



**UNIVERSITY OF TEXAS
EL PASO**

College of Education- Department of Teacher Education

Title of Course: STEM6319 - CRN 29116 Special Topics- Discourse and Communication in STEM Education	Instructor Information: Name: Pei-Ling Hsu Email: phtsu3@utep.edu Website: http://peilinghsu.utep.edu
Semester: 2022 Spring, Hybrid	Website: http://peilinghsu.utep.edu
Day/Time: Mondays, 5:30-8:20pm	Office: 813, Education Building
Credits: 3 Class hours: 3 hours/week Classroom: Room 405, Education Building	Office hours: 2:30-5:30pm, Mondays, by appointments

Course Description:

This course focuses on language uses and discursive practices in science, mathematics, engineering, and technology (STEM) education. It examines different features, functions, and strategies of STEM discourses and communications. Ways to facilitate and empower students’ agencies in mastering the language of STEM and constructing meaning of STEM concepts are examined through linguistic, sociocultural, and discursive approaches. The course emphasizes theories and research to study language uses in different STEM learning environments.

UTEP EDGE Alignments:

This course will help students gain experience of (1) research and scholarly activity, (2) learning communities, (3) creative activity and help students enhance skills of (1) problem-solving, (2) communication, and (3) critical thinking.

COVID-19 Precautions:

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org

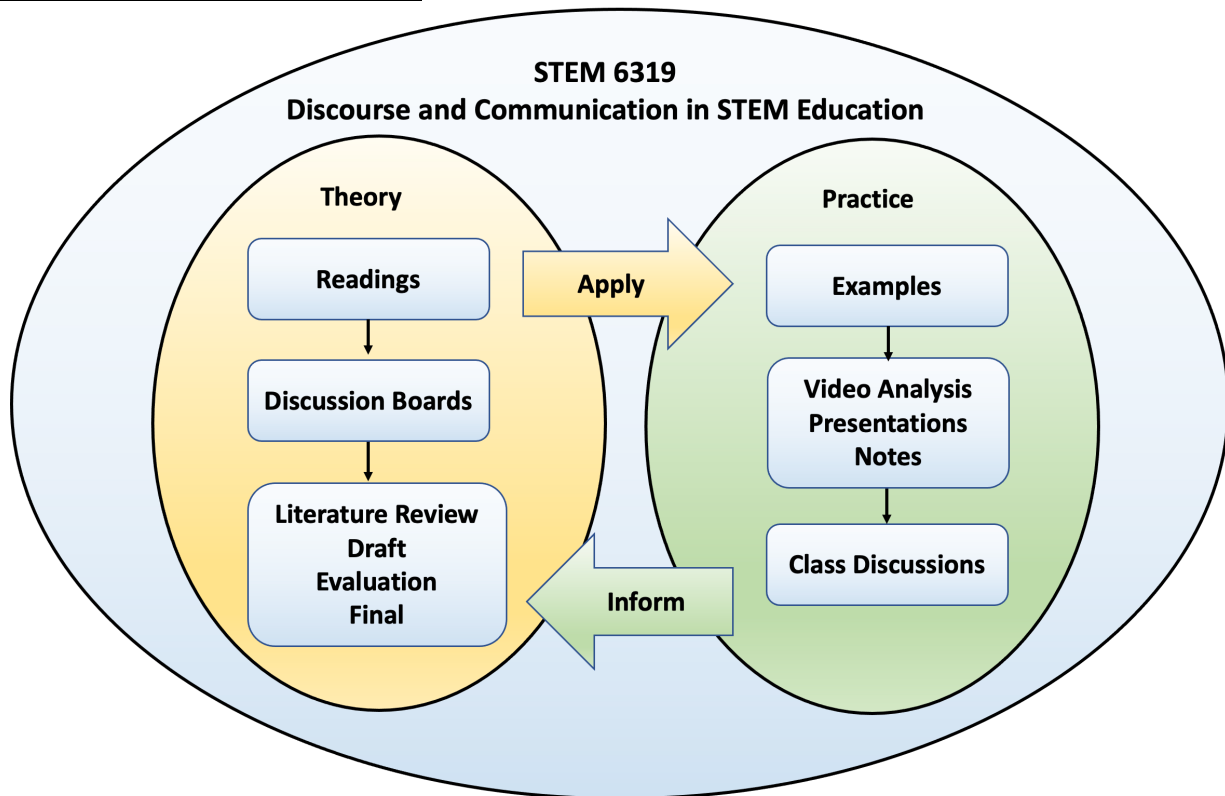
Learning Modules:

This course is designed using a modular format—that is, each week is “packaged” as a single module so that all the materials, lecture notes, submission areas, discussion posts are in one area for a given week.

Student Learning Outcomes:

Students will be able to:	Measurements/Assignments:
1. Understand different theories and approaches in examining STEM discourses	(1) Discussion Board Posts, (2) Discussion Board Responses
2. Understand different features and functions of STEM discourses and communications	(1) Discussion Board Posts, (2) Discussion Board Responses
3. Understand different ways to facilitate and empower students' agencies in practicing and mastering the language of STEM	(1) Discussion Board Posts, (2) Discussion Board Responses
4. Conduct discourse analysis to analyze STEM discourses	(1) Video Analysis presentation, (2) Video Analysis Note
5. Develop critical thinking on STEM discourse research	(1) Video Analysis presentation, (2) Video Analysis Note
6. Conduct a theory literature review	(1) Empirical study report, (2) Theory literature review-Draft, (3) Theory literature review-Evaluation, (4) Theory literature review-Powerpoint, (5) Theory literature Review- Final
7. Write using APA style	(1) Theory literature review-Draft, (2) Theory literature Review- Final

Course Overview Representation:



Reading Packets:

1) Reading Packet 1 (What do children think?):

- 1-1: Schoultz, J., Sa"ljo", R., & Wyndhamn, J. (2001). Heavenly talk: Discourse, artifacts and children's understanding of elementary astronomy. *Human Development, 44*, 103–118. <https://doi.org/10.1159/000057050>
- 1-2: Edwards, D. (1993). But what do children really think?: Discourse analysis and conceptual content in children's talk. *Cognition and Instruction, 11*, 207–225. <https://doi.org/10.1080/07370008.1993.9649021>
- 1-3: Hsu, P.-L. (2013). The role of discursive resources in science talk. *Cultural Studies of Science Education, 8*, 285–294. <https://doi.org/10.1007/s11422-013-9482-y>
- 1-4: Hsu, P.-L., & Roth, W.-M. (2014). From authoritative discourse to internally persuasive discourse: Discursive evolution in teaching and learning the language of science. *Cultural Studies of Science Education, 9*, 729–753. <https://doi.org/10.1007/s11422-012-9475-2>
- 1-5: Hsu, P.-L., Roth, W.-M., Marshall, A., & Guenette, F. (2009). To be or not be? Discursive resources of (dis)identifying with science related careers. *Journal of Research in Science Teaching, 46*, 1114–1136. <https://doi.org/10.1002/tea.20352>

2) Reading Packet 2 (The language of STEM):

- 2-1: Schleppegrell, M. J. (2004). The language of schooling: A functional linguistics perspective. Lawrence Erlbaum Associates, Inc. (Ch 1: Characterizing the language of schooling)
- 2-2: Lemke, J. (1990). Talking science: Language, learning, and values. Praeger. (Ch 6: How different is science?)
- 2-3: Snow, C. E. (2010). Academic language and the challenge of reading for learning about science. *Science, 328*(5977), 450–452. <https://www.science.org/doi/10.1126/science.1182597>
- 2-4: Brown, B. A., & Spang, E. (2008). Double talk: Synthesizing everyday and science language in the classroom. *Science Education, 92*(4), 708–732. <https://doi.org/10.1002/sce.20251>
- 2-5: Brown, B. A. (2004). Discursive identity: Assimilation into the culture of science and its implications for minority students. *Journal of Research in Science Teaching, 41*(8), 810–834. <https://doi.org/10.1002/tea.20228>
- 2-6: Renshaw, P., & Brown, R. A. (2007). Formats of classroom talk for integrating everyday and scientific discourse: Replacement, interweaving, contextual privileging and pastiche. *Language and Education, 21*(6), 531–549. <http://dx.doi.org/10.2167/le710.0>
- 2-7: Tofel-Grehl, C., Callahan, C. M., & Nadelson, L. S. (2017). Comparative analyses of discourse in specialized STEM school classes. *The Journal of Educational Research, 110*(3), 294–307. <https://doi.org/10.1080/00220671.2016.1273177>
- 2-8: Lemke, J. (1990). Talking science: Language, learning, and values. Praeger. (Ch7: Changing the way we teach)

3) Reading Packet 3 (Nominalization):

- 3-1: Schleppegrell, M. J. (2004). The language of schooling: A functional linguistics perspective. Lawrence Erlbaum Associates, Inc. (Ch5: Functional grammar in school subjects)
- 3-2: Fang, Z. (2005). Scientific literacy: A systemic functional linguistics perspective. *Science Education, 89*(2), 335–347. <https://doi.org/10.1002/sce.20050>
- 3-3: Fatonah, F. (2014). Students' understanding of the realization of nominalizations in scientific text. *Indonesian Journal of Applied Linguistics, 4*(3), 87–98. <https://doi.org/10.17509/ijal.v4i1.602>
- 3-4: Hsu, P.-L., & Yang, W.-G. (2007). Print and image integration of science texts and reading comprehension: A Systemic Functional Linguistics perspectives. *International*

- Journal of Science and Mathematics Education, 5, 639–659.
<http://link.springer.com/article/10.1007%2Fs10763-007-9091-x>
- 3-5: Kazemian, B., & Hashemi, S. (2014). Nominalizations in scientific and political genres- A systemic functional linguistics perspective. *International Journal of Humanities and Social Sciences*, 3(2), 211–228. <https://ssrn.com/abstract=2514388>
- 4) Reading Packet 4 (Argumentation):**
- 4-1: Tippett, C. (2009). Argumentation: The language of science. *Journal of Elementary Science Education*, 21(1), 17–25. <https://link.springer.com/article/10.1007/BF03174713>
 - 4-2: Duschl, R. A., & Osborne, J. (2002). Supporting and promoting argumentation discourse in science education. *Studies in Science Education*, 38(1), 39–72. <http://dx.doi.org/10.1080/03057260208560187>
 - 4-3: Cavagnetto, A. R. (2010). Argument to foster scientific literacy: A review of argument interventions in K-12 science contexts. *Review of Educational Research*, 80(3), 336–371. <https://doi.org/10.3102/0034654310376953>
 - 4-4: Walter, J. G., & Barros, T. (2011). Students build mathematical theory: Semantic warrants in argumentation. *Educational Studies in Mathematics*, 78(3), 323–342. <https://doi.org/10.1007/s10649-011-9326-1>
 - 4-5: Rapanta, C., Garcia-Mila, M., & Gilabert, S. (2013). What is meant by argumentative competence? An integrative review of methods of analysis and assessment in education. *Review of Educational Research*, 83(4), 483–520. <https://doi.org/10.3102/0034654313487606>
- 5) Reading Packet 5 (Representations & Analogies):**
- 5-1: Lemke, J. (1990). *Talking science: Language, learning, and values*. Praeger. (Ch8: Making meaning: The principles of social semiotics)
 - 5-2: Mainali, B. (2021). Representation in teaching and learning mathematics. *International Journal of Education in Mathematics, Science and Technology*, 9(1), 1–21. <https://doi.org/10.46328/ijemst.1111>
 - 5-3: Wilson, R. E., & Bradbury, L. U. (2021). Assessing early primary students’ growth in a science unit using multiple modes of representation: Investigating the promise of explicit drawing instruction. *International Journal of Science Education*, 43(8), 1341–1364. <https://doi.org/10.1080/09500693.2021.1909774>
 - 5-4: Barrett, T. J., Stull, A. T., Hsu, T. M., & Hegarty, M. (2015). Constrained interactivity for relating multiple representations in science: When virtual is better than real. *Computers & Education*, 81, 69–81. <http://dx.doi.org/10.1016/j.compedu.2014.09.009>
 - 5-5: Evagorou, M., Erduran, S., & Mantyla, T. (2015). The role of visual representations in scientific practices: From conceptual understanding and knowledge generation to “seeing” how science works. *International Journal of STEM Education*, 2, 11. <https://doi.org/10.1186/s40594-015-0024-x>
 - 5-6: Hsu, P.-L. (2016). Use multiple representations to teach science. *Science Scope*, 40(2), 52–59. https://learningcenter.nsta.org/browse_journals.aspx?journal=ss
 - 5-7: Richland, L. E., Holyoak, K. J., & Stigler, J. W. (2004). Analogy use in eighth-grade mathematics classrooms. *Cognition and Instruction*, 22(1), 37–60. https://doi.org/10.1207/s1532690Xci2201_2
 - 5-8: Niebert, K., Marsch, S., & Treagust, D. (2012). Understanding needs embodiment: A theory guided reanalysis of the role of metaphors and analogies in understanding science. *Science Education*, 96(5), 849–877. <https://doi.org/10.1002/sce.21026>
- 6) Reading Packet 6 (Dialogic Teaching):**
- 6-1: Bakker, A., Smit, J., & Wegerif, R. (2015). Scaffolding and dialogic teaching in mathematics education: Introduction and review. *ZDM Mathematics Education*, 47, 1047–1065. <https://doi.org/10.1007/s11858-015-0738-8>

- 6-2: Lehesvuori, S., Viiri, J., & Rasku-Puttonen, H. (2011). Introducing dialogic teaching to science student teachers. *Journal of Science Teacher Education*, 22(8), 705–727. <https://doi.org/10.1007/s10972-011-9253-0>
 - 6-3: Mercer, N., Dawes, L., & Staarman, J. K. (2009). Dialogic teaching in the primary science classroom. *Language and Education*, 23(4), 353–369. <http://dx.doi.org/10.1080/09500780902954273>
 - 6-4: Trocki, A., Taylor, C. Starling, T., Sztajn, P., & Heck, D. (2015). Launching a discourse-rich mathematics lesson. *Teaching Children Mathematics*, 21(5), 276–281.
 - 6-5: Ruthven, K., Mercer, N., Taber, K. S., Guardia, P., Hofmann, R., Ilie, S., Luthman, S., & Riga, F. (2017). A research-informed dialogic teaching approach to early secondary school mathematics and science: the pedagogical design and field trial of the epiSTEMe intervention. *Research Papers in Education*, 32(1), 18–40. <http://dx.doi.org/10.1080/02671522.2015.1129642>
 - 6-6: Schiller, E., & Joseph, J. (2010). A framework for facilitating equitable discourse in science classrooms. *Science Scope*, 33(6), 56–60.
 - 6-7: Scott, P. (1998). Teacher talk and meaning making in science classrooms: A Vygotskian analysis and review. *Studies in Science Education*, 32(1), 45–80. <https://doi.org/10.1080/03057269808560127>
 - 6-8: Scott, P., Mortimer, E. F., & Aguiar, O. (2006). The tension between authoritative and dialogic discourse: A fundamental characteristic of meaning making interactions in high school science lessons. *Science Education*, 90(4), 605–631. <https://doi.org/10.1002/sce.20131>
 - 6-9: Steele, M. D. (2019). Tools for facilitating meaningful mathematics discourse. *Mathematics teaching in the middle school*, 24(6), 354–361.
- 7) Reading Packet 7 (Example of Theory Literature Review):**
- 7-1: Roth, W.-M., Lee, Y.-J., Hsu, P.-L. (2009). A tool for changing the world: Possibilities of cultural historical activity theory to reinvigorate science education. *Studies in Science Education*, 45(2), 131–167. <http://dx.doi.org/10.1080/03057260903142269>

Technology Requirements:

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop, scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course.

If you do not have a word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about Microsoft Office 365 and follow the instructions.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

Netiquette:

According to [Handbook of Operating Procedures](#), no person shall make, distribute, or display on the campus any statement that constitutes verbal harassment of any other person:

“2.2.4.1.2 Verbal harassment may consist of threats, insults, epithets, ridicule, personal attacks, or the categories of harassing sexual speech set forth in Section VI: Equal Opportunity of this Handbook and is often based on the victim's appearance, personal characteristics, or group membership, including but not limited to race, color, religion, national origin, gender, age, disability, citizenship, veteran status, sexual orientation, ideology, political views, or political affiliation.”

As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

Standards of academic integrity:

Students are expected to uphold the highest standards of academic integrity. Any form of scholastic dishonesty is an affront to the pursuit of knowledge and jeopardizes the quality of the degree awarded to all graduates of UTEP. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to: cheating, plagiarism, collusion [making plans to cheat with another], the submission for credit of any work or materials that are not attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP) and available in the Office of the Dean of Students, may result in sanctions ranging from disciplinary probation, to failing grades on the work in question, to failing grades in the course, to suspension or dismissal among others.

Students with Disabilities statement:

If you have or believe you have a disability; you may wish to self-identify. You can do so by providing documentation to the Center for Accommodations and Support Services (CASS) located in Union E Room 106. Students who have been designated as having a disability must reactivate their standing with CASS on a yearly basis. Failure to report to this office will place a student on the inactive list and nullify benefits received. If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the director of CASS. You may call 919-747-5148 or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at <https://www.utep.edu/student-affairs/cass/>.

Student Conduct and Discipline:

All students are expected and required to obey the law and to comply with Regent, Rules, and Regulations (<http://www.utsystem.edu/bor/rules>) with system and University rules, with directives issued by an administrative official in the course of his or her authorized duties and to observe the standards of conduct

appropriate for the university.

Equal Opportunity:

All students regardless of gender, age, class, race, religion, physical disability, sexual orientation, etc., shall have equal opportunity without harassment in this course. Any problems with or questions related to this can be discussed confidentially with the instructor.

Evaluation & Coursework Requirements of Students:

All assignments should be submitted to Blackboard and all due dates are listed in Table 1.

1. Discussion Board #1 – Self-Introduction (1 point) and Two Responses (1 point)

For Discussion Board (DB)- Self-Introduction, please provide an introduction (minimum 200 words) about yourself. This can be done by using words, graphics, personal photos, or recording mini-videos and sharing them with the class. The title for this DB post should indicate student name (e.g., “Pei-Ling Hsu – Self Introduction”). For this DB, please answer the 3 questions: (1) What is your academic/professional background? (2) What are some strategies that work for you to deal with possible stress for coursework? (3) What are two truths and one lie about yourself? Each student then should respond to two classmates’ self-introduction with a minimum of 100 words for each classmate. The rubric for this assignment can be found in Appendix 2.

2. Discussion Boards Posts #2-#7 (24 points, 4 points for each post)

For each Discussion Board Post (DBP), each student should post a minimum of 500 words on corresponding topics specified in Blackboard. The titles for each DB post should indicate student name and DB number: “Pei-Ling Hsu – DB#1,” “Pei-Ling Hsu – DB#2,” etc. Each DBP should cite at least 2 references and post the 2 references at the end of each DBP. The rubric for this assignment can be found in Appendix 2.

3. Discussion Boards Responses #2-#7 (12 points, 1 point for each response)

For each Discussion Board Response (DBR), each student should respond to at least 2 other classmates’ DBP. Each response should: (1) identify merits, (2) suggest ideas for improvements, and (3) end the response with a question. The minimum of each response is 200 words. The rubric for this assignment can be found in Appendix 3. A record of these responses will be posted and updated in Blackboard. Students should check the record regularly and let the instructor know immediately if there is any question about the updated response record.

4. Video Analysis Presentations (8 points)

Each student will present one video analysis on a TIMSS video specified in Blackboard from a specified topical perspective (i.e., Nominalization, Argumentation, Representations, Analogies, or Dialogic Teaching) through a powerpoint presentation (15-20 mins). The presentation should cover (1) the introduction of a specified topic, (2) video analysis based on the specified topic, and (3) at least 5 strengths and 5 critiques (and suggestions for improvement) based on the specified topic. *Each of the 5 strengths and 5 critiques and suggestions should be supported by at least one quote from scholarly work about this particular topic.* The rubric for this assignment can be found in Appendix 4. These video analysis presentations (i.e., powerpoints) should be submitted to the corresponding assignment section in Blackboard. Updated schedules for these presentations can be found in Blackboard.

5. Video Analysis Notes (16 points, 4 points for each note)

Each student will write 4 video analysis notes on a TIMSS video specified in Blackboard. Each note should include a minimum of 500 words based on a specified topical perspective (i.e., Nominalization, Argumentation, Representations, Analogies, or Dialogic Teaching). Each note should cover (1) the introduction of a specified topic, (2) video analysis based on the specified topic, and (3) at least 1

strength and 1 critique (and suggestion for improvement) based on the specific topic. *Each strength, critique, and suggestion for improvement should be supported by at least one quote from scholarly work about this particular topic.* Students will use “Template 1 – Video Analysis Note” to complete these notes. The rubric for this assignment can be found in Appendix 5. These video analysis notes (minimum 500 words each) should be submitted to the corresponding assignment section in Blackboard. Updated schedules for writing these video analysis notes can be found in Blackboard.

6. Theory Literature Review (30 points)

(1) Empirical Study Report (6 points)

Each student will identify at least 10 relevant empirical studies (including at least 2 dissertations) that apply a theory out of the four theories introduced in the course (i.e., Discursive Psychology, Systemic Functional Linguistics, Social Semiotics, or Dialogism) and conduct a preliminary analysis on these 10 studies. Students will use “Template 2 -Empirical Study Report” to complete the assignment. The rubric for this assignment can be found in Appendix 6. This empirical study report should be submitted to the corresponding assignment section in Blackboard.

(2) Theory Literature Review - Draft (6 points)

Each student will draft a literature review that provides a review on a theory out of the four theories introduced in the course (i.e., Discursive Psychology, Systemic Functional Linguistics, Social Semiotics, or Dialogism). Students will use “Template 3 -Theory Literature Review-Draft” to complete the assignment. The rubric for this assignment can be found in Appendix 7. This theory literature review - draft (minimum 1500 words & 10 references & 10 empirical studies) should be B-emailed to everyone in the class (including the instructor) AND submitted to the corresponding assignment section in Blackboard.

(3) Theory Literature Review - Evaluation (6 points)

Each student will review two other classmates’ theory literature review-draft and provide feedback (minimum 500 words for each review) for improvements. Students will use “Template 4 – Theory Literature Review Draft - Evaluation” to complete this assignment. Each theory literature review draft - evaluation may include but not limit to (1) praise for merits, (2) identifications of weakness, and ideas and suggestions for improvements. The rubric for this assignment can be found in Appendix 8. The literature review -evaluation should be B-emailed to everyone in the class (including the instructor) AND submitted to the corresponding assignment section in Blackboard.

(4) Theory Literature Review Presentation (6 points)

Each student will present his/her final theory literature review in classes (10-15 minutes). The rubric for this assignment can be found in Appendix 9. A presentation powerpoint file should be submitted to the corresponding assignment section in Blackboard.

(5) Theory Literature Review - Final (6 points)

Students will revise and improve their theory literature review - draft according to the feedback they receive from the instructor and the class. Students will use “Template 5 – Theory Literature Review-Final” to complete the assignment. The rubric for this assignment can be found in Appendix 7. This literature review - final (minimum 3000 words & 20 references & 10 empirical studies) should be submitted to the corresponding assignment section in Blackboard.

7. Class Attendance and Participation (8 points)

Each week, we have different readings and topics for discussions. Students should be prepared and are expected to participate in the classes actively. Students are expected to attend classes on time, finish assignments, and participate in the course professionally. *Students who have more than two absences may be dropped with an “F” (Fail).* Students who can find help from classmates to set up a virtual conference with the class will be counted as present. Students missing a class are responsible for finding help to catch up with the course, complete any exercises, readings, activities, etc.

*Bonus point (1 point): At the end of the semester, students will receive a UTEP email inviting students to submit a course evaluation. Once students complete the evaluation, students will receive a completion confirmation message. To encourage students to complete the course evaluation for this course, students may receive a bonus point by submitting their course evaluation “completion confirmation screenshots” (“NOT” the evaluation results) to show that they complete their course evaluation.

Course Requirements:

1. The link for all zoom meetings: <https://utep-edu.zoom.us/j/6178265571>
2. TIMSS Video: <https://www.timssvideo.com/>
3. All assignments should be submitted through the Blackboard system and use WORD files or Powerpoint files. File names should start with “your name” and end with “the assignment name”. There should be no space in between. Taking the name of “Isaac Newton” for example.
 - 1) IsaacNewton-VideoAnalysisPresentation.ppt
 - 2) IsaacNewton-VideoAnalysisNote.docx
 - 3) IsaacNewton-EmpiricalStudyReport.docx
 - 4) IsaacNewton-TheoryLiteratureReview-Draft.docx
 - 5) IsaacNewton-TheoryLiteratureReview-Evaluation.docx
 - 6) IsaacNewton-TheoryLiteratureReviewPresentation.ppt
 - 7) IsaacNewton-TheoryLiteratureReview-Final.docx
4. Due dates are specified in Table 1 and due time is *11:59PM (midnight)* for ALL electronic submissions. Delayed submissions of any assignments will cause grade reductions. One delay day causes 10% reduction of a deserved grade, two delay days causes 20% of a deserved grade, and so on.
5. Each electronic file of assignments should not exceed 10 MB.

Grade for STEM 6319:

A letter grade will be assigned based on students’ performance: A (90–100 points), B (80–89 points), C (70–79 points), D (60–69 points), or F (<60 points).

UTEP Course Resources:

UTEP provides a variety of student services and support:

Technology Resources

- [Help Desk](#): Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

Academic Resources:

- [UTEP Library](#): Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- [University Writing Center \(UWC\)](#): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- [History Tutoring Center \(HTC\)](#): Receive assistance with writing history papers, get help from a tutor and explore other history resources.
- [RefWorks](#): A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

Individual Resources:

- [Military Student Success Center](#): Assists personnel in any branch of service to reach their educational goals.
- [Center for Accommodations and Support Services](#): Assists students with ADA-related accommodations for coursework, housing, and internships.
- [Counseling and Psychological Services](#): Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

Scholarly Tools & Resources

- 1) Pei-Ling Hsu's website: <http://peilinghsu.utep.edu>
- 2) Survey website: <http://slido.com>
- 3) Scimago Journal & Country Rank: <https://www.scimagojr.com/>
- 4) OWL- Purdue Online Writing Lab: https://owl.purdue.edu/owl/purdue_owl.html
- 5) Free DOI Look Up – Crossref: <https://www.crossref.org/guestquery/>
- 6) ProQuest Dissertations & Theses Global : <https://0-search-proquest-com.lib.utep.edu/pqdtglobal/advanced?accountid=7121>
- 7) American Doctoral Dissertations: <http://0-web.b.ebscohost.com.lib.utep.edu/ehost/search/advanced?vid=0&sid=2d4941da-a556-4391-aa68-c865a493819a%40sessionmgr102>
- 8) Zotero (Online Reference Organization): <https://www.zotero.org/>
- 9) Mendeley (Reference Management): <https://www.mendeley.com/homepage5/?switchedFrom=>
- 10) LucidChart (Create diagrams on line): <https://www.lucidchart.com/>
- 11) Research Guide (University of Southern California): <http://libguides.usc.edu/writingguide>
- 12) UTEP-COE-EL3 colloquiums <http://coe.utep.edu/el3lab/>
- 13) UTEP-COE-EL3 STEMers seminars <https://www.utep.edu/education/stemers/>

Class Schedule (Table 1)

Changes may be made during the classes. Students should follow the latest changes.

No	Class Date	Topics & Activities	Readings before the class	Assignments Due (11:59pm-midnight) E: Everyone O: Only scheduled people
01	Jan 17	No class - Dr. Martin Luther King, Jr. Holiday – University Closed	Syllabus	
02	Jan 24 (Zoom)	-Review syllabus -Course overview	Syllabus	E: DB#1-Self Introduction (Jan 20) E: DB#1-Responses (Jan 23) E: Syllabus test (Jan 23)
03	Jan 31 (F2F)	-Discursive Psychology -STEM discourse -TIMSS video	Packet 1	E: DB#2-Post (Jan 27) E: DB#2-Responses (Jan 30)
04	Feb 07	-The language of schooling -The language of STEM	Packet 2	E: DB#3-Post (Feb 03) E: DB#3-Responses (Feb 06)
05	Feb 14 (F2F)	-Systemic Functional Linguistics -Technicality & Nominalization	Packet 3	E: DB#4-Post (Feb 10) E: DB#4-Responses (Feb 13)
06	Feb 21	Argumentation	Packet 4	E: DB#5-Post (Feb 17) E: DB#5-Responses (Feb 20)
07	Feb 28 (F2F)	-Nominalization & Argumentation -Presentations and discussions on TIMSS video analysis	Packet 3-4	O: Video Analysis presentation (Feb 27) O: Video Analysis note (Feb 27) (Template 1)
08	Mar 07	-Social Semiotics -Representations & Analogies	Packet 5	E: DB#6-Post (Mar 03) E: DB#6-Responses (Mar 06)
09	Mar 14	Spring Break (No class)		E: Empirical study report (Mar 13) (Template 2)
10	Mar 21	-Dialogism -Dialogic teaching	Packet 6	E: DB#7-Post (Mar 17) E: DB#7-Responses (Mar 20)
11	Mar 28 (F2F)	-Representations & Analogies -Presentations and discussions on TIMSS video analysis	Packet 5	O: Video Analysis presentation (Mar 27) O: Video Analysis note (Mar 27) (Template 1)
12	Apr 04	-Theory literature review	Packet 7	E: Theory literature review-Draft (Apr 3) (B-email to the class) (Template 3)
13	Apr 11 (F2F)	-Dialogue structures & Dialogical Teaching -Presentations and discussions on TIMSS video analysis	Packet 6	O: Video Analysis presentation (Apr 10) O: Video Analysis note (Apr 10) (Template 1)
14	Apr 18	-Discussion on theory literature review	Packet 7	E: Theory literature review-Evaluation (Apr 17) (B-email to the class) (Template 4)
15	Apr 25 (F2F)	-Presentations on theory literature review		E: Theory literature review-Powerpoint (Apr 24)
16	May 03	No Class-Semester End		E: Theory literature Review- Final (May 02) (Template 5) E: UTEP Course Evaluation (May 02)

Appendixes:

Appendix 1: Grading Rubric for “Discussion Board #1– Self Introduction and Two Responses”

	67-100%	34-66%	0-33%
	For Discussion Board- Self Introduction, each student should post a minimum of 200 words about yourself, addressing 3 questions specified in Blackboard. This can be done by using words, graphics, personal photos, or recording mini-videos and sharing them with the class. The title for this DB post should indicate student name (e.g., “Pei-Ling Hsu – Self Introduction”). Each student then should respond to two classmates’ self-introduction with a minimum of 100 words for each classmate.	Self-Introduction and two responses cover most of the requirements.	Self-Introduction and two responses cover only a few requirements.

Appendix 2: Grading Rubric for “Discussion Board Post #2-#7”

	67-100%	34-66%	0-33%
Follow instructions to cover required content	For each DBP, each student should post a minimum of 500 words on corresponding topics specified in Blackboard. The titles for each DB post should indicate student name and DB number: “Pei-Ling Hsu – DB#1,” “Pei-Ling Hsu – DB#2,” etc. Each DBP should cite at least 2 references and post the 2 references at the end of each DBP.	DBP covers most of the requirements.	DBP covers only a few requirements.
Analysis / Interpretation	DBP shows rigorous analysis and uses citations to support argumentations. In addition, it demonstrates that the student has gained new understanding of the topic.	Some DBP content do analysis or interpretation well, but a significant number do not. This might be because the analysis was not done well or because it was not attempted (that is, was simply opinion).	DBP generally show little evidence of analysis, consisting instead of opinion and feelings and impressions.
Writing Skill	Sentences are clear and wording is unambiguous. Correct word choice, correct spelling, correct grammar, and APA format. Writing style can still be conversational rather than formal. The writing does not have to be flawless, but it will be better than average writing.	Ordinary, good writing. Lapses are regular and patterned, but do not undermine the communication or the persuasiveness of the argument.	Grammar, spelling, and/or word choice errors are frequent enough that the sense of the message is lost or muddled.

Appendix 3: Grading Rubric for “Discussion Board Response #2-#7”

67-100%	34-66%	0-33%
For each Discussion Board Response (DBR), each student should respond to at least 2 other classmates’ DBP. Each response should: (1) identify merits, (2) suggest ideas for improvements, and (3) end the response with a question. The minimum of each response is 200 words.	DBR covers most of the requirements.	DBR covers only a few requirements.

Appendix 4: Grading Rubric for “Video Analysis Presentation”

		67-100%	34-66%	0-33%
Topic introduction		The presentation covers the essences of the topic thoroughly	The presentation covers the essences of the topic partially	The presentation covers the essences of the topic poorly
Visuals		The presentation includes various visual representations to convey the topic.	The presentation includes a few visual representations to convey the topic.	The presentation does not use any visual representation to convey the topic.
Clarity		The presentation is well-structured, clear and easy to follow	The majority of the presentation is unclear and confusing	The presentation has no structure and difficult to follow
Time Management		The presentation took 15-20 mins.	The presentation took more than 20 mins.	The presentation took less than 15 mins.
Critiques and suggestions	Fruitfulness	The presentation includes at least 5 strengths and 5 critiques and suggestions on a specified topic.	The presentation includes 3-4 strengths and 3-4 critiques and suggestions on a specified topic.	The presentation includes 0-2 strengths and 0-2 critiques and suggestions on a specified topic.
	Validity	All strengths, critiques, and suggestions are well supported with quotes to validate arguments and elaborations	A majority of these critiques and suggestions are well supported with quotes to validate arguments and elaborations	Less than 50% of these critiques and suggestions are well supported with quotes to validate arguments and elaborations
	Clarity	The presentation is well-structured, clear and easy to follow	The majority of the presentation is unclear and confusing	The presentation has no structure and difficult to follow

Appendix 5: Grading Rubric for “Video Analysis Note”

67-100%	34-66%	0-33%
Each student will write 4 video analysis notes. Each note should include a minimum of 500 words based on a specified topical perspective. Each note should cover (1) the introduction of a specified topic, (2) video analysis based on the specified topic, and (3) at least 1 strength and 1 critique (and suggestion for improvement) based on the specific topic. <i>Each strength, critique, and suggestion for improvement should be supported by at least one quote from scholarly work about this particular topic.</i> Students will use “ <u>Template 1 – Video Analysis Note</u> ” to complete these notes. All references follow APA format.	The video analysis note covers most of the requirements. Most references follow APA format.	The video analysis note covers only a few requirements. Only some references follow APA format.

Appendix 6: Grading Rubric for “Empirical Study Report”

67-100%	34-66%	0-33%
<ul style="list-style-type: none"> -Identify at least 10 relevant empirical studies (at least 2 dissertations) -Theoretical concepts, data sources, ways of applying the theory, and implications are described thoroughly -All references follow APA format 	<ul style="list-style-type: none"> -Identify at least 6-9 relevant empirical studies -Include 1 dissertation - Theoretical concepts, data sources, ways of applying the theory, and implications are described partially -Most references follow APA format 	<ul style="list-style-type: none"> -Identify at least 0-5 relevant empirical studies -Does not include any dissertation - Theoretical concepts, data sources, ways of applying the theory, and implications are described partially -Only some references follow APA format

Appendix 7: Grading Rubric for “Theory Literature Review” (Draft and Final)

67-100%	34-66%	0-33%
<ul style="list-style-type: none"> -Fulfill the minimum required words and references (please see the minimum required words and references in the templates) -The introduction of the theory is well articulated and supported by scholarly work -Major themes of ways of applying the theory and their implications are synthesized logically and supported with logical reasoning and evidences -All references follow APA format 	<ul style="list-style-type: none"> -Fulfill the minimum required words and references (please see the minimum required words and references in the templates) partially - The introduction of the theory is articulated but is not supported by scholarly work -Most of the themes of ways of applying the theory and their implications are synthesized logically and supported with logical reasoning and evidences -Most of references follow APA format 	<ul style="list-style-type: none"> -Does not fulfill minimum required words and references (please see the minimum required words and references in the templates) - The introduction of the theory is articulated but is not supported by scholarly work -Only some themes of ways of applying the theory and their implications are synthesized logically and supported with logical reasoning and evidences -Only some references follow APA format

Appendix 8: Grading Rubric for “Theory Literature Review - Evaluation”

67-100%	34-66%	0-33%
<p>-Praise for merits are well articulated with logical reasoning and supported by scholarly work</p> <p>-Identifications of weaknesses and suggestions for improvements are well articulated with logical reasoning and supported by scholarly work</p> <p>-All references follow APA format</p>	<p>-Praise for merits are partially articulated with logical reasoning and supported by scholarly work</p> <p>-Identifications of weaknesses and suggestions for improvements are partially articulated with logical reasoning and supported by scholarly work</p> <p>-Most of references follow APA format</p>	<p>-Praise for merits are not articulated with logical reasoning and supported by scholarly work</p> <p>-Identifications of weaknesses and suggestions for improvements are not articulated with logical reasoning and/or supported by scholarly work</p> <p>-Only some references follow APA format</p>

Appendix 9: Grading Rubric for “Literature Review Presentation”

67-100%	34-66%	0-33%
<p>-The presentation covers the essences of the theory literature review.</p> <p>-All themes are well supported with quotes to validate arguments and elaborations</p> <p>-The presentation includes various visual representations to convey the literature review.</p> <p>-The presentation is well-structured, clear and easy to follow.</p>	<p>-The presentation covers the essences of the literature review partially.</p> <p>-Most of the themes are supported with quotes to validate arguments and elaborations</p> <p>-The presentation includes a few visual representations to convey the literature review.</p> <p>-The presentation is not clear.</p>	<p>-The presentation does not cover the essences of the literature review.</p> <p>-Only a few themes are supported with quotes to validate arguments and elaborations</p> <p>-The presentation does not include visual representations to convey the chapter.</p> <p>-The presentation is difficult to follow.</p>