Notice of the Final Oral Examination for the Degree of Master of Science in Biophysics

of

Paisley Worthington

Of the Department of Molecular & Cellular Biology, on Friday, August 30, 2019 at 10:00 AM in Summerlee Science Complex, Room 1511

Thesis title: Using existing assessments to track longitudinal development of students’ problem solving skills

ABSTRACT

By: Paisley Worthington
Advisor: Dr. John Dawson

Do we really know how our students develop transferrable skills? Do they? Learning outcomes assessment (LOA) data are most commonly collected via national surveys, alumni surveys / focus groups, and locally developed surveys (MacFarlane & Brumwell, 2016). While these methods collect important affective information about students and alumni, they are not well-suited to measure students’ actual achievement and are disconnected from the classroom where students develop skills (Gordon, Ludlum, & Hoey, 2008; Porter, 2011). Detailed data describing students’ actual and perceived skills are needed to facilitate targeted improvements to courses and programs and enhance the LOA initiative (Klemenčič & Chirikov, 2015).

I collected triangulated data about students’ problem solving development by coordinating three essential perspectives of LOA: intention, achievement, and perception. Specifically, I developed a novel problem solving profile characterization tool, a program-level developmental rubric for problem solving, and a student survey to collect students’ perceptions of their own problem solving development. To the best of my knowledge, my tools are original and have not been published elsewhere.

Using pilot data from the 2018-2019 academic year, come explore these previously inaccessible data can change the questions we ask about our programs and shift our conceptualizations of curriculum mapping!

Examination Committee:

Dr. Vladimir Ladizhansky, Chair
Dr. John Dawson, Advisor
Dr. Dale Lackeyram
Dr. Joanne O'Meara