

INTRODUCTION

- BC's new curriculum includes new technology, inquiry, collaborative work, and more hands-on experiences
- The use of telepresence robots has recently emerged on the market as a viable communication option
- Telepresence robots allows the student to attend classes and provides a bridge for human interactions through being an active physical presence in school via the robot (Newhart & Olson, 2017, p. 342)
- Telepresence robots "give the operator *control* over the system via the ability to navigate and to manipulate the system's cameras within the local user's environment" (Rae, 2013, p. 1953)
- The student can contribute to discussions, move around the classroom to participate in group work, turn to different areas of the room without having to ask to be moved, and has autonomy over their own actions



Taken with consent. Photo courtesy of Melissa Quon, February 14th 2019

MY EXPERIENCE USING THE BEAM ROBOT

The experience on my learning was very similar to my daily classroom experiences:

- I was able to pay attention, take notes, ask questions, and interact with my peers before and after class.
- The Beam robot was used for a 1.5 hour class on February 14th. The battery only dropped 19%.
- Travelling is slightly slower than walking, the Wifi skipped once while switching routers in the hallway then reconnected. The ramps allowed for easy movement across stairways.
- I "sat" in the back of the classroom. The zoom function allowed me to see what was written on the board. It was difficult to see the projector but did not want to move my position during class.
- I could hear the instructor and peers well.
- I could use my computer for notes and the Beam application at the same time.
- The distractions were similar: paper shuffling, students leaving to use the washroom, laptop screens, etc.
- Challenge: signaling the instructor to answer questions since one can't "raise a hand" visibly, although other models have a light to convey a request for attention. It is also hard to maintain eye contact.
- When I was chosen to answer a question, the teacher could understand what I was saying and there did not seem to be any lag through the robot-mediated communication.

STRATEGIC FRAMEWORK LINKAGES

- Introducing telepresence robots into the UVic institution can help reach the goals laid out in the ongoing Strategic Framework that UVic has in place for the next five years. See handout for details on Strategies 1.2, 2.2, and 6.1
- A Strategic Framework Impact Grant titled "**Cyber Proxy in Higher Education: Exploring Telepresence Robots for Accessibility**" has also been proposed to conduct a pilot study on the use of telepresence robots in higher education with the help of: TIE Lab, Center for Accessible Learning, Learning and Teaching Support & Innovation, University Systems, and the Digital Scholarship Commons

Pros	Cons
Physically present and interacting with peers	Need alternate way to hand in hard-copy assignments and receive handouts
Can hold conversations with people while travelling	Travelling is slower on the Beam than it would be walking
Zoom allowed me to see the teacher and chalkboard clearly	Difficult to hear peers on other end of classroom
Able to ask questions, clarifications, and provide my own insights	Some buzzing/feedback, audio skipped a few times with a frozen screen
Beam doesn't slow down other applications on your computer	Beam may freeze while travelling as Wifi routers change
Less distractions: no whispering to peers, Beam is quiet while not moving and on mute	Physical layout of the classrooms can make it difficult to move around in the space
Much better than not being able to attend class, or attending class using Skype or video conferencing since I was in control of the bot	Difficult to get the instructors attention (other robot models have a designated light to represent raising a hand)

REFERENCES

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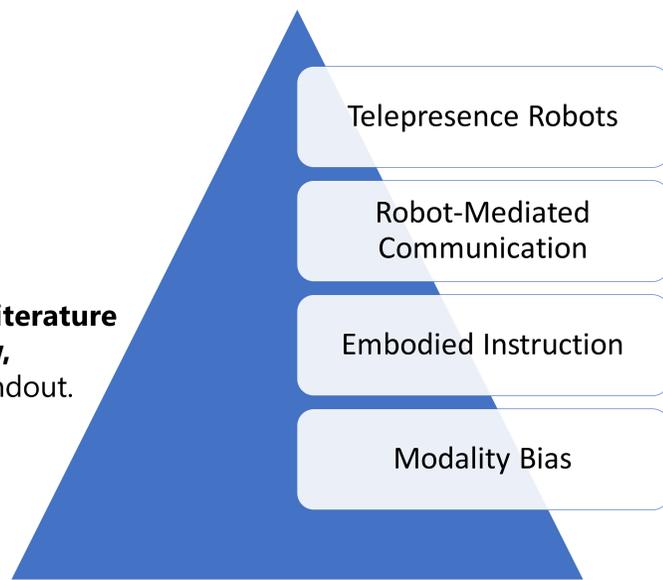
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LITERATURE REVIEW

For a Literature Review, see handout.



PURPOSE

- To discover what it is actually like using a telepresence robot in class and how using the robot impacted my learning, in both positive and negative ways.
- The goal of this experience is to determine the impact of the Beam telepresence robot on the quality of a learning experience, through my own observations, and gather the pros and cons that the technology can have on a learner in the classroom.

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