

FALL 2012  
15:295:580 Section 91 Online  
Psychology of Learning

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**Goals**

The purpose of this course is to introduce a psychological perspective to learning and instruction in classroom contexts. We will examine how people learn and how psychological principles of learning are applied to instruction. Over the course of the semester we will explore theories of learning that have been developed in the education and psychological literatures over time to explain how students learn and how teachers can teach effectively.

This course is designed to help you acquire the following knowledge and skills related to learning and instruction:

**KNOWLEDGE:**

- of empirical results on learning
- of theories of learning
- of effective instructional practices.

**SKILLS:**

- diagnosing learning and instructional problems
- analyzing instructional situations
- predicting instructional outcomes
- designing instruction based on theory and research

Here is how each of these goals will be assessed:

Goal	Assessment method
Knowledge of empirical results on learning, or theories of learning, and of effective instructional practices.	Your mastery of these areas of knowledge will be assessed through the content of your contributions to the discussions of readings, through your contributions to the instructional problem discussion threads, and through your weekly assignments.
Skills of diagnosing learning and instructional problems, analyzing instructional situations, predicting instructional outcomes, and designing instruction based on theory and research.	Your mastery of these skills will be assessed through your contributions to the instructional problem discussion threads, through your weekly assignments (some questions on weekly assignments will ask you to put these skills into practice), and through the instructional analysis problem.

## Features of an Online Course

An online course differs from a traditional face-to-face course in a number of ways. In particular, for this class:

- A. There is a strong emphasis on student-driven learning. The instructor role is of overall facilitator and coordinator.
- B. You will be able to work at your convenience. But it is important to be seriously engaged at least five days during each and every week. This is quite different from a traditional course, in which it is perfectly fine to prepare the day before, go to class the day of class, and then not think about the course the other five days a week. It is *especially* important during a five-week online course that you work consistently each day.
- C. We focus on asynchronous rather than synchronous activities. This course will--officially--be all asynchronous, except for our one (completely optional) face-to-face meeting.
- D. Students do more of the integrative work than in a face-to-face class. This is likely to support long-term memory development.

## Important Notes

1. Some requirements and procedures may be adjusted as we find out how things are working.
2. Be sure to email me or talk to me about problems.

## Weekly Schedule

The asynchronous discussions require an extended time to reflect on what we have read. Here is a typical schedule:

**Each weekly cycle begins on Tuesday.**

**Before Tuesday, complete the readings for that week.**

**Also before Tuesday (specifically, by 10 pm on the Monday night before), email me one question about each of readings that you are interested in discussing. (I will aim to include some of these questions in the discussion questions.)**

**Tuesday through the following Monday:** Participate in both categories of discussions: discussions of readings and discussions of instructional problems. It is important to start contributing promptly each week on these problems. I expect everyone to contribute at least once on Tuesday, for example, as well as on at least three of the first four days of the weekly cycle (Monday through Thursday).

I will often pose follow-up questions on Friday or Saturday, so it is also important that you are participating in the discussion threads in the last two days of the cycle (Sundays and Mondays) as well as earlier in the week.

**Sunday:** Your weekly individual assignment based on the readings is due on the last day of the cycle. This gives you a chance to reflect on ideas that your fellow students and I bring out in the discussion before you write your responses to the assignment.

To reiterate, it is important that you get onto the discussion threads and contribute on at least 5 different days spread out throughout the weekly cycle.

## Schedule

Schematically, the weekly schedule looks like this:

Su	M	T	W	Th	F	Sa
		Discussions for <u>current week</u> begin on Monday morning.	Continue contributing to _____ discussions.			
		Begin reading the <u>next week's</u> readings.	Continue the <u>next week's</u> readings.	Continue the <u>next week's</u> readings.	Continue the <u>next week's</u> readings.	Continue the <u>next week's</u> readings.
Continue contributing to _____ discussions.  Continue the <u>next week's</u> readings.	Continue contributing to _____ discussions.  Complete the <u>next week's</u> readings.  Weekly assignment for <u>current week's</u> readings is due by midnight.  Submit one possible discussion question on each of the next week's readings.	The cycle repeats in the next week.				

In this chart, “discussions” includes both (1) the main discussion threads about the papers we have read and (2) the discussion threads for the instructional problems. As you will see when you get online, these are in different sections of the week’s web pages.

In addition to assignments within the weekly cycle, you will have four additional due dates (see also the Weekly Schedule):

Monday, October 29. Submit a one-paragraph summary of proposal for class paper.

Monday, November 5. Submit the lesson or unit plan that you propose to analyze in the instructional analysis.

Wednesday, December 12. Submit Instructional Analysis paper.

Wednesday, December 19. Submit class paper.

\*\* Note that beginning with Week 12, the schedule shifts back three days due to Thanksgiving, and the week will start on Friday rather than on Tuesday.

### Schedule by Week

Week	Specific Topic	READINGS and JOURNALS due before this week begins (before Tues)		Discussions starting on Tuesday	Other assignments
Week 1. 9/4 to 9/10	Introduction			Problems	Post self-introductions (instructions via email)
Week 2 9/11 to 9/17	Theories of Learning I	Chinn (2011a) Chinn (2011b) Chinn on Sweller	Pool et al. (2003) Rourke et al. (2009)	Readings Problems	
Week 3 9/18 to 9/24	Prior conceptions and learning	Chinn (2011c) Chinn & Samara-pungavan (2001)	Watson & Konicsek (1992) Swann (1992) Swann (1997)	Readings Problems	
Week 4 9/25 to 10/1	Self-regulated learning	Chinn (2011d) Zimmerman (1998)	Wineburg (1991)	Readings Problems	
Week 5 10/2 to 10/8	Goals and assessment	Chinn (2011e) Wilson & Sloane (2000)	NRC (2005) Furtak & Ruiz-Primo (2008)	Readings Problems	
Week 6 10/9 to 10/15	Classroom management; Motivation I	Garrett & Chinn (2011) Dweck (2010)	Mueller & Dweck (1998) Yeager & Dweck (in press)	Readings Problems	
Week 7 10/16 to 10/22	Motivation II	Chinn (2011f) Raphael et al. (2008)	Blumenfeld et al. (2006)	Readings Problems	
Week 8 10/23 to 10/29	Motivation III; Transfer I	Patrick et al. (2001) Schunk (1991)	Nokes-Malach (2012).	Readings Problems	Oct. 29: Submit one-paragraph summary of proposal for class paper.
Week 9 10/30 to 11/5	Transfer II	Bransford et al. (1999) Chinn on transfer.	Schwartz et al. (2012)	Readings Problems	Nov. 5: Submit lesson or unit plan that you propose to analyze in the instructional analysis.
Week 10 11/6 to 11/12	Transfer III	Day & Goldstone (2012)	CTGV (1992) TBA	Readings Problems	
Week 11 11/13 to 11/19	Constructivism	Rogoff et al. (2003) Palincsar & Herrenkohl (1999)	Chinn (2011b)	Readings Problems	
Week 12 11/20 to 11/29**	Teaching strategies	Chinn (2011g) Langer (2001)	Stahl (1999)	Readings Problems	
Week 13 11/30 to 12/6	Collaborative learning	Chinn (2011h) King (2002)	Nussbaum & Edwards (2011)	Readings Problems	
Week 14 12/7 to 12/13	Other instructional issues	Czuchry (1995) Waggoner et al. (1995)	Bain (2005) Stigler et al. (1998)	Readings Problems	Dec. 12: Instructional analysis is due.
Week 15: 12/14-12/21		No readings or discussion; this is a week to complete your class paper.			Dec. 19: Class paper is due.

\*\* Note that beginning with Week 12, the schedule shifts back three days due to Thanksgiving, and the week will start on Friday rather than on Tuesday.

## Evaluation

1. Discussions of readings	25%
2. Discussions of collaborative problems	20%
2. Questions about articles	5%
4. Weekly assignments	20%
5. Instructional analysis	10%
6. Class paper	20%

### 1. Discussions of readings

Each week, you will discuss the readings within eCollege discussion threads. We will focus on:

- Clarifying understanding of the readings. For research articles, this includes the research question, what the method was, what the results were, and whether the authors' conclusions are appropriate.
- Discussing applications and implications of the ideas you have read about.

The minimum requirement for contributing to the discussion is 9 or more substantive entries (including at least 4 responses) to the discussion threads. Your contributions to the discussions plus the collaborative problems (explained below) should collectively indicate that you have read all the readings. I also expect that you will not simply stop at 9 contributions each week. I hope that your goal will be to participate in meaningful, interesting discussions.

Evaluation will be based on the number of contributions as well as the quality of your contributions.

Discussions are places to explore and entertain ideas. There should be no presumption that discussants are firmly committed to positions that they are presenting arguments for.

Discussion contributions should adhere to normal rules of English usage, etc.

### 2. Discussions of instructional problems

Each week's discussions will also include discussions focused on practical instructional problems that require application of the ideas in the readings. You will work on Collaborative Problems within eCollege discussion threads. You should make at least 4 contributions to the discussions of instructional problems each week (some weeks will require more), and these contributions should begin right away on Monday. As with the discussions of readings, I expect that you will not just be counting contributions but rather be participating meaningfully in the discussion.

Evaluation will be based on the number of contributions as well as the quality of your contributions.

### 3. Questions

Each week, by Monday at 10 p.m., submit discussion questions about the readings. The description of activities for each week will give you more specific instructions about how many questions to write and about which readings. These should be questions raised by the readings that you would like to discuss.

The URL of the site at which you submit the form is:

<http://spreadsheets.google.com/viewform?hl=en&formkey=dFRxb0ZIRmMtR1FJdXNuSXd3QmpMZVE6MQ>

If for some reason this form does not work, please email me your questions, and alert me that you couldn't get the form to work.

#### 4. Weekly Assignment

Each week, you will submit a written assignment based on the week's readings. You will submit the assignment by Friday of each week (except for Week 1; see the calendar). Each week's assignment will be posted on eCollege. You will turn the assignment in on a Google doc that I will make available to you. These need not be polished in terms of refined prose, but they should show that you have reflected substantively on the readings and that you have understood them.

#### 5. Instructional Analysis

The instructional analysis paper is a paper in which you provide a detailed critique of a lesson or unit plan using ideas learned in the course. I will provide more information about this assignment midway through the semester. You may choose a lesson or unit plan that you are familiar with, or one that you find online or some other source. Be sure that the lesson is detailed enough to afford a substantive critique.

You should select a lesson that is relevant to a professional setting in which you expect to be using these ideas in the future. For example:

- If you are an elementary school teacher, choose an elementary-level lesson or unit.
- If you planning to become a nutritionist choose a lesson or unit that focuses on helping clients or patients learn about an important area of nutrition.
- If you are planning to become an educational researcher, choose a lesson or unit that has been developed by other educational researchers.

After choosing your lesson, you will then apply the ideas you have learned in the course (1) to explain what is strong and what is weak about the lesson or unit, using the ideas you have learned in the course, and (2) to suggest how the lesson or unit might be improved. I will provide a template and a rubric later in the course to help you identify all the topics that should be addressed in your analysis. Roughly, you will apply the ideas from the main topics covered in the course: the lessons goals and assessments, how well the instruction fits the goals and assessments, how well the lesson takes prior conceptions and strategic knowledge into account, how well it does at providing strategy instruction where needed, its motivational features, its features designed to promote understanding and transfer, and its use of effective approaches to collaborative learning.

You will submit your paper via email attachment. Include your analysis as one attachment and the unit or lesson plan you are critiquing as a second attachment (or you can include a URL for the unit or lesson plan if you are analyzing something that is found online). Name the file with your own paper as follows: 580 INSTRUCTIONAL ANALYSIS Yourlastname Yourfirstname. For example: 580 INSTRUCTIONAL ANALYSIS Chinn Clark

#### 5. Class Paper

The class paper is to be 12 to 15 pages in length (double spaced, Times New Roman 12 point font or Arial 11 point font). There are a variety of formats from which to choose, so that you can find a topic that is relevant to your interests and of value to your future work. The paper will give you the opportunity to explore an aspect of the course in greater detail or extend a topic to another area. You may also pursue other areas not specifically addressed in-depth in the course (e.g. gender and ethnic differences, portfolio-based assessments, etc.). I am also open to other suggestions, so let me know if you have another idea. The paper is due on December 19.

Please send the paper to me via email attachment. Name the file as follows: 580 CLASS PAPER Yourlastname Yourfirstname. For example: 580 CLASS PAPER Chinn Clark.

Here are the options for your paper:

a) Research/Theory Review Paper. This is a paper that reviews research on a specific topic related to the course. The paper explores a particular issue in greater depth. The paper also references additional articles and resources on the topic that you have selected. The paper summarizes and introduces the concept under study, highlights the main issues in the field, presents contrasting points of view and debates in the field. In the paper's conclusion, you could apply relevant issues to a real world context, extend the topic to a new setting, or recommend future directions or avenues for research.

b) Design of an instructional unit. This is a paper that applies what you have learned to develop a unit plan for teaching a topic. The paper applies what you have learned to design a unit (a series of lessons) that teaches a set of topics. Part of the paper describes the lessons. You might include an example of a page of materials that you will use and that is grounded in principles of learning and teaching covered in the course. The other part of the paper describes in detail the principles of learning and instruction that have guided the development of the unit. You should explain specifically how the principles of learning and instruction apply to your particular unit. Your coverage of principles of teaching and learning should be broad-ranging, describing how you have taken ideas from throughout the course to develop a unit that you believe will be effective.

Note that your unit doesn't have to be on a traditional educational topic. If you are preparing for a career in counseling, you might prepare a series of workshops on coping strategies for clients, for example. If you expect to be involved with teacher development work, you might design a series of workshops for teachers on a given topic such as effective inclusion strategies. You might develop a series of workshops to help first-year students how to be successful in the university.

c) Design of a single lesson (or perhaps two lessons). This is similar to the design of a unit, except that you will focus in more detail on the design on one or two lessons (or, alternatively, a one or two hour workshop). Part of the paper describes the lesson or lesson in detail, presenting examples of handouts or any other material. The lesson should be designed so that it is based on principles of learning and instruction you have learned in the course. The other part of the paper describes in detail the principles of learning and instruction that have guided the development of the lesson or lessons. You should explain specifically how the principles of learning and instruction apply to your particular lessons. Your coverage of principles of teaching and learning should be broad-ranging, describing how you have taken ideas from throughout the course to develop lessons that you believe will be effective.

As with the design of the instructional unit, your lesson need not be on a traditional educational topic. You might design a workshop for students on how to study more effectively or how to make career decisions. Or you might design a workshop for teachers on how to teach something more effectively.

d) Evaluation of instruction. This is a paper that presents an analysis and/or evaluation of an existing instructional lesson, pair of lessons, unit, curriculum, software, or the like. Part of the paper describes the instruction you are evaluating. The other part presents the evaluation, with the analysis grounded in principles of learning and instruction. If problems are found, then the paper should include suggestions for improvement. The critique and recommendations for improvement should be broad ranging, taking ideas from throughout the course to formulate your evaluation.

Note: It is not acceptable to use a paper that you have used for another course. However, it is acceptable to do a paper on a similar topic (as long as you take a new perspective and the writing is all new). Please email me if you have questions about this issue.

### Paper Guidelines

Here are some guidelines as you write the instructional analysis and the class paper:

- Conciseness – try to write in a simple, clear, and non-repetitive way.
- Completeness and depth - present the necessary amount of detail to support your points. Write as though your audience is not an expert on your topic and in a way that demonstrates depth of analysis of the topic. Bring in psychological evidence and justify your view using psychology, not rumors or anecdotes.
- Independent, balanced judgment – go beyond the information presented by others. Be critical, seeing both strengths and weaknesses and support opinions with your own reasons.
- Attention to professional style and ethics. Quotes must have appropriate references. When paraphrasing you still **MUST** acknowledge the original work. **Plagiarism will be addressed in accordance with the University policy.** Here's a thinking tool to help you decide whether you have quoted inappropriately. Imagine that Google had every word ever written on its servers (all published and unpublished writing, from all of history through this moment). Would a Google search on any extended phrase or clause in your document yield a hit? If so, there is likely to be a problem.
- Critical reading – are you evaluating strengths/weaknesses of the material you are reading? Are you being objective in your discussions of the material?
- If you choose options (b) or (c), your paper should show clear evidence that you are applying ideas from throughout the course.
- On lateness – if you need an extension of time on an assignment please contact me well before the date when the assignment is due.
- You can use the following format for references to my unpublished work:  
Chinn, C. A. (2011). *Title of chapter*. Unpublished manuscript.

### Netiquette

This is drawn from Palloff, R. M., & Pratt, K. (1999). *Building learning communities in cyberspace*. San Francisco: Jossey-Bass, p. 101.

- a. Check the discussion frequently and respond appropriately and on the subject.
- b. Focus on one subject per message and use pertinent, informative, and not-too-long subject titles
- c. Capitalize words only to highlight a point or for titles. Capitalizing otherwise is generally viewed as SHOUTING.
- d. Be professional and careful with your online interaction
- e. Cite all quotes, references, and sources.
- f. It is inappropriate to forward someone else's message(s) without their permission.
- g. Use humor carefully. The absence of face-to-face cues can cause humor to be misinterpreted as criticism or flaming (angry, antagonistic criticism). Feel free to use emoticons such as :- ) or ;- ) to let others know that you're being humorous.

## Norms

This is an example of norms for participating in constructive controversies. Smith, K., Johnson, D. W., & Johnson, R. T. (1981). Can conflict be constructive? Controversy versus concurrence seeking in learning groups. *Journal of Educational Psychology, 73*, 651-663.

1. I am critical of ideas, not people.
2. I remember that we are all in this together.
3. I encourage everyone to participate.
4. I listen to everyone's ideas, even if I do not agree with them.
5. I restate what someone has said if it is not clear.
6. I try to understand both sides of the issue.
7. I first bring out all the ideas, then I put them together.

Although obviously written for younger students, these norms work well for online discussions among adults, too. At the same time, however, let's add these norms:

Critical to the advance of knowledge are:

- a. Criticizing ideas, and having our ideas criticized by others.
- b. Taking up criticism.
- c. Exploring ideas without fully believing them, or without believing them at all.

## Reading List

### Four important notes:

**1. Substitutions may be made for readings on this list.** If substitutions are made, they will be announced before that week's readings begin. On the day when readings for a week begin, please double check course announcements to be sure that there have been no substitutions. Please check with me if you decide to read substantially ahead.

**2. Shorter readings may be added to some weeks to address issues that arise in our discussions.**

**3. TBA (to be announced) denotes that a reading will be added to the list.**

**4. In some weeks, there are additional online sources posted on eCollege. Each week, be sure to check what is listed under the main activities for that week.**

### Week 1. Introductory activities.

Because you have not yet had time to complete any readings, we will spend the first week on a variety of introductory activities. Please note that discussion threads will be active this week!

## **Week 2. Theories of Learning: Behaviorism, social learning theory, information processing theory**

Chinn (2011a). Behaviorism and social learning theory

Chinn (2011b). Theories of Learning: Information processing theory (pages 23-48).

Pool, M.M., Koolstra, C.M. & van der Voort, T. H. A. (2003). The impact of background radio and television on high school students' homework performance. *Journal of Communication, 53*, 74-87.

Rourke, A., & Sweller, J. (2009). The worked-example effect using ill-defined problems: Learning to recognise designers' styles. *Learning and Instruction, 19*, 185-199.

Chinn summary and elaboration of: Sweller, J. & Chandler, P. (1994). Why some material is difficult to learn. *Cognition and Instruction, 12*, 185-223.

## **Week 3 Readings. Prior Conceptions and Learning**

Chinn (2011c). Effects of prior conceptions on learning.

Chinn, C. A., & Samarapungavan, A. (2001). Distinguishing between understanding and belief. *Theory Into Practice, 40*, 235-241.

Watson, B., & Konicek, R. (1990). Teaching for conceptual change: Confronting children's experience. *Phi Delta Kappan, 71*, 680-685.

Swann, W. B. (1992). Embracing the bitter "truth": Negative self-concepts and marital commitment. *Psychological Science, 3*, 118-121.

Swann, W. B., Jr. (1997). The trouble with change: Self-verification and allegiance to the self. *Psychological Science, 8*, 177-180.

## **Week 4 Readings. Self-regulated learning**

Chinn (2011d). Self-regulated learning.

Zimmerman, B. J. (1998). Academic studying and the development of personal skill: A self-regulatory perspective. *Educational Psychologist, 33*, 73-86.

Wineburg, S. (1991). Historical problem solving: A study of the cognitive processes used in the evaluation of documentary and pictorial evidence. *Journal of Educational Psychology, 83*, 73-87.

## **Week 5 Readings. Goals and Assessment**

Chinn (2011e). The instructional cycle.

Wilson, M., & Sloane, K. (2000). From principles to practice: An embedded assessment system. *Applied Measurement in Education, 13*, 181-208.

NRC (2005). Assessment in practice. Chapter from *Knowing what students know: The science and design of educational assessment*. Washington, DC: National Research Council.

Furtak, E. M., & Ruiz-Primo, M. A. (2008). Making students' thinking explicit in writing and discussion: An analysis of formative assessment prompts. *Science Education, 92*, 799-824.

### **Week 6. Classroom management; Motivation I**

Garrett & Chinn (2011). Classroom management.

Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology, 75*, 33-52.

Yeager and Dweck (in press). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*.

Dweck, C. S. (2010). What is school for? Mindset, motivation and learning. *Instructional Leader, 23 (5)*, 1-5.

### **Week 7. Motivation II**

Chinn (2011f). Motivation.

Blumenfeld, P. C., Kempler, T. M., & Krajcik, J. C. (2006). Motivation and cognitive engagement in learning environments. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 475-488). Cambridge: Cambridge University Press.

Raphael, L. M., Pressley, M., & Mohan, L. (2008). Engaging instruction in middle school classrooms: An observational study of nine teachers. *Elementary School Journal, 109*, 61-81.

### **Week 8. Motivation III. Transfer I**

Patrick, H., Anderman, L. H., Ryan, A. M., Edelin, K. C., & Midgley, C. (2001). Teachers' communication of goal orientations in four fifth-grade classrooms. *Elementary School Journal, 102(1)*, 35-58.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*, 207-231.

Nokes-Malach (2012). TBA.

### **Week 9. Transfer II**

Bransford, J. D., Brown, A. L., & Cocking, R. R. (1999). Learning and transfer. Chapter 3 of their book: *How People Learn*. Washington, DC: National Academy Press.

Schwartz, D. L., Chase, C. C., & Bransford, J. D. (2012). Resisting overzealous transfer: Coordinating previously successful routines with needs for new learning. *Educational Psychologist, 47*, 204-214.

Chinn on transfer.

### **Week 10. Transfer III**

Day, S. B., & Goldstone, R. L. (2012). The import of knowledge export: Connecting findings and theories of transfer of learning. *Educational Psychologist, 47*, 153-176.

Cognition and Technology Group at Vanderbilt (1992). The Jasper Series as an example of anchored instruction: Theory, program description, and assessment data. *Educational Psychologist, 27*, 291-315.

TBA.

### **Week 11. Theories of Learning: Constructivism, Sociocultural theory**

- Rogoff, B., Paradise, R., Arauz, R. M., Correa-Chávez, & Angelillo, C. (2003). Firsthand learning through intent participation. *Annual Review of Psychology, 54*, 175-203.
- Chinn (2011b). Theories of Learning: Constructivism (pages 48-55).
- Palincsar, A. S., & Herrenkohl, L. R. (1999). Designing collaborative contexts: Lessons from three research programs. In A. M. O'Donnell & A. King (Eds.), *Cognitive perspectives on peer learning* (pp. 151-177). Mahwah, NJ: Erlbaum.

### **Week 12. Teaching strategies**

- Chinn (2012). Teaching for self-regulated learning.
- Langer, J. A. (2001). Beating the odds: Teaching middle and high school students to read and write well. *American Educational Research Journal, 38*, 837-880.
- Stahl, S. A. (1999, Fall). Different strokes for different folks? A critique of learning styles. *American Educator, 1-5*.

### **Week 13. Collaborative learning**

- Chinn (2011h). Collaborative learning.
- Nussbaum & Edwards (2011). Critical questions and argument strategems: A framework for enhancing and analyzing students' reasoning practices.
- King, A. (2002). Structuring peer interaction to promote high-level cognitive processing. *Theory Into Practice, 41*, 33-39.

### **Week 14. Other instructional issues**

- Czuchry, M. (1995). The use of node-link mapping in drug abuse counseling: The role of attentional factors. *Journal of Psychoactive Drugs, 27*, 161-166.
- Bain, R. B. (2005). "They thought the world was flat?": Applying the principles of *How People Learn* in teaching high school history (pp. 179-213). Washington, D.C.: National Academies Press.
- Waggoner, M. A., Chinn, C. A., Anderson, R. C., & Yi, H. (1995). Collaborative reasoning about stories. *Language Arts, 72*, 582-589.
- Stigler, J. W., Fernandez, C., & Yoshida, M. (1998). Cultures of mathematics instruction in Japanese and American elementary classrooms. In T. P. Rohlen & G. K. LeTendre (Eds.), *Teaching and learning in Japan*. Cambridge: Cambridge University Press.

### **Week 15. Completing paper**

There are no readings in Week 15 to give you time to complete your class paper.