

STEM 6319 Special Topic: Research of STEM Toys and Game Based Learning

University of Texas at El Paso
 College of Education, Department of Teacher Education

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Office Phone	915-747-7616	
Office Hours	Education Building 201 T & W 10:00 am– 1:00 pm (Other time by appointment)	
Class Format	100% Online Course	
This syllabus is subject to change as needed.		

Course Description

This course will help students understand cutting edge fusions of informal education and formal education to engage and to motivate K-12 students, using vehicles such as toys, games, music and sports. Students will have opportunities to examine a variety of issues related to play in human learning such as how play interacts with the emotional and intellectual development of students and how play facilitation helps students to expand their curiosity and competence. The course uses foundational concepts of learning in the fields of psychology, sociology and educational research to understand critical implications of the current body of literature. During this course, developmentally appropriate curricula that encompass the cognitive, social, emotional, and psychomotor domains will be identified and related to pedagogical guidelines. Theories and research on play and their implementation in K-12 settings will also be addressed.

Course Objectives/Student Learning Outcomes

<i>Students enrolled in this section will have multiple academic goals to achieve:</i>	<i>Instructor will use following assessments to evaluate students' learning outcomes</i>
1. Evaluate the role of play in the physical, emotional, social and intellectual development in K-12 education	a. Course graded assignments b. Weekly reading reflection
2. Analyze biological and socio-cultural theories and related empirical research regarding play in K-12 education.	a. Course graded assignments b. Weekly reading reflection
3. Conceptualize the pedagogical relationship between school education, everyday life and popular cultures.	a. Course graded assignments b. Virtual presentations
4. Deconstruct play/game based learning theories, curriculum theories and their related implications for K-12 education teaching practice.	a. Course graded assignments b. Virtual presentations
5. Compare major approaches to game-based learning in terms of their: curricular focus, teaching methods, design of interactions and use of environmental/educational materials.	a. Course graded assignments b. Weekly reading reflection

Reading Materials
(PDF of the book/articles available in Blackboard)

- *How people learn: Brain, mind, experience, and school.*
- *How people learn II: Learners, contexts, and cultures.*
- Assigned journal articles and book chapters

Participation and Professionalism

All doctoral students are expected to demonstrate the ethical and professional values associated with the Teaching, Learning and Culture PhD program. It is critical doctoral students adopt and exhibit a professional demeanor at each point in their teacher preparation. Evidence of professional dedication will be expected through all work during classes and practicum, seminar, presentation, and clinical experiences. Credit for participation and professionalism will be part of the evaluation.

Technical Assistance

If you have technical problems with the course, please contact the UTEP Helpdesk: M - F: 7AM - 8PM, Sat: 9AM - 1PM, Sundays 11-4 pm.

- On campus phone: 915.747.5257
- Off campus: 915.747.4357

If you are on campus, you may also visit the ATLAS lab located within the Undergraduate Learning Center (UGLC building) or the Technology Support Center in Room 300, Library.

Policy on Academic Dishonesty

The University of Texas at El Paso prides itself on its standards of academic excellence. In all matters of intellectual pursuit, UTEP faculty and students must strive to achieve based on the quality of work produced by their individual. In the classroom and in all other academic activities, 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. It is imperative, therefore, that all faculty, insist on adherence to these standards.

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, 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, and 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 Special Needs

The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protections for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides a reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please notify your instructor and contact Disabled Student Services (DSSO) at 747- 5148 or at dss@utep.edu or come by Room 106 Union East Building.

Online Etiquette Guideline

As a member of the learning community of this class, the following is a list of specific expectations (Note that this list is not exhaustive and that it may be added to as needed throughout the semester):

You are expected to actively engage in the learning community of this class.

This includes: completing the coursework tasks as outlined in each week's session, actively contributing to discussions, seeking guidance if you have questions (note that if you have a question, it is likely that everyone will benefit if ask your question) and exhibiting professional courtesy during interactions with classmates/ your instructor. Class participation includes, but is not limited to: engaging in in-class activities and writing, volunteering inputs in class discussions, answering questions, defending personal viewpoints, and presenting completed assignments to your classmates.

You are expected to exhibit appropriate behavior for a higher learning environment.

Even though we will not meet face-to-face, logging on to our online course site is the equivalent of walking on to the UTEP campus. Therefore, the rules of conduct that apply on campus also apply in our course site. Our course site is a place to engage in social learning; it is meant to be a safe space for all. Our ideas and beliefs shape who we are, and will differ from our peers; sharing these within class allows us to learn different perspectives and points of view, but this can only happen successfully if everyone in our learning community is respectful of individual ideas. You are encouraged to participate in all activities to the fullest extent possible, with an open mind to new experiences. In particular, the following are general guidelines for online interactions:

- All the information discussed between peers and/or with your instructor should be kept confidential, thus providing a safe atmosphere for creative expression, free of judgment.
- You are encouraged to participate to the depth that you feel comfortable sharing with the class (Note: An electronic record will remain, so be thoughtful in how much personal information you share. The general rule is: share only that which you would be comfortable seeing printed in a newspaper/ public Internet page.).
- Do not use inappropriate language, all capital letters, or language short cuts (i.e. texting shorthand). Online entries should reflect academic writing standards, with edited spelling, grammar, and punctuation.
- When reacting to someone else's message, whether in agreement or disagreement, please address the ideas, not the person. (Note: Harassing, flaming and/or inappropriate postings will not be tolerated.)

- Be sure to read everyone's responses before posting. Avoid repetition of what someone else has already said. Add something new to the discussion!
- Please refrain from posting yes/no or I agree/disagree answers (this will NOT earn you participation points). The point of our online interactions is to create a rich and meaningful sharing of ideas; therefore, posts should: justify positions, provide specific examples, and demonstrate that you have read the required readings and your classmates' comments carefully and thoughtfully.

You are expected to exhibit high level time management skills and turn your work in ON TIME.

As previously mentioned, this is a fast-paced, intensive course that requires you to devote significant time to complete the required readings, discussions and various additional assignments that are due each week. Although there is no mandatory time that you must be online, the research shows that those with the best success in online courses create a set schedule for coursework and stick to it (whether you do your work at 3am or 10am on whatever day does not matter, what matters is just that you allow a sufficient, set time each week of the semester to focus on coursework). Timely completion of all coursework is essential for this class to run smoothly (i.e. your classmates rely on you to do your readings early in the week and contribute to the discussion on time in order for them to be able to post feedback later in the week).

Therefore, late work will NOT be accepted. All online assignments are due by the due date and time listed in the task directions (see each weekly session in our course site for specific details). Please ensure that you carefully read all instructions for each assignment, particularly the due dates and times, and then schedule the time you devote to this class accordingly.

Note: Exceptions may be made in the case of *extreme emergency* with supporting documentation. I will not accept ANY late coursework after one week from the originally scheduled due date during the semester or after the last scheduled coursework due date at the end of the semester. If you anticipate your assignment will be late due to unusual circumstances, please contact me and explain your situation prior to the due date of the assignment. Without prior notice, late assignments will NOT receive any credit.

If BlackBoard is down and you cannot get into our course site to post work by the required due date: ALL coursework should be posted in our online course site. If you find that you are unable to log into Blackboard to access our course site at the time that you are trying to post your work by the due date, you must email me (through regular e-mail at saan@utep.edu) IMMEDIATELY WITH AN ATTACHMENT OF YOUR WORK. When you do this, I will know that you have completed the work in a timely manner and it will be accepted, even though it was not posted in our course site as is generally required. I will then check with the Technology staff at UTEP to determine when Blackboard was out. If you email me indicating that you did not post your coursework because Blackboard is down, but you do not send me your work as an attachment in the message, you will not receive credit for your work.

You work is expected to be your own.

Everything you turn in for this course must be your own work. The purpose of coursework is to know what *you* think, not how clever you are at getting around the rules.... so use your brilliance in a productive way. Any student caught engaging in instances of cheating, plagiarism or any other form of academic misconduct WILL be referred to the Dean of Students Office for disciplinary action. Students may be suspended or expelled from UTEP for such actions. It's serious! Don't do it.

You are expected to contact me for help if needed throughout the semester.

I will have virtual office hours on Mondays from 2-4pm MT. You can email me for a quick response or email me to set up a phone consultation during this time. My email is saan@utep.edu. Please include your first and last name and the title of the course you are taking with me in the body of your message. Outside of my virtual office hours, you can expect a response from me with 24-48 hours (usually sooner) for any email communication you send.

If at any time, you have difficulty understanding my expectations or the course material or completing course work for any reason—**BE PROACTIVE!!!** I am here for you (email, phone, or in person). I *strongly* encourage you to reach out to me as soon as possible (do not wait until the day before something is due or the end of the semester) and we will work together to make this class a success for you!

Course Structure and Assignments

This course runs on a weekly schedule, Monday through Sunday. Detailed instructions for all of the coursework tasks to be completed each week of the semester are arranged by class session (i.e. each class session covers one week of the semester). The class sessions for each week are labeled by week number and start date in the main left-hand navigation in our course site. In each of the weekly class sessions, you will find: the topic(s) and objectives for the week, the required reading (from the textbook and via embedded links to download/access articles/videos), a summary of what tasks are due (and when) that week and detailed directions and related links for completing and posting your coursework that is due for that class session (i.e. during that week). **All weekly tasks MUST be submitted by the given deadline; course work is ALWAYS due by midnight MT on the day indicated in the task directions.**

The following is a summary overview of the required coursework for the entire semester and related points possible. For *detailed instructions*, you should access the weekly class sessions in our online course site.

Weekly Reading Reflections

(10 points for each week's assignment, due every Thursday midnight)

Each week you will write a comprehensive critique report (no less than 400 words) for the assigned articles. Not to just summarize the contents, the key task is for you to synthesize and recreate the texts. The overarching principle in these assignments is to offer you a chance to “create your own sets of pedagogy” by exploring the differences between “how people learn” and “how teachers teach”. Every week, we will read two chapters in the textbook books about learning theories and three recent articles about theories in play and games in learning. Our goal is to make our personal connection between theories (how people learn) and practices (how teachers teach) by using play/game pedagogy as the bridge.

Special Mission for the Assistant Superintendent

(15 points for each week's assignment, due every Sunday midnight)

For facilitate you completing all the course tasks, we will put ourselves in the position as the “vice-superintendent for curriculum and instruction” in a school district. Our vision of teaching and learning will go beyond of certain subjects and grade levels; instead, we will treat K-12 education as an integral part. Being the imaginary “assistant superintendents”, the course will assume that you care about all students in your school district and you want to improve your

students' learning in all schools. Every week, you will receive a different mission about curriculum and instruction development from the school district:

- Warm-Up Mission 1: LEGO
- Warm-Up Mission 2: Playdoh
- Mission 1: Commercial toys
- Mission 2: Makerspace
- Mission 3: Re-invention of traditional resources
- Mission 4: Space, air, sound, lights and water as educational resources
- Mission 5: Evaluation of play and learning
- Mission 6: Grant proposal

Participation and Interactions

(10 points for each week's assignment, due every Tuesday of the following week)

For the weeks that required "Feedback to Classmates' Postings" are assigned (see detailed directions outlined in the individual weekly class sessions in our online course site), you will offer:

- Feedback to TWO classmates' Weekly reflection: (5 points for EACH week)
- Feedback to TWO classmates' Special Mission: (5 points for EACH week)

General Criteria for Grading Assignments

Does not meet expectations (Loss of many points)	Meets expectations (Loss of few points)	Exceeds expectations (Loss of no points)
The information provided is not organized and detailed or conclusions drawn from the information is not supported or accurate. The assignment is incomplete/does not include all required sections according to the directions. All written portions include repeated grammatical and spelling errors; no or improper citations.	The information provided is somewhat organized and detailed and conclusions drawn from the information is somewhat supported and accurate. The assignment is mostly complete/ includes most required sections according to the directions. All written portions include few or no grammatical and spelling errors; proper citations with few errors.	The information provided is organized and detailed and conclusions drawn from the information are supported and accurate. The assignment is complete/includes all required sections according to the directions. All written portions include no grammatical and spelling errors; proper citations with no errors.

*Individual grading rubrics are found in the directions for each coursework task, which are located in our online course site.

Assignments and Grades

Weekly Chapter Discussions	(10×8=80 Pts)
Critical Article Reflections	(15×8=120 Pts)
Participation and Interactions	(10×8=80 Pts)
Total	280 Pts
Grade Distribution:	
A 90% - 100 % of point total	B 80% - 89.9% of point total
C 70% - 79.9 % of point total	D 60% - 69.9% of point total

General Calendar

Changes may be made in this syllabus when judged appropriate by the instructor

Dates	Class Topics/Activities	Reading**
Week 1	Module 1	<i>How people learn Chapter: 1 & 2</i> Willingham (2009) Biddle et al. (2013) White (2012)
Week 2	Big Ideas of Theories	<i>How people learn Chapter: 3 & 5</i> Hmelo-Silveraaa (2007) Kirschner et al. (2006) Sweller et al. (2007)
Week 3	Module 2 Let's Fill Toys into Our Classrooms	<i>Commercial toys as learning resources</i> Francis (2010) Yelland (2011) Project Zero (2016)
Week 4*		<i>Developing a makerspace for promote learning</i> Cohen (2017) Kurti (2014) Sandberg (2011)
Week 5		<i>Re-invention of traditional manipulatives, toys and game</i> Wood (2013) Katz (2015) Carr & Luken (2014)
Week 6		<i>Space, air, sound, lights and water as educational resources</i> Aiono (2019) Pyle & Daniels (2016) Samuelsson & Joahnsson (2006)
Week 7	Module 3	<i>How people learn II: Chapter 6 & 7</i> Kelly-Vance & Ryalls (2008) Edwards (2017) Taylor & Boyer (2019)
Week 8*	Research Development for Play	<i>How people learn II: Chapter 3</i> McGuinness et al. (2014) Wood (2007) Wainwright et al. (2020)

*Note: Two optional individual meetings through Zoom will be offered in Week 4 & Week 8. Please send me emails to schedule a specific meeting time if you like.

**Every week, master students only need to read the first article in the list, and doctoral students need to read all three articles in the list.