MacEwan UNIVERSITY **NEWS** RELEASE

April 23, 2019

New research sheds light on how we use vision to correct our movements

Edmonton - When we reach out to pick up our morning coffee we use vision to help guide our hand to the target. If our reach misses the cup, we can also use vision to process where our hand landed and compare it to what we intended to do (pick up the cup), so that our next reach is more accurate.

However, recent research led by Dr. Chris Striemer, Department of Psychology, MacEwan University in collaboration with Drs. Jim Enns and Rob Whitwell at the University of British Columbia – published in *Cortex* – questions whether conscious vision is even required for this type of visual-motor learning to occur.

“Our study examined visual-motor adaptation to a pair of glasses, which shift visual input similar to what happens when we look below the surface of water from above it,” says Striemer. “During this simple test of eye-hand coordination, our reaches ‘learn’ to compensate for the horizontal shift in vision input from the glasses.

In their study, this visual-motor learning is shown in a person who, because of tragic brain trauma, has none of the cortical brain equipment normally associated with seeing. Yet, the researchers found that the person still learns in a way that is similar to normally-sighted individuals.

This means that this kind of learning can be done through neural routes that do not involve the classical “visual centers” of the brain. “These findings suggest that researchers have been placing too much emphasis on the conscious aspects of seeing in trying to understand visual-motor learning,” added Striemer.

“We have known about other neural pathways from the eye to motor regions of the brain for a while, but they have received little attention because they didn’t seem to contribute to our conscious experience of a visual world.”

Striemer suggests that these results are important because they, “also help us better understand the neural pathways involved in visual-motor learning in normally sighted individuals.”

Read the full research report published in *Cortex*

Founded in 1971, MacEwan University inspires its students with a powerful combination of academic excellence and personal learning experiences. Offering more than 65 programs including undergraduate degrees, applied degrees, diplomas, certificates, continuing education and corporate training, the university provides a transformative education in a creative, collaborative and supportive learning environment where creativity and innovation thrive. Located in Edmonton, Alberta Canada, MacEwan University offers a unique student experience that opens up diverse pathways for achievement and growth.

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