Pedagogy and Classroom: How Can I Do *This* in *That* Space or Does it Even Matter?

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Abstract – This BOF will provide a platform for a discussion around individual teaching styles and preferences and how they relate to the classroom space. Access and awareness of active learning pedagogy and active learning classrooms can create both tension (e.g., not wanting to teach in an active learning classroom) and challenges (e.g., desire to have access to an active learning classroom despite the costs associated, working specific techniques into a given space). Shared experiences will help participants better leverage their classroom spaces to their desired pedagogy.

The classrooms used by Computer Science students come in all shapes and sizes, from large lecture halls to small computer labs to collaborative active learning classrooms.

- Does our teaching style need to match the space?
- As many students come to class with their own personal computer, development environment and opinions about effective instruction, does the classroom and supporting technology even matter?
- What effect does the space have on the instructional choices made?
- Are particular classroom environments more effective than others and might the types of artifacts generated by Computer Science students lend themselves better to one space over the other?

Background Information

Traditional Classroom

Computer Lab

Lecture Hall

Active Learning Classrooms

Flexible Classrooms

Tapping into some of the Literature

Lasry, N., Charles, E., & Whittaker, C. (2014). When teacher-centered instructors are assigned to student-centered classrooms. Physical Review Special Topics—Physics Education Research, 10(1), 010116.

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences, 111(23), 8410-8415.

Johnson, A. W., Blackburn, M. W., Su, M. P., & Finelli, C. J. (2019). How a flexible classroom affords active learning in electrical engineering. IEEE Transactions on Education, 62(2), 91-98.

Eickholt, J., Jogiparthi, V., Seeling, P., Hinton, Q., & Johnson, M. (2019). Supporting project-based learning through economical and flexible learning spaces. Education Sciences, 9(3), 212.

Baepler, P., Walker, J. D., Brooks, D. C., Saichaie, K., & Petersen, C. I. (2016). A guide to teaching in the active learning classroom: History, research, and practice. Stylus Publishing, LLC.

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Links

- Economy active learning classroom and Practical Active Learning Stations (PALS)
- Impact of flexible classroom spaces on learning, teaching
- Process oriented guided inquiry learning (POGIL) in Computer Science
- Peer instruction for Computer Science
- …

Recommendations

- Consider faculty's preference for classroom when assigning classroom space.
- If demand for ALCs exceed capacity, consider training as a prerequisite for use.
- Encourage faculty to be intentional with their use of technology.
- Consider wall mounted displays and whiteboards when appropriate (supports "eavesdropping" and accountability)
- Encourage faculty to clearly relay expectations to students regarding use of space.
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Collaborate

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