Spring 2016
Psychology of Learning
15:295:580   Section 90
3 Credits

Dr. Clark Chinn	clark.chinn@gse.rutgers.edu
848-932-0824	337 GSE
Office Hours by arrangement.	Prerequisites or other limitations: None
Mode of Instruction: ___ Lecture ___ Seminar ___ Hybrid _X_ Online ___ Other	Permission required: _X_ No __ Yes

Course Catalog Description

Introduction to psychological theories of human learning, including behavioral, social, and cognitive theories of learning. Principles of learning, mediation, and transfer as deduced from these theories. Applications to a variety of settings considered, including classrooms and information setting.

Class Materials

Class materials consist of weekly readings that will be posted on eCollege. Please note: If you are reading ahead, please check with me, because I may make changes in later weeks based on what I learn about the class from discussions in earlier weeks. If I decide that a different reading may be a better choice for the class, I may make substitutions.

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.

Learning Goals

This course is designed to help you acquire the knowledge and skills shown in the following table. (The alignment of the learning goals with the overall learning goals of the LCD Master's degree is also shown in the table. In addition, the table shows how each goal will be assessed.

LCD master's program goals	Course goals	Assessment of course goals
1. Attain mastery of psychological constructs and theories relevant to learning, cognition and development.	1a. Gain knowledge of effective and ineffective strategies for learning and thinking. 1b. Gain knowledge of theories of learning and teaching. 1c. Gain knowledge of empirical results on learning and teaching.	In weekly discussions and problem discussions, you will explain, evaluate, and apply research through the discussion questions that we pose in class. In your class paper, you will write about theories of and research on reasoning in ways that demonstrate your understanding and your abilities to evaluate and apply the research and to support ideas with evidence. Your weekly assignments will also provide information about your mastery of this body of knowledge.
2. Appropriately apply these psychological constructs and theories to educational settings and related applied contexts.	2a. Develop skills of evaluating students' knowledge and strategy use, as well as of evaluating teaching strategies. 2b. Develop skills of planning instruction to promote strategy development.	
3. Identify and explain evidence for and against different psychological constructs and theories.	3a. Identify and explain evidence for and against different theories of learning and instruction.	In the weekly discussions, you discuss evidence for and against theoretical and practical claims, and you will critique the studies you read both methodologically and theoretically. In your class paper, you will discuss and explain evidence supporting points you make, and you will critically evaluate the key pieces of evidence that you review as part of your paper.
4. Achieve skill in the critical evaluation of empirical evidence related to the psychology of education.	4a. Develop skills of learning to read and interpret empirical articles on learning and instruction.	
5. Attain competence in oral and written communication on topics within educational psychology.	5a. Develop skills of writing a literature review or a teaching plan on a topic related to learning and/or instruction.	In the class paper, you will write either a review of research or a practical paper applying what you have learned to the design or evaluation of instruction.

Academic Integrity Policy

The Office of Student Conduct supervises issues related to violations of academic integrity (see http://academicintegrity.rutgers.edu). Please familiarize yourself with the university policy on academic integrity at http://academicintegrity.rutgers.edu/files/documents/AI_Policy_2013.pdf

Academic integrity policy proscribes any form of cheating, including plagiarism. Plagiarism will be addressed in accordance with the University policy. Please keep in mind that the penalty for plagiarism can include suspension and even permanent expulsion from the university.

Here's a thinking tool to help you decide whether you have committed plagiarism, even if it was unintentional. Imagine that Google had every word ever written on its servers (all published and unpublished writing, including all students' writing from all courses at the GSE and other universities, from all of history through this moment). Would a Google search on any extended phrase or clause in your document yield a hit on even one of these papers recorded through history? (Remember: this includes your own past papers, classmates' papers, text on any website, and all published papers.) If the answer is yes, and you have not cited that document and quoted the overlapping text, there may be a plagiarism problem.

Office of Disability Services

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: https://ods.rutgers.edu/students/documentation-guidelines. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: https://ods.rutgers.edu/students/registration-form.

Weekly Schedule

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

Each weekly cycle begins on Tuesday and ends on the following Monday. The main activities each week are as follows:

1. Discussions of readings and problems.   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 start contributing no later than Wednesday, and Tuesday is preferred; you should also contribute regularly throughout the week, not just at the beginning of the end of the week.
        I will often pose follow-up questions on Friday or Saturday, so it is also important that you are participating in the discussion threads all the way through the last two days of the cycle (Saturdays, Sundays, and/or Mondays) as well as earlier in the week.

2. Weekly assignment. Sunday.
    Your weekly individual assignment based on the readings is due on the second to 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.

3. Reading for the next week. Tuesday through the following Monday.
    As we participate in discussions each week, we will simultaneously complete the readings for the following week. Complete the readings for the next week by Monday.

4. Discussion questions. Due on Monday.
    Also by Monday (specifically, by 10 pm on Monday), email me one question about each of readings that you are interested in discussing. (I will aim to include some of these questions--or variations of them--in the discussion questions, and/or my follow-up questions. I will also encourage you to pose some of your own questions in the discussion threads.)

To reiterate, it is important that you get onto the discussion threads and contribute on at least 4 or 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 current week begin on Tuesday morning. Begin reading the next week's readings.	Continue contributing to discussions. Continue the next week's readings.	Continue contributing to discussions. Continue the next week's readings.	Continue contributing to discussions. Continue the next week's readings.	Continue contributing to discussions. Continue the next week's readings.
Continue contributing to discussions. Continue the next week's readings. Weekly assignment for current week's readings is due by midnight.	Continue contributing to discussions. Complete the next week's readings. 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, March 7. Submit a one-paragraph summary of proposal for class paper.
Monday, May 9. Submit class paper.

Schedule by Week

Please note that readings may change two weeks in advance of being assigned, as I may decide--based on class discussions--that it would benefit the class to substitute another for the reading listed here. I have deliberately left some TBA (To Be Announced) slots in the schedule to allow me to tailor some later readings to the class in light of earlier class discussions.

Week	Specific Topic	READINGS due before this week begins (before Tues)		Discussions starting on Tuesday	Other assignments
Week 1. 1/19 to 1/25	Getting started			Problems	See Week 1 instructions on eCollege
Week 2 1/26 to 2/1	Theories of Learning	Chinn (2011a) Chi & Wylie (2014)	Kirschner & Merriën-boer (2013)	Readings Problems	
Week 3 2/2 to 2/8	Theories of Learning	Rogoff et al. (2003) How People Learn, Ch 2	Scott & Palincsar (2013)	Readings Problems	
Week 4 2/9 to 2/15	Prior conceptions and learning	Chinn (2011b) Chinn & Samara-pungavan (2001)	Watson & Konicek (1992) Swann (1997)	Readings Problems	
Week 5 2/16 to 2/22	Self-regulated learning	Chinn (2011c) TBA	Wineburg (1991)	Readings Problems	
Week 6 2/23 to 2/29	Goals and assessment	Chinn (2011d) Wiggins & McTighe (1998)	Wilson & Sloane (2000) NRC (2005)	Readings Problems	
Week 7 3/1 to 3/7	Motivation I	Dweck (2010) Yeager & Dweck (2013)	Chinn (2011f)	Readings Problems	Mar 7: Submit one-paragraph summary of proposal for class paper.
Week 8 3/8 to 3/14	Motivation II	Pink (2009), Ch 2 Rinehart et al. (2014)	Raphael et al. (2008)	Readings Problems	
Week 9 3/15 to 3/28 (extended through spring break)	Motivation III; Transfer I	Turner et al. (2011)	CTGV (1992)	Readings Problems	
Week 10 3/29 to 4/4	Transfer II	How People Learn, Ch 3	Schwartz & Bransford (1998) Wiggins (1992)	Readings Problems	
Week 11 4/5 to 4/11	Transfer III	Kapur & Bielaczyc (2012)	Solomon & Perkins (1989) TBA	Readings Problems	
Week 12 4/12 to 4/18	Teaching strategies	Chinn (2011g) Collins et al. (1989)	TBA	Readings Problems	
Week 13 4/19 to 4/25	Collaborative learning	Chinn (2011h)	TBA	Readings Problems	
Week 14 4/26 to 5/2	Other instructional issues	Czuchry (1995) Waggoner et al. (1995)	MacArthur et al. (2002) Stigler et al. (1998)	Readings Problems	
Week 15: 5/3 to 5/9		No readings or discussion; this is a week to complete your class paper.			May 9: Class paper is due.

<div align="center">Evaluation</div>

1. Discussions of readings   20%
2. Discussions of collaborative problems   20%
2. Questions about articles   5%
4. Weekly assignments   30%
5. Class paper   25%

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 (nine) or more substantive entries (including at least 3 (three) responses to others' comments) within 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.

I expect everyone to start contributing no later than Wednesday, and Tuesday is preferred; you should also contribute regularly throughout the week, not just at the beginning of the end of the week. I may pose follow-up questions in the latter half of the week that I would like us to reflect on.

Evaluation will be based on the number of contributions as well as the quality and timing (throughout the week) 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.

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 5 (five) contributions to the discussions of instructional problems each week (some weeks will require more), and these contributions should begin right away on Tuesday. 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.

I expect everyone to contribute at least once on Tuesday, as well as on at least three of the first four days of the weekly cycle (Monday through Thursday).

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 Sunday of each week (except for Weeks 1 and 15, when there is no assignment). Each week's assignment will be posted a Google doc that I will create for 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.

Some of the assignments in the latter two thirds of the course will ask you to evaluate instructional designs in your field. This can be instruction you yourself have designed in the past, instruction in a textbook system you use, instructional plans found on the web or in other instructional resources, or the like. If you have trouble locating relevant instructional materials when the first assignment that uses these materials comes along, please contact me; I may be able to help.

5. Class Paper

The class paper is to be 15 to 20 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.

Your paper should be based on reading at least 15 articles beyond what you have read as required reading for this class and other classes you have taken or are taking. In other words, these are 15 articles that are new to you, and that are read for the purposes of the course.

Please keep in mind that a good paper will likely take you beyond the minimum number of 15 articles.

Your paper should 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.

In the early weeks of the course, I will provide and explain the rubric that will be used to evaluate your paper.

Paper Guidelines

Here are some initial guidelines as you write the instructional analysis and the class paper, in addition to the rubric I will provide later:

- 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. As I wrote earlier, plagiarism is a serious offense and will be addressed in accordance with the University policy. If you have any questions at all regarding plagiarism, please contact me.
- 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.

Rationale for the Course

As you will see from perusing the syllabus, this is a relatively demanding course. Why? One reason is that a highly influential book entitled *Academically Adrift* recently reported data from large national surveys indicating that education students do substantially less work in their courses than students in other curricula do. (If you look at graduate course syllabi in some of departments on campus, such as sociology, you may find substantially heavier reading loads than in most education courses.) I see this as a serious problem for the field of education. This can contribute to a perception by those outside education that a degree in the field of education is an "easier-to-get" degree. I am determined to do my part to ensure that this is not the case for students who have taken my classes--that we engage with exciting, interesting, challenging materials (at least I hope you will find them so!) that will put us at the top of our profession, and indeed any profession!

In addition, this course meets certain requirements that are essential for meeting various accreditation requirements for programs to which this course contributes; our mission is to prepare people to be effective educators in a variety of settings. I have endeavored to design a course that can substantially enhance your professional competence in a variety of settings.

Netiquette

This is drawn from Palloff, R. M., & Pratt, K. (1999). *Building learning communities in cyberspace.* San Francisco: Jossey-Bass, p. 101. These are very useful guidelines for posting in an online class.

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 for Discussion

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.

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.

 5. Especially important: You should always treat the eCollege site as the definitive source on what the readings are for a particular week. For examples, if the readings that end up being listed for Week 5 are different from the Week 5 readings listed below, it is the eCollege list of readings that are the actual readings for the week.

Week 1. Getting started.

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 some discussion threads will be active this week, even before you have completed any readings.

Week 2. Theories of Learning I

Chinn (2011a). Information processing theory, constructivism
Kirschner, P. A., & van Merriënboer, J. J. G. (2013). Do learners really know? Urban legends in education. *Educational Psychologist, 48*, 169-183.
Chi, M. T. H., & Wylie, R. (2014). The ICAP framework: Linking cognitive engagement to active learning outcomes. *Educational Psychologist, 49*, 219-243.

http://www.youtube.com/watch?v=2zuDXzVYZ68&feature=related
http://www.youtube.com/watch? v=sIv9rz2NTUk

Week 3. Theories of Learning II

Rogoff, B., Paradise, R., Arauz, R. M., Correa-Chávez, & Angelillo, C. (2003). Firsthand learning through intent participation. *Annual Review of Psychology, 54*, 175-203.
Scott, S., & Palincsar, A. (2013). Sociocultural theory. Downloaded from http://www.education.com/reference/article/sociocultural-theory/
Bransford, J. D., Brown, A. L., & Cocking, R. R. (1999). How experts differ from novices. Chapter 2 of their book: *How People Learn.* Washington, DC: National Academy Press.

Week 4 Readings. Prior Conceptions and Learning

Chinn (2011b). 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., Jr. (1997). The trouble with change: Self-verification and allegiance to the self. *Psychological Science, 8*, 177-180.

Week 5 Readings.   Self-regulated learning I

Chinn (2011c). Self-regulated learning.
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.
TBA

Week 6 Readings. Goals and Assessment

Chinn (2011d). The instructional cycle.
NRC (2005). The nature of assessment and reasoning from evidence. Chapter 2 from *Knowing what students know: The science and design of educational assessment.* Washington, DC: National Research Council.
Wiggins, G., & McTighe, J. (1998). What is backward design? Chapter 1 of *Understanding by design.* Upper Saddle River, NJ: Merrill/Prentice Hall.
Wilson, M., & Sloane, K. (2000). From principles to practice: An embedded assessment system. *Applied Measurement in Education, 13*, 181-208.

Week 7 Readings.   Motivation I

Carol Dweck and her colleagues have developed instructional interventions to promote transfer in motivational beliefs (and the associated motivational attitudes and behavior). We are going to read/view several sources related to this:

A. Read this short overview, posted online: Dweck, C. S. (2010). What is school for? Mindset, motivation and learning. *Instructional Leader, 23 (5)*, 1-5.

B. Read these two short webpages that discuss the Growth Mindset and Brainology:

http://www.mindsetworks.com/webnav/whatismindset.aspx
http://www.mindsetworks.com/webnav/program.aspx

C. View these videos:

This one provides a glimpse into their "Brainology" curriculum:
http://www.youtube.com/watch?v=pF5yB31IT5Y

This one shows some of their research in action: http://www.youtube.com/watch?v=TTXrV0_3UjY

D. Read this teacher's account of her use of Brainology.
http://community.mindsetworks.com/case-study-shifting-student-mindset-with-brainology

Chinn (2011f). Motivation.
Yeager and Dweck (2013). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist.*

<u>Week 8 Readings. Motivation II</u>

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.
Pink, D. H. (2009). *Drive*, Chapter 2. New York: Riverhead Books.
Rinehart, R. W., Duncan, R. G., & Chinn, C. A. (2014). A scaffolding suite to support evidence-based modeling and
        argumentation. *Science Scope,* pp. 70-77

View these two talks by Dan Pink:
        http://www.ted.com/talks/dan_pink_on_motivation?language=en
        https://www.youtube.com/watch?v=_mG-hhWL_ug

<u>Week 9.   Motivation III.</u>

Turner, J. C., Warzon, K. B., & Christensen, A. (2011). Motivating mathematics learning: Changes in teachers'
        practices and beliefs during a nine-month collaboration. *American Educational Research Journal, 48*, 718-
        762.
Salomon, G., & Perkins, D. N. (1989). Rocky roads to transfer: Rethinking mechanisms of a neglected
        phenomenon. *Educational Psychologist, 24*, 113-142.

<u>Week 10. Transfer II</u>

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.
Wiggins, G. (1992). Creating tests worth taking. *Educational Leadership,* pp. 26-33.
Schwartz, D. L., & Bransford, J. D. (1998). A time for telling. *Cognition and Instruction, 16*, 475-522.

<u>Week 11. Transfer III</u>

Kapur, M., & Bielaczyc, K. (2012). Designing for productive failure. *Journal of the Learning Sciences, 21*(1), 45-83.
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.
Watch this video about productive failure: https://www.youtube.com/watch?v=sBPKoTr-XnQ (This talk uses, at
        least partly, a different sense of productive failure than the Kapur and Bielaczyc article discusses; in what
        ways is it different?)
Watch 15 minutes of this video--a talk by Manu Kapur--from Minute 26:00 to Minute
        41:00. https://www.youtube.com/watch?v=LnIjG9I33KM

<u>Week 12. Teaching strategies</u>

Chinn (2011g). Teaching for self-regulated learning.
Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: Teaching the crafts of reading, writing,
        and mathematics. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honor of Robert*
        Glaser (pp. 453-494). Hillsdale, NJ: Erlbaum.
TBA

<u>Week 13. Collaborative learning</u>

Chinn (2012). Collaborative learning.
TBA

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.

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.

MacArthur, C., Ferretti, R. P., & Okolo, C. M. (2002). On defending controversial viewpoints: Debates of sixth graders about the desirability of early 20th-Century American immigration. Learning Disabilities Research & Practice, 17, 160-172.

Week 15. Completing paper

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