

VERTICALLY INTEGRATED MATHEMATICS CURRICULUM

We created a learning module covering several geometry topics at various grade levels from 7th grade to 11th grade and gave them to a set of students at the Discovery Academy Residential Treatment Center. These students have histories of trauma and/or criminal records which have caused gaps in their mathematics education.

We hoped that presenting the same set of geometry topics at various depths and complexities would help the students understand and retain the knowledge from these topics better and that this approach would help the students fill gaps in their educational foundation.

The students in this study ranged from 9th grade to 12th grade, but their mathematical skills were ranked from 6th grade to 10th grade according to the Utah RISE standardized test. We found statistically significant improvement in the subject matter involved in the study.



Michael Andersen graduated from Brigham Young University studying mathematics. Since then, Michael has taught math at the high school and college levels and has studied secondary mathematics pedagogy with his colleagues at Utah Valley University and through a masters in education at Western Governors University. He has researched the relation between mathematics curriculum and trauma therapy and he has researched foundational and intermediate algebra curriculum.

MICHAEL ANDERSEN

*Assistant Professor | Mathematics
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LEARNING IN THE TRENCHES: HOW SERVICE-LEARNING PROVIDES ACTIVE LEARNING ADVANTAGES OVER TRADITIONAL LECTURE LEARNING

In January 2023 she presented "Learning in the Trenches: How Service-Learning Provides Active Learning Advantages Over Traditional Lecture Learning" at the 2023 Hawaii University International Conference on Arts, Humanities, Social Sciences, and Education. This paper was inspired by the Evidence-Based Teaching Practices class she took in the summer of 2022.

The process of keeping students mentally, and often physically, active in their learning through activities that involve them in gathering information, thinking, and problem solving is the best way to help them learn and retain information.

Especially with this tech-savvy generation of students, we need to get them engaged with hands on activities. This:

1. Lessens apathy
2. Decreases boredom
3. Is more collaborative and social
4. Keeps them off their phones

Service-learning is a great path to active learning. "Service Learning provides an opportunity for students to participate in practical activities that serve their communities while also reflecting on concepts and theories that are taught in their discipline" (Xavier and Jones).

When students put 15 hours into a service project and think deeply about the topic; they care more about the finished product of the research paper. The brainstorming on the paper is more personal to them. Because they are working on more authentic problems which they have witnessed first-hand rather than just in a book, they really invest (Deal et al.). They are forced to think about and gather inspiration for the topic for at least 15 hours before ever putting pen to paper. This ultimately improves the end product of their writing.

This service is leaving a lasting effect on the students. Students make comments such as, "I really enjoyed the research project because of the service project attached to it. It made the research much more meaningful when we were involved with our problem" and "Our service project was a huge eye opener to me about how my service can truly change the world for the better. It humbled me greatly."



JANE BRADY

Lecturer | English and Literature

Jane Brady is a lecturer of English at Utah Valley University. Her first teaching position was at UVU (then Utah Valley Community College) in 1991. She has also taught for over twenty-five years at Brigham Young University where she earned her bachelor's and master's degrees in English. She is currently the production editor at the Faith and Imagination Institute at BYU. Jane has over twenty publications including *Mourning with Those Who Mourn* and the award-winning personal essay "Falling Leaves." In 2010, she was featured on KSL's Teacher Feature. In 2022, she earned her HEA Associate Fellow through OTL. Her research interests include active learning and student engagement.

SOCIAL IMPACT PATHWAYS: PRACTITIONER PROFILE

The Pathways Practitioner Profiles Research Project is a two-phase effort to extend our empirical foundation of the Pathways of Social Impact. Led by Dr. Sean Crossland (Utah Valley University) and Annabel Wong (Stanford University). In Phase I, six research fellows from institutions across the country conducted a comprehensive literature review with pathway-specific literature using the following questions:

What foundational knowledge would students pursue in your pathway?

What skills would make students successful in this field?

What attributes would the student have the opportunity to cultivate?

What are the ways in which social impact is described within this pathway/ how will students have the opportunity to affect change in this pathway?

In Phase II, research fellows conducted practitioner advisor checks to ensure the academic work aligns with community understanding in each pathway. Research fellows are finalizing the literature review and create Practitioner Profiles for each pathway. Practitioner Profiles will highlight the ways Pathways of Social Impact appear across different careers and sectors.



Sean Crossland is currently an Assistant Professor and program manager for the Master of Higher Education Leadership program at Utah Valley University. Sean's research and scholarship interests focus on the public purpose of higher education. He earned a PhD in Educational Leadership and Policy from the University of Utah, MA in Community Leadership from Westminster College, and BA in Psychology from Iowa Wesleyan College.

DR. SEAN CROSSLAND

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REPRODUCTIVE JUSTICE AND CRITICAL COMMUNICATION PEDAGOGY: AN ETHIC OF SPACE-MAKING

In the summer of 2022, headlines surfaced that decried recent developments surrounding *Roe v. Wade*. I (Leandra) received a phone call from my best friend and fellow reproductive scholar in tears, exclaiming that *Roe v. Wade* had been overturned. On June 24th, 2022, colleagues, friends, and family members immediately called me amidst muffled sobs and exasperated sighs with questions about the significance of the overturn: "Would I still be able to access an abortion? How long will I have? Could I be arrested if I cross state lines for an abortion procedure? Should I not have more children? If I need to have an abortion for a medical reason, will I die if it is illegal? What can I do?"

As two faculty members teaching in Utah, we have long collaborated on both our teaching and research practices. Stevie is a recently tenured professor, a white woman, an intercultural expert, a feminist, and a biological mother. Leandra is a queer Chicana feminist on the tenure track whose reproductive justice activism informs her teaching and research; she is not a mother by choice, yet she finds value in *comadrisma* and collective mothering with her godchildren and community members (De Los Santos Upton & Hernández, 2023). Together, we work to mentor students about embodied communication concepts and the power of constitutive communication in applied service-learning and engaged-learning course projects. In this article, we provide an overview of the overturning of *Roe v. Wade* and consider its implications for communication classrooms in higher education. We assert that we as communication educators have a moral imperative to consider the role of intersectionality and reproductive justice in our teaching philosophies and implementation, and to do so, we discuss the interrelated nature of intersectionality, reproductive justice, and critical communication pedagogy. In our article, we propose an ethic of space-making, which provides the necessary tools for students to see the world differently and to challenge the status quo and deeply sedimented beliefs, values, and ways of thinking. Students are introduced to the possibilities of shifting their conceptualizations, challenging hegemonic or (seemingly) sealed narratives and expanding spaces for theorizing a more just, equal, and safe world. Next steps include conducting a thematic analysis of student reflection essays from the following courses that have utilized our moral pedagogy through its development stages: COMM 350R: Health Communication and Culture, COMM 3040: Media Ethics, COMM 3790: Trauma-Informed Journalism and COMM 319G: Intercultural Communication. Doing so will allow us to see how students make sense of the ethic of space-making in communication courses and illustrate how communication ethics plays out in broader contexts.



DR. LEANDRA HERNANDEZ

Assistant Professor | Applied Communication

Dr. Leandra Hernandez is an assistant professor in the Department of Communication and the Associate Academic Director of the Center for Social Impact.



DR. STEVIE MUNZ

Associate Professor | Communication

Dr. Stevie Munz is an associate professor in the Department of Communication and the Coordinator for the Center for Social Impact SIM Lab.

AN INVESTIGATION OF STUDENTS' INTEREST IN AN INTRODUCTORY ASTRONOMY COURSE WHEN PLANETARIUM USAGE IS PART OF REGULAR CLASS TIME

Astronomy 1040 is one of the top enrolled GE courses at UVU. Most of the sections are taught in UVU's planetarium. Our planetarium has a full dome projection system that allows us to project just about anything onto our domed ceiling. Over the last 13 years, I have been incorporating using the planetarium during class time and I use the planetarium for at least a few minutes during about 75% of my classes. Students have told me many times about how much they enjoy the planetarium and how much it helps them. This study is an effort to determine if planetarium usage during regular class time influences students' view of their interest and understanding of class content.

A literature search showed that studies concerning the influence of a planetarium are usually confined to K-12 students who visit the planetarium once. No study has been conducted on regular use during class of a planetarium for college students. During Spring 2023 the PI had three Astronomy 1040 classes held in the planetarium. On three different days where the planetarium is regularly used for instruction, one section did not experience the planetarium instruction and all three sections were polled on their interest in the lecture and the visuals used that day.

Preliminary analysis of the responses to the poll show a possible slight increase in interest in the content and visuals used when the planetarium is in use. A better mechanism for measuring interest may be required for future study.



After nearly 20 years of teaching adjunct at various universities, Maureen Hintz joined the faculty in 2020 as a lecturer in the Department of Physics at Utah Valley University where she teaches both Physics and Astronomy courses. She has pioneered utilizing the planetarium during class time and has created many resources for other faculty as well. In addition to sharing the wonders of the Universe with students and the public, she also supports initiatives to promote women in science.

MAUREEN HINTZ

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