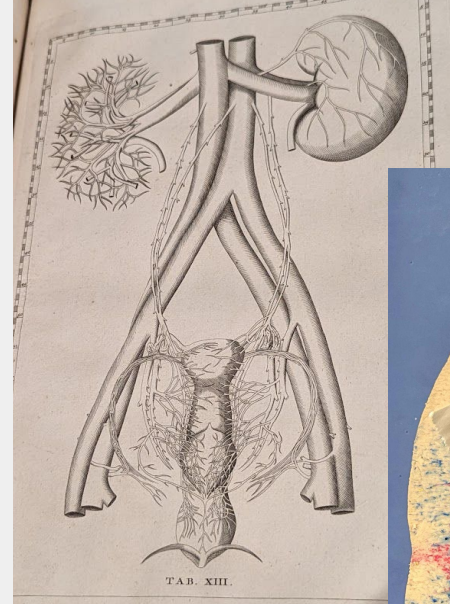


Modernizing Anatomy & Physiology Education at CCC

Spring 2024
Sabbatical Report of
Michael Patterson, M.S.
Science Dept.



←Bartolomeo Eustachi,
Urinary System
Drawing, 1744

*Dissected Kidney
Study, CCC
Students 2024 →*



Purpose of my Sabbatical:

Three main objectives

- 1) Attend two professional conferences to enhance my teaching methods
- 2) Redesign the BI-233 lab into a performance-based learning experience for students
- 3) Update Moodle for enhanced student engagement and remote learning

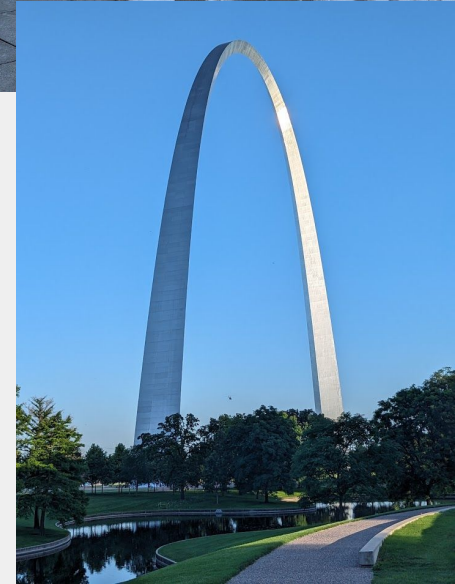
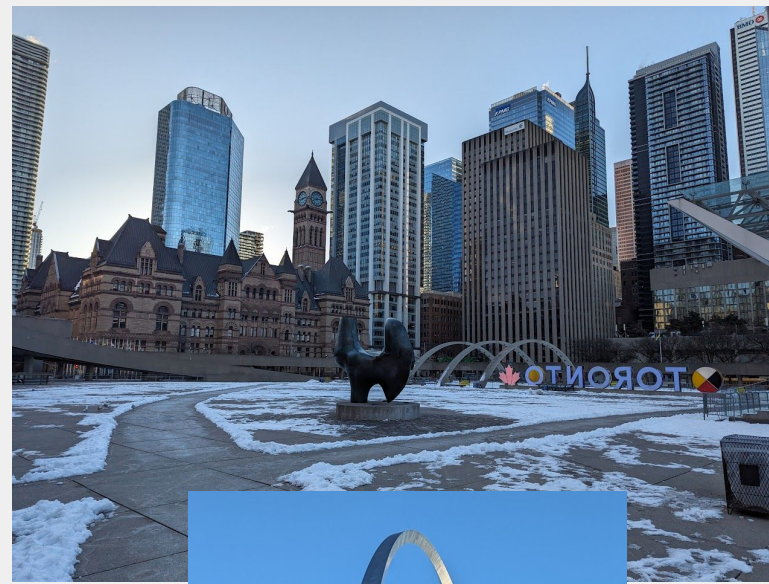
A&P Lab, First Floor, DeJardin Hall



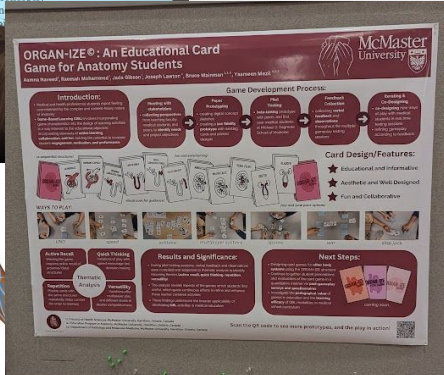
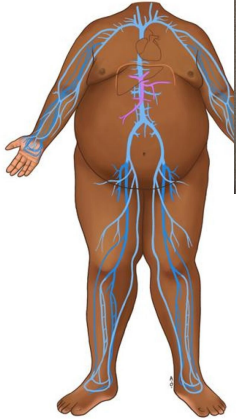
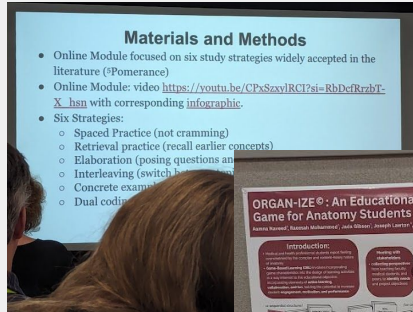
Conferences Attended

Anatomy Connected Conference
(Toronto, March 2024)

Human Anatomy and Physiology
Society Conference
(St. Louis, May 2024)



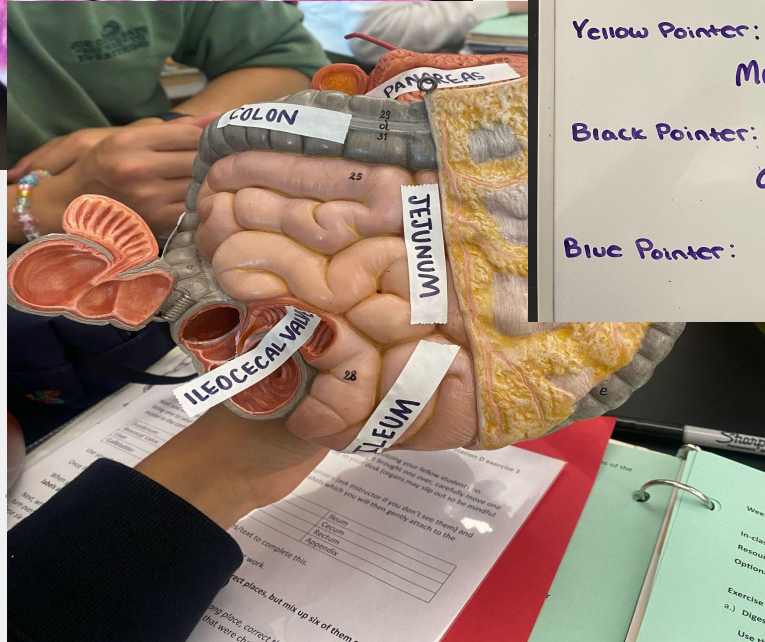
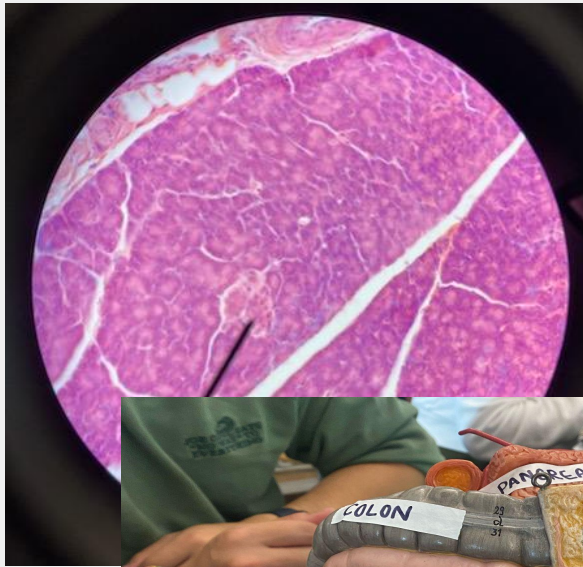
Key Takeaways from Conferences



- 1) Active learning approaches improve engagement & comprehension
- 2) Performance-based learning, where students are assessed on how well they learn and master a particular task, prepares students well for health care professions
- 3) Increased equity and inclusion in anatomy & physiology education leads to better outcomes

BI-233 Lab Redesign Components:

- Shifted from primarily “fill in the blank” lab reports and passive learning, to immersive hands-on performance-based learning
 - Students collaborate on setting up and labelling anatomy models, microscope slides, and interactive exercises; then other students learn material from the created stations
 - Real-time grading and instructor feedback during lab class
 - The ability for students to upload photos of lab material to our online Moodle platform, and make their own study guides
-



Yellow Pointer:

Muscularis Externa

Black Pointer:

duodenal gland

Blue Pointer:

Villi

Collecting Duct (nodule)

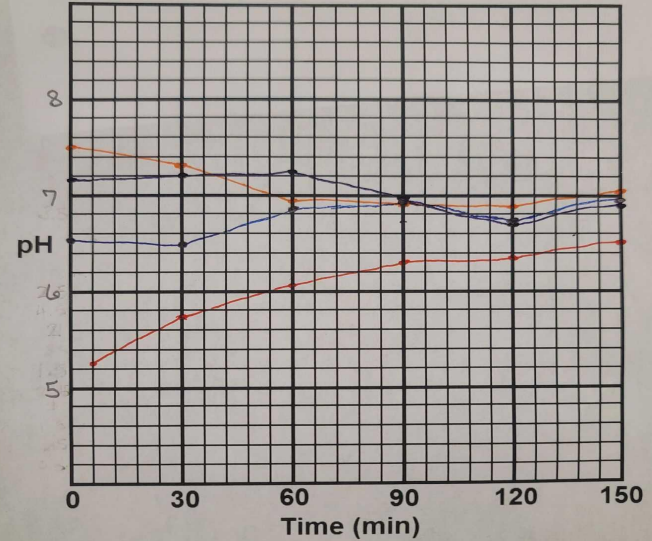
Papillary Duct (nodule)

Minor Calyx

Major Calyx

Renal Pelvis

Ureter



~ Jose
~ Mary
~ Tom
~ Katia

Benefits of New Lab Format:

I loved the new format as well. I think it helped the class build a teamwork atmosphere.

Lisa C.- BI 233 Student

I enjoyed the way you taught lab and the way it was organized.

C.B.- BI 233 Student

- 1) Immediate feedback improves student comprehension
- 2) Encourages teamwork and peer-to-peer learning
- 3) Reduces instructor out-of-class grading time
- 4) Prevents cheating by having work graded on in-class performance.
- 5) Lab exam grades have improved vs. previous format during the pilot phase.

Moodle Enhancements / Improvements

Students can create and share study guides.



For students who miss class, there are the uploads of photos and video of the in-class activities available for remote learning.

Potential for seamless transition to online learning in emergencies.

Impact on Students & College

Aligns with CCC's mission:

“As our community's college, we cultivate equitable, innovative, and responsive education.”

Promotes inclusivity and accessibility in science education

Prepares students for future professional healthcare training programs (Nursing, EMT, etc.) that use similar performance-based learning



Future Plans

Expand same active learning format to BI-231 and BI-232 labs

Continue to refine assignments based on student and faculty feedback

Further develop online-friendly lab adaptations for potential remote learning use

Thanks to the CCC
Administration and
Board in
supporting
sabbatical efforts
such as mine.

Happy to entertain
any questions!