Teaching Dossier

Bruno de Avó Mesquita, MSc, PhD Candidate

Brain and Mind

Western University

bmesquit@uwo.ca

2025

Contents

Bruno de Avó Mesquita

1. Teaching Philosophy Statement

My teaching philosophy is built around the conviction that meaningful learning is fueled by *wonder*, enabled through *access*, and deepened through a *responsible* approach to knowledge. This belief began forming during my undergraduate Teaching Degree in Biology in Brazil, where my experiences teaching in the public school system taught me that learning is most transformative when students feel both intellectually challenged and personally included—and that scientific knowledge gains its fullest meaning only when it is shared beyond academia. These early lessons continue to guide my approach to teaching today, shaping my position as an educator in post-secondary teaching.

One of the first experiences that shaped my teaching philosophy occurred while teaching a module on the circulatory system for middle school classes. I borrowed a cow's heart from an anatomy lab in my university, and the students were captivated—so much so that children from other classes eagerly came in to see it during recess. That moment showed me the power of tangible experiences in sparking *wonder* and motivating students to pursue knowledge on their own. I carry this lesson with me when designing learning activities at the post-secondary level. I strive to create experiences that are personally meaningful and engaging, whether through hands-on experiments, thought-provoking questions, or challenges that introduce productive *cognitive disequilibrium*, in Piaget's sense (Piaget, 1952). At the same time, I draw on Vygotsky's principles of *scaffolding* and the *Zone of Proximal Development* (Vygotsky, 1978), ensuring that students have the guidance and structure they need to collaboratively transform that initial curiosity or uncertainty into deeper understanding.

In my teaching, I also draw on the idea that play is a powerful engine for learning. Across species, social play serves not only as a source of enjoyment but as a context in which individuals explore and practice new skills (Berkoff & Byers, 1998). It can even be argued that, evolutionarily speaking, play predates even culture itself (Huizinga, 1950). In humans, social play assumes a fundamental role in learning, relationship building, and culture formation (Berkoff & Byers, 1998). In educational settings, playful structures—whether in the form of challenges, simulations, or game-inspired activities—can create the same sense of curiosity, low-stakes experimentation, and intrinsic motivation. For me, incorporating elements of play is not about trivializing content, it is about creating conditions where *wonder* becomes a pathway to learning.

Another formative experience was when an elementary school student, excited about university students coming to teach at his school, asked me: "How much do you pay to go to university?". This question struck me profoundly, as in Brazil, the best universities are publicly funded and free of charge to students, yet many—particularly those from under-funded public schools—are so removed from these opportunities due to social inequality, and competitive entrance exams, that they may not even be aware of them. This moment highlighted how important it is, as an educator, to help students navigate the educational structures and pathways that make learning attainable. It also made me reflect on the broader meaning of *accessibility* in education: beyond socioeconomical or structural barriers, it encompasses designing learning experiences that are personally meaningful and inclusive, so that all students can participate fully, build understanding, and develop confidence. Drawing on principles in Critical Pedagogy from Freire (1968), I strive to create classrooms where knowledge is both *free*—openly available to all—and *freeing*, empowering students to think critically, act responsibly, and pursue learning as a tool for personal and collective growth.

Bruno de Avó Mesquita

These principles continue to guide my work in post-secondary education, where teaching at scale presents unique challenges. As the Head Teaching Assistant (TA) for Introduction to Psychology at Western University—a course with thousands of students enrolled each year—I design weekly lab activities for roughly 50 sections, and mentor 25 TAs. I build lab activities that reinforce core concepts, incorporate active learning, and create opportunities for constructive challenges that push students to build new understanding from prior knowledge. I work closely with TAs to ensure clear, consistent, and supportive teaching strategies across all sections, recognizing that a well-coordinated teaching team is central to meaningful learning at this scale.

I also see higher education as having a duty to cultivate a sense of *responsibility* in future scholars and researchers. Psychology and Neuroscience research, for instance, directly influences public policy, health practices, and cultural narratives, so students must learn not only to interpret evidence, but also to communicate it responsibly. Building on the ideas of accessibility and liberation discussed earlier, I aim to instill in students the same ethic of responsibility: that learning is not only a personal pursuit, but a collective effort, and that knowledge is most meaningful when shared thoughtfully and used to benefit society. In my teaching, I encourage students to reflect on the social and cultural implications of scientific work. I also encourage them to practice translating complex findings into accessible language for diverse audiences and to critically evaluate information they encounter in everyday life.

Finally, my own research, primarily centered around the topic of how prior experience shapes perception, has reinforced my pedagogical values. It reminds me that learners do not enter the classroom as blank slates, i.e., they carry histories, and knowledge that shape how they engage with new ideas. This is another point where I am strongly aligned with Freire's approach to pedagogy: Effective teaching meets students where they are, building on what they already know while gently challenging assumptions and supporting the development of more sophisticated understanding. In this way, my research and teaching mutually inform one another: both center on how people make sense of the world through the lens of prior experience.

Looking ahead, I will continue to develop courses that blend active learning with real-world application, suitable for introductory and more advanced topics. For instance, these courses include, but are not limited to, fundamental concepts in Psychology (such as sensation and perception, and biological basis of behaviour), Research Methods (experiment design, data analysis and visualization), and even expert topics such as Electrophysiology. I hope to expand my mentoring of undergraduate researchers, create open educational resources that increase accessibility, and integrate science communication training across the curriculum. Above all, I aim to create classrooms where students experience the same sense of wonder I witnessed when a room full of children gathered around a cow's heart—and where every student, regardless of background, has access to knowledge that is both *free* and *freeing*, empowering them to explore, understand, and responsibly share scientific knowledge.

Works Cited:

- Piaget, J. (1952). The origins of intelligence in children. (M. Cook, Trans.). W W Norton & Co. (Original work published 1936)

- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

- Bekoff, M., Byers, J. A., Burghardt, G. M., Heinrich, B., Smolker, R., Hall, S. L., Watson, D. M., Allen, C., Pellis, S. M., Pellis, V. C., Miller, M. N., Biben, M., Thompson, K. V., Siviy, S. M., & Brown, S. (1998). *Animal play: Evolutionary, comparative and ecological perspectives* (M. Bekoff & J. A. Byers, Eds.). Cambridge University Press. https://doi.org/10.1017/cbo9780511608575

- Homo ludens, a study of the play-element in culture. (1950). *Homo Ludens, a Study of the Play-Element in Culture.* https://psycnet.apa.org/record/1951-06115-000

- Freire, P. (1968). *Pedagogia do oprimido* [Fac-símile digitalizado]. Instituto Paulo Freire.

Bruno de Avó Mesquita

2. Teaching Responsibilities

a. Teaching Roles in Post-Secondary Education

Head Teaching Assistant for PSYCHOL1002: Psychology as A Natural Science and PSYCHOL1003: Psychology as a Social Science
Department of Psychology – Western University.
September 2025 – Current

- Directly responsible for designing the weekly laboratory activities in the course
- Preparing teaching materials and lesson plans for the current and future academic years.
- Training and coordinating 25 TAs who facilitate laboratory activities for over 2000 students

Organizer and Presenter at the 2025 CoNCHLab Summer Workshop Series
CoNCHLab – Western University
Summer 2025

- Planned a workshop series for undergraduate and graduate students at the Western Interdisciplinary Research Building alongside lab members. (See **Appendix e.**)
- Helped create the schedule and provided input on the proposed content of the weekly workshops.
- Led two workshops on Data Visualization.

Graduate Teaching Assistant
Department of Psychology – Western University.
September 2021 – May 2025

- Worked leading labs, providing feedback, and communicating with students for the following Psychology Courses:
    - PSYCHOL 3185: Research in cognitive psychology
    - PSYCHOL 2210: Introduction to animal cognition
    - PSYCHOL 1002: Psychology as a natural science
    - PSYCHOL 1003: Psychology as a social science
    - PSYCHOL 2802: Research methods in psychology

b. Teaching Roles in Primary and Secondary Education

Institutional Program of Scholarships for Teaching Initiation (PIBID)
Laboratory of Education in Biology - University of São Paulo at Ribeirão Preto.
March 2017 - December 2017

- Worked under the supervision of Professor Marcelo Motokane, alongside participating educators in the Brazilian public school system.
- Created and implemented multi-lesson modules on different topics of science education in Brazilian public schools, working closely with teachers during regular meetings to adapt material to the school curriculum.
- Structured interventions in classes of elementary and middle school children.

Volunteer English Teacher
Public Preparatory Course for the Law School at the University of São Paulo at Ribeirão Preto.
January 2016 – January 2017

- Taught weekly English classes for two groups of 20-30 to students preparing for University Entrance Exams.

Bruno de Avó Mesquita

c.   Mentorship Roles

I strongly believe that everyone, regardless of their level of experience, should be compensated fairly for their labour. That is why one of my main priorities when taking on undergraduate students was to ensure they were able to apply for funding for their work. Out of the four students I have been the primary supervisor for: one was employed through the work-study system at Western; the second was paid for her work by the PI of the project; and the latest two, under my supervision, successfully applied and obtained an Undergraduate Summer Research Internship (USRI). The following table includes information about these students, and the projects they were involved in under my mentorship:

Name	Position	Start	End	Project
Eamon Boushy	Undergraduate Student - USRI	April 2024	May 2025	Voice Familiarity Effect on Synthetic Voices
Sara Alajrami	Undergraduate Student – Hired Research Assistant	May 2023	May 2024	Orthographic-to-Semantic Consistency Effect in Lexical Decision: Examinations using Event-Related Brain Potentials
Rahul Vij	Undergraduate Student - USRI	November 2023	June 2025	Do "intuitive" auditory cues facilitate performance of a reaching task? Investigating shared features of auditory and motor dynamics.
Robert Menzie	Undergraduate Student – Work Study and Independent Study in Psychology	April 2022	April 2023	Association of musical training with auditory and speech neural coding and perception And Technical training and mentoring as part of the requirements for the Independent Study course in Psychology

Bruno de Avó Mesquita

3. Science Communication, and Community Engagement

Across outreach initiatives, student leadership roles, and science communication projects, I have intentionally worked to design environments that invite participation and sustain engagement. Many of these contexts rely on concrete experiences, playful formats, and open dialogue to lower barriers to entry and encourage learners to actively explore ideas. Whether contributing to a graduate student podcast, organizing public-facing events, or even hosting regular trivia nights for the graduate student community, I approach these activities as an extension of my pedagogical practice.

a.   University Community Engagement

Editorial Board Member
Gradcast – Society of Graduate Students, Western University
2024 – present

- Serve on the editorial board of Western's graduate student–run podcast, contributing to episode planning, content development, and quality oversight.

- Mentor student hosts in communicating research effectively to broad, non-specialist audiences.

- Apply principles of narrative structure, clarity, and accessibility that directly inform my approach to teaching and knowledge translation.

Trivia Host
The Grad Club – Society of Graduate Students, Western University
2023 – present

- Design, write, and host monthly trivia events for a diverse graduate student audience.

- Develop question sets that blend clarity, challenge, and accessibility.

- Facilitate large-group interaction and create an inclusive, playful environment.

b.   Outreach and Community Science Education

Member, Science Outreach Committee
Society of Graduate Students, Western University
2022/09 – 2023/08

- Supported the planning of outreach events that bring scientific topics to K–12 students and the broader London community.

- Co-Organized and hosted the 2023 London Brain Bee, the local branch of the Annual CIHR Canadian National Brain Bee

- Co-organized a booth, and presented at the 2023 Science Rendezvous, with interactive activities, and demonstrations on the topic of Neuroscience for the broader London Community.

Bruno de Avó Mesquita

Expositor and Organizer, "Bio na Rua" (Biology in the Streets)
University of São Paulo at Ribeirão Preto, Brazil
2017

- Co-organized a local, student-led public science event presenting hands-on biology activities to families and community members.

- Delivered interactive demonstrations and adapted complex biological concepts for non-specialist audiences.

Expositor, Semana Nacional do Cérebro (Brain Awareness Week)
Ribeirão Preto, Brazil
2016

- Presented neuroscience demonstrations and public talks as part of an international outreach initiative.

- Engaged learners of varying ages in discussions about brain function using clear, accessible language.

c.   Academic and Student Leadership

Student Representative
Department of Biology – University of São Paulo at Ribeirão Preto, Brazil
2016/01 – 2017/01

- Represented undergraduate student concerns in departmental meetings and contributed to improving the academic environment.

Organizer, Annual Week of Biological Studies
University of São Paulo at Ribeirão Preto, Brazil
2015, 2016

- Helped organize a week-long event bringing together workshops, talks, and student-led activities.

- Assisted in coordinating logistics, speaker outreach, and educational programming.

Member, Student Society
Department of Biology, University of São Paulo at Ribeirão Preto, Brazil
2015/03 – 2016/12

- Participated in student-led initiatives supporting academic, social, and outreach projects within the department.

4. Professional Development in Teaching

My preparation as an educator combines formal teacher training with sustained, intentional professional development focused on evidence-based and inclusive teaching practices. Alongside my foundational training in Biology education in Brazil, I have continued to refine my pedagogical skills through structured programs and workshops offered by the Centre for Teaching and Learning at Western University. Together, these experiences reflect an ongoing commitment to reflective teaching, instructional improvement, and responsiveness to diverse learning contexts.

a. Formal Teacher Education

Licentiate Degree* in Biological Sciences
University of São Paulo, Ribeirão Preto, Brazil
February 2015 – July 2020
*Equivalent to Canadian Teacher's college, albeit with additional formation in research in education, and concluded with an undergraduate thesis.

- Completed a teaching-focused undergraduate degree that integrates disciplinary training in biology with coursework in pedagogy, curriculum design, educational psychology, qualitative, and quantitative methods in research on education, and classroom practice.
- Received extensive preparation for teaching in public education settings, including supervised teaching placements in Brazilian public schools.
- Developed early competencies in lesson planning, assessment, and inclusive instructional design.

b. Ongoing Pedagogical Training

Centre for Teaching and Learning (CTL), Western University

Future Prof Workshop Series:

- Multimodal Activities for Classrooms and Tutorials
- Developing Your Teaching Dossier
- Tech-Savvy Teaching: Solving Pedagogical Challenges with Digital Tools
- AI for Teaching and Learning
- TA eLearning Series
- Fostering Inclusivity: Strategies for Supporting International Students in the Classroom
- Designing Multiple-Choice Items to Assess Higher-Order Thinking

Advanced Teaching Program (ATP)

- Participated in a multi-session program focused on instructional design, assessment, student-centered teaching methods, and reflective practice in higher education.

Teaching Mentor Program

- Engaged in structured mentorship focused on teaching observation, feedback, and pedagogical reflection.

Bruno de Avó Mesquita

Western Institute for Research on Teaching and Learning

- Took part in a three-day hands-on workshop designed to support educators develop a research project on their own teaching.

Research on Teaching and Learning Community of Practice

- Participated in discussions and meetings centered on the scholarship of teaching and learning (SoTL), evidence-based instructional strategies, and pedagogical innovation.

5. Evidence of Teaching Effectiveness

Since arriving in Canada in 2021, I have served as a Graduate Teaching Assistant during every Fall and Winter term at Western University. Although I have worked in a variety of courses, the bulk of my teaching experience has taken place in Western's primary introductory psychology sequence—Psychology as a Natural Science and Psychology as a Social Science—where, for three years, I facilitated weekly active-learning "Learning Lab" sessions for hundreds of students. Over this period, my enthusiasm for and commitment to teaching led me to take on progressively greater responsibility in shaping and planning the lab activities.

In 2025, the Psychology program faced logistical challenges that put the Learning Labs at risk of being cut and replaced with the traditional tutorial format used prior to 2022 (and with which I was familiar from my first year as a TA). As a strong advocate for the active-learning approach originally introduced by my supervisor, Dr. Ingrid Johnsrude (Chair of the Department of Psychology) in Fall of 2022, I worked with her to propose a solution: that I step into a leadership role to design, coordinate, and sustain the Learning Lab content. This proposal was accepted, and in my fourth year with the course (Fall of 2025), I transitioned into a newly created Head TA position, where I was fully responsible for the Learning Lab content, and coordinated a team of 25 TAs across approximately 50 sections.

The peer and student feedback presented in sections (a) and (b) of this chapter is drawn primarily from my work in this course.

a.   Peer Feedback

Teaching Mentor Program

During winter of 2025, I took part in Western's Teaching Mentor Program: An interdisciplinary experience organised by the Centre for Teaching and Learning (CTL), where graduate students from different programs works in small groups to offer feedback on one another's teaching. This observation happened shortly before I took on the role of Head TA of PSYCHOL1003, but during a time in which my responsibilities for the course were already growing. As such, the Learning Lab which my peers observed me teaching to students of the course was designed by me. The lab covered the topic of the cultural and evolutionary basis of pro and anti-social behaviour, and it was structured around different games used to illustrate some of these principles.

From my perspective when facilitating the activity, students seemed excited and engaged, but there is always a risk of "projecting" my expectations of excitement onto their responses, and I was pleased to see that my peers shared my perspective. The full letters I received from my peers can be found in the Appendix b. i-ii, while in this section I highlight some excerpts from their feedback:

Bruno de Avó Mesquita

"During the session Bruno utilized multiple active learning games, such as a card game, that allowed students the opportunity to experience the content firsthand. [...] Following each activity Bruno engaged the students in a group conversation allowing them to reflect on their experiences within the game. This seemed extremely beneficial as I observed that as the games went on more and more students were engaging and participating during the reflections, demonstrating that they were understanding the content." – Julia Brott, MSc

"Bruno also created a card game version of the Prisoner's Dilemma as an in-class activity. It was a valuable experience to see how the concepts we had learned were applied in a fun and interactive way, allowing everyone to engage and learn through play. After the game, students were asked to reflect on the choices they made and how they connected to cooperation. Bruno also shared general insights into how people tend to behave and how different parameters, such as group size, familiarity, and having a common strategy, can influence behavior. What was delivered wasn't just passive teaching; it encouraged students to question their own behavior and its relevance in the context of the lecture. I find this crucial because he not only taught what's already in the textbooks but also created a space for students to reflect on their own actions in relation to the topic at hand." – Kardelen Kücük, M.A.

Feedback from supervised TAs

After my first term as Head TA, I created an anonymized feedback form to allow TAs under my supervision to evaluate my performance in this role. In addition, I requested a formal letter from one of my peers who had been a TA in the course prior to me assuming the role of Head TA (Appendix b.iii.). In the following table I display the results of the anonymized survey, in the form of average ratings obtained for each statement, alongside some comments from a free-form essay text box (N = 11):

Statement	Mean Rating (1-7)
The head TA helped me understand the point of each lab.	6.5
The head TA did a good job at organizing the laboratory component (Allocating time slots, resolving conflicts, managing Brightspace for the labs).	6.5
The head TA responded to my questions clearly.	6.8
The head TA created a good environment for discussion and participation during the weekly meetings	6.7
Overall, the head TA did a good job at designing the laboratory activities.	6.4

Anonymous Comments
"You are very enthusiastic and deeply care about teaching, and you did a great job making the lab activities in this course as engaging and appealing as possible. You put substantial effort into transforming and improving several labs, in some cases completely redefining them. You are also a strong leader, effectively guiding and coordinating a group of over 20 TAs."
"Bruno went above and beyond this semester, from redesigning and improving most of the labs to making a video game from scratch for students to get hands on experience with classical and operant conditioning."
"I really appreciate how much thought and effort went into improving the labs from years prior. I think it really helped with the student's experience in the lab, and made them more excited about psychology. Your justifications for changing labs was well founded, and labs ran successfully based on your prior experience as a TA. I also appreciated having our voices and opinions heard at every lab meeting. Most of my constructive criticisms are based in course structure - for example I wish the labs were really aligned with what was happening in lecture. Maybe including a content review/more lecture style with an emphasis on participation is more beneficial to student learning then doing labs related to the content, which often introduce new concepts."

Bruno de Avó Mesquita

b.   Student Feedback

Undergraduate Students in Introductory Psychology

When designing student-centered activities, student feedback is extremely valuable in ensuring that we are succeeding in this endeavor. That is why, even before I became Head TA, I already had implemented a feedback system for the Learning Labs using online surveys. This proved instrumental in demonstrating the value of these labs when advocating for them to not be cut. Here, I display the overall ratings the labs received during my first term as Head TA, alongside select comments (N = 932):

Statement	Mean Rating (1-5)
The topic was interesting.	4.1
The content is important to the course.	4.3
The activities did a good job at conveying the content.	4.2
The activities were easy to understand.	4.2
The Lab was well structured	4.2

Comment	Lab Topic
"Fun and easy to understand, the amount of content covered was fair and I really enjoyed the hands-on activity with the small group"	#1 Making Constructs Measurable
"Awesome! I loved the case studies, the brain labelling, the actual brain replica, TA's bringing books to look through and their support. I love it. I feel more motivated to do well in this class."	#2 Introduction to Neuroanatomy
"I really enjoyed this lab and that we had brain models to rebuild and label to help us understand the different parts of the brain. I also really enjoyed that we got to look at case studies to help us understand how the brain works and how functions may be affected when certain parts of the brain are injured. Overall I thought this lab was done really well and I can't think of anything to improve!"	#2 Introduction to Neuroanatomy
"I thought this lab was a great way to show how our motor and perception skills are connected and can deceive each other! The activity was fun and definitely surprising when we saw that the cans were actually the same weight. Overall, I enjoyed this lab!"	#5 Sensation and Perception
"I think this lab was really helpful to help understand punishments and reinforcements, sometimes in the lecture they were pretty confusing but making them personal was clarifying."	#7 Learning II
"I enjoyed doing the experiment for this lab! It was cool to see the primacy and recency effect take place by which words I could remember from the word list. I think making the graph and plotting our points as a group was also a good way to show the effect as it was a better way to show the effect since more data was involved."	#8 Memory

Bruno de Avó Mesquita

A current limitation of this optional evaluation approach is the low response rate: students are generally not completing the surveys each week. Across the eight labs, we received a total of 932 responses from a cohort of more than 2,000 students attending the weekly sessions. Moreover, responses were heavily concentrated in the early weeks of the term, with very few students continuing to complete the surveys later. This represents an unsatisfactory sample of student opinions, and I plan to explore strategies to improve participation in future iterations of the course.

Nevertheless, during the weekly TA meetings from these labs, before introducing the content of the upcoming week's lab, I always ensured to reserve at least 20 minutes for in depth "debriefing" of the experience of the other TAs in the course. This was an opportunity for TAs o share their perception of the activities, alongside the qualitative feedback they heard from students. Further reporting on the perspective of the TAs for this course can be found in section (a).

CoNCHLab Summer Workshops

During the summer of 2025, together with other graduate students from my laboratory, I organized a series of workshops aimed at undergraduate students from all the different laboratories in the Western Interdisciplinary Research Building. Throughout this series of 11 workshops which we planned together, each of us was responsible for 1-2 of the individual weekly sessions. At the end of each session, we distributed surveys to obtain feedback from all of those present. My role was to conduct two sessions on principles of Data Visualization, alongside a practical activity where students were tasked with creating a visualization from an openly available dataset of their choosing. The following table outlines the average feedback I obtained across the two sessions (N = 12), alongside select comments:

Statement	Mean Rating (1-5)
Overall, this workshop was valuable	4.8
The goals and strategies discussed in the workshop were clearly communicated	5
I am confident in applying at least one strategy discussed today in my own academic work	5
This workshop supported my development of foundational research skills	4.8

Anonymous Comment
"Being able to practice data visualization techniques, incorporating both hard coding skills and theory about plots design, is very valuable and goes well above just listening to someone else talk about how to create a good plot. This was really great!"
"Really liked the interactive aspect - would be cool to see more interactive workshops/presentation practise like today."

Bruno de Avó Mesquita

c.   Mentorship Feedback

This last section reflects my role as a mentor to undergraduate students starting their experiences in formal research. From these positive experiences of mentorship, full solicited, and unsolicited letters can be found in the Appendixes c. and d. Here, I have collected some excerpts from these students recounting their experience under my supervision:

"Working with you for the EEG data collection study was my first experience with research, and has taught me so much about neuroscience, how our brains work, and more. My favorite part was seeing how everyone in our lab was so passionate about their specific research project which motivated me to stay strong and help out as much as I can."
- Sara Alajrami, Undergraduate Mentee, unsolicited feedback.

"I am very grateful that I was given the opportunity to work/volunteer/complete an independent study in the CoNCH lab. The skills I learned during this time will benefit me in the future and gave me the opportunity to learn so much about an extremely interesting field that I had minimal knowledge of before I started here. I know second semester did not quite go as planned, but regardless I have nothing but good things to say about Bruno and Nima and how they handled the independent study. They were excellent when it came to helping, being supportive, and understanding. I would highly recommend you guys do this with more students because it is an excellent learning experience for everyone, and you did a wonderful job."
– Robert Menzie, Undergraduate Mentee, unsolicited feedback

"Mr. Mesquita consistently pushed me to grow while offering steady guidance and reassurance. His mentorship was especially impactful when I applied for the Undergraduate Research Summer Internship (USRI) award. He provided thoughtful feedback during the application process and encouraged me to expand the scope of my project, which allowed me to successfully complete the award and present my work at a research conference. His belief in my abilities and his encouragement to step outside my comfort zone played a significant role in building my confidence and shaping my development as a student researcher. Because of Mr. Mesquita's guidance and support, I felt encouraged to remain involved in research and am now completing an undergraduate thesis, something I would not have envisioned for myself before joining his lab."
– Rahul Vij, Undegraduate Mentee, solicited feedback.

Bruno de Avó Mesquita

6. Teaching Strategies, Innovations, and Scholarship

I highly value the role of tangible experiences as an anchoring point for lessons. These can take various forms, depending on the subject, context, and audience. In this section, I give a brief overview of some of my approaches for creating such experiences, while specific materials can be found in section **7. Sample Teaching Materials**.

a.   Bridging the Gap Between the Classroom and the Laboratory

As my teaching career began primarily with the science education of children, and young teenagers, one of my main goals as an educator was to prioritize the development of Scientific Literacy in those students. Scientific knowledge and particularly scientific practices, and how this knowledge is developed, can often feel very abstract and distant from their daily experiences. To bridge this gap, I emphasized experiential learning by either bringing scientific materials and practice into the classroom, such as a preserved cow's heart for a module on the circulatory system or fossil replicas for a module on paleontology, or by bringing students into authentic research environments. For example, I coordinated an excursion to a paleontology laboratory at my university, allowing students to engage directly with scientific spaces and practices.

In post-secondary teaching, these values persist, albeit in a different form. Unlike in school settings, university students are themselves embedded within academia and may already be beginning their own trajectories as researchers. Nevertheless, experiential learning remains a crucial component of effective instruction. Laboratory activities, simple experiments, and assignments involving data analysis, interpretation, and visualization all serve to familiarize undergraduate students with the practice of science as an integral part of the university curriculum.


Photo of a fossil replica of the claw of a Giant Ground Sloth that was part of an activity on introduction to paleontology designed as an extra-curricular module for children in the Brazilian public school system. Students were allowed to pick one of the various replicas brought to take home as a souvenir of their participation.

Bruno de Avó Mesquita

b.   Learning through Play

Play is a fundamental mechanism through which humans explore, test boundaries, and acquire new skills. Games, as structured forms of play, formalize this process by embedding learning within systems of rules, goals, and feedback. It is, in practice, impossible to engage meaningfully with a game without learning how it works; players must internalize its rules, strategies, and constraints to participate successfully. This property makes games a powerful pedagogical tool. When designed intentionally, game structures can incorporate core disciplinary concepts, either explicitly or implicitly. In my teaching, I often use games and game-inspired activities as anchoring points for experimentation, and reflection.

For example, my undergraduate thesis for my teaching degree involved the development of a card game designed to incorporate core principles of evolutionary thinking. The game was created to allow instructors to introduce evolutionary concepts in the classroom, while also enabling learners to engage with these ideas in informal contexts, such as gameplay at home. More recently, when teaching Classical and Operant Conditioning to first-year Psychology students at Western University, I developed a video game – "Flappy Sniffy" (a play on the Sniffy Pro software)—that integrates principles of learning through its mechanics and feedback systems. The game was intentionally designed to prompt reflection on how conditioning principles extend beyond the traditional "Skinner box" model and manifest in contemporary environments, including digital games and social media platforms.

One of my personal goals in how to develop my scholarship in teaching and learning is to continue developing games, and publish these as freely available materials, both for learning and entertainment.
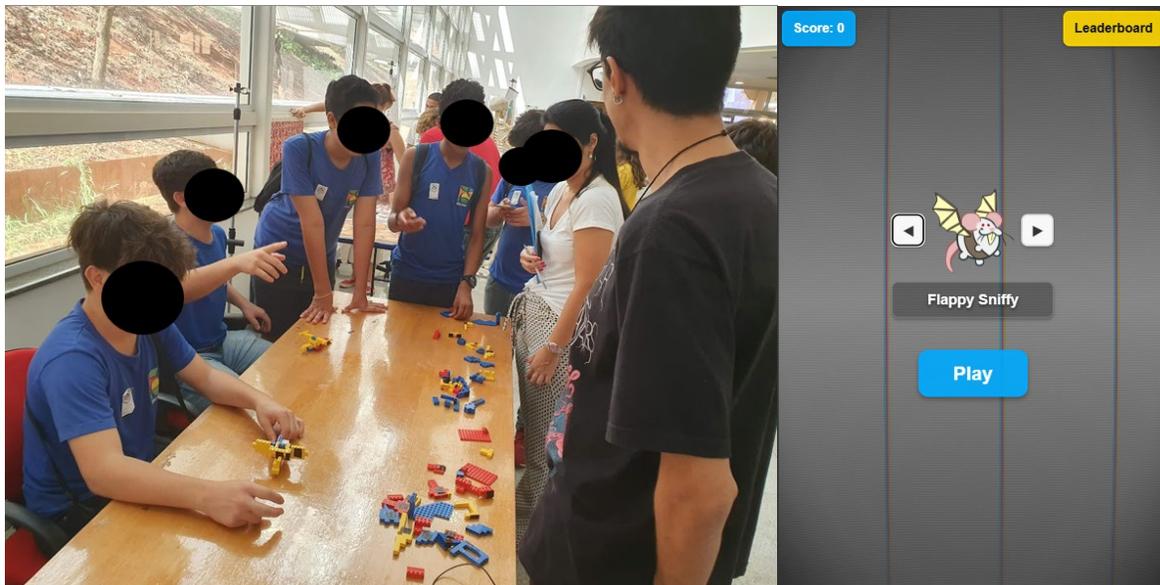
Photos show: Left: A LEGO-based activity during an outreach event. Right: A screen capture of the Flappy Sniffy game.

Bruno de Avó Mesquita

c.   Questioning Knowledge

Regardless of the content being learned, I believe it is crucially important to always incorporate a critical examination of how this knowledge was developed in the first place, by whom, and what we can make of it. The benefits of such an approach are manifold: (i) It centers the learning experience on the student by allowing them to take part in the rediscovery of this knowledge, as well as respecting the pre-existing knowledge they already possess that can help them navigate these discoveries in their own way; (ii) It provides more meaningful learning by avoiding what was defined by Freire as "banking education" where educators "deposit" information into passive students; and (iii) It produces scientists with a greater sense of responsibility over this knowledge, as well as with more comprehensive understanding of its implications, and limitations.

Ways in which I have achieved this critical examination of knowledge in the past range from simple addendums and added context during lectures, to discussion-based activities such as reflections and debates, to activities that involve experimentation, hypothesis testing, and the critical examination of prior beliefs. The photograph below shows an introductory activity for young children in which they were asked to draw what they thought the circulatory system looked like, before moving on to an exercise in which they predicted whether their drawings were accurate based on everyday observations (such as where they blush, where blood might be most important, and what the purpose of blood is in the body).

Photo of an introductory activity for a module on the circulatory system, which was designed alongside the teacher at a public elementary school in Brazil to be incorporated into the main class schedule.

Bruno de Avó Mesquita

7. Sample Teaching Materials

a.   Sample TA Manuals for Introductory Psychology Labs.

These examples show the manuals used as supplementary guidance for TAs facilitating labs for PSYCHOL 1002 – Psychology as a Natural Science. Both represent the most recent versions of the manuals, which were created by me. They provide an example of how the labs are designed and structured; however, much of the additional instructional support cannot be fully appreciated from these materials in isolation, as it is embedded in the slide deck presenter notes or discussed in person during the weekly TA meeting that precedes each lab.

Psychology 1002A

Learning Lab #2: Introduction to Neuroanatomy

Learning Objectives

1)   Be able to name and locate the lobes of the cerebral cortex and describe their functions.

2)   Locate specified structures and regions in the brain, understand how they fit together, and describe their main functions.

3)   Become familiar with seminal findings in functional neuroanatomy through famous case studies.

Materials

- Model brain (1 per table)
- Dry Erase Markers and Erasers
- Mini White Boards (2 per table)
- Labels for model brain (12 per table)
- Poster Tack to stick labels to model brain
- Personal computers and smartphones for research

Overview

- This lab introduces the brain by examining some of the major structures. Students will be expected to take a leading role in research to appropriately identify the structures in the models.
- The case study activity further provides an opportunity to explore some seminal findings in Neuroscience, as well as have a better understanding of functional neuroanatomy.

Time Allocation

Introduction	5 Minutes
Short lecture component	5 Minutes
Activity 1: Build a Brain	15 Minutes
Activity 2: Case Studies	15 Minutes
Take Home Message/Wrap-up	5 Minutes
Final Submission Question	5 Minutes

Bruno de Avó Mesquita

<u>Introduction</u> *(5 min)*

- This lab is an introduction to neurobiology - we are going to look at the structure and function of different parts of the brain.

<u>Lecture component</u> *(5 min)*

- We will start the lab with a bit of vocabulary about how to refer to the brain in a three-dimensional space. This is not a lot of content but make sure to go through it slowly and repeat it a couple times to make sure everyone is on the same page.
- We will also have a brief introduction on the divisions of the cerebral cortex into lobes.

<u>Activity 1: Build a Brain</u> *(15 min)*

- Students will disassemble and assemble the brain model, identifying major structures indicated on the slides.
- Locate the Structure: Using resources of their choosing (textbook, internet research, online atlases) they will identify the structures listed on the slide. They will use the blue poster tack provided to attach the labels to the brain. This may be difficult for some of the internal structures, so you can have them leave one temporal lobe off the brain, if necessary, to facilitate labelling it.

<u>Activity 2: Guided Research</u> *(20 mins)*

- Each group will be assigned a prompt for one of several famous case studies or disorders in Neuroscience.
- Together, they will research on this topic in a variety of online sources to structure a few bullet points of this case study. Such as:
    - What are the symptoms evidenced in the case?
    - What structure is thought to be affected?
    - How does the structure affected relate to the clinical presentation? What functions are being disrupted? What functions persist?

The cases themselves are:

- Patient H.M
- Phineas Gage
- Patient S.M.
- Split-Brain Syndrome.
- Blindsight
- Wernicke and Broca's Aphasia. (You can split this into two groups if there are 7)

NOTE: please try to finish a couple minutes early and ask students to a.) put their brain back together, b.) put the label back in their black container, and c.) wipe down any surfaces with tack residue on them.

Bruno de Avó Mesquita

<u>Take-home Message & Wrap-Up</u> *(5 min)*

- Hopefully they had a gentle introduction to neuroanatomy.
- Much of modern neuroscience has been built on clinical case studies
- The Brain works as a system ("Patchwork" of overlapping functions, as opposed to strict localization).

<u>Final Submission (*5 min*):</u>

For their submission this week, students will answer the following question via Brightspace:

How do case studies like the ones we discussed today help us understand structure and function in the human brain?

Bruno de Avó Mesquita

Learning Objectives:

- Identify the role which the principles of learning explored in the previous lab play in our daily lives.
- Be able to relate experimental psychology to social psychology.

Materials

- Phones or computers to access the Flappy Sniffy Game
- Whiteboard markers and erasers
- Mini White Boards (2 per table)

Overview

The main role of this lab is to expand upon the previous one, where we discussed principles in Classical and Operant Conditioning using the Sniffy Pro software. Not in complexity, but in meaning. We want students to be able to relate all that is learned in the classroom, which is based on laboratory experiments, to their own daily lived experiences.

Time Allocation

Introduction and Flappy Sniffy Leaderboard	5 Min
Reflecting on the game	15 Min
Improving on Flappy Sniffy	8 Min
Reflecting on your daily life	12 Min
Wrap-Up/Take Home Message	5 Min
Question Submission	5 Min

Introduction *(5 Min)*

- Ask students if they have played the game and if they enjoyed it.
- Pull up the leaderboard for the appropriate lab section and compliment the winners.

Reflecting on the game *(15 Min)*

The goal of this first activity is to allow students a good amount of time to really try to identify in the game all the content in Classical and Operant conditioning that we have been discussing in lectures and in the previous lab.

They should be very thorough here, let them know that the game was thought of carefully to incorporate a lot of notable elements both in gameplay as well as in its structure and form.

Afterwards, have students name many of the points they identified with the whole class.

Bruno de Avó Mesquita

<u>Improving on the game</u> *(8 min)*

      The premise of this activity is that the students try to think about what else they would add to the game to make it more engaging/addictive/appealing. It is important that the suggestion given be based on either a principle of Reinforcement learning, Classical, or Operant Conditioning, and that they justify their choice and what they based it on.

Have them bring it up to the rest of the class afterwards.

<u>Reflecting on your daily life</u> *(12 minutes)*

      This last activity will be like the first, only now students will have to come up with their own object of study, by finding something they all have in common in which they can identify many of the topics discussed so far. Encourage them to think about it in detail particularly with how many parties are involved, and what is the overall goal of the learning being observed in this scenario.

<u>Take-Home Message</u> *(5 mins)*

- The principles we have been discussing over these past two weeks are not simply restricted to experiments in the lab.

- They form an important basis of even our interpersonal relations

- Modern design practices in games, apps, and all sorts of things – especially those monetized – make use of principles in Psychology and Learning to increase user engagement.

<u>Final Submission</u> *(5 mins)*

      Do you agree with the focus on incorporating elements of associative learning theory to increase user engagement in games, apps, and social media? Do you think it's something "bad"? Why? Why not?

Bruno de Avó Mesquita

b. Sample Proposed Course Syllabus

Psychology 3XXX

Electrophysiology for Psychology and Neuroscience

1. Course Information

Instructor: Bruno Mesquita

Phone: TBA

Office Hours: See Brightspace for details

Email: bmesquit@uwo.ca

Teaching Assistant: TBA

Office: TBA

Office Hours: TBA

Email: TBA

Time and Location: TBA

Course Requisites:

Antirequisite: Psychology 3222G

Antirequisites are courses that overlap sufficiently in content that only one can be taken for credit. If you take a course that is an antirequisite to a course previously taken, you will lose credit for the earlier course, regardless of the grade achieved in the most recent course.

Prerequisites: Any one of PSYHCOL 2220A/B, PSYCHOL2221A/B. or Neuroscience 2000

Unless you have either the prerequisites for this course or written special permission from your dean to enroll in it, you may be removed from this course, and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Course Description

Electrophysiology is the study of nervous system by careful measurement of bioelectrical activity in the central and peripheral nervous systems. This course aims to provide you with a gentle introduction to the fundamental principles of physics and physiology necessary for understanding techniques ranging from intracellular recordings to electroencephalography in non-invasive human research, as well as approaches for analyzing these data.

We begin by covering key physics concepts in electricity, and circuits, before moving on to fundamental principles of digital signal processing, including filtering, frequency, and time-domain analysis, essential tools for analyzing electrophysiological data. Then, we will explore the physiology of nervous and muscle tissue, examining how all these elements come together to form the field of electrophysiology.

During this course, through a combination of lectures and hands-on lab assignments, we will explore major electrophysiological techniques used in neuroscience and psychology, such as patch-clamp and sharp electrode recording, electromyography (EMG), and electroencephalography (EEG). Practical lab activities will provide you with first-hand experience, conducting simple experiments and writing laboratory reports.

During the final part of the course, a portion of certain lectures will take the form of student-led discussions, where small groups will conduct "journal clubs" on selected papers that utilize the techniques covered throughout the course.

All things considered, this course will form an excellent introduction to a variety of important techniques in experimental Psychology and Neuroscience, allowing students who are interested in pursuing a career in research to feel more confident and prepared for future endeavours.

3. Course Materials

Reading/Content Materials

Supplemental reading material or videos related to the topics explored in the lectures will be available in OWL Brightspace. Recommended journal articles both for additional reading as well as for the journal club discussions will be listed in the OWL Brightspace but may require access through Western's Library Services.

Hardware and Software

For successful completion of the coding assignments, and data analysis and visualization portions of the laboratory reports, students will require access to a computer. Coding assignments will be done in Python (completely free, instructions on how to install will be made available in OWL). Students are welcome to use any preferred coding language and/or software of their choice for any necessary data manipulation and visualization for the laboratory reports.

Laboratory equipment

Students are expected to bring a notebook or any note taking device they may prefer to lessons in the laboratory. Certain laboratory activities may require the use of a lab coat or additional personal protective equipment. If that is the case, they will be available to borrow from the laboratory prep room. Any materials needed for conducting laboratory activities will be supplied.

Bruno de Avó Mesquita

4. Learning Outcomes

By the end of this course, students will be able to:	This learning outcome will be demonstrated through:
Explain the basic physics principles in electricity and circuits.	Biweekly Assignments Lab Reports
Comprehend and describe the physiology of nervous and muscle tissue, with particular focus on specific key concepts such as the mechanisms of action potential at the cellular level.	Biweekly Assignments Lab Reports Journal Club Presentation
Apply scientific rigour to simple experiments and communicate findings in reports.	Lab Reports
Pre-process and analyze electrical bio signals, as well as plot figures to illustrate their findings.	Lab Reports Biweekly Assignments
Critically engage with publications in scientific journals. Interpret figures and methodologies and communicate these to their peers in an accessible manner.	Journal Club Presentation

5. Methods of Evaluation

Biweekly Assignments (36%)

The six biweekly assignments (worth 6% each) have the primary goal of assessing student's understanding of the fundamental concepts explored during the class lessons. They will be posted in OWL Brightspace the day of the relevant class and students will have until the start of the next class to submit their work. These assignments can take the form of short essay questions or small coding assignments.

Lab Reports (48%)

Six lab reports (worth 8% each) will be the primary assessment in this course. The lab activities are done in groups of varying size depending on the lab, but reports are submitted individually. Laboratory activities occur biweekly, and laboratory reports are due before the start of the next activity.

Journal Club Presentation (16%)

During the later portion of the course, some of the lecture component of the course will take up a reduced portion of the time slot, with the remaining time dedicated to student-led journal clubs. Each week, different groups of students will be presenting a paper selected by the instructor or, if they wish, a paper selected by themselves which was previously approved by the instructor. The grading of this portion will be a combination of the instructor's (12%) and peer (4%) evaluation.

Bruno de Avó Mesquita

6. Accommodation, Missed Work, and Attendance

University policy on academic considerations are described [here](). These include considerations for medical, religious, compassionate, and exam-related accommodation.

Policy on Missed Coursework

If you miss the submission deadline for a Biweekly Assignment or Lab Report and have a documented accommodation approved by the academic counselling office in your home faculty, you will receive a new deadline to submit the assignment (in the case of missed attendance for the lab, see next section). If for similar reasons you are unable to meaningfully contribute to your group's Journal Club facilitation, you will receive an individual assignment of equivalent worth to your final grade.

Policy on Attendance

Although attendance for the class lessons for this course is optional, attendance on the laboratory component of this course is mandatory. Arriving over 30 minutes after the designated start time of the lab activities will result in an absence. If unforeseen circumstances prevent you from attending a session, you may seek academic consideration to be excused of your absence. In that case, you will also receive an alternative assignment to make-up for the missed Lab Report of equivalent worth to your final grade/

7. Class Schedule

Class Lessons Schedule.

Week	Date	Topic
1		Course overview, and basic principles in electricity
2		Circuits and relevance to electrophysiology.
3		Introduction to Digital Signals
4		Digital Signal Analysis
5		The Neuron and the Nervous System.
6		No Class- Thanksgiving Day.
7		Membrane Potential.
8		Synaptic Transmission.
9		No Class – Reading Week
10		Invasive Electrophysiology + Journal Club 1
11		Electroencephalography History and theory.
12		Electroencephalography Practice + Journal Club 2
13		Electrophysiology of Muscle Tissue
14		Electromyography + Journal Club 3

Laboratory Schedule.

Week	Dates	Topic
2		Circuits
4		Digital Signal Processing Tutorial
8		Extracellular Recordings
10		Intracellular Recordings
12		Electroencephalography
14		Electromyography

Bruno de Avó Mesquita

8. Teaching Rationale

I believe that the best way to learn a new subject is through practice and active engagement in a supportive yet challenging environment. This course is designed to be primarily student-centered. Class lessons incorporate active learning strategies, while laboratory activities provide hands-on experience with the techniques covered in the course. Additionally, the journal club sessions foster reading, critical thinking, and scientific communication skills, allowing students to learn from one another in a collaborative setting.

Many of the marked activities throughout this course, such as the laboratory activities and journal club facilitation involve group work. I believe that science is most efficient through collaboration and thus value the opportunity to exercise these skills through this course. Groups will vary throughout the course and will be formed by mutual interest in the topic (in certain laboratory activities, and in the Journal Clubs), or through some degree of randomization. Some students may have had negative experiences with group work like this in the past, and I am sympathetic to these worries. I encourage everyone to do your best to work collaboratively with a wide variety of peers, as this in and of itself is a skill to be developed, but if for any reason you do not feel comfortable or safe in a particular group, I am open to accommodate your preferences as discretely as possible.

9. Instructor Policies

Accessibility

If you feel like the course materials or the way in which they are presented are not accessible to you for any reason, or if you require any other arrangements to make the course more accessible to you, please do not hesitate to contact the course instructor directly.

Attendance, Lateness, and Participation

As described in section 6 of this syllabus, attendance in the laboratory sections is mandatory for this course. Attendance for class lessons, although not mandatory, is highly recommended, as it reflects the major portion of where content relevant to the laboratory activities and other methods of evaluation will be covered.

Although participation is not graded, this course is designed with active learning strategies in mind. Therefore, participation and engagement in activities is highly important to get the most out of this course. Since participation is not graded, there are no penalties for being "wrong" or asking questions during activities, and we similarly hope to foster an environment where students will be involved in creating a learning environment where their peers are comfortable in making mistakes or practice communicating about science and the concepts discussed in this course.

Bruno de Avó Mesquita

E-mail and Office Hours.

Any questions related to course policies or content may be e-mailed to the course instructor. I only ask that prior do doing so, students ensure that this information is not already covered in the course syllabus. If no response is received from the instructor within a week, kindly reply to the original e-mail with a reminder. If questions require more timely attention, within reason, please include a tag of [Urgent] in the subject line of the e-mail.

For office hours please consult the course information section of this document. Students are encouraged to attend office hours for any course-related questions. Students may also wish to make use of this time to ask questions that are general about academia, psychology, or neuroscience, although priority will be given to students with course-related questions.

Inclusivity, Diversity, and Respect

Students at Western University will have their perspectives shaped by a diverse range of personal experiences, which may vary in a range of representations which may include (but are not limited to) academic background, race, culture, gender, religion, and socioeconomic status. Those enrolled in this course are expected to be mindful and respectful of this fact and actively participate in creating and nurturing a welcoming environment for themselves and their peers.

Use of Electronic Devices and Generative AI

Students are allowed to freely use electronic devices in class (laptops, tablets, cell phones) if this is done without distracting and disrupting those around them (for example, with sound turned off). During any form of group activity, students will be expected to restrict use of such devices to course-related activities, so as to properly engage with their colleagues.

Generative AI is a tool that may be used ethically and responsibly. This means that students may make use of tools such as ChatGPT and DeepSeek within their own best judgement for study and elaboration of ideas. However, all work submitted by the student that is subject to evaluation must be a product of the student, capturing their own words and expressing their own ideas. Generative AI may still be used, within reason, to help reword statements or correct grammatical mistakes, but any final version submitted is still expected to be primarily written by the student.

Bruno de Avó Mesquita

10. University Policies

Academic Integrity

Scholastic offences are taken seriously, and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_disciplin e_undergrad.pdf

Plagiarism Detection Software

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

11. Resources and Support Services

Office of the Registrar

https://registrar.uwo.ca

Student Development Services

Western offers a variety of resources that may help improve your learning experience. These may include tools for improving your learning skills through Learning Development & Success or improve your writing through the Writing Support Centre. These and other resources may be found at sdc.uwo.ca

Psychology Undergraduate Program

https://www.psychology.uwo.ca/undergraduate/index.html

Mental Health Support Services

Students who are in emotional/mental distress should refer to Health and Wellness@Western https://www.uwo.ca/health/ for a complete list of options about how to obtain help.

Statement on gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who is going through or has gone through these traumatic events. If you are experiencing or have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts at the following website: https://www.uwo.ca/health/student_support/survivor_support/get-help.html To connect with a case manager or set up an appointment, please contact support@uwo.ca.

8. Appendix

a.   Previous reference letter from supervisor during teacher training:

UNIVERSIDA DE SÃO PAULO

FACULDADE DE FILOSOFIA, CIÊNCIAS E LETRAS DE RIBEIRÃO PRETO

DEPARTAMENTO DE BIOLOGIA

Ribeirão Preto, 17 September 2018

RECOMMENDATION LETTER

Dear Colleagues
,
  I'm writing to express my wholehearted support for Bruno Mesquita Avó's application to an academic programm. As Bruno's supervisor during his student internship student in a programm for teaching training called PIBID, in 2017 until 2018, I was impressed with Bruno's writing skills, initiative, and ability to meet deadlines. Bruno became a valued member of the team, and I'm confident that he has a successful career.

  As an intern in our laboratory (Laboratory of Biology Education), Bruno had a number of responsibilities. He worked with biology's teacher from public school on various projects. Bruno was especially skilled at creating didactic materials for biology classes. He's self-motivated, attentive to detail, and skilled at both independent and collaborative work. He is well-spoken and intellectual, and he lights up when talking about ideas and science education trends.

  In closing, I'd like to reiterate my strong support for Bruno's application. Bruno is a talented young man driven by a passion for science and education. Please don't hesitate to contact me for any further information. Thank you for your time.

Sincerely,

Dr. Marcelo Tadeu Motokane
University of São Paulo
Departament of Biology
Coordinator of Laboratory of Biology Education

Bruno de Avó Mesquita

b.   Letters from peers.

i.

Western 🛡

03.04.2025

To Whom It May Concern,

This semester, I participated in Western University's Centre for Teaching and Learning's Teaching Mentor Program, where graduate students and postdoctoral scholars observe and provide feedback on each other's teaching. As part of this program, on March 3, 2025, I had the pleasure of attending Bruno Mesquita's lesson on pro-social behavior, which was part of the Psychology as a Social Science course. Bruno's lesson was clearly structured, engaging, and thoughtfully integrated with in-class activities, making my experience as an observer truly rewarding.

Bruno introduced the topic in a way that captured students' attention, further accelerated by asking an intriguing question: why do maternal grandparents tend to become closer to their grandchildren? It was clear that Bruno had already created a warm and welcoming environment, as students were eager to participate. He fostered students' learning even more through his insightful comments, highlighting the evolutionary basis of pro-social behavior. Additionally, Bruno incorporated various aspects of pro-social behavior through real-life examples, supported by clear visuals, and delivered concise yet effective descriptions and explanations.

Bruno also created a card game version of the Prisoner's Dilemma as an in-class activity. It was a valuable experience to see how the concepts we had learned were applied in a fun and interactive way, allowing everyone to engage and learn through play. After the game, students were asked to reflect on the choices they made and how they connected to cooperation. Bruno also shared general insights into how people tend to behave and how different parameters, such as group size, familiarity, and having a common strategy, can influence behavior. What was delivered wasn't just passive teaching; it encouraged students to question their own behavior and its relevance in the context of the lecture. I find this crucial because he not only taught what's already in the textbooks but also created a space for students to reflect on their own actions in relation to the topic at hand.

I left the class with the thought that I would want to be a student in his class. I believe we need more educators like Bruno, who clearly demonstrate a passion and talent for teaching, thoughtfully designing lessons and executing them with ease. Bruno is already an excellent teacher, and I believe anyone who's in his class will be lucky to have him as an instructor.

Sincerely,

Kardelen Küçük, M.A.
Ph.D. Candidate, Department of Philosophy
Western University

Western

April 2, 2025

RE: Reference Letter for Bruno Mesquita

To whom it may concern:

I had the opportunity to observe Bruno teaching a 1-hour seminar session on March 4th 2025, while participating in the Teacher Mentor Program conducted by the Centre for Teaching and Learning at Western University. This session was focused on pro-social behaviours, such as altruism, and the choices that can affect one's ability to make these decisions.

During the session Bruno utilized multiple active learning games, such as a card game, that allowed students the opportunity to experience the content firsthand. One game had students choose whether to play a black card or a red card when grouped into pairs, one colour representing a pro-social decision, while the other represented an antisocial decision. The outcome of the cards played then resulted in a specific number of points awarded to each student, i.e. if both students made a prosocial decision, then they were awarded the maximum number of points each. Following each activity Bruno engaged the students in a group conversation allowing them to reflect on their experiences within the game. This seemed extremely beneficial as I observed that as the games went on more and more students were engaging and participating during the reflections, demonstrating that they were understanding the content.

Additionally, Bruno used imagery throughout the session to explain the different types of social behaviour, such as how bees and flowers are an example of mutualism. This explanation allowed the audience to relate to the information and gain a better understanding of the content, instead of just listing definitions that students would then have to memorize.

In conclusion I would recommend Bruno as an instructor due to their ability to effectively incorporate active learning opportunities into their teaching sessions that engage students and aid in their learning and comprehension of course content.

Sincerely,

Julia Brott

Julia T Brott, M.Sc.
PhD Candidate, Department of Anatomy & Cell Biology
Western University

For Reference: Bruno Mesquita

Lead TA - PSYCHOL 1002A – Psychology as a Natural Science, Fall 2025

To whom it may concern,

I am a graduate student in the Faculty of Psychology, and I have had the pleasure of working under the guidance of Bruno since he began facilitating the Learning Labs for PSYCHOL 1002A this year.

Since before the term started, I have witnessed the great work Bruno has done to refine and reinvent the Learning Labs. Using feedback from myself and fellow TA colleagues who taught the course in previous years, Bruno created comprehensive lesson plans for all 8 learning lab sessions for the term, including slide decks, teaching materials, and facilitator's guides for all TAs. I was impressed that he created an online game for one of the weeks that was customized to the course content, which was very effective at both reinforcing the lab content and keeping students engaged. His thorough preparation of TAs made the course enjoyable to teach and valuable to experience.

Bruno made a concerted effort to consult TAs throughout the creation of the lesson plans, which helped me feel that he respected my knowledge as an educator. His commitment to thoughtfully considering feedback from TAs extended up until the Friday meetings before the following week of lessons; if a TA suggested a change to the content or presentation of the lab and he and the other TAs liked the suggestion, he would take the time to adapt the lab to fit the recommendation. I genuinely felt that my perspectives were valued, and I felt empowered that I was teaching labs that I approved. His careful consideration of TA feedback made the Learning Labs feel collaborative and flexible, and helped me grow my confidence as a teacher.

I was delighted when I first heard that Bruno would lead the Learning Labs for the 2025-2026 school year, because I was already familiar with his teaching skills. I had the pleasure of teaching lab sections alongside him the previous year when I was a new TA, and I felt inspired by his confident and adaptable teaching style. He was able to keep the classroom on task while addressing the needs of students and keeping the lab engaging. I was excited to see his teaching skills applied to curriculum development, and I am glad that he brought the same adaptable approach to leading the Learning Labs.

Bruno is an exceptional teacher and educational leader who made my experience teaching PSYCHOL 1002A valuable and enjoyable.

Sincerely,

Julia Cunningham
MSc Candidate
Department of Psychology
Western University

c.   Unsolicited letter from mentee

📮 **Outlook**

Thank you

From Robert Menzie <rmenzie@uwo.ca>

Date Mon 6/5/2023 6:32 PM

To Ingrid Johnsrude <ijohnsru@uwo.ca>; Bruno Mesquita <bmesquit@uwo.ca>; Nima Zargarnezhad <nzargarn@uwo.ca>

Hi all!

I just wanted to send my best wishes to all of you in the future and a massive thank you. I am very grateful that I was given the opportunity to work/volunteer/complete an independent study in the CoNCH lab. The skills I learned during this time will benefit me in the future and gave me the opportunity to learn so much about an extremely interesting field that I had minimal knowledge of before I started here. I know second semester did not quite go as planned, but regardless I have nothing but good things to say about Bruno and Nima and how they handled the independent study. They were excellent when it came to helping, being supportive, and understanding. I would highly recommend you guys do this with more students because it is an excellent learning experience for everyone, and you did a wonderful job. Thank you, Ingrid, you were always extremely kind and welcoming and made me feel extremely comfortable during our meetings and presentations, as well as offering excellent advice and guidance.

I am starting my masters in the fall in physiology/pharmacology under the supervision of Dr. Ramachandran, although I am moving out of the psychology/neuroscience field I am so grateful for the opportunities this lab gave me and what I learned during my time with the CoNCH lab. This was some of the best experiences I had during my time as an undergraduate student.

I wish you all the best and good luck with your feature endeavours!

Once again, thank you for everything and for the opportunities.

Robbie

Bruno de Avó Mesquita

d. Solicited letter from mentee

Monday, December 15th, 2025

To Whom It May Concern,

When I joined the Cognitive Neuroscience of Hearing Lab (CoNCH Lab), it was my first exposure to a research environment with significant responsibility, including collecting data and ensuring that complex procedures, particularly during KINARM data collection, were carried out correctly. From the outset, Mr. Bruno Mesquita approached supervision with patience and intentionality, creating a learning environment where expectations were clear and questions were welcomed. His support helped transform what initially felt like a daunting experience into one where I felt comfortable learning through trial, error, and reflection.

From my very first day in the lab, he took the time to walk me through the project in detail and was always willing to pause and explain both the technical steps and the underlying rationale behind them. His deep understanding of the research and methods, paired with his approachable teaching style, made it much easier for me to build confidence and develop independence as a researcher. Beyond technical training, Mr. Mesquita actively encouraged me to become more involved in the broader lab community. He supported me in attending lab meetings, participating in the lab's journal group, and engaging more fully with other members of the lab; experiences that initially felt intimidating but ultimately helped me feel like a valued and contributing member of the team.

Mr. Mesquita consistently pushed me to grow while offering steady guidance and reassurance. His mentorship was especially impactful when I applied for the Undergraduate Research Summer Internship (USRI) award. He provided thoughtful feedback during the application process and encouraged me to expand the scope of my project, which allowed me to successfully complete the award and present my work at a research conference. His belief in my abilities and his encouragement to step outside my comfort zone played a significant role in building my confidence and shaping my development as a student researcher. Because of Mr. Mesquita's guidance and support, I felt encouraged to remain involved in research and am now completing an undergraduate thesis, something I would not have envisioned for myself before joining his lab.

Based on my experience, Mr. Mesquita is an excelent and supportive mentor whose teaching had a meaningful impact on my development as a student researcher.

Sincerely,

Rahul Vij

Bruno de Avó Mesquita

e.   CoNCHLab Summer Workshop Schedule

SUMMER 2025 WORKSHOP SERIES
FOUNDATIONAL RESEARCH SKILLS!

Develop strong research habits this summer with our weekly workshops —designed with undergrads in mind, but open to anyone interested. No registration needed!

📅 **Every Thursday (starting June 19)**   🕐 **10:30 - 11:30 AM**   📍 **WIRB 4th Floor Lunchroom, RM 4190**

HOSTED BY THE CONCH LAB
Questions? Please contact: lmcbay2@uwo.ca

Stand-alone sessions — drop in anytime!

SCHEDULE 📅   HTML   ICS   **Workshop Lead**

	Date	Workshop	Lead
FRI @ 11am	**MAY 30**	**Strategies for Reading and Organizing Research**	MANDA FISCHER, PHD
FRI @ 11am	**JUNE 13**	**Synthesizing Research for Coherent Writing**	LEA SANSOM, MLIS / MANDA FISCHER, PHD
	JUNE 19	**Research Ethics and Scientific Rigor**	LAUREN MCBAY, BA
	JUNE 26	**Intro to Coding for Research: Getting Started**	NIMA ZARGARNEZHAD, MSC
	JULY 3	**Intro to Coding for Research: Applied Practice**	NIMA ZARGARNEZHAD, MSC
	JULY 10	**Principles of Data Analysis**	ALI TAFAKKOR, MSC
	JULY 17	**Data Visualization**	BRUNO MESQUITA, MSC
	JULY 24	**Data Visualization: Working Group**	BRUNO MESQUITA, MSC
	JULY 31	**How to Give a Compelling Talk**	MANDA FISCHER, PHD
	AUG 7	**Open Science: Transparency & Reproducibility**	ALI TAFAKKOR, MSC
	AUG 14	**Scientific Writing**	NIMA ZARGARNEZHAD, MSC

Bruno de Avó Mesquita