

Course Title: Research Methodology: Qualitative Methods in Science & Mathematics Education Research

- Course Number: SCE111.2
- Course Credits: 2
- Core/FE/Elective: Core
- Instructor(s): Dr. Aswathy Raveendran
- Course Starting Date: August 13, 2025
- Day & Time preference: Wednesday (3 PM to 5 PM)

Course description:

This course is an introductory course on qualitative research methods that will expose a learner to the key assumptions, orientations, value frameworks and some methods that underpin qualitative research. In order to conduct effective and meaningful qualitative research, a researcher has to acquire important skills in specific methods, such as interviewing and ethnography and be reflexive and sensitive to questions of relationality with research participants and how it shapes co-construction of knowledge of a social phenomena (such as learning). The course offers practical exercises that will enable learning by doing, discussion, analysis and reflection.

Course Outcomes:

- Get acquainted with the tools in qualitative research
- Learn to make connections between purpose, values, and methods in research
- Get a feel for some of the tensions and contradictions that arise during conduct and analysis of qualitative research through some hands-on exercises in ethnography and interviewing.

Detailed Course Outline:

Time and Topic	Assignments/tasks
Week 1: Introduction to Research Methods	- Deep reading of a chapter introducing the nature of qualitative research methods (Chapter 1, Cohen & Mannion, 2007)
Week 2-4: Elucidating the key elements of qualitative research	- Comparative and critical reading of articles representing positivist and interpretivist research (Denzin& Lincoln, 2011; Wertz, 2011)
Week 5-8: Tools and Methods: Interviews, Ethnographic observations, fieldnotes	- Designing and conducting an interview - Conducting Ethnographic Observations - Writing Field Notes (Chapters from Bhattacharya, 2017)
Week 9-11: Data Analysis Ethics and Relationality	- Preliminary Analysis - Iterate Data Collection (Chapters from

	Bhattacharya, 2017) - Discuss questions around positionality of the researcher, relationality with the participants vis-a-vis the exercises
Week 12-14: Doing Analysis	- Writing a memo reflecting on methods - Writing a memo on the analysis (Chapters from Bhattacharya 2017)

Assessment/Grading Scheme:

40% - Quality of preparation with the class readings, contributing to classroom discussions

30% - Quality of performance on the interview mini-project (design, data collection, analysis, memos).

30% -Quality of performance on the Ethnography mini-project (design, data collection, analysis, memos)

Expectations

-Regular attendance: Missing classes is discouraged, especially since classes are discussion oriented with the instructor and peers. Course participants are required to inform well in advance (unless it is an emergency) if they are unable to attend a class (by email).

-Timely communication with the instructor when encountering difficulty with readings, assignments or pace of the course.

- Completing the prescribed readings for classroom discussion and the practical components (doing the interview and ethnography activity) are compulsory.

References:

1. Bhattacharya, K. (2017). *Fundamentals of qualitative research: A practical guide*. Routledge.

2. Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. Routledge.

3. Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. Sage.

4. Wertz, F. J. (2011). Five ways of doing qualitative analysis: Phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry. Guilford Press.

*Additional readings may be incorporated based on the perceived needs of the course participants.

* Acknowledgement: The present course outline is adapted from a previous version of the course offered in the Monsoon semester of 2022, with Prof. Ayush Gupta as co-instructor.