

Advanced Research Methodology course outline

Course title: Advanced Research Methods

Type of course: Core course (2 credits)

Course requirement: Students should have credited the foundational course of education research methods

Course duration: 10 weeks

Meeting time Weekly 2 hours (online)
*workshops maybe offered in an in-person mode)

Course learning goals

- Integrating multiple worldviews in the conduct of qualitative education research
- Applying self-reflexivity in the understanding of research methods in science education research
- Critically evaluate theoretical/ paradigmatic positions and understand how theoretical positions influence design and data collection and analysis choices
- Understand ethical issues and IRB application procedure

Course assessment Term paper on pilot research data (Week 8-10)

Course instructor & contact Deepa Chari
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Work plan (weekly)

Week 1	Reading: Intersectionality as a framework for understanding diverse young women's commitment to engineering; (2015) Bruning, Bystydzienski, and Eisenhart; Journal of Women and Minorities in Science and Engineering 21(1):1-26 Journal DOI: 10.1615/JWomenMinorScienEng.2014007345 (on Researchgate)
Week 2	Reading: Science Aspirations, Capital, and Family Habitus: How families shape children's engagement and identification with science (2012) Archer et al. Journal DOI: https://doi.org/10.3102/0002831211433290

Week 3	<p>Reading: Talking, wrestling, and recycling: An investigation of three analytic approaches to qualitative data in education research. Collier, Moffatt, & Perry (2015). Qualitative Research, 15(3), 389-404.</p> <p>Journal DOI: https://doi.org/10.1177/1468794114538896</p>
Week 4	<p>Reading: Informal physics programs as communities of practice: How can programs support university students' identities? (2021) Prefontaine et al. Phys. Rev. Phys. Educ. Res. 17, 020134</p> <p>Journal DOI: https://doi.org/10.1103/PhysRevPhysEducRes.17.020134</p>
Week 5	<p>Reading: Interdisciplinary dialogues as a site for reflexive exploration of conceptual understandings of teaching–learning relationships, (2015) Green et al. Pedagogies: An International Journal, 10:1, 86-103.</p> <p>Journal DOI: https://doi.org/10.1080/1554480X.2014.999774</p>
Week 6	<p>Workshop: Live session/written data exploration with multiple theories</p>
Week 7	<p>Reading: Change theory and theory of change: what's the difference anyway? (2020) Reinholz and Andrews International Journal of STEM Education, 7:2</p> <p>Journal DOI: https://doi.org/10.1186/s40594-020-0202-3</p>
Week 8	<p>Reading: TBA Tentative: Doing Grounded Theory Research with Gifted Students; (2003) Peine M. Journal for the Education of the Gifted, 26(3), 184-200.</p> <p>Journal DOI: https://doi.org/10.1177/016235320302600303</p>
Week 9	<p>Workshop: Phenomenology Vs Phenomenography</p>
Week 10	<p>Workshop: Seeking ethical permission from Institutional review board. Discussion of cases, guidelines and practice application.</p>

** Course is open for all for auditing purpose. Course credits are given only upon successful completion of assessment and appropriate attendance.