

Course Code	Course Name	Credits
26ED013	FOUNDATIONS OF EDUCATIONAL RESEARCH AND DATA LITERACY	04

Course Objectives

The course aims to,

- ✓ Understand the fundamentals of educational research
- ✓ Develop skills in collecting, analyzing, and interpreting data
- ✓ Critically evaluate research studies
- ✓ Apply ethical principles in research
- ✓ Use data to improve teaching and learning outcomes

Learning Outcomes

After the completion of the course, the Learner will be able to,

- ❖ Identify research problems and formulate research questions and hypothesis
- ❖ Select appropriate research designs
- ❖ Collect data using primary and secondary sources.
- ❖ Organize and classify data using tables and charts
- ❖ Present data using graphs, presentations and reports.

Unit 1 - Introduction to Educational Research (12 hours)

Meaning, nature, and scope of educational research - Types of research: Basic, Applied, Action Research - Characteristics of good research - Research problems and variables.

Unit 2 – Research Design and Methods (12 hours)

Qualitative vs Quantitative research - Mixed-method research, Experimental and non-experimental designs - Case study, survey, and ethnographic methods

Unit 3 - Data Collection Techniques (12 hours)

Primary and secondary data - Tools: Questionnaires, Interviews, Observations - Tests and scales - Reliability and validity of tools

Unit 4 – Data Analysis and Interpretation (12 hours)

Basic statistics: Mean, Median, Mode - Percentage and frequency distribution - Introduction to graphs: Bar charts, Pie charts, Histograms, Interpreting educational data.

Unit 5 - Ethics in Educational Research (12 hours)

Informed consent, Confidentiality and anonymity - Avoiding plagiarism - Responsible data use - Referencing styles (APA basics)

Reference Books:

1. Creswell, J. W. – Educational Research
2. Cohen, Manion & Morrison – Research Methods in Education
3. Mertler, C. A. – Action Research
4. UNESCO Reports on Data Literacy

Alignment with NEP – 2020

1. National Education Policy 2020 directly connects with the foundations of educational research and data literacy, which focus on systematic investigation and interpretation of data. It strengthens the scientific foundation of education. It transforms education into a scientific, data-informed, and inquiry-driven process, essential for the 21st century.
2. Reflects core research principles: objectivity, validity, and reliability.
3. Enhances professional development and classroom improvement.
4. Builds a research mindset among learners.
5. Promotes the ability to collect, analyze, and use data effectively
6. Enhances access to real-time educational data
7. NEP 2020 strongly aligns with the foundations of educational research and data literacy by: Promoting a research culture and Encouraging evidence-based practices

COs and Bloom's Taxonomy Level (BTL) Mapping for 26ED013

Course Outcomes	On successful completion of the course, the students will be able to	BTL
CO1	Understand the fundamentals of educational research	K1 & K 2
CO2	Develop skills in collecting, analyzing, and interpreting data	K 3
CO3	Critically evaluate research studies	K 5
CO4	Apply ethical principles in research	K 4
CO5	Use data to improve teaching and learning outcomes	K 6

Bloom's Taxonomy Level (BTL):- K1 and K2 – remembering and understanding, K3 - Applying, K4 – Analyse, K5 - Evaluate and K6- Create

Relationship Matrix

Course Outcomes	Programme Outcomes (POs)								Programme Specific Outcomes (PSOs)							Mean Score of COs
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	3	2	2	2	2	2	3	3	3	3	2	2	3	3	2	2.5
CO2	2	3	1	2	3	1	3	2	2	2	3	2	3	3	2	2.3
CO3	2	3	2	2	3	2	3	2	1	3	2	2	3	3	2	2.3
CO4	3	2	1	3	3	2	3	2	2	2	3	3	3	2	2	2.4
CO5	2	2	2	2	3	1	2	2	1	3	3	2	3	2	3	2.2
Total																2.3

Mean Score: 3- High, 2- Medium/Moderate, 1-Low

