Studying Learning Spaces: A Review of Selected Empirical Studies." In R. Carpenter (Ed.) Cases on Higher Education Spaces. Hershey, PA: IGI Global.