

University of Texas at El Paso
College of Education
Department of Teacher Education
PhD TLC Program
Fall 2023

Course TED6310
Topic Learning Sciences
Credits 3-0

Course Description

Learning sciences represents an interdisciplinary field that examines how people learn to understand, reason, and solve problems in diverse and complex settings. This course will examine how learning sciences has and continues to evolve as a research field that informs practice through the design of effective learning environments across socioculturally mediated contexts. It will engage with foundational field perspectives to interrogate such ideas as the goals of education, learning design features, and social and cultural influences.

Contact Information

Professor: *Dr. Mourat A. Tchoshanov* Office Hours: R 4:30 - 5:30PM & 8:30-9:30PM
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Required Text

- The Cambridge Handbook of the Learning Sciences (2022). 3rd Edition. Edited by R. Keith Sawyer. Cambridge: Cambridge University Press.

Suggested References

- Journal of the Learning Sciences:
<https://www.tandfonline.com/journals/hlns20>

Additional Bibliography could be found in the bibliography sections of the required texts.

Learning Outcomes

Upon completion of this course, students should be able:

- To understand the cognitive and socio-cultural processes that result in effective learning and teaching
- To reflect on implementation of the key findings of learning sciences in the classroom with emphasis on creating successful learning environments
- To critique and evaluate the key findings of the learning sciences in order to better understand the phenomenon of effective learning
- To learn techniques and approaches of learning sciences to improve the effectiveness of learning and teaching.

Course Schedule

Week	Activities	Assignments
1.	Introduction and Syllabus Review Discussion on the Learning Sciences	Introduction Card
2.	Critique #1: Foundations of the Learning Sciences (CHLS, Ch. 2) Open Forum	Critique-1
3.	Peer review on critique 1 Individual Conferencing	Peer review 1
4.	Critique #2: A History of Conceptual Change Research (CHLS, Ch. 6) Open Forum by demand	Critique-2
5.	Peer review on critique 2 Open Forum/ Ind. Conferencing by demand	Peer review 2
6.	Critique #3: Design-Based Research (CHLS, Ch. 9) Open Forum/ Ind. Conferencing by demand	Critique-3
7.	Peer review on critique 3 Open Forum/ Ind. Conferencing by demand	Peer review 3
8.	Critique #4: Learning Analytics and Educational Data Mining, CHLS, Ch. 13)	Critique-4
9.	Peer review on critique 4 Open Forum/ Ind. Conferencing by demand	Peer review 4
10.	Critique #5: Arguing to Learn (CHLS, Ch. 21) Open Forum/ Ind. Conferencing by demand	Critique-5
11.	Peer review on critique 5 Open Forum/ Ind. Conferencing by demand	Peer review 5
12.	Critique #6: Select a Chapter from Part V (CHLS, Ch. 23-28) Open Forum/ Ind. Conferencing by demand	Critique-6
13.	Peer review on critique 6 Open Forum/ Ind. Conferencing by demand	Peer review 6
14.	Thanksgiving	
15.	Presentation of the Final Project	Power Point presentation
16.	Final project: Book review	Final paper

Note: Assignments are due on corresponding Sundays at 11:59PM

Course Assignments

1. **Critique** (10-12 pages, double spaced, APA style, Word): each student will write critiques addressing selected chapters (from CHLS). There will be six critiques assigned during the class.
2. **Peer-Review** (2-3 pages) each student will be assigned six critiques of their peers to review during the semester using blind review method.
3. **Book Review** (13-15 pages, double spaced, APA style, Word): each student will write a book review on self-selected newly published book related to Learning Sciences in his/her field of study.
4. **Book Review Presentation:** each student will present the book review as a Power Point Presentation.

Grade Distribution

Critiques	6 critiques x 9 points each = 54 points
Peer-reviews	6 reviews x 4 points each = 24 points
Book review	14 points
Book review presentation	8 points
Total	100 points

Grading Scale

You are encouraged to demonstrate **knowledge of content/ issue you intend to critique, critical thinking, and communication accuracy** while completing major course assignments.

91 – 100 = **A** 80 – 90 = **B** 69 - 79 = **C** 58 - 68 = **D** 00 - 57 = **F**

Assessment of Learning Outcomes

Learning Outcome	Achieved by	Measured by
To understand the cognitive and socio-cultural processes that result in effective learning and teaching	Reading and reflection Participation in discussions	Written Critique Peer review Participation
To reflect on implementation of the key findings of learning sciences in the classroom with emphasis on creating successful learning environments	Reading and reflection Individual conferencing Participation in discussions	Written Critique Formative Assessment Participation

To critique and evaluate the key findings of the learning sciences in order to better understand the phenomenon of effective learning	Reading and reflection Participation in discussions	Written Critique Participation Peer/ book review
To learn techniques and approaches of learning sciences to improve the effectiveness of learning and teaching.	Reading and reflection Individual conferencing Participation in discussions	Written Critique Book review Participation

How to Write a Critique

To write a critique of a text is to analyze and evaluate it, not just summarize, or synthesize. A summary merely reports what the text said, that is, it answers only the question, "What did the author say?" A critique, on the other hand, analyzes, interprets, and evaluates the text, answering the questions *How? Why? and How Well?* A critique does not necessarily have to criticize the piece in a negative sense. Your reaction to the text may be largely positive, negative, or a combination of the two. It is important to explain *why you respond to the text in a certain way.*

So, the critique is a *rigorous critical reading* of a text (e.g., article, chapter, passage). As such, it picks up where the objective summary leaves off. In fact, a critique often includes a summary so that its readers will be able to quickly grasp the main ideas and proofs of the text under examination. Critiques come in all shapes and sizes, but a good way to write critically is to plan along the following lines. First, read the passage thoroughly. *Make plenty of notes, ask lots of questions, and highlight or underline anything you may wish to quote in your paper.* Spend some time on this step. It is impossible to adequately critique something if you don't fully understand it.

Next, write a summary. Identify the author's main point (thesis) and list the types of proofs he or she employs to persuade the reader to believe or accept the thesis. For example, does the author use historical perspectives, quote noted authorities, provide statistical evidence, or appeal to a reader's common sense? You should also try to figure out why the author is writing, and to whom. Remember that the purpose of a paper and its intended audience can affect the way the paper is written. Now, set your own agreement or disagreement with the author aside for a moment and investigate the validity of his or her argument.

- Does the author provide complete and accurate information? Some authors may leave important facts out of their presentations in order to avoid dealing with them, or they may give inaccurate data either through ignorance or in a deliberate attempt to mislead readers.
- Does the author provide information that is relevant to the issue?

- Does the author define key terms adequately and clearly?
- Is the author's argument logically consistent?
- Is there other evidence that would support a counterargument?

Once you have examined carefully the text you intend to critique, use the information you have collected to draft a response. Do you agree or disagree with the author's views and proofs? Be sure to discuss specific reasons why you agree or disagree with something. The critique's value as an academic document rest on your ability to say precisely *why you agree or disagree*. Finally, draft the critique. You should include:

- **Introduction** which introduces the passage and its author. The introduction should also provide your reader with a little background so that he or she will understand why this critique is worth reading. What do you know about the issue under discussion? Is it of current or historical interest? Is it at the heart of a controversy? These details can strengthen your introduction. At the end of the introduction, you should *clearly state the point(s) you are to critique* and the arguments you intend to make about it.

- **Summary.** You should already have drafted a summary. Now you can include it in your draft of your critique, making sure to use adequate transitions so that *the writing flows smoothly*.

- **Analysis** of the author's presentation of the selected point(s). Present an in-depth analysis of the validity of the author's *logic and use of evidence* in supporting the selected point(s). Be sure to present your information in a form which is easy to follow, using *transitional elements* whenever necessary to preserve the smooth flow of your writing.

- **Response.** As discussed above, you may agree or disagree with the author's point(s), and this is the part of the critique where you make your own views on the point(s) clear. Remember that your own arguments must be well-supported through the extensive use of *references, evidence and/or logic*. You must give compelling reasons for your agreement or disagreement with the author. *Use a balanced vs biased approach* to support your argumentation. Make every attempt to *avoid deficit perspective* in your response. Discuss the limitations, weaknesses, or problems of the text.

- **Conclusion.** Synthesize your critique. Evaluate the author's overall success or failure in achieving his or her point(s). Also, remind your reader of the strengths and weaknesses of the paper.

Once the critique is drafted, revise it, making sure you have emphasized the most salient points in your discussion. Check your sentence variety, your organization, and your word choice. Is the critique all it can be? Have you edited the critique to eliminate errors in spelling, sentence structure, and agreement?

Rubrics for Critique

Criteria	Good (9 points)	Fair (5 points)	Poor (2 points)
Knowledge of Content and Summary	Solid knowledge and understanding of the issue to be critiqued is demonstrated. The article is clearly but succinctly summarized - the key points of the article are addressed.	Good knowledge and understanding of the issue to be critiqued is demonstrated. The article is clearly summarized, but it lacks a focus on key points. The summary is not succinct.	Weak knowledge and understanding of the issue to be critiqued is demonstrated. The article summary is unclear or overly detailed.
Critical Thinking and Argumentation	Strengths and weaknesses that are central to the key points of the article are addressed. The discussion of strengths and weaknesses take up the majority of the assignment.	Strengths and weaknesses that are peripheral to the article are addressed. The discussion of strengths and weaknesses take up the majority of the assignment.	Strengths and weaknesses are addressed peripherally or not at all. The discussion of strengths and weaknesses take up only a small part of the assignment.
Organization and Communication Accuracy	Paper is well organized, has a very clear intro, body and conclusion. The purpose of the paper is clear from the beginning. There are no grammatical errors or typos. APA and page length requirements are met.	Paper is organized, has an intro, body and conclusion. The purpose of the paper becomes clear within the paper. There are few grammatical errors or typos. APA and page length requirements are met.	Paper is not well organized, has an unclear or non-existent intro, body and conclusion. The purpose of the paper is unclear. There are many grammatical errors and/or typos. APA and page length requirements are not met.

Course Schedule Changes

As course instructor, I reserve the right to adjust the course syllabus or change assignments as needed. I will be sure to give you plenty of notice prior to any changes. Remember that our course syllabus and class schedule are living documents and can be changed!

Professionalism

Along with basic standards of citizenship (e.g., "Student Conduct" and "Disruptive Acts Policy" in the UTEP *Catalog*), students in this course are required to display a positive attitude and professionalism. Be open to using or sharing

opportunities for professional growth via Web CT Discussion Board option. In terms of written assignments, professionalism includes that all assignments be Word processed, checked for spelling/ grammar, and have any appropriate output/ graphics electronically pasted into the document.

Academic Integrity

The instructor trusts that you understand and especially appreciate that cheating, plagiarism and collusion in dishonest activities are serious acts, which erode the university's purpose and integrity. It is expected that work you submit will represent your own effort, will not involve copying from or accessing unauthorized resources or people (e.g., from a previous year's class), and will appropriately acknowledge (with complete citations) allowable references that you do consult. Also, do not resubmit work completed for other classes without specific acknowledgment and permission from the instructor. Violations are unacceptable and required to be referred to the Dean of Students Office for possible disciplinary action.

Copyright Notice

Many of the materials that are posted within this course are protected by copyright law. These materials are only for the use of students enrolled in this course and only for the purpose of this course. They may not be further retained or disseminated.

Disabled Student Statement

In Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, if a student needs an accommodation then the Office of Disabled Student Services located at UTEP need to be contacted. If you have a condition, which may affect your ability to perform successfully in this course, you are encouraged to discuss this in confidence with the instructor and/or the director of the Disabled Student Services. You may call 915.747.5148 for general information about the American with Disabilities Act (ADA) and the rights that you have as a UTEP student with a disability. Individuals with disabilities have the right to equal access and opportunity. It is the student's responsibility to contact the instructor and The Disabled Student Services Office at The University of Texas at El Paso.