University of Lethbridge

NEWS RELEASE

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Unique research collaboration sees Faculty of Fine Arts summer class support neuroscience project

Instead of preparing for the stage, students in drama instructor Dave Smith's summer class are practicing for brain health research in an innovative research collaboration between the fine arts and the sciences at the University of Lethbridge.

Smith's course, Theatre for Scientific Purposes, is a hands-on class that has fine arts students writing, designing and executing structured scenes in support of Dr. Chelsea Ekstrand's (neuroscience) research project.

"What's really cool about this class is we have students with all different focuses enrolled," says Smith. "Some are designers/technicians, some are performers/directors but all of them are contributing to the project in every capacity. They come ready to work, and really show their dedication to the class, and more importantly, to the project."

Ekstrand is studying how memories are formed and the processes used to retrieve memories in real-world environments. She received a $100,000 Future Leaders in Canadian Brain Research grant in partnership with the Canadian Institutes of Health Research (CIHR) to support her work.

"This collaboration is an exciting step into a new kind of research, one where science and storytelling come together, and where we study the brain not in isolation, but in the richness of real life," says Ekstrand. "By working together, we're making the science feel more grounded, more powerful, and more deeply connected to what it means to be human."

The goal of Ekstrand's work is to better understand the neural processes behind memory formation in both healthy older adults and individuals with mild cognitive impairment (MCI), a condition that frequently precedes dementia.

Study participants wear body cameras to capture scenes played by drama students in Smith's course. Participants then recall the scenes while in a functional magnetic resonance imaging (fMRI) machine to compare brain activity during real-life experiences with passive viewing of the same scenes on a screen.

"If we really want to understand how people think, remember and connect, we need to move beyond the lab and into the kinds of everyday experiences that actually shape our lives," says Ekstrand. "Working with the artists in this class has been a powerful reminder that human experience is more than what we can quantify. They bring emotional insight, nuance and a sense of narrative that challenges me to think differently about how we study memory and connection. For the students, I think it's a rare opportunity to step into the world of science while using their creativity to create scenes that are both emotionally rich and scientifically rigorous."

For multidisciplinary student Danica Sommer, contributing to leading-edge research and expanding the ways theatre can be utilized is something in which she feels lucky to contribute.
"This course has put me in a unique professional context that is both challenging and rewarding. Working as a team, being flexible and delivering results under a time crunch are experiences both theatre professionals and scientific researchers are familiar with."

Smith adds that theatre and drama programs tend to be more cross-disciplinary than commonly thought.

"The number of students who leave our drama program and get jobs in all kinds of positions not just pertaining to theatre is remarkable," he says. "Having courses like this help to articulate the need for creative minds to mix with analytical minds."

Neuroscience student Zeth Stewart is bridging the educational gaps between art and science and bringing depth and meaning to the scientific method.

"We can't forget that the arts are a fundamental part of life. This course brought those personal, lived experiences into the conversation in a meaningful way, while still grounding the discussion in the scientific method," he says. "As a student with a passion for both understanding human behaviour and theatrically expressing it, this class was a wonderful blend of empirical analysis and the subjective experience."

"Collaborations like this spark the kind of innovation that just wouldn't happen if we stayed in our separate lanes," concludes Ekstrand. "It pushes us all, students and faculty

alike, to get a little uncomfortable, take risks and discover new ways of thinking and creating."

Once Ekstrand's research has concluded, she anticipates sharing her results in scientific journals, presenting at research conferences and developing community resources to share with the public.

This research collaboration is an example of the University of Lethbridge's Strategic Plan in action under the strategic direction to Challenge Boundaries and Inspire Curiosity. In teaching and learning, ULethbridge takes a liberal education approach that fosters valuable interdisciplinary exchanges, connections and discoveries.

To view online: https://www.ulethbridge.ca/unews/article/unique-research-collaboration-sees-fine-arts-summer-class-support-neuroscience-project

PHOTO: Faculty of Fine Arts students rehearse a scene they will later perform before study participants

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Contact:

Trevor Kenney, Manager of Public Affairs
403-329-2710
403-360-7639 (cell)
trevor.kenney@uleth.ca
@ULethbridge

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