

Enhance Learning Through Immersive Environments – Virtual Reality, Artificial Intelligence and Biometrics as tools for learning

MRU - MOKAKIIS CENTRE FOR
SCHOLARSHIP OF TEACHING AND
LEARNING



**Dave Maze, George Gallant
and Stephen Graham**

Lethbridge College, Ohkotoki'aahkoiyiiniimann, Stone Pipe, is located on lands traditionally occupied by Siksikaitsitapi, the Blackfoot Confederacy. It is the intent of our college community to honour the land from a place of connections, Kakyosin, to become fully aware and truly recognize the knowledge encompassed of what it means to say we are on Blackfoot Territory.

SoTL Project – Lethbridge College

Interdisciplinary approach to enhance learning – 3 SoTL research projects over 3 years - combined with 2 years of CARIF internal funding

- ▶ Schools ...
- ▶ Media and Information Tech, School of Justice Studies – Center for Justice, Computer Information Technology - Media and Information Tech



Deep Dive



TECHNOLOGY
ENHANCED
LEARNING



SUBJECTIVITY IN
ASSESSMENT



EDUCATOR
RELUCTANCE

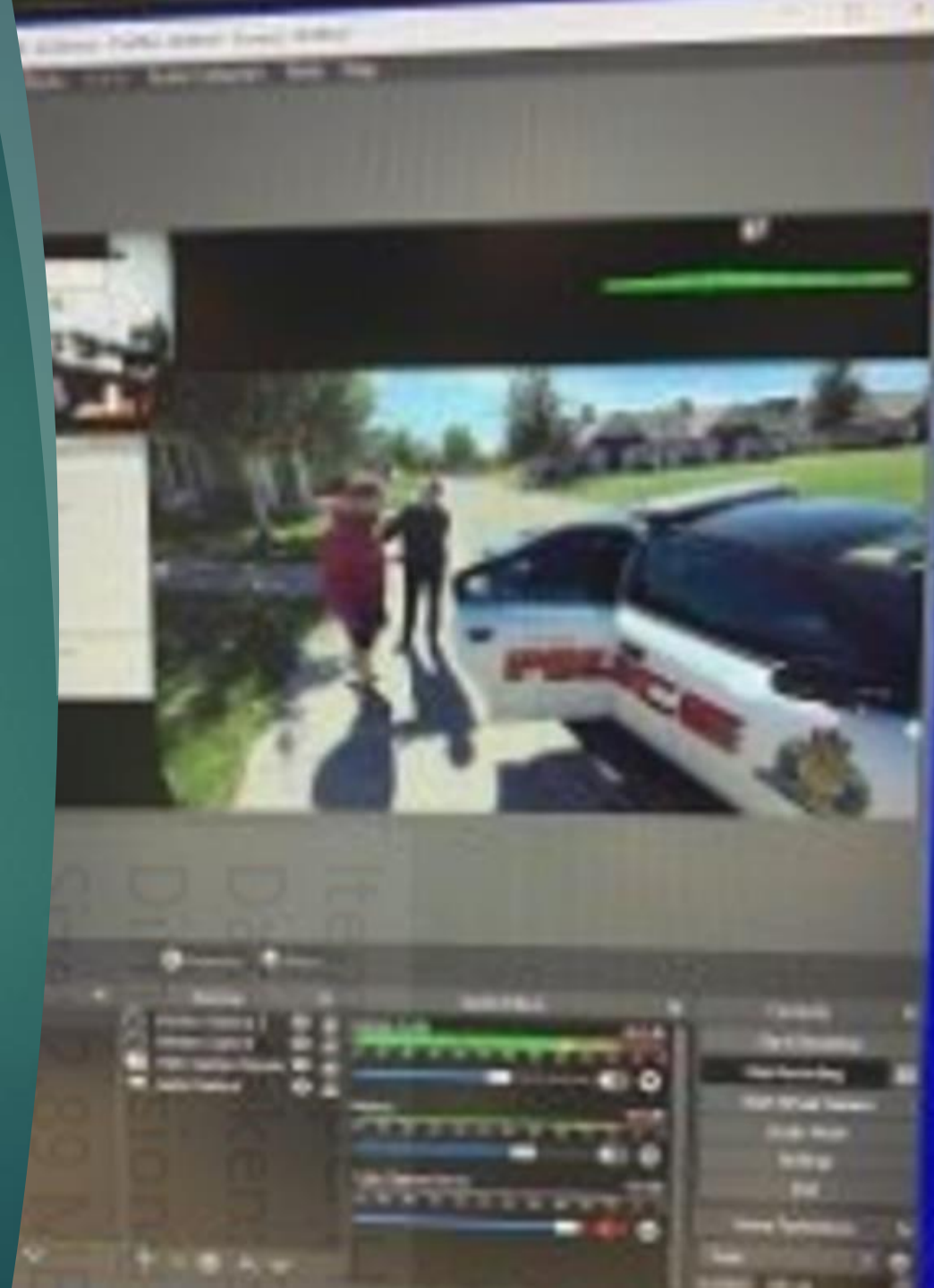


Conceptual framework

- ▶ **Situational Learning Theory** - process and development of learning when individuals can participate in a community of practice. In such a community, new learners reach the level of the expert as they have more opportunities to practice within the context of learning.
- ▶ **Knowledge Creation Theory** - refers to the continuous combination, transfer, and conversion of different kinds of knowledge. This occurs as users interact, practice and learn.
- ▶ **Expansive Learning Theory** - involves the creation of new knowledge and new practices for a newly emerging activity

Research

- ▶ **R1:** Can learners improve their communication skills in crisis incidents through immersive Virtual Reality Intelligence based scenarios?
- ▶ **R2:** Does the introduction of Bio-metric feedback collected during the VR/AI Scenarios enhance student self-awareness and thus behaviour?
- ▶ **R3:** Do immersive Virtual Reality Intelligence and biometric technologies enhance student motivation, engagement, and acquirement of knowledge?



Leveraging Technology

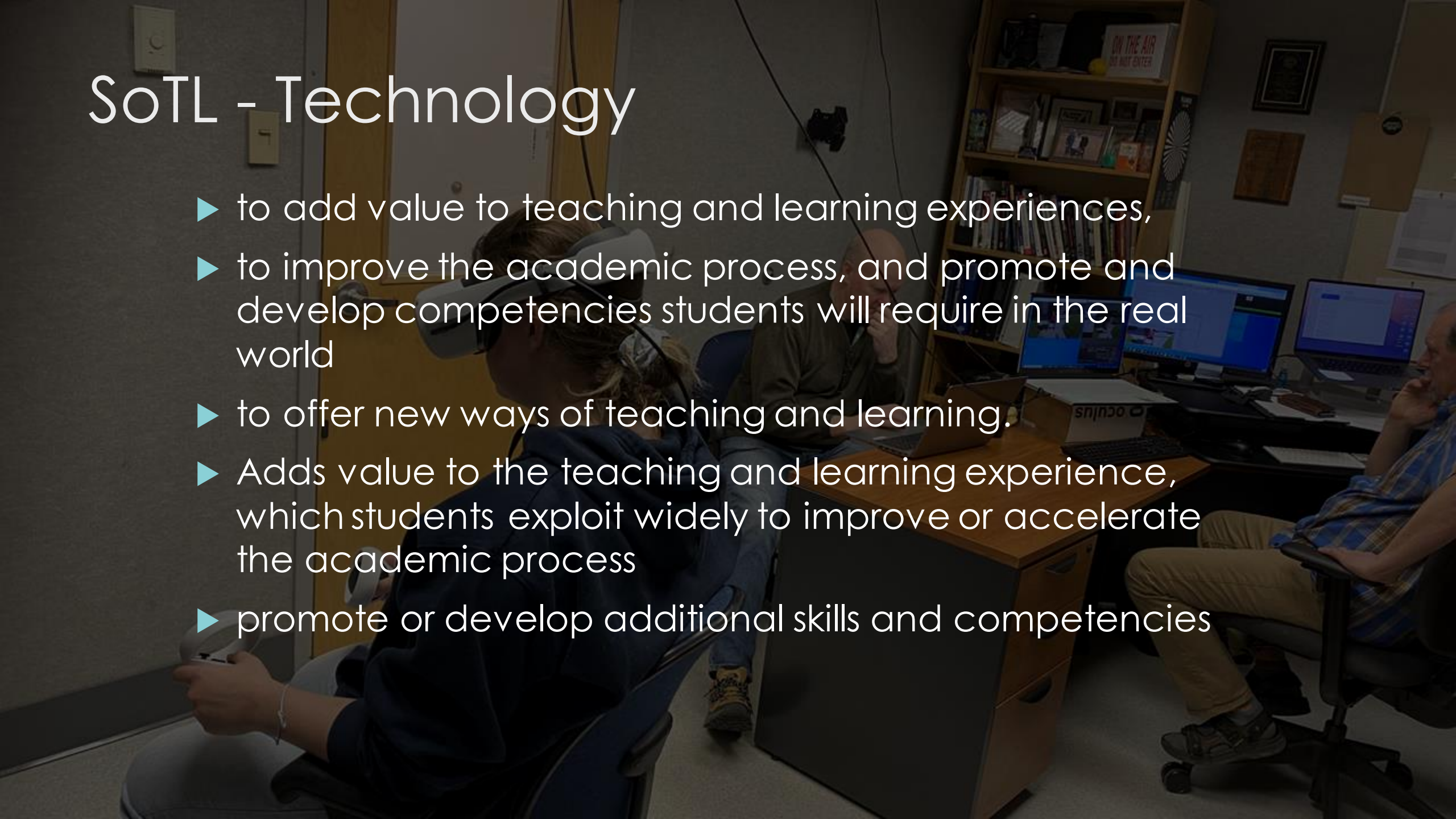
- ▶ Perception of being physically present in a non-physical world by surrounding the user of the VR system created with images, sound, or other stimuli so that a participant feels they are actually “there”
- ▶ A system which can use this personal data to improve user's learning experience can tremendously help improve the learning curve of students and help boost their interest and curiosity in the subject matter



How much were you able to control
How responsive was the environment
How natural did your interactions with
How completely were *all* of your senses
How much did the visual aspects of the

SoTL - Technology

- ▶ to add value to teaching and learning experiences,
- ▶ to improve the academic process, and promote and develop competencies students will require in the real world
- ▶ to offer new ways of teaching and learning.
- ▶ Adds value to the teaching and learning experience, which students exploit widely to improve or accelerate the academic process
- ▶ promote or develop additional skills and competencies



What do the students think

I felt like it was very realistic and engaging

ability to make mistakes and then correct them was very valuable, as it allowed me to learn more

able to control your actions – felt like I was safe to make mistakes especially because there is a chance to correct it

a good place to practice my skills – realistic environment, not just writing something down on a piece of paper

It feels so real that you have a sense of what emotions to expect and how real the acting can get.

helps me to engage with random people in uncomfortable or stressful situations.



Subjectivity

Knowledge

Halo Effect

Blind Spot

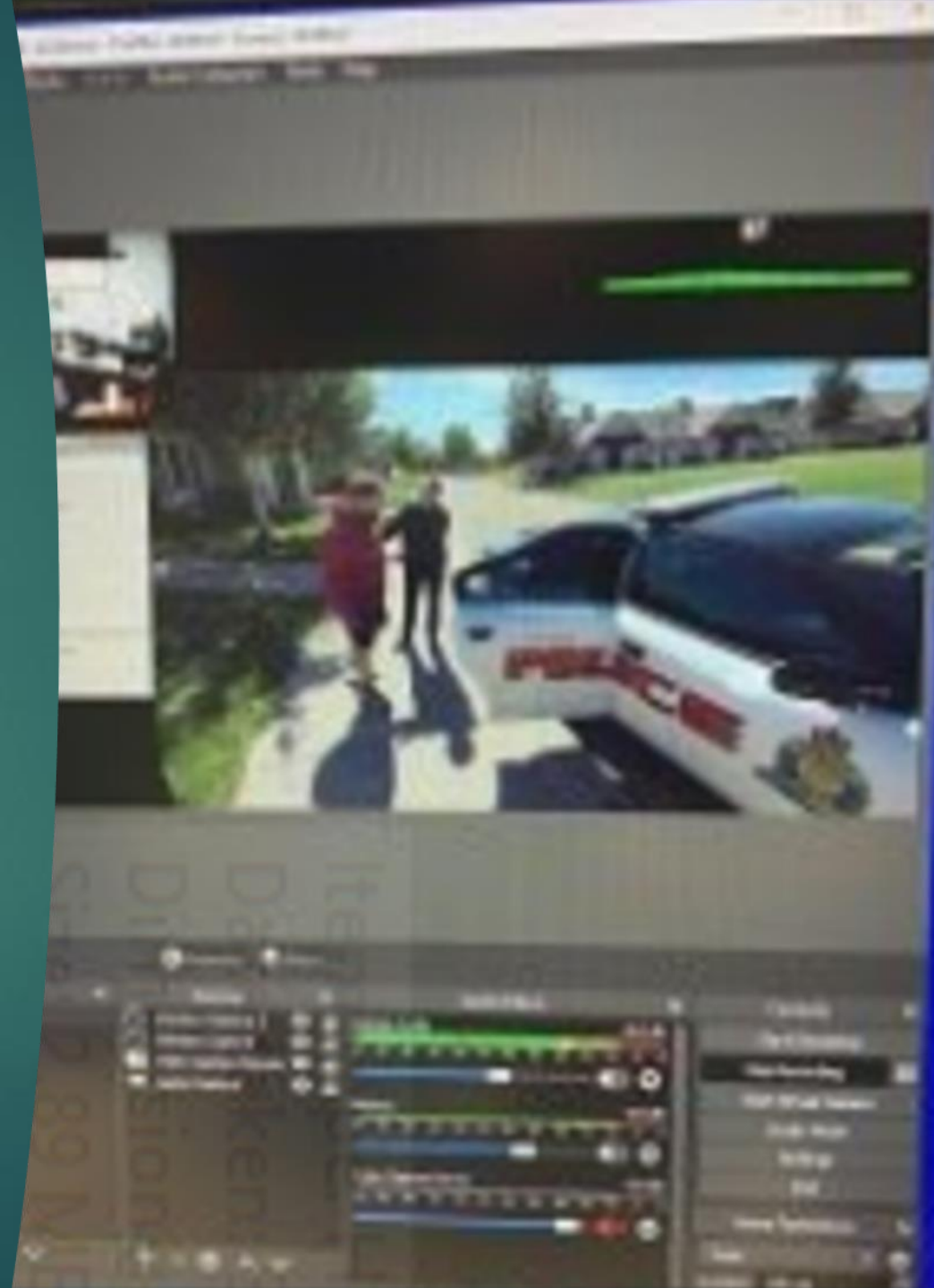




Discussion!

Full Explanatory Video of Project

<https://www.youtube.com/watch?v=ZskdYhz60To>



A hand is visible on the left side of the frame, resting on a wooden desk and using a computer mouse. Next to the hand is a large, three-dimensional '@' symbol made of cardboard. The background is a blurred office setting with warm lighting. The right side of the image features a dark teal overlay with white text.

Contact Information

- ▶ **George Gallant** - Instructor - Broadcast Journalism - Media and Information Tech

george.gallant@lethbridgecollege.ca

- ▶ **Dave Maze** – Instructor – School of Justice Studies – Center for Justice and Human Services

david.maze@lethbridgecollege.ca

- ▶ **Stephen Graham** – Instructor – Computer Information Technology - Media and Information Tech

stephen.graham@lethbridgecollege.ca