

PSYC 449 02 – Fall 2014
Embodied and Embedded Cognition: The brain, body, and environment
Tues/Thurs 3:00pm – 4:15pm

Instructor: Dr. Elyssa Twedt
Email: etwedt@richmond.edu
Office: Richmond Hall MO3C
Office Hours: M 1pm-2pm; W 11am-12pm

Course Summary

In this course we will critically study the research and theory related to embodied and embedded cognition. According to this framework, our behaviors, thoughts, and perceptions are grounded in bodily states (embodied) and are shaped by environmental and social context (embedded). We will discuss the history of the embodied cognition framework, recent empirical advances in the field, and implications for future research directions. We will explore embodied cognition within a variety of research domains such as, perception and action, memory, learning, language, and social cognition. In addition, we will discuss how this research relates to applied fields including education, architecture, and healthcare.

Learning Objectives

1. Promote knowledge and understanding in the study of embodied cognition
2. Become more educated and critical consumers of empirical research
3. Improve students' abilities to articulate ideas and disseminate knowledge
4. Provide experience working in a collaborative learning environment
5. Provide opportunities to practice and improve scientific writing and oral presentation skills

Required Text

The course readings consist of empirical journal articles and book chapters that will be available on the course Blackboard site. There is no textbook.

Assignments

1. **Homework (20%):** By 5pm the evening before each class, you must submit a short (approx. 1 page) analysis of the assigned readings. Your response should be thoughtful and demonstrate your ability to critically analyze the readings. Do not simply summarize the readings and avoid discussing anecdotal experiences. Topic examples include (but are certainly not limited to) ideas for future research, questions regarding the study, or analysis of the authors' conclusions. Making connections to previous classroom discussions and readings is strongly encouraged. Grading is as follows: check minus (insufficient – see me for guidance); check (adequate); check plus (excellent). Keep in mind that one purpose of these homework submissions is to prepare you for classroom discussions. Late homework submissions will **not** be accepted.
2. **Discussion Leader (15%):** You are responsible for leading classroom discussion on three days during the semester. During the first week of class, you will choose topics in pairs. To prepare for your discussion day, you should research information that

supplements the required readings. A PowerPoint presentation is not required (if used, it should be used sparingly). The responsibility of a discussion leader is not to give a formal presentation, but rather to introduce the topic and guide discussion. As such, you should generate discussion questions and thoughtful commentary for your peers. You will need to meet with Dr. Twedt at least 24 hours before class to discuss your lesson plan. When you are a discussion leader, you do not need to submit a homework analysis paper.

3. **Research Proposal Paper (25%):** You will write one 10-15 page research proposal related to one of the topics discussed during class. You will not actually conduct the proposed study. The final paper is due Wednesday, Dec. 10th by 12pm. Your research proposal will consist of an introduction (including a literature review), method, discussion, and reference section. The paper must be written in APA 6th edition style. Revisions and feedback are important and vital components to the writing process. As such, you will complete two preliminary stages of the research proposal to prepare you for writing the final paper:
 - a. **Topic Idea Presentation (5%):** You will prepare a brief (5 minute), informal presentation to pitch your research proposal idea during class. The goal of the presentation is to get feedback from your peers to prepare you for writing the research proposal paper.
 - b. **Introduction Draft (10%):** You will submit a draft of your introduction two weeks before the paper deadline. The introduction should include motivation for your research proposal, a literature review (at least 5 empirical articles), and your hypotheses. You should incorporate any feedback received on this draft into your final paper.

4. **Participation & Attendance (25%):** Classroom discussion is a vital component to the success of this course. As such, you are expected to come to class each day and to contribute during every class. Make your peers glad you showed up. Your homework submissions can provide a great starting point. You may have one class in which you are excused from discussion. You don't need to explain your reason, just tell me before class that you wish to be exempt that day.

Grades

20%	Homework
15%	Discussion Leader
40%	Research Paper
5%	Topic Idea
10%	Introduction Draft
25%	Final Paper
25%	Participation & Attendance

Policies

1. Attendance: You may have one unexcused absence. For each additional unexcused absence, your final grade will be lowered by 5 points. Excused absences will be granted only for extenuating circumstances (e.g., illness with doctor's note, family emergency). Vacation does not count as an excused absence.
2. Late assignments: It is your choice to decide how to prioritize your class assignments. If you choose to turn in an assignment late, you do not need to explain the reason to me, but you will receive a grade penalty. If the assignment is late, and for each additional 24 hours that your assignment is late, 5 points will be deducted from your assignment grade. For example, if the assignment is due at 3pm and you submit the assignment at 5pm, you lose 5 points. If you submit at 3pm the following day, you lose 10 points. Late assignments will not be accepted after 1 week past the due date. Late homework will never be accepted.
3. Honor Code: All assignments submitted must adhere to the honor code. All work must be completed independently, with the exception of discussion leader teams. All written work must be in your own words unless properly cited following APA 6th edition guidelines.

If you experience difficulties in this course, do not hesitate to consult with me. There are also other resources that can support you in your efforts to meet course requirements.

- **Academic Skills Center** (<http://asc.richmond.edu>, 289-8626 or 289-8956): Assists students in assessing their academic strengths and weaknesses; honing their academic skills through teaching effective test preparation, critical reading and thinking, information processing, concentration, and related techniques; working on specific subject areas (e.g., calculus, chemistry, accounting, etc.); and encouraging campus and community involvement.
- **Career Services** (<http://careerservices.richmond.edu> or 289-8547): Can assist you in exploring your interests and abilities, choosing a major, connecting with internships and learning experiences, investigating graduate and professional school options, and landing your first job. We encourage you to schedule an appointment with a career advisor during your first year.
- **Counseling and Psychological Services** (<http://caps.richmond.edu> or 289-8119): Assists students in meeting academic, personal, or emotional challenges. Services include assessment, short-term counseling and psychotherapy, crisis intervention, psychiatric consultation, and related services.
- **Speech Center** (<http://speech.richmond.edu> or 289-6409): Assists with preparation and practice in the pursuit of excellence in public expression. Recording, playback, coaching and critique sessions offered by teams of student consultants trained to assist in developing ideas, arranging key points for more effective organization, improving style and delivery, and handling multimedia aids for individual and group presentations.
- **Writing Center** (<http://writing.richmond.edu> or 289-8263): Assists writers at all levels of experience, across all majors. Students can schedule appointments with trained writing consultants who offer friendly critiques of written work.
- **Boatwright Library Research Librarians** (<http://library.richmond.edu/help/ask/> or 289-8876): Assist students with identifying and locating resources for class assignments, research papers and other course projects. Librarians also assist students with questions about evaluating and citing sources. Students can email, text or IM a librarian, or schedule a personal research appointment to meet with a librarian in the first floor Research and Collaborative Study area.

Class Schedule

Note that readings are subject to change

Date	Assignment Due	Reading
Week 1 – Traditional Cognitive Science		
8/26		No Readings – Introduction Class
8/28		Glenberg, Witt, & Metcalfe (2013) History of Cognitive Science Excerpt
Week 2 - Embodied Cognition Framework		
9/2	First homework due	Barsalou (2008)
9/4		Shapiro (2007) Wilson (2002)
Week 3 - Perception & Action		
9/9	First discussion leader	Held & Hein (1963) Proffitt & Linkenauger (2013)
9/11		Tucker & Ellis (1998) Schnall, Zadra, & Proffitt (2010)
Week 4 – Cognition & Action		
9/16		Casasanto (2011) Boroditsky (2000)
9/18		Jeannerod (1995) Danziger, Levav, & Avnaim-Pesso (2011)
Week 5 – Learning & Memory		
9/23	Glenberg Commentaries	Glenberg (1997) What memory is for Sparrow, Liu, & Wegner (2011)
9/25	Guest Lecture – Dr. Erin Ottmar	Embodied Games for Learning & SmallLab Ottmar, Landy, & Goldstone (2012)
Week 6 – The Body Changes Perception & Cognition		
9/30		Haggard & Jundi (2009) Van der Hoort, Guterstam, & Erhsson (2011)
10/2		Arrighi, Cartocci & Burr (2011) Adolph (2008)
Week 7 - The Extended Mind: Technology & Tools		
10/7		Clark (2003) <i>Natural-Born Cyborgs</i> TED talk: https://www.youtube.com/watch?v=ksasPjrYFTg
10/9		Borghi et al (2013)
Week 8 – Demo Day		
10/14	NO CLASS - FALL BREAK	FALL BREAK - NO READINGS
10/16		Demo Day – NO READINGS
Week 9 - Language & Abstract Thought		
10/21		Lakoff & Johnson (1980) Jostman, Lakens, & Schubert (2009)
10/23		Bergen & Feldman (2008) Beilock & Goldin-Meadow (2010)

Date	Assignment Due	Reading
Week 10 – Attitudes and Emotion		
10/28		Niedenthal et al. (2005)
10/30		Havas et al (2010) Carney, Cuddy, & Yap (2010)
Week 11 - Social Cognition & Perception		
11/4	Guest lecture – Blair Gross	Schnall et al. (2008) Beckes & Coan (2011)
11/6		Lee & Schwarz (2010) Caruso, van Boven, Chin, & Ward (2013)
Week 12 - Environmental Design		
11/11		<i>Addiction By Design</i>
11/13		Kaplan & Berman (2010) Kahn, Severson, & Ruckert (2010)
Week 13 – Behavioral Immune System		
11/18	Proposal Pitch	NO READINGS
11/20		Schaller & Park (2011) Schaller et al. (2010)
Week 14 - Thanksgiving Break		
11/25	Intro Draft Due	NO CLASS – THANKSGIVING BREAK
11/27		NO CLASS – THANKSGIVING BREAK
Week 15 – Wrap-Up		
12/2		TBD
12/4		TBD

FINAL PAPER DUE: Wednesday, Dec. 10th by 12pm