

CANVAS Meeting Minutes, 7-14-23

Participants in Attendance:

- Amy Rutherford (University of Tennessee)
- Amy Tavares (Carnegie Mellon University)
- Annette Kendall (University of Missouri)
- Azadeh Bolhari (University of Colorado, Boulder)
- Brett Ranon Nachman (College Autism Network | University of Arkansas)
- Brittany van Beilen (University of Toronto)
- Chiara Latimer (Rowan University)
- Greta Heathcote (University of Calgary)
- Jane Thierfeld Brown (College Autism Spectrum)
- Jessica Schonhut-Stasik (Vanderbilt University/Frist Center for Autism and Innovation)
- Keivan Stassun (Vanderbilt University | Frist Center for Autism & Innovation)
- Kendra Evans (Rochester Institute of Technology)
- Ken Gobbo (Landmark College)
- Lee Burdette Williams (College Autism Network)
- Lindsay Hill (Michigan State University)
- Lisa
- Michelle Rigler (University of Tennessee-Chattanooga)
- Nina Schiarizzi-Tobin (she/her/hers) (University of Rhode Island)
- TC Waisman (Autism Training Academy)
- V Nagapriya

Meeting Plan

CANVAS Updates

1. Join our CANVAS list-serv - Our primary means of connecting, sharing info
 - Click [here to join](#)
 - Send email to the list
<https://groups.google.com/a/collegeautismnetwork.org/forum/#!forum/can-canvas/join> by emailing can-canvas@collegeautismnetwork.org
2. [CAN Membership Details](#) We appreciate the support your membership provides to help us offer CANVAS and other opportunities.
3. College Autism Summit 2023: Oct 18-20 at Vanderbilt University in Nashville, TN
 - We had a record number of proposals: 90. People who submitted proposals will be notified soon about their status.
4. **Share a Resource!** Are you conducting any research studies that you'd like the community to know about? Read an interesting article recently? Discovered a cool resource? This is your chance to briefly share that news with the CANVAS

group! List your name and any relevant links below so others may access it at their convenience!

1. [Inside Higher Ed article on Illinois General Assembly passing resolution to support neurodivergent students](#)
2. Keivan shared this article:
<https://www.psychologytoday.com/us/blog/giving-voice/202307/dignity-remains-elusive-for-many-disabled-people>
3. Annette shared in the chat: "Professional announcement: I became an Assistant Extension Professor at the University of Missouri in October last year and our College of Agriculture Dean is very encouraging of me pursuing my work in neurodiversity so I'm excited to become more involved in CAN in the future."
4. Kendra Evans introduced herself as Laurie Ackles' successor at Rochester Institute for Technology; Kendra is now heading the Spectrum Support Program.

Featured Presentation

- **Title:** Exploring Innovation Self-Efficacy in Neurodiverse Engineering Students
- **Presenter:** Dr. Azadeh Bolhari (Associate Teaching Professor and Associate Director for Undergraduate Education of Environmental Engineering Program at the University of Colorado Boulder)
- **Description:** It is critical to incorporate inclusive practices in the engineering curriculum which prepares neurodiverse students to achieve their full potential in the engineering workforce. This work-in-progress research seeks to capitalize on the unique strengths of marginalized neurodiverse engineering students. In this study, the innovation self-efficacy of engineering students who self-identify as neurodiverse is explored before and after a curricular intervention, which has been shown to have the potential to enhance innovation self-efficacy, in an environmental engineering target course.

Notes:

- This project is a work in progress, having started as a pilot last fall, and is in conjunction with Dr. Angela Bielefeldt. They are calibrating their tools and figuring out what tools are most useful.
- Dr. Bolhari assembles an environmental engineering fair each year, helping connect students to various opportunities in the area.
- Dr. Bolhari has noticed students often lacking confidence in pursuing their field, which prompted the team to explore how students feel here versus other disciplines.
- Innovation self-efficacy (ISE) stems from looking at definitions related to each innovation and self-efficacy (the latter drawing from Bandura's term)
- Various new challenges have confronted environmental engineering over recent years, including the onset of Covid and PFAS sources, or chemicals, which exist across a variety of products.

- RQs include: “do engineering students who self-characterize as neurodiverse have different innovation self-efficacy, innovation interests, or innovative work?” and “do these innovation attitudes differ at the end of the semester among students who participated in an open-ended that may impact innovation attitudes?”
- The team drew from the Innovation Self-Efficacy Scale (ISE), which prioritizes questioning things, observing the world, experimenting to understand process, engaging in idea networking with colleagues, and employing associational thinking (i.e. connecting seemingly disconnected ideas).
- At the beginning of the semester, the team sent out a survey with a curricular intervention and STEM/design mentorship (working on teams throughout the semester), and later engaging in an end curricular intervention and post-survey.
- The curricular intervention entailed students designing a K-12 STEM activity related to their interests, and ensuring they followed water chemistry principles. They had to meet with design mentors and a teacher, align their activity with a K-12 educational STEM standard, map out activity that would be featured on the TeachEngineering digital library, and ultimately present their design and curriculum to class.
- TeachEngineering boasts hundreds of lessons and activities from dozens of contributors; millions view this website each year.
- The team hired design mentors and a K-12 STEM teacher as mentors for students.
- Azadeh showcased some examples of projects that students designed. For instance, one of them focused on phytoremediation entails using plants to clean contaminated liquids. In environmental education, specific plants must be used with particular liquids. Meanwhile, examining the chemistry of tie dye can be used in changing patterns across various fabrics.
- Prior to the intervention, students were exposed to mere lectures. Now they had more interactive experiences.
- The assessment tools featured a variety of items related to innovation self-efficacy (confidence), innovation interest, and innovative work (feelings of importance about the work).
- The participant sample entailed around 13-17.5% as neurodiverse, and about 20% indicating they were maybe neurodiverse.
- There was no statistical significance across the pre- and post-survey findings.
- They found that innovation self-efficacy was higher in the post-survey among neurodiverse students.
- Through engaging in mentoring, students developed product and process innovation (i.e., innovativeness).
- In the fall, they will have paired data to generate more conclusive results. They will also be more intentionally exploring students’ cultural assets.
- They will be working on enhancing the ISE assessment tool.

Questions & Answers:

- Annette: “What was the level of awareness students had about neurodiversity when they indicated whether they were or not (or could may be)? I've found that students have very little awareness of gender differences in how autism appears for example.” “Was the instructor neurodiverse themselves?”
 - Answer: They kept the answer simple in the survey, though they offered examples of types of neurodiversity. Yet they did not ask students to share specific disabilities. The subsequent survey will examine more details.
 - The instructor did not identify as neurodivergent, though has a relative who does.
 - Project research assistants are neurodiverse.
- Laurie: “Wondering if you defined “neurodiverse” for participants?”
 - See earlier response.
- Brett: Asked about how the study could be transferable to a college context.
 - The engineering program at UC Boulder is having conversations with various administrators and campus support systems, sharing thoughts on where neurodivergent students may have distinct experiences from their peers. The program is working to gather allies.
- Lee: “In general, are engineers known for having an especially high degree of self-efficacy in comparison to the general pop? Just trying to get a sense of bigger picture.”
 - No data in comparing engineers to the general public. Often ISE is lower for environmental engineering students compared to other sub-disciplines.
- Brett: asked about if the next set for the study will be longitudinal.
 - This next set won't be involving the same students.
- Creativity and innovativeness definitions may very well vary across different fields.
- Annette asked for clarification about one of those questions in the scale. The assessment tool is helpful and valid, based on drawing on engineering programs from across the country.

Upcoming CANVAS Meetings

Date: Fri, Aug 11 at 2pm ET

Title: Acts of Resilience and Resistance: Persistence by Autistic College Students

Presenter: Dr. Carolyn O'Laughlin (Adjunct Instructor, Saint Louis University)

Description: In her recent narrative inquiry, multi-modal dissertation study, Carolyn critically examined the experiences autistic college students identify as leading to their persistence. In this presentation, she will focus on three points:

- Methodology: Specifically, ways that she considered her positionality as a non-autistic researcher and her commitment to an empowering experience for autistic participants.
- Findings: As a narrative inquiry study, the focus was on student stories. The resulting findings (Belonging, Relevance, and Making Space) are structured and presented using theater conventions.
- A look to the future: Suggestions for practical implications in postsecondary education and suggestions for future research.