

PSYCHOLOGY 176: CREATIVITY

Spring 2014

Tuesdays and Thursdays, 11:00-12:20, Pepper Canyon Hall 121

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Hours: By appointment

COURSE OVERVIEW

Creativity involves the generation of an idea that is both novel and valued, and it is critical to aspects of our lives ranging from mundane (e.g., solving personal and interpersonal problems) to profound (creating works of art, making scientific discoveries). Everyone is creative to some extent, but there is usually room for (much) improvement. We will discuss how to increase creative behavior in individuals, groups, and organizations, highlighting aspects that are common to all three.

REQUIRED READING, WATCHING, AND LISTENING

There is a course reader available from the bookstore. In addition, there are three required books, also available at the bookstore:

Johnson, S. (2010). *Where Good Ideas Come From: The Natural History of Innovation*. New York: Riverhead Books.

Watson, J. D. (1968). *The Double Helix: A Personal Account of the Discovery of the Structure of DNA*. Atheneum.

Surowiecki, J. (2004). *The Wisdom of Crowds: Why the Many are Smarter than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations*. New York: Doubleday.

One required movie to watch outside of class (available at UCSD library, stream on amazon.com, youtube.com):
"12 Angry Men" (1957)

Two required podcasts to listen to outside of class:

This American Life: "NUMMI" (2010)

<http://www.thisamericanlife.org/radio-archives/episode/403/nummi>

This American Life: "When Patents Attack...Part Two!" (2013)

<http://www.thisamericanlife.org/radio-archives/episode/496/when-patents-attack-part-two>

TOPICS AND ASSIGNED READING/WATCHING/LISTENING (to be done before each class!):

Week 1: Overview and Introduction

Part 1 (Apr 1): Overview of course

Part 2 (Apr 3): Introduction to creativity and its relation to "Good Thinking"

1. Gladwell, M. (2008). In the air. *The New Yorker*.
2. *Where Good Ideas Come From*: The adjacent possible (pp. 25-42).

(Recommended, but not required, is the introductory chapter from "Where good ideas come from": Reef, city, web [pp. 1-22].)

Week 2: Case study and the importance of expertise

Part 1 (Apr 8): Discussion of *The Double Helix*.

3. *The Double Helix*. (The whole book...expect 5-6 hrs of reading...don't get bogged down in biochemistry details)

Questions to consider:

- Do you consider the discovery of the structure of DNA to be an act of creativity? Why or why not?
- Would either Watson or Crick have made the discovery on their own? Why or why not?
- Linus Pauling and Rosalind Franklin were in a position to discover the structure of DNA, but didn't. Why not?
- How long did it take Watson and Crick to make their discovery? Was their first attempt at modeling the structure successful? What was their boss's response?
- What motivated Watson and Crick?
- To what extent was Watson's and Crick's lack of expertise in chemistry an advantage vs. a disadvantage?
- To what extent did creative vs. analytical thinking lead to the discovery?

Part 2 (Apr 10): The role of depth of knowledge

4. Weisberg, R. W. (2006). Chapter 5: Case studies of creativity. *Creativity: Understanding innovation in problem solving, science, invention and the arts* (pp. 209-223 only). Hoboken, NJ: Wiley.

Week 3: Breadth of knowledge and accessing knowledge

Part 1 (Apr 15): The role of breadth of knowledge

5. Weisberg, R. W. (2006). Chapter 5: Case studies of creativity. *Creativity: Understanding innovation in problem solving, science, invention and the arts* (pp. 223-247; 254-281). Hoboken, NJ: Wiley.
6. *Where Good Ideas Come From: Exaptation* (pp. 151-174).

Part 2 (Apr 17): Accessing knowledge: Some simple strategies; problem asking; abstraction

7. Getzels, J. W. (1982). The problem of the problem. In R. M. Hogarth (Ed.), *Question framing and response consistency* (pp. 37-49). San Francisco: Jossey-Bass.

Week 4: Accessing knowledge and decision making

Part 1 (Apr 22): Accessing knowledge: Insight and incubation

8. *Where Good Ideas Come From: Liquid networks* (pp. 45-65).
9. *Where Good Ideas Come From: The slow hunch* (pp. 69-95).
10. *Where Good Ideas Come From: Serendipity* (pp. 99-128).

Part 2 (Apr 24): Decision making and creativity

11. Brittain, J., & Sitkin, S. (2012). *Speed Ventures*. (Just 2 pages.)
 - *Come to class prepared to justify your decision as to whether the team should race!*

Week 5: Decision making and midterm

Part 1 (Apr 29): More decision making and creativity

12. Larrick, R. P. (2009). Broaden the decision frame to make effective decisions. In E. Locke (ed.), *Handbook of principles of organizational behavior* (pp. 461-480).
13. Gladwell, M. (March 10, 2003). Connecting the dots. *The New Yorker* (pp. 83-88).

Part 2 (May 1): *Midterm exam*

Week 6: Groups, independence, and social influence

Part 1 (May 6): Discuss *12 Angry Men*

Questions to consider:

- Did the jury strive to reach early consensus?
- Any evidence of peer pressure to conform?
- What was Juror #8's rationale for discussing the case in the beginning?
- Did the group know more collectively than they knew individually?
- Did the group start off with any assumptions that proved wrong?

Part 2 (May 8): Groups, independence, and social influence

14. *The Wisdom of Crowds*: Introduction. (pp. xi-xxi).
15. *The Wisdom of Crowds*: The wisdom of crowds (pp. 3-22).

Week 7: Groupthink, cohesion, and brainstorming

Part 1 (May 13): Groupthink and group cohesion

16. *The Wisdom of Crowds*: The difference difference makes: Waggle dances, the Bay of Pigs, and the value of diversity (pp. 23-39).
17. *The Wisdom of Crowds*: Committees, juries, and teams: The *Columbia* disaster and how small groups can be made to work (pp. 173-191).
18. Peters, T. (1994). Ingersoll-Rand: Barbecues, drag tests, medieval warriors, and slowing down to speed things up. *Liberation Management: Necessary Disorganization for the Nanosecond Nineties* (pp. 72-80). Danvers: Ballantine Books.

Part 2 (May 15): Brainstorming

19. Nijstad, B. A., Diehl, M., & Stroebe, W. (2003). Cognitive stimulation and interference in idea generating groups. In P. B. Paulus & B. A. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 137-144). New York: Oxford University Press.

Week 8: Group dissent and creativity in organizations

Part 1 (May 20): Dissent, error, and hidden profiles

20. Nemeth, C. J., & Nemeth-Brown, B. (2003). Better than individuals? The potential benefits of dissent and diversity. In P. B. Paulus & B. A. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 63-84). New York: Oxford University Press.
21. *Where Good Ideas Come From: Error* (pp. 132-148).

Part 2 (May 22): Creativity inside organizations

22. Gladwell, M. (May 27, 2002). The visionary. *The New Yorker* (pp. 112-116).
 23. Catmull, E. (2008). How Pixar fosters collective creativity. *Harvard Business Review*, September (pp. 1-11).
- *Come to class prepared to discuss both readings.*

Week 9: Intrinsic motivation, decentralization, and culture

Part 1 (May 27): Intrinsic motivation and creativity

24. Amabile, T. M. (1999). How to kill creativity. *Harvard Business Review*, September-October, pp. 77-87.
25. Hackman, J. R., & Oldham, G. (1980). Motivation through the design of work. *Work Redesign* (pp. 71-83). Upper Saddle River: Prentice Hall.

Part 2 (May 29): Decentralization and culture

26. Collins, J., & Porras, J. (1997). Try a lot of stuff and keep what works. *Built to Last: Successful Habits of Visionary Companies* (pp. 140-168). New York: Harper Collins.
27. Collins, J., & Porras, J. (1997). Cult-like cultures. *Built To Last: Successful Habits of Visionary Companies* (pp. 115-139). New York: Harper Collins.
28. *The Wisdom of Crowds: The company: Meet the new boss, same as the old boss?* (pp. 192-223).

Podcast: *This American Life*: "NUMMI" (2010)

<http://www.thisamericanlife.org/radio-archives/episode/403/nummi>

Week 10: Crowdsourcing, summary, and group project presentations

Part 1 (Jun 3): Crowdsourcing and summary

29. *Where Good Ideas Come From: The fourth quadrant* (pp. 213-246).
30. Breen, B. (2002). Lily's R&D prescription. *Fast Company*.

Podcast: *This American Life*: "When Patents Attack...Part Two!" (2013)

<http://www.thisamericanlife.org/radio-archives/episode/496/when-patents-attack-part-two>

Part 2 (Jun 5): Group project presentations (and papers due)

COURSE REQUIREMENTS

New behavior reports

Four times during the quarter you will turn in a short report of a new behavior that you have engaged in since the class started. *The behavior must be something that you would not have engaged in had you not been in the class.* Your first new behavior report (NBR1) will describe a change in your routine (e.g., a different route to school, studying in the morning rather than evening), NBR2 will describe a change in your environment (e.g., rearranged furniture, a tidied study area), NBR3 will describe learning something new (e.g., culture, cuisine, music, viewpoint), and NBR4 will describe a discussion of ideas you had with someone different from you (e.g., different culture, different political views). In each case, the more different the new experience, the better (but use common sense...). The goal is to stimulate new thoughts. Explain what you did and what effect, if any, it had on your thoughts or behavior. These reports should not exceed 150 words. They will not be graded per se, but content will be monitored. A hard copy must be turned in at the beginning of class on Apr 10, Apr 22, May 8, and May 20 (see also course calendar). Late reports will not be accepted. Each report must address a different new behavior.

In-class short essays

Three times during the quarter you will answer a short essay question in class. The topic will be either material covered previously or reading that was to be done for that meeting. We will then discuss the question in class. The goal is to motivate you to be prepared for each meeting, make sure you understand important points, and to provide material for discussion. Content will be monitored, but not graded. These essays cannot be turned in late; we will do these exercises at the beginning of class on Apr 17, May 15, and May 27 (see also course calendar). You will need to have pen and paper with you.

Group paper and presentation

You will be randomly divided up into groups of 5 or 6 members and come up with a creativity project to write up and present to the class. The goal is for you to seek out and solve a problem, generally speaking. You might come up with a solution to a social problem, or describe a new product or service. What is important is that your solution/product/service is creative – both novel and practical. The idea is to put to use what you have learned from the class in order to come up with something creative. Relatedly, you should also show what you have learned in this course by describing your group (and perhaps individual) process. I would also like to hear the origin of your creative idea – e.g., was it a combination of two old ideas, or the application of an old idea in a new way, or...? I want to hear as much as you can tell me about how you had the idea. In short, describe your creative idea and analyze your group's creative process. These 1,500-word papers and presentations will be due week 10.

Midterm exam

The midterm exam is scheduled for Thursday, May 1, in class. The exam will be multiple choice.

Final exam

The final exam is scheduled for Tuesday, June 10, 11:30am-2:30pm. The exam will be multiple choice and cover the entire course.

GROUP MEMBER EVALUATION

At the end of the quarter, groups will be asked to evaluate the contributions of their members on the group paper and presentation. This feedback will be considered when assigning course grades, primarily to adjust for any “free-riders”.

GRADING

Your grade will be evaluated as follows:

New behavior reports: 5%

Short in-class essays: 5%

Midterm Exam: 30%

Group paper: 25%

Group member evaluation: 5%

Final Exam: 30%

EXTRA CREDIT

You can earn extra credit by participating in UCSD psychology experiments advertised on the Web (go to ucsd.sona-systems.com). You can earn credit for up to 3 hours of participation. Failing to show up for an experiment you signed up for will cost you credit. Your final grade must be at least a C- to receive the credit. Completing the extra credit gives you a very good chance of moving up 1/3 of a grade (e.g., from a B+ to an A-).

If you want extra credit, but do not wish to participate in psychology experiments, you can write a 5-8 page research paper. The paper will be due at the beginning of class on June 3. No late papers will be accepted. You must consult with Professor McKenzie about the topic before beginning the paper.

ACADEMIC INTEGRITY

Integrity of scholarship is essential for an academic community. As members of UCSD, we pledge ourselves to uphold the highest ethical standards. The University expects that both faculty and students will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind. The complete UCSD Policy on Integrity of Scholarship can be viewed at:

http://students.ucsd.edu/_files/Academic-Integrity/Policy-on-Integrity-of-Scholarship_eff-fall2009.pdf

STUDENTS WITH DISABILITIES

A student who has a disability or special need and requires an accommodation in order to have equal access to the classroom must register with the Office for Students with Disabilities (OSD). The OSD will determine what

accommodations may be made and provide the necessary documentation to present to the faculty member. The student must present the OSD letter of certification and OSD accommodation recommendation to the appropriate faculty member in order to initiate the request for accommodation in classes, examinations, or other academic program activities. No accommodations can be implemented retroactively. Please visit the OSD website disabilities.ucsd.edu for further information or contact OSD at (858) 534-4382 or osd@ucsd.edu.

COURSE CALENDAR

	<u>Reading</u>	<u>Watch/Listen</u>	<u>Due</u>
Week 1			
Tuesday (Apr 1)			
Thursday (Apr 3)	1, 2		
Week 2			
Tuesday (Apr 8)	3		Prepared to discuss book
Thursday (Apr 10)	4		New behavior report #1
Week 3			
Tuesday (Apr 15)	5, 6		
Thursday (Apr 17)	7		In-class short essay #1
Week 4			
Tuesday (Apr 22)	8-10		New behavior report #2
Thursday (Apr 24)	11		Prepared to discuss decision
Week 5			
Tuesday (Apr 29)	12, 13		
Thursday (May 1)			In-class midterm exam
Week 6			
Tuesday (May 6)		<i>12 Angry Men</i>	Prepared to discuss movie
Thursday (May 8)	14, 15		New behavior report #3
Week 7			
Tuesday (May 13)	16-18		
Thursday (May 15)	19		In-class short essay #2
Week 8			
Tuesday (May 20)	20, 21		New behavior report #4
Thursday (May 22)	22, 23		Prepared to discuss readings
Week 9			
Tuesday (May 27)	24, 25		In-class short essay #3
Thursday (May 29)	26-28	NUMMI podcast	
Week 10			
Tuesday (Jun 3)	29, 30	Patents podcast	
Thursday (Jun 5)			Group project paper and presentation
Finals week			
Tuesday (June 10, 11:30am-2:30pm)			In-class final exam