

EEB 607: Science Education Journal Club
Discussions surrounding research on science education
Term: Spring 2018

Instructors/Discussion leaders: Miss Miranda Chen (mchen31@vols.utk.edu)
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COURSE DESCRIPTION

Journal Club is a 1-hour weekly discussion course designed for graduate students (or upper-level undergraduate students) to explore the literature base that informs science pedagogy in higher education. This course will provide participants with the opportunity to develop their skills in the reading and comprehension of: (1) social science methodology, (2) epistemology, and (3) application of research in the classroom.

FORMAT

Each week one or two students will lead the group in discussion of a paper or a chapter in the discipline of science education research. Our group discussion will last approximately 50 minutes. The discussion can be structured with about 30 minutes for summary, critique, questions; and the last 20 minutes for application of the results in the classroom or in your institution. There will also be a designated “Snack Supplier” each week (please report any allergies). This will be either one or two students, preferably those not leading the topic that week.

COURSE PRIMARY OBJECTIVES (for the students):

1. Practice reading primary literature in science education research
2. Describe the purpose and value of education research, and how it relates to educational practice and the broader scope to society.
3. Recognize the differences between qualitative and quantitative paradigms of research and when it is appropriate to apply the different research techniques.

SECONDARY OBJECTIVES (for the instructors):

1. Help students learn about the research currently being conducted in science education
2. Introduce students to the foundations of social science research epistemology and methodology

COMMITMENT:

Participant responsibility is to come weekly to group meetings (date and time TBD) to respect those leading discussion and bringing food. Enrollment in this course requires a minimum of **2 hours/week** for 1 credit hour (both reading the paper and attending the meeting). At the end of the term, there will be a Pass/Fail allocation for each individual based on participation and attendance.

STUDENT EXPECTATIONS:

- Read the chosen topic paper/book chapter
- Come to meetings prepared to discuss the selected topic(s) as outlined in the syllabus
- Participate actively in discussion
- Have interesting discussions and discuss ideas to implement in the classroom!

SPRING 2018 SCHEDULE **Still subject to change**

Date	Topic of Discussion/ Paper	One Person leading Topic Paper + One Person bringing SNACKS
Week 1 (After MLK) Jan 16 th – Jan 19 th	Topic: Introduction to Science Education Research – Outline expectations, readings, and topic sign-ups (also will be on shared document)	1) Margarete + Miranda 2) N/A
Week 2 Jan 22 nd – Jan 26 th	Topic: Introduction to Active Learning Reading: Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. <i>Proceedings of the National Academy of Sciences</i> , 111(23), 8410-8415.	1) Margarete + Miranda 2) Miranda
Week 3 Jan 29 th – Feb 2 nd	Topic: Tips Teaching Active Learning Classroom Reading: Dolan, EL, JP Collins (2015). We must teach more effectively: here are four ways to get started. <i>Mol. Biol. Cell</i> , vol. 26 no. 12, 2151-2155.	1) Margarete + Miranda 2) Margarete
Week 4 Feb 5 th – Feb 9 th	Topic: Inclusivity in Education Reading: Barnes ME and Brownell SE. 2017. A call to use cultural competence when teaching evolution to religious college students: Introducing Religious Cultural Competence in Evolution Education (ReCCEE). <i>CBE Life Sciences Education</i> .	1) Margarete + Miranda 2)

Week 5 Feb 12 th – Feb 16 th	<p>Topic: Ethics in Social Science Research – Considering Institutional Review Board(IRB), ethics, and integrity in qualitative research</p> <p>Reading: Fahie, D. (2014). Doing sensitive research sensitively: Ethical and methodological issues in researching workplace bullying. International Journal of Qualitative Methods, 13, 19-36.</p>	<p>1) Margaurete + Miranda</p> <p>2)</p>
Week 6 -15	<p>Rotations of Research Paper Discussion in the group</p> <p>Leader must send paper <u>one WEEK</u> before meeting.</p>	

OTHER SUGGESTED TOPICS FOR DISCUSSIONS

- Learning theories
- History of Biology Science Education
- Sara Eddy papers