

Applying Cognitive Psychology To Education (Psych 374)

Tuesday & Thursday 1:15-3:00 pm
Olin 103, Fall 2015

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Office Hours: Monday, 11:00 am -12:00 pm, Wednesday 3:00 pm - 4:00 pm or by appointment

COURSE DESCRIPTION

In this seminar we will explore how findings from cognitive psychology can be used to improve education. The course will cover three main areas. First we will review research on learning and memory and the effectiveness of different student study strategies, such as highlighting, rereading, and self-quizzing. Then we will explore some metacognitive aspects of learning – what students know about their own thinking – and how motivation affects performance in school. Finally, we will discuss some current issues in education (do learning styles exist? are standardized tests good for education?) and examine research exploring these issues. Students will be asked to evaluate basic research and consider how such research can be applied to educational contexts.

Why should take this class?

I have three goals for this class. The first goal is that by the end of the term you will be able to read and think critically about the psychology literature. By reading journal articles) you will have many opportunities to evaluate experiments, interpret results, question conclusions, and design experiments of your own. The second goal is that you will learn how to apply findings to real world problems. The transition from a clean, controlled laboratory experiment to the messiness of a classroom can raise a number of additional questions, many of which the original researchers might not have considered. Finally, my last goal is that you will become an expert on your own learning. Not just in the classroom, but in every area of your life. Knowing how to quickly and efficiently learn new conceptual knowledge and skills (whether it is learning differential equations, strategies for a nerdy board game, or how to poach an egg) will help you for the rest of your life.

Format Overview

As a seminar course, class meetings will revolve around discussion. As such it is important for everyone to come to class and participate in every session. To participate, you will need to read the assignments carefully, think critically about the topic, and contribute to the discussion forum on Moodle. There will be two 5-7 page papers and one 10-12 page term paper.

Course Materials

There is no textbook for this course. The readings are a collection of articles and excerpts from other texts that will be posted on Moodle page.

EVALUATION

Discussion and Participation 20%

In seminars, learning occurs through discussions in class. Productive discussions require everyone to be present and ready to contribute. This means reading the material prior to class (and thinking about it), speaking up to offer your thoughts, ideas, and questions in class (even if you don't normally talk much), and **listening** to your peers. Class discussions are a chance for you to play with ideas, challenge your own thinking, and learn from each other.

Leading Discussion 20%

Each of you will be responsible for leading the discussion on **two** days, either individually or with a partner. This involves a close reading of the assigned materials, but may also involve doing additional reading or research. You should also consider the online postings made by your classmates and use those along with your own thoughts to generate a list of questions to stimulate discussion and critical evaluation of the material. The discussion leader(s) will be responsible for filling a majority of class time – this can include both small and large groups activities, writing exercises, demonstrations, case studies, activities, debates etc. You must meet with me at least 24 hours before you are due to lead the class with a written plan, including sample discussion questions and basic time allotments for each section of class. Email me the week before the discussion to set up an appointment.

Moodle Posts 15%

Another part of participating will be contributing to the online discussion forum on Moodle. These posts serve several purposes: (a) they discourage procrastination; (b) they encourage you to think deeply and form your own opinions about the reading; and (c) they will help the discussion leaders by highlighting big ideas in the reading. Posts can be questions, comments, thoughts, connections to other topics in class, or connections to the real world –anything that will contribute to a meaningful conversation. You should not summarize the reading; instead, comment on the methods, conclusions drawn, or suggest ideas for future experiments or applications. Occasionally either the discussion leader or I will provide a specific question to answer about the reading. Submit Moodle posts by **8:30 pm** the night before the discussion (to give the leaders a chance to review the posts).

Two Short Papers 20%

You'll write two short papers (5-7 double spaced pages). For the first paper you'll design and run a mini-experiment (you will be your one and only subject!) exploring one of the study strategies that we discuss in class. For the second paper you'll write a short letter to a student teaching them how to study effectively, and then explain why you made the recommendations that you did.

One Term Paper 25%

The study of how cognitive psychology can be used to enhance education has always been of interest to psychologists, yet there is a large disconnect between what psychologists prescribe and what students and teachers actually do in the classroom. For your term paper you'll have the opportunity to propose a new experiment that has the potential to help classroom learning. More info on all of the papers will be provided a few weeks into the term.

Letter grades will be assigned as follows:

A	93–100%	B	83–86%	C	73–76%	D	63–66%
A-	90–92%	B-	80–82%	C-	70–72%	D-	60–62%
B+	87–89%	C+	77–79%	D+	67–69%	F	0–60%

COURSE POLICIES

Grading

See the table above for what constitutes an A, B, etc. If taking the course under the S/Cr/NC (scrunch) option, you must earn a C- or better in order to receive the S grade.

Late Work and Missing Class

Moodle posts must be submitted on time. If they are not, then your classmates will not have the chance to read them before class. Late papers will be penalized 3% for each day that they are late. Contact me if you have questions.

It is hard to learn from a discussion if you aren't in class. Therefore, I expect (and hope!) to see you every class meeting. Life does happen, so you will be able to miss two classes over the semester without penalty. Any more than two and I will start deducting points from your participation grade.

Classroom Etiquette

To ensure an optimal learning environment, it is important to treat each other with mutual respect and honesty. I will work diligently to prepare for class, to respect everyone's contributions, to grade work in a fair and unbiased manner, and to return it to you in a timely fashion. In return, I expect that you will treat your classmates and me with respect. This includes showing up on time, turning off or silencing cell phones, and listening carefully to other people's ideas. Be respectful of the diverse opinions and values of your classmates.

Since this course is focused on active discussion, please leave your laptops and tablets in your bag or in your room. Although these tools can be great for taking notes in class, they create physical barriers between discussion participants, and make it much easier to distract yourself (and others) in class.

Academic Honesty

Please follow Carleton's academic integrity policy (which you can find at <http://apps.carleton.edu/campus/doc/integrity/>). In short, do not cheat, plagiarize, or steal. If you have *any* questions please contact me.

Help with Class

Please contact me if you have questions or concerns about class, or if you just want to talk about psychology. Office hours are a great time to come in, or we can set up a time via email.

The Writing Center, located in 420 4th Libe, has peer writing consultants who can work with you during any stage of the writing process (brainstorming to final proofreading). Hours and more information can be found on the [writing center website](#). You can reserve specific times for conferences in 420 4th Libe by using their [online appointment system](#). Walk-ins are welcome, though writers with appointments have priority.

Carleton College is committed to providing reasonable accommodations to students with disabilities. Students seeking accommodations should contact the Coordinator of Disability Services, Andy Christensen, at 222-4464 or anchrist@carleton.edu, to begin the process. Carleton faculty are strongly encouraged to wait for official notification of accommodations before modifying course requirements for students.

COURSE SCHEDULE

A tentative course schedule is listed below, although it may change. Any changes will be announced in class and updated on Moodle. The due dates for the papers, however, are unlikely to change.

Week	Date	Topic	Due Today
1	Sep 15	Course Introduction	
	Sep 17	Bad Study Habits	
2	Sep 22	Retrieval Practice	
	Sep 24	Spacing and Interleaving	
3	Sep 29	Mnemonics	
	Oct 1	Elaborative Interrogation & Self-Explanation	
4	Oct 6	Desirable Difficulties	Paper 1
	Oct 8	Problem Solving & Transfer	
5	Oct 13	Metacognition	
	Oct 15	Self-Regulated Learning	
6	Oct 20	Mind-wandering	
	Oct 22	Mindsets: Motivation	
7	Oct 27	Topic: TBD / Catch Up	Paper 2
	Oct 29	Multiple Intelligences...or not	
8	Nov 3	Learning Styles	Term Paper Proposal
	Nov 5	Standardized Testing	
9	Nov 10	Multi-tasking & Technology	
	Nov 12	Brain Training Programs	
10	Nov 17	Wrap Up	
	Nov 23		Term Paper

The readings for each day are displayed on the Moodle course page.