

Fall 2015

ITLS 6540 Learning Theory

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Course Overview

Instructional Technologists and Learning Scientists alike are largely concerned with how to support educators and designers in their efforts to design for and support *learning*. There is little disagreement about the fundamental role that both learning and teaching play in human activity as well as American culture and society. Yet a range of perspectives exists on what comprises “learning”, how it occurs, and how it might be facilitated. The aim of this course is to grapple with questions about what learning is and how to support it. A major part of the course is an overview of three major theoretical perspectives on how learning works and what happens when it takes place. This course also examines some central ideas and challenges associated with learning, such as the development of expertise, the role of prior knowledge in learning, motivation, transfer, and the role of social and cultural environments in learning.

A central concern of the course is integrating theory and practice. So you will be choosing one new area that you want to learn this semester, something fun and something “out of the box” for you. This will serve as a practical basis for reflecting on your own learning while you simultaneously think about different theoretical perspectives on learning.

Course Objectives

The course is designed to explore the following core questions:

- *What constitutes learning? How do prominent theories of learning frame learning, its processes and mechanisms? What are the relationships and disconnections among different learning theories?*
- *What are the similarities and differences between the behaviorist, cognitivist, and sociocultural paradigms of learning and how do these affect teaching practices?*
- *What are some of the basic concepts and findings from cognitive research and how do these concepts apply to the design and implementation of learning environments?*
- *How do these constructs relate to your own experiences as a learner and educator?*

Course Format

Delivery of this course is online, through the Canvas learning management system. Each week of the course begins and ends on a **Friday**, although some assignments will have deadlines on **Tuesdays** (those assignments usually involve leaving feedback on others' work – peer review, discussions, and commenting on others' posts).

You can expect the following from the instructor:

- Weekly overviews or mini-lectures that will offer you some background on the week's readings.
- Quick responses to requests to meet with the instructor by phone, in person, or in a virtual conference room (within 48 hours but more quickly on weekdays). Should there be multiple student requests (at least 1/3 of the class), a formal conference day and time will be scheduled and an announcement encouraging others to participate will be made on the course site.

Because this course is online, you will be doing a fair amount of independent reading and need to be a self-motivated and independent learner. Please be aware that the mini-lectures and the course readings are complementary. You will not be able to succeed in this class if you only watch lectures or overviews and skip the readings.

Asking Questions about the Material

Questions are best asked on the [Help Discussion Boards](#). Many students will benefit from hearing your questions and others' responses. If you have a question, it is very likely that others do too. And if you have an answer you could receive a few extra credit points. Questions regarding personal concerns may also be sent to the instructor via email, but most questions should be posted online.

Required Course Readings

- Martinez, M. E. (2010). *Learning and cognition: The design of the mind*. Upper Saddle River, NJ: Merrill.
- Bransford, J., Brown, A. L., & Cocking, R. R. (1999). *How people learn: Brain, mind, experience, and school*. Washington, D. C.: National Academy Press.
- Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge: UK.

These textbooks are available through the USU bookstore and also through online retailers (where they are often less expensive). Throughout the course, the books will be abbreviated using the following: L&C – *Learning and Cognition*, HPL – *How People Learn*. NOTE: You can get the HPL book for free online.

Other course readings are available through links or pdfs online through Canvas.

Course Requirements

You are expected to check in the syllabus and with the course website regularly and meet all posted deadlines. You are also expected to follow the order of the assignments listed in each learning module, unless otherwise posted.

Reading-guide responses. (30%) This is a Partner Assignment.

Throughout the semester, you will need to complete 7 **reading guides** plus a special **discipline-specific post for your peers**. Each reading guide is a set of challenging questions about the readings or the main ideas for the week. Each reading guide is completed and submitted by a *pair* of students. During the first week, you will find a **reading partner** for the semester with whom you will be encouraged to communicate weekly about the material. Together, you will submit *one* set of reading guide responses. One reading partner will do assignment submission from their Canvas account.

Reading guide responses are all short-answer format and each question should require a minimum of a few sentences up to a few paragraphs in response. These are due on Fridays.

This is the only partner activity in the course. All other assignments are individual submissions.

Learning Blog (30%)

The purpose of this project is to use your own experience as a learner together with the insights you are gaining through readings and class discussions to examine a case of learning—your own. Essentially, you will learn something *new* this semester and document your process of acquiring this new knowledge/skill/approach in a journal/blog.

Learn something new for 8 weeks that does not take place in a typical school classroom.

You can choose to take a class, learn something from another person (in a tutorial-type situation), learn something new on your own, or (most likely) use a combination of resources to learn something. Stretch yourself to learn something new and challenging, but that can be “learned” in about 7-8 weeks. Once you have figured out what you will learn, please post an idea and a description of it on the Canvas discussion board (the Learning **PROPOSAL**). Post about your progress and your experience as a learner in a blog in this Canvas course. Integrate ideas from course readings and discussion into your journal; it might help you with the final learning reflection. Engage in conversations with your classmates about this process and to consider how the theories of teaching and learning we are reading about apply to your own learning.

This project consists of the following:

- Learning Blog Idea: Post an idea about what you might do
- Learning Blog Proposal: Post a proposal/description of what you plan to do
- Learning Blogs 1-7: Post weekly blogs about what you are learning (due every Friday for 8 weeks).
- Learning Blog 8 + Reflection: In your final blog post, blog post #8, reread your entries and reflect on your experiences as a learner. Ask yourself what you learned about 1) the thing you were hoping to learn as well as 2) learning and 3) yourself as a learner.

Some ideas done by past students: a musical instrument, physical exercise (train for a 5K, take zumba), yoga, gardening, sewing, video games, quilting, astronomy, Boy Scouts, and so on. Think of something that would be reasonable to accomplish within 7-8 weeks. And choose something you like!!!

Observation Project (10%)

You are to observe at least 40 minutes of teaching that is not your own and write up your observations in specific ways. This can be from nearly *any* teaching situation. If you are a classroom teacher you may want to observe another classroom teacher. You can also think out of the box and observe: exercise class, Sunday School, human resources class, a course at REI or Home Depot, ... think creatively!

Get permission from the instructor before you do this, especially if you're observing in a school classroom or space where you stick out!

1. Write a 1-page (single-spaced) summary of the activities you observed in enough detail that someone who is not familiar with classroom practice could visualize what was happening based on your description. For example, if someone were to take what you observed and make a movie of it, they should have enough information in your summary to do a decent job of replicating what you saw. In your summary, you should include the activities, some of the discourse, some of the student behaviors, the materials, and of course the content.

2. Following this page long description, write at least a paragraph explaining what paradigm(s) of learning (i.e., Behaviorism, Cognitivism, Socioculturalism) you believe are at work in the teacher's design and delivery of instruction and citing your evidence for that from your observation and your understanding of the readings. **It is strongly recommended that you re-read the [Wortham article from Week 1](#)** to prepare for this.

3. Then you are to rewrite your observation assuming the events had unfolded in such a way that implied the teacher was strongly associated with a different learning paradigm. (3a) In roughly half of a page or more, describe the other paradigm of learning, and then (3b) produce a new page describing the how the observed instruction would look given a firm commitment to the other paradigm for learning.

Your total document should be separated by headers and be 3-5 pages single-spaced. This assignment is due 11/14.

This assignment will also be peer reviewed. You will need to review another person's assignment (randomly selected!) and submit that by the following week.

Final reflection paper (10%)

A final paper summarizing two major ideas you are taking away from the course and one idea that you did not grasp or wish was explored further. The paper length is 3-5 pages (1500-2500 words), single-spaced using a size 10-12 font with 1-1.5 inch margins. This paper is written and submitted individually.

Online participation (20%)

Throughout the term, you will be asked to participate in some short activities online. These activities may, for instance, take the form of an experiment that was actually done in learning or

psychology research and will help you to understand the readings or topics being covered. They will be announced within each learning module.

You will also be required to post questions and comments on **weekly discussion boards**. These are *ungraded* but *required*. Be thoughtful, ask questions, provide answers, really dig into the texts and ideas!

Your overall participation in the discussion boards and completion of the short online activities will be considered when determining your level of participation at the end of the semester. Also, note that Canvas maintains automatic records of what resources you use on the website. Your use of online materials will be considered when determining your level of participation.

Course Overview

<u>Date</u>	<u>Week</u>	<u>Topic</u>
ASAP (by 9/4)	Week 0	Introduction: Framing the Issues <i>Reading Response to Wortham & Rose, Learning Confessional, Reading Partner Choice</i>
9/11	Week 1	Behaviorism <i>Reading Guide 1</i>
9/18	Week 2	Cognitive Architecture <i>Reading Guide 2, Learning Blog Idea (discussion board)</i>
9/25	Week 3	Knowledge Representation <i>Reading Guide 3, Learning Blog Proposal</i>
10/2	Week 4	Cognitive Development <i>Learning Blog 1</i>
10/9	Week 5	Motivation <i>Reading Guide 4, Learning Blog 2</i>
10/15	Week 6	Expertise <i>Learning Blog 3</i>
<i>YES! This is a day early. Friday Schedule for Thursday, October 15, 2015 to support FALL BREAK.</i>		
10/23	Week 7	Children's Knowledge & the Brain <i>Reading Guide 5, Learning Blog 4</i>
10/30	Week 8	Situated Cognition & Sociocultural Theories of Learning <i>Learning Blog 5</i>
11/6	Week 9	Vygotsky: Mediation & Artifacts <i>Reading Guide 6, Learning Blog 6</i>
11/13	Week 10	Transfer <i>Learning Blog 7</i>
11/20	Week 11	Comparing Cognitive and Sociocultural Theories <i>Observation Project, Learning Blog 8+Reflection Peer Review of Observation Project due Monday</i>
11/28	<i>Thanksgiving</i>	
12/4	Week 12	Theory into Practice: Discipline-Specific Readings (Writing, Art Science, etc.) <i>Special Discussion Board Blogs, Observation Project Peer Reviews</i>
12/11	Week 13	Constructionism <i>Reading Guide 7, Extra Credit Assignments due.</i>
12/18	Finals	<i>Final Paper Due</i>

Class Schedule

Fridays (11:59pm) = Deadline for reading guides, learning blogs, and other assignments

Tuesdays (11:59pm) = Deadline for peer reviews, comments on learning blogs, discussion board posts

0-Introduction: Framing the Issues

Readings:

Wortham, S. (2003). Learning in education. In L. Nadel (Ed.), *Encyclopedia of Cognitive Science*. New York: Nature Publishing Group.

Rose, M. (2001). The working life of a waitress. *Mind, Culture & Activity*, 8(1), 3-27.

Deadlines:

Reading Partner name

Learning Confessional & Responses

Response to Wortham & Rose

1- Behaviorism

Readings:

L&C Chapters 1-2

Deadlines:

Reading Guide 1 (Behaviorism)

List of 12 Part 1

2- Cognitive Architecture

Readings:

L&C Chapter 3

Deadlines:

Reading Guide 2 (Cognitive Architecture)

List of 12 Part 2

Learning Blog Idea

3- Knowledge Representation

Readings:

L&C Chapter 4, pp. 92-109

Deadlines:

Reading Guide 3 (Knowledge Representation)

Learning Blog Proposal

4- Cognitive Development

Readings:

L&C Chapter 7, pp. 197-212

Deadlines:

Learning Blog 1

5- Motivation

Readings:

L&C Chapter 6, pp. 157-178

Dweck, C. S. (2007). The secret to raising smart kids. *Scientific American Mind*, 18(6).

Deadlines:

Reading Guide 4 (Cognitive Development & Motivation)

Motivation Reflection

Learning Blog 2

6- Expertise*Readings:*

HPL Chapter 2

Ambrose, S., Bridges, M. W., DiPietro, M., Lovett, M. C. & Norman, M. K. (2010). How Learning Works: 7 Research-Based Principles for Smart Teaching. Chapter 4.

Deadlines:

Learning Blog 3

7- Children's Knowledge & the Brain*Readings:*

HPL Chapters 4-5

Deadlines:

Reading Guide 5 (Expertise & Children's Knowledge & the Brain)

Learning Blog 4

8- Situated Cognition & Situated Learning*Readings:*

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18, 32-42.

Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation* Cambridge: Cambridge: UK. (Chapters 1, 2, & Chapter 3 pp. 65-84).

Deadlines:

Learning Blog 5

9- Vygotsky, Mediation, and Artifacts*Readings:*

Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press. (Chapters 2, 3, & 6, pp. 79-91).

Deadlines:

Reading Guide 6 (Situated Cognition & Vygotsky)

Learning Blog 6

10- Transfer*Readings:*

HPL Chapter 3

L&C Chapter 4, pp. 111-116

Optional: Re-read Ambrose et al, Chapter 4 {see week 6, Expertise}

Deadlines:

Learning Blog 7

11- More on Cognitive and Sociocultural Theories*Readings:*

Bruner, J. (1997) Celebrating divergence: Piaget and Vygotsky. *Human Development*, 40, 63-73

Rogoff, B. (2003). *The cultural nature of human development*. Oxford University Press. (Chapter 2)

Re-read Mike Rose

Re-read Stanton Wortham.

Deadlines:

Observation Project

Learning Blog 8 + Reflection

12- Learning and Teaching in Specific Disciplines

These readings will be assigned to specific groups. Instead of a reading guide, you will be asked to create a 1-2 page blog post that analyzes and synthesizes the articles for your peers.

- Analyze: Point out the big ideas of **each** article. What is the author trying to argue? What research did the author do? Which learning theory(s) does the author espouse?
- Synthesize across the articles: Relate this to our prior work and readings in the course. How do these articles build on earlier ideas from behaviorism, cognitive science, sociocultural and situated learning?
- Reflect: What did you take from these articles? Any new ideas? Surprising things? What application do they have to your work and teaching?

- **Writing [Group 1]**

- Hull, L. & Rose, M. (1989). Rethinking remediation: Toward a social-cognitive understanding of problematic reading and writing. *Written Communication*, 6(2), 139-154.
- Moje, E. B. (2000). "To be part of the story": The literacy practices of gangsta adolescents. *Teachers College Record*, 102(3), 651-690.
- Morrell, E. & Duncan-Andrade, J. M. R. (2002). Promoting academic literacy with urban youth through engaging hip-hop culture. *English Journal*, 91(6), 88-92.

- **Reading [Group 2]**

- Anderson, R. C. (1984). Role of the reader's schema in comprehension, learning, and memory. In R. Anders, J. Osborn, & R. Tierney (Ed). *Learning to read in American Schools: Basal readers and content texts* (pp. 243-275). Hillsdale, NJ: Erlbaum.
- Gee, J. P. (2001). A sociocultural perspective on early literacy development. In S. B. Neuman & D. K. Dickinson (Eds.) *Handbook on Research in Early Literacy* (pp. 30-42). New York, NY: The Guildford Press.
- Lee, C. D. (2001). Is October Brown Chinese? A cultural modeling activity system for underachieving students. *American Educational Research Journal*, 38(1), 97-141.

- **Social Studies [Group 3]**

- Polman, J. L. (2006). Mastery and appropriation as means to understand the interplay of history learning and identity trajectories. *Journal of the Learning Sciences*, 15(2), 221-259.
- Wineburg, S. S. (1991). Historical problem solving: A study of cognitive processes used in the evaluation of documentary and pictorial evidence. *Journal of Educational Psychology*, 83(1), 73-87.

- **Arts [Group 4]**

- Halverson, E. R. (2013). Digital art making as a representational process. *Journal of the Learning Sciences*, 22(1), 121-162.
- Winner, E. & Hetland, L., Vennema, S., Sheridan, K. & Palmer, P. (2006). Studio thinking: How visual arts teaching can promote disciplined habits of mind. In P. Locher, C. Martindale, L. Dorfman, & D. Leontiev (Eds). *New Directions in Aesthetics, Creativity, and the Arts* (pp. 189-205). Amityville, NY: Baywood Publishing Company.
- Winner, E. (1989). How can Chinese children draw so well? *Journal of Aesthetic Education*, 23(1), 41-63.

- **Mathematics [Group 5]**

- Carpenter, T. P., Ansell, E., Franke, M. L., Fennema, E., & Weisbeck, L. (1993). Models of problem solving: A study of kindergarten children's problem solving processes. *Journal for Research in Mathematics Education*, 24(5), 427-440.
- Enyedy, N. (2003). Knowledge Construction and Collective Practice: At the Intersection of Learning, Talk, and Social Configurations in a Computer-Mediated Mathematics Classroom. *Journal of the Learning Sciences*, 12(3), 361-407.
- Nasir, N. S. (2005). Individual Cognitive Structuring and the Sociocultural Context: Strategy Shifts in the Game of Dominoes. *Journal of the Learning Sciences*, 14(1), 5-34.

- **Science [Group 6]**

- Barton, A. C., Tan, E., & Rivet, A. (2008). Creating hybrid spaces for engaging school science among middle school girls middle school science. *American Educational Research Journal*.

- Hodson, D. (1999). Building a case for a sociocultural and inquiry-oriented view of science education. *Journal of Science Education and Technology*, 8(3), 241-249.
- Smith, J. P., diSessa, A., & Roschelle, J. (1994). Misconceptions Reconciled: A Constructivist Analysis of Knowledge in Transition. *Journal of the Learning Sciences*, 3(2), 115-163.

Deadlines:

Analyze & Synthesize Disciplinary Specific Readings: Group Blog Posts.

13- Constructionism**Readings:**

Kafai, Y. B. (2006). Constructionism. In R. K. Sawyer (Ed.). (2006). *The Cambridge Handbook of the Learning Sciences* (pp. 35-46). New York: Cambridge University Press.

Harel, I., & Papert, S. (1990). Software design as a learning environment. *Interactive learning environments*, 1(1), 1-32.

Deadlines:

Reading Guide 7: Constructionism

Final Paper!**Deadlines:**

Final Paper

Extra Credit:

- **Mike Rose Additional Chapter & Reflection**
- **Gamification: Sebastian Deterding's Talk & Reflection**
- **Learning Environment Design**
 - *Readings:*
 - HPL Chapter 6
 - *Assignment:* Reading Guide (Learning Environment Design)
- **Effective Instruction**
 - *Readings:*
 - HPL Chapter 7
 - *Assignment:* Reading Guide (Effective Instruction)
- **Weekly Unit Help Discussion Boards**

Grading scale

There is no curve for the class. Grades will be assigned based on the scale below, with your final grade rounded to the nearest tenth of a percentage point.

Grading scale	
A	93 – 100%
A-	90 – 92.9%
B+	87 – 89.9%
B	83 – 86.9%
B-	80 – 82.9%
C+	77 – 79.9%
C	73 – 76.9%
C-	70 – 72.9%
D+	67 – 69.9%
D	63 – 66.9%
D-	60 – 62.9%

Resubmission Policy

Resubmission of assignments on which you lost points is possible by **two weeks** from the date I submit feedback, or Friday, **Dec. 5**, whichever comes first. You only get to resubmit once per assignment. You may only resubmit if your original submission is complete (i.e., if you submit a partial lesson plan by the original due date, you do not get a chance to resubmit). If the original submission was late, then you cannot resubmit. You may only do this for up to the first 6 weeks of the course unless explicit permission is given by the instructor.

USU Criteria for Make-Up of Missed Assignments or Projects

Students will be allowed to make up assignments or projects at full credit only if they meet one of the following criteria:

- Incapacitating illness prevents a student from attending classes for a minimum period of two weeks,
- A death in the family,
- Financial responsibilities requiring a student to alter a schedule to secure needed employment,
- Change in work schedule as required by employer (with verification) or,
- Other emergencies deemed appropriate by the instructor.

If there are extenuating circumstances, a student may petition the instructor for time beyond the deadline. Documentation of the circumstances cited to justify the make-up is required.

Plagiarism

As stated in the USU Student Code, plagiarism is “the act of representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.” Plagiarism is harmful both for the author of the original work and for the plagiarizer. Any individuals involved in plagiarizing work will receive an automatic fail for the assignment or project and will be immediately reported to the university administration.

Persons with Disabilities

Students with documented disabilities who are in need of academic accommodations should immediately notify the instructor and/or contact the Disability Resource Center at (435) 797-2444 and fill out an application for services. Accommodations are individualized and in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1992.

Incompletes

In accordance with University policy, incompletes are not to be given for poor performance. There will be no incompletes given except for conditions beyond the student's control, including:

- Incapacitating illnesses that prevent a student from attending classes for a period of at least two weeks
- A death in the immediate family
- Financial responsibilities requiring a student to alter course schedule to secure employment
- Change in work schedule as required by an employer

Other, *unexpected* emergencies may be considered on a case-by-case basis. Regardless of the cause for the incomplete, appropriate documentation of the circumstances is required for an extension to be considered.

Written Assignments

Unless otherwise advised in advance, all written assignments are to be completed in the following format:

1. MS Word file with **your name** and assignment type in the file name.
2. 8.5 x 11, single-spaced.
3. Times or Times New Roman, 12 pt. font, **your name** on first page.
4. Submitted by electronic copy through email.

ALL ASSIGNMENTS MUST BE ORIGINAL WORK

Plagiarism will result in a failing grade. The preferred style for bibliographic referencing is APA (*American Psychological Association*). You can find details about APA documentation on the following helpful website: <http://www.wisc.edu/writing/Handbook/DocAPA.html>. For educational research, the most popular database is ERIC (*Education Resources Information Center*). This can be found online at: <http://www.eric.ed.gov/>.

10 Pointers for Good Academic Essay Writing

1. A good general rule to follow in the structure of your papers is “tell them what you’re going to say, tell them, then tell them what you said”. In the introduction, provide a roadmap of what you are going to say in the paper. It will help your own organization and organizes the paper for the reader to follow your arguments along.
2. Be explicit about your questions, thesis, perspective and put it up front in your introduction. It’s best not to leave your reader(s) guessing what the paper is about.
3. Provide signposts or points to your roadmap, e.g., “in this section, the following point...” or “to summarize” or “having covered the...we will now turn to...”
4. Section titles are also good as signposts but be sure that the content of the section reflects the title of the section.
5. Use transition sentences that build from pervious information and connects to the next.
6. Explain terms. Don’t put them in quotes and assume the reader will know what you mean. Try very hard not to make assumptions about what the reader knows even though you know who the reader is and he/she might be an expert in your topic. The point is for you to demonstrate that you know the material.
7. Be consistent with your bibliographic referencing style.
8. Be careful not to over-generalize, e.g., “many theorists...” when you are only referencing one study.
9. Don’t assume everyone sees or agrees with your perspective, you need to convince the reader of your perspective.
10. Summarize in the conclusion, what you wrote about in the body of the paper. Tie your conclusions back to your original question...how have you proven, answered, shown, presented information that addresses it. Don’t introduce new information in the conclusion. It detracts from the cohesiveness.