

Qualitative and quantitative foundations of educational research

(January – June 2020)

Course Description: This foundational course is designed to introduce graduate students to the major notions, issues, and methods of qualitative and quantitative research in education and to provide opportunities for the students to reflect upon and discuss them. Throughout the course, students will engage in reading and discussions to understand what kinds of method/s are useful for discovering certain kinds of information. This course is developed to facilitate students' understanding about how qualitative and quantitative research might inform their professional undertakings. A series of course activities and assignments offer students opportunities to practice and develop the observation, interviewing, and data analysis skills that form the core of qualitative research. The quantitative part will introduce students with basic statistical tools and analysis techniques to provide insights of educational data in hand. Students will also be trained to use R studio for basic computational and graphing tasks.

In this course, students will also have extended opportunities to learn from their senior cohort about research methods and techniques. There are about 8 sessions reserved for such interactive meetings with senior students. This course builds a foundation for an advanced course in methods of education research offered in the following semester.

Course assessment: The course will be assessed based on three assignments. The first two assignments will be on quantitative parts and included questions on grouping statistics, distributions, data representation, standard methods of data comparison, correlation stat etc. The 3rd assignment is qualitative and will include a brief presentation of one research methodology of student's choice. The presentation will be followed by extended interactions on research studies that has applied the chosen methodological framework. Some credits are also reserved for participation in the group discussion.

Course credits: 4 credit (core course)

Course schedule: Tuesday and Thursday **10.00-12.30 AM**; Online course schedule: Tuesday and Thursday 2.00- 4.00 PM on zoom platform (April 2020 onwards)

Facilitators: Dr. Deepa Chari, Dr. Reema Mani, Dr. Tripti Bameta, and others

Suggested reading and course content (session wise):

Session	Suggested reading & guest speakers	Topics covered
1	No reading	<ul style="list-style-type: none"> • Introduction and norm building • Discussion of quotes on qualitative research • Features of field notes (Static pictures, videos and identifying markers)
2	Building a primary record (chapter 3- Critical ethnography in educational research book)	<ul style="list-style-type: none"> • Discuss field notes written example. • Activity- developing descriptions and authenticity • Discussion on observer paradox; Hawthorn effect; Critical reflexivity
3	S. Marriam chapter 1 - Introduction to Qualitative research	<ul style="list-style-type: none"> • Features of field notes continued (Interpersonal connections) • Discussion on “building a primary record” chapter • Activity- Writing field notes practical Video demo • Summary of five distinct methods discussion

4	Chapter 4 (Teresa text from methodological tradition chapter (Five ways of doing Qualitative analysis by Frederick J. Wertz)	<ul style="list-style-type: none"> • Discussion of Teresa transcript. • Activity: Write and discuss 2 questions you can explore with the chosen methodology in education research area. • Review methods comparison charts and discuss • Matrix for method (similarities, differences) • Activity- Impressions on single story discussion
5	Barlex and Trebell Design-without-make: challenging the conventional approach to teaching and learning in a design and technology classroom; Int J Technol Des Educ (2008) 18:119–138	<ul style="list-style-type: none"> • Interaction with guest speaker (Dr.Anisha Dalvi, D&T lab HBCSE) • Discuss Barlex paper in class • Mixed method Creswell video discussion
6	Kvale (Interviews: An introduction to Qualitative research interviewing. Chapter 7)	<ul style="list-style-type: none"> • Kvale chapter discussion • Focus group techniques • Video discussion - interview techniques... • Interaction with guest speaker about interview strategies (Rafikh Shaikh, TISS)
7	Design Experiments in Educational Research by Paul Cobb (Educational Researcher, Vol. 32, No. 1, Theme Issue: The Role of Design in educational Research (Jan. - Feb., 2003), pp. 9-13)	<ul style="list-style-type: none"> • Paper discussion • Optional: Paul cobb video on the design-based research characteristics • Interaction with guest speaker (Jeenat Rehman, TISS)

8	The case study in educational research: a review of selected literature by Sharan B. Merriam (JET)	<ul style="list-style-type: none"> • Paper discussion Pushing and Pulling Sara - case study paper • Interaction with guest speaker (Deborah Dutta, HBCSE)
9	Chapter6 “The discourse of Americanization textbooks” by Anne Shaver	<ul style="list-style-type: none"> • Content analysis • Interaction with guest speaker (Deepika Bansal, Delhi University) • Interaction with guest speaker (Panchami Jose, HBCSE)
10	“Thematic analysis" book chapter by Braun and Clarke	<ul style="list-style-type: none"> • Paper discussion • Interaction with guest speaker (Durga prasad on thematic analysis, pattern, epistemic network analysis)
11	Collaborative action research: A critical analysis by Lisa Smulyan; Peabody journal of education	<ul style="list-style-type: none"> • Discussion on lesson plan video for collaborative action research • Interaction with guest speaker (Meenakshi, HBCSE -on learnings from teacher professional development)
12	Marton, F. (1988). Phenomenography. In Sherman, R. R. and Webb, R. B. (Eds), Qualitative Research in Education. London: Routledge	<ul style="list-style-type: none"> • Paper discussion • Students’ data collection discussion • Reema Mani shares her thesis work in phenomenology (Husserl’s descriptive phenomenology)

13	Grounded theory research chapter 4 Creswell	<ul style="list-style-type: none"> • Questions for data collection (Grounded theory project) – discussion • Grounded theory chapter discussion
14	J. Thomas (School science and Mathematics) “The Road to Reform: A Grounded Theory Study of Parents’ and Teachers’ Influence on Elementary School Science and Mathematics	<ul style="list-style-type: none"> • Grounded theory chapter discussion continued • J Thomas paper discussion
15		<ul style="list-style-type: none"> • Thomas paper discussion continued • Interaction with guest speaker (Rossi D’Souza, HBCSE) -critical ethnography
16	##### No Class #####	##### No Class #####
17		<ul style="list-style-type: none"> • Conversational analysis- tips • Interaction with guest speaker (Gurinder Singh, HBCSE)
18	###Catching up#####	
19	###Catching up###	
20	R Introductory workshop by A. Mani	

21		Follow up and practice of R studio commands (installing packages, loading data, basic plots for data visualization)
22		Follow up and practice session for R studio – data visualization plots
23		<ul style="list-style-type: none"> • Variables and types • Representation
24		Statistical Inference <ul style="list-style-type: none"> • Statistical Significance • Hypothesis testing • Giving meaning to score • Reliability and validity
25		Difference tests <ul style="list-style-type: none"> • Measures of difference between groups • T-test, chi-square test
26		<ul style="list-style-type: none"> • Linear Regression Analysis discussion and worked example
27		<ul style="list-style-type: none"> • Correlation • Introduction to multiple regression and Logistic regression
28	R workshop (part II) by A. Mani	
29		Comparing Groups: Analysis of Variance (ANOVA)
30.	Final presentations (assignment 3) by students	##### Presentation will be scheduled 2 weeks after the last class session #####