

Syllabus
The Bilingual Brain
PSYD25

Winter 2009
Professor Laura-Ann Petitto
Mondays: 10:00am-12:00pm

Instructor: Professor/Dr. Laura-Ann Petitto

Petitto's Office Location: New Science Building, SY122

Class Times: Mondays, 10:00am to 12:00pm

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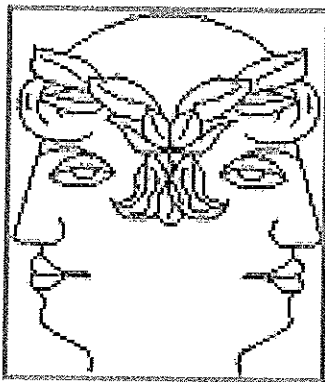
Office Hours: Mondays, 12:00pm-1:00pm



COURSE DESCRIPTION

What happens when *one* brain contains *two* languages (or three languages, or even more)? Is the result “linguistic confusion?” Do Bilinguals *think* differently than monolinguals? Is language processing more difficult in individuals navigating between two languages as compared to individuals who only know one? Are the brains of bilinguals similar to or different from the brains of monolinguals? Are bilinguals “smarter?” Is it harmful to expose young children to different languages at the same time? —Won’t these very young children become “language confused” or, worse, “language-delayed?” In this course, you will discover the answers to these questions. We will explore the prevailing theoretical explanations of bilingual language processing and the bilingual brain. We will break open questions concerning the human mind—and language versus thought (especially the human mind with multiple languages)—and discover how they are now being

answered around the world using advanced behavioral methods and state-of-the-art neuroimaging technology, including PET, fMRI, ERP, and fNIRS. We will unravel prevailing myths about bilingualism and contrast them with the emerging developmental, language processing, and brain organization facts of *the bilingual brain*. As we consider the impact of multiple languages on the brain in development and in adult language processing we will also unravel key concepts in contemporary science about the brain and its capacity to *learn*, including innateness, critical and sensitive period hypotheses, lateralization, plasticity, and hemispheric specialization. We will evaluate the paradoxical views about bilinguals held in society at large, including findings that have garnered dazzling positive attention in the public media (e.g., that “bilinguals are smarter” on select higher cognitive tasks) and compare this view to other recent negative views that have led to public referenda in various countries around the world to ban bilingualism. We will gain the critical skills to evaluate and assess such claims and actions and their far-reaching impact on contemporary society. Overall, we will discover the theories, methods, and analytical reasoning skills that, together, permit such seemingly intractable questions about the bilingual brain, dual language processing, and thinking in two languages to be laid bare.



REQUIRED READINGS

The readings can be found on Blackboard.

BLACKBOARD

You will post questions related to your student-led class presentations and debates on Blackboard. Please use the “Discussion Board” feature. Questions for student-led class discussion and debates must be posted no later than Wednesday night (midnight) the week before you present. Blackboard will also be a vital “virtual classroom” where class members may ask and answer each other’s questions. Please familiarize yourself with Blackboard and get in the habit of checking it regularly. Note: Please use only email for any direct questions for and/or communications with me (Professor Petitto).

COURSE STRUCTURE

This course is designed to embrace and incorporate the most contemporary understanding of psychological principles of human learning and memory, involving, for example, how we learn best, how we remember best, and how we learn for life. Lecturing will be kept at a minimum. On many days, the class will consist of student-led discussions *and* debates with the goal of promoting meaningful understanding, critical thinking, and deep learning of the material for life.

OBJECTIVES

My primary objectives are to provide the most cutting-edge knowledge on our topics to date and to communicate this knowledge in the most meaningful,

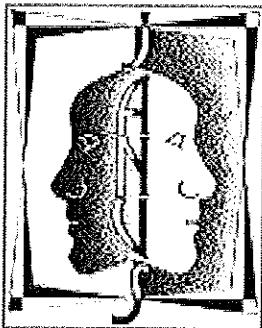
mutually interactive, respectful, and fascinating ways. Your primary objectives are to *think* deeply about the material, to *develop critical reasoning skills*, and to *learn* the material in a way that stays with you for life.

RESPONSIBILITIES

I have a genuine passion for teaching and, as such, I try to create ways to convey key course material so that you will remember it for always. To benefit fully from these techniques it is your responsibility to (i) read every assigned reading on time, (ii) attend classes and fully participate in the activities, evaluations, discussions, and debates, (iii) hand in Reaction Papers at the beginning of each class (except for the class in which you present); do monitor Blackboard for class questions/announcements/developments, (iv) lead a class and its debate, (v) write a final paper.

GRADING POLICY

(i)	Reaction Papers	25%
(ii)	Class Attendance	5%
(iii)	Class Participation, including <i>Self-evaluation</i> , and <i>Peer-evaluations</i>	15%
(iv)	Discussion and <i>Debate</i> Leadership	30%
(v)	Final Research Paper	25%



(i) Reaction Papers (Do not hand in for week that you are leading the class.)

- Goal: To promote exciting discussion and to convince me that you read and understood the paper(s).

- How: The content of this paper should include (a) an exceedingly brief statement of the overarching question/finding in the paper (e.g., not more than 2 sentences max). Said another way, do not waste

space summarizing the article. Instead, provide a (b) critique/analysis of the findings and/or a critique/analysis of the author(s)' interpretation(s) of findings; and, (c) where relevant, this may include your discussion of an alternative idea or an alternative study/design. Do be sure to focus on your important critique and analysis of the ideas in the paper.

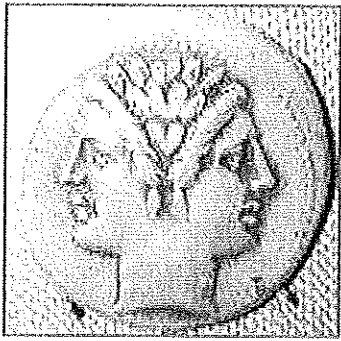
- Format: One (or two) pages MAXIMUM, double-spaced, 1" margins, 12-point "normal" font (such as, Arial, Times). Separately, you may include an additional page for References (should you read any additional articles; this is optional and non-required). Strict adherence to this page limit is obligatory. "Less is more."

(ii) and (iii) Class Attendance, Class Participation, and Completion of Evaluations

- Goal: To ensure rich individual learning and rich group discussion

- How: Good participation includes coming to class (and coming on time), general willingness to participate in discussion, class activities,

and debates, respect and kind manner towards the contributions of others, offering constructive comments, feedback, and questions. You will be given a self-evaluation so as to provide you with the opportunity to assess your view of your involvement involving your effective contributions and successful completion of the readings. You will also be asked to provide constructive peer-evaluation of particular presentations throughout the semester. Together, these indices will constitute your total Class Attendance/Class Participation grade.



(iv) Discussion and Debate Leadership

- Goal: To promote outstanding reasoning abilities, life-long learning, and exciting discussion; to promote more in-depth learning of specific course topics.

- How: Students will be selected by lottery to be a Discussion and Debate Leader for each of the classes listed below as student-led. Discussion/Debate Leaders will (a) present a

brief summary of the weekly readings, with the addition of the ONE outside reading of your choice, and (b) lead a creative and exciting class debate. Within your presentation, and during your initial summary of the week's readings, please be sure to identify the outside reading to the class/me, making connections gained by its inclusion. Your class Debate/Discussion Questions must be posted by Wednesday night (midnight) of the preceding week.

- Format

Part I. Summary of the week's readings. Please present the summary portion of your presentation creatively. For example, use PowerPoint in visually informative and creative ways, present material in a manner that pushes class members to new conceptual understanding, send questions ahead of time via Blackboard to the class for reflection, pose questions to the group in class, break class into smaller groups to discuss the questions that you provided about the readings, provide novel examples, provide links and connections to issues that have been in the public media; do make links!

Part II. The Debate. I provide debate questions for each topic within. It is hoped that you will use this question as the basis of the debate that you lead. Any changes to the basic question proposed must first be finalized in consultation with me and then posted on Blackboard by Wednesday night (midnight) before your Monday presentation/debate. *Please, to be most respectful to your peers who are presenting, DO NOT engage in a discussion of the Debate question on Blackboard prior to a given class.* The first discussion of a specific debate question for a given class must be done only within the class. Later, after class, continuing discussion and analysis may occur for a preceding week's debate question that has already been aired. NOTE: Students in the class will

be randomly assigned to debate sides, Pro & Con, and, thus, this is yet another reason why it will be especially important to come to class with all of the assigned readings completed. Thank you!

(v) Final Research Paper (due March 30)

• Goal: To apply all that you learned throughout the course by writing a paper on a topic of your choice. However, the paper may not be on the same topic for which you led your class discussion and debate.

(a) The paper may be in the form of an in-depth “research” paper concerning a specific question/thesis statement, followed by a very thoughtful literature review, critical analysis and evaluations, and, finally, conclusions.

Or

(b) The paper may be in the form of a Research Proposal.

• How: In either case above, you must strictly adhere to APA guidelines. In the case of a Research Proposal, be sure to provide a crystal clear statement of the Question (with appropriate background literature/rationale), Hypotheses, proposed Participants (and/or Participant Groups), Methods, Analyses, and expected research Results (as per each of your Hypotheses), Discussion/Conclusion (in which the significance/advance of your particular study is highly apparent), plus References.



Note: For either of the above, there must also be at least ten (10) outside references that you have personally read towards the completion of your final document.

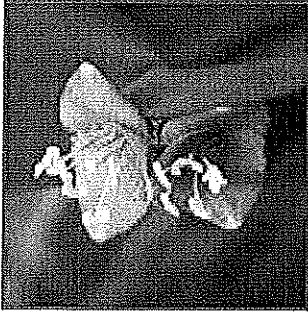
• When: See below for dates associated with our class discussion of your final research papers.

LATENESS POLICY

Lateness is not acceptable unless there is an officially documented medical or personal emergency. Late items will be docked 10% for each day late. Final Research Papers are due on March 30, 2009 @ 10:00am.

STUDENTS WITH DISABILITIES

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.



EMAIL POLICY

I do my best to answer email promptly but, alas, my daily volume is painfully high. I welcome you to stop by my office hours Mondays from 12:00-1:00pm. Should a question come up, I encourage you first to read the syllabus and our Blackboard site, try asking a classmate, and/or to post your question on the class Discussion Board. You'd be surprised to see how many times our questions are shared by other classmates. If the above doesn't work, either send an email or come to my office hours.

CLASS TOPICS & READINGS

* = Student-Led Debates/Discussion

Class	Class Date	Topic of Class	Actions
1	Jan 5	Welcome to Class! Introduction: Myths & Truths about Bilinguals and Bilingualism	Lottery!
2	Jan 12	Introduction to Language Brain and Language Neuroanatomy Primer Theories regarding language specialization in the bilingual brain Methods in studying language specialization in the bilingual brain New perspectives from cross-modal bilinguals (exciting insights into the brain from signing and speaking bilinguals)	<u>Hand in:</u> Reaction Paper <u>Read:</u> • Perani et al., (1998) • Weber-Fox & Neville (1996) • Mehler & Christophe (2000)
*3	Jan 19	When young children are exposed to two languages in early life. Part 1: Overall Timing Milestones and First Words <u>Debate:</u> Very early bilingual language exposure causes language delay and confusion	<u>Hand in:</u> Reaction Paper <u>Read:</u> • Timing Milestones: Petitto, Katerelos, et al., (2001) • Early meanings: Holowka, Brosseau-Lapr�, & Petitto, (2002) • Chumak-Horbatsch, (2008)
*4	Jan 26	When young children are exposed to two languages in early life. Part II: Babbling and Early Phonology <u>Debate:</u> Very early bilingual language exposure yields developmental language differences and deviance	<u>Hand in:</u> Reaction Paper <u>Read:</u> • Phonology: Dubins (2008) • Bosch & Sebastian-Galles (2003) • Babbling (short): Petitto, Holowka, Sergio, & Ostry, (2001) • Petitto & Kovelman (2003)
*5	Feb 2	When young children are exposed to two	<u>Hand in:</u> Reaction

		languages through <i>print</i> in early life (A Bilingual <u>Reading</u> Advantage?) <u>Debate:</u> Very early bilingual exposure to two reading systems at the same time causes <i>reading</i> delay and confusion	Paper <u>Read:</u> • Kovelman, Baker, & Petitto (2008, a) • Norton, Kovelman, & Petitto (2007); not about bilinguals but the theoretical issues are deeply apt • Chee (2005)
*6	Feb 9	When bilingual adults process their two languages <u>Debate:</u> Bilingual and monolingual language processing and brain organization are fundamentally similar	<u>Hand in:</u> Reaction Paper <u>Read:</u> • Kovelman, Baker, & Petitto, (2008, b) • Kovelman, Shalinsky, Berens, & Petitto, (2008) • Kovelman...Petitto, (<i>In Press</i>) • Chee, Siong-Soon, Lee, & Pallier, (2004)
	Feb 16	Reading Week: No classes	
*7	Feb 23	Bilingual children and adults' performance on select higher cognitive tasks (A Bilingual <u>Cognitive</u> Advantage?) <u>Debate:</u> Bilinguals are "smarter" than age-matched monolinguals	<u>Hand in:</u> Reaction Paper <u>Read:</u> • Bialystok, (2007) • Bialystok, Craik, & Ryan, (2006) • Morton & Harper, (2007)
8	Mar 2	FIRST PRESENTATION: Present your <i>planned</i> Research Paper <i>ideas</i> at 4 minutes per presentation (time yourselves), with 4 minutes for class questions & answers (T=8 minutes per presentation). Out of respect for your peers, please plan on keeping to this timetable.	<u>Hand in:</u> Bibliography of at least 10 references <u>Read:</u> Continue reading, writing, editing your Research Paper

			<u>Hand in (during class):</u> Peer-Evaluation Form for each presenter
9	Mar 9	Research Paper Meetings (Required) To be discussed	
*10	Mar 16	Society and the Paradoxical views of Bilingualism Case Studies <i>Ireland,</i> <i>Hong Kong, China,</i> The Commonwealth of Massachusetts, USA Debate: The November 2004 public referendum was correct in banning (abolishing) bilingual education in the State (hint: Do know well Ron Unz's "English for the Children;" California Proposition 227; the public debate at Harvard University between Ron Unz and Catherine Snow, Nov 2004. Think about this: After taking this class, what information could have been added from the research on bilingual language development, cognition, and reading that could have strengthened the Pro arguments (...that could have strengthened the Con arguments).	<u>Hand in:</u> Reaction Paper <u>Read:</u> • Petitto & Dunbar (<i>In Press</i>) • TBA Search the Media, for example: • Edwards, E. (<i>Irish Times</i> , 2008) • The <i>Economist</i> , about Hong Kong's recent experiments with different Bilingual techniques (Spring 2008) Search the Internet, for example: • Massachusetts Bilingual Referendum Nov 2004, ("Banning Bilingualism; also, there were many <i>The Boston Globe</i> articles) Must reads • Ron Unz & Catherine Snow Debate • Ron Unz and his campaign to for Proposition 227 • Ron Unz "English for the Children" movement
11	Mar 23	FINAL PRESENTATION: Present your <i>final</i> Research Paper <i>final content</i> at 5 minutes (time yourselves), with 5 minutes for class questions & answers (T=10 minutes per presentation). Polished, articulate oral presentations are expected with visually compelling slides. Please do not read from	<u>Hand in:</u> Reaction Paper <u>Hand in (during class):</u> Peer-Evaluation Form for each presenter

		slides or notes. Professionalism and APA-style/format are a must. This is your last chance to receive feedback and to make modifications to your Research Paper prior to handing it in next week.	<u>Read</u> : Continue reading, writing, editing your Research Paper with at least 10 references
12	Mar 30	<p><i>Summary & Integration</i></p> <ul style="list-style-type: none"> • The bilingual brain reconsidered! • New knowledge about the bilingual brain and its implications for Society! 	<p><u>Hand in</u>: Final Paper due today upon entering the class. No late papers please.</p> <p><u>Hand in (during class)</u>: Self-Evaluation of your performance; Course Evaluations</p>

Bibliography

(Plus your minimum of 10 readings for your Final paper and the additional reading for your Presentation/Debate)

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- Chumak-Horbatsch, R. (2008). Early bilingualism: Children of immigrants in an English-language childcare center. *Psychology of Language and Communication*, 12(1), 3-27.
- Dubins, M. (*Unpublished dissertation*, 2008). An investigation of early phonetic processing in monolingual and bilingual infants using new functional Near-Infrared Spectroscopy (fNIRS).
- Holowka, S., Brosseau-Lapr e, F., & Petitto, L.A. (2002). Semantic and conceptual knowledge underlying bilingual babies' first signs and words. *Language Learning*, 52(2), 205-262.
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- Norton, E.S., Kovelman, I., & Petitto, L. A. (2007). Are there separate neural systems for spelling? New insights into the role of rules and memory in spelling from fMRI. *International Journal of Mind, Brain and Education*, 1(1), 1-12.
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- Petitto, L.A., & Dunbar, K.N. (In Press). New findings from educational neuroscience on bilingual brains, scientific brains, and the educated mind. Chapter in K. Fischer & T. Katzir (Eds.), *Building Usable Knowledge in Mind, Brain, & Education*. Cambridge University Press.
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