

Course Code: FMTC

BASICS IN EDUCATIONAL RESEARCH

Course Objectives:

The prospective teacher-educators will be able to:

1. acquire knowledge of research in the field of education
2. understand the process of research
3. comprehend the research design and research plan
4. recognize the research problem
5. understand the formulation of hypothesis
6. understand the sampling technique
7. understand the scaling techniques
8. recognize the psychological theories and inventories
9. understand the interview and observation techniques
10. understand the different types inquiry forms and social scaling.

UNIT - I: NATURE AND PURPOSE OF EDUCATIONAL RESEARCH

Meaning and objectives of Research - Characteristics of research – Scope and Need for Educational Research – Basic types of research: Descriptive versus Analytical research, Applied versus fundamental research, Quantitative versus Qualitative research, Conceptual versus Empirical research – Significance of research – Ethical principles in conduct of research with human participants.

UNIT - II: PROCESS OF RESEARCH

Research proposal – Phases of Research process – Steps in the process of research: Identifying a Research problem, Reviewing the Literature, specifying a purpose of research, collecting data, Analyzing and Interpreting the data. Reporting and evaluating research.

UNIT - III: RESEARCH DESIGNS

Meaning and parts of Research design, Need for research design , Features of a good design, Important concepts relating to research design - Experimental Research designs – Developing a Research plan.

REGISTRAR

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KARAPAKKAM, CHENNAI-600 097**



**VICE-CHANCELLOR
TAMILNADU TEACHERS EDUCATION UNIVERSITY
KARAPAKKAM, CHENNAI - 600 097.**

UNIT - IV: DEFINING RESEARCH PROBLEM

Nature of Research problem – Research topic, Research problem, Research purpose, Research questions – Important tasks for determining research problem: Classifying in argument information needs, Redefining research problem - Establishing hypothesis, Research questions and Objectives - Criteria of a good research problem, Sources of research problem, Conditions for a research problem, Formulating and stating the problem.

UNIT - V: FORMULATING HYPOTHESIS

Meaning, Types, uses, Forms of hypothesis, Criteria for a hypothesis, Methods of deriving hypothesis, Testing of hypothesis, Basic concepts in testing the hypothesis: Null hypothesis and Alternative hypothesis, Level of significance, Decision Rule, Type I and Type II Errors, Two-tailed and One-tailed tests – Procedure for hypothesis testing – Distinguish among Purpose statements, Research questions, Hypothesis and Objectives.

UNIT - VI: SAMPLING TECHNIQUES

Sampling design, Steps in sampling design, Characteristics of a good sample design, Types of sampling: Probability sampling: random, Stratified random, Systematic, Cluster Multi-stage random sampling – Non-probability sampling: Purposive, Quota, Convenience, Sequential, Snowball sampling.

UNIT - VII: SCALING TECHNIQUES

Scale Measurement, Scaling, properties - Types of scales: Nominal, Ordinal, Interval and Ratio scales - Steps in developing or constructing research tool - Criteria for good measurement: Reliability, Validity, Objectivity, Sensitivity, Practicality and Economy - Techniques for measuring attitudes : Ranking, Rating, Sorting and Choice techniques - Attitude rating scale: Simple attitude scales, Category scales, Numerical scale, Constant sum scale – Graphic rating scale.

UNIT - VIII: PSYCHOLOGICAL TESTS AND INVENTORIES

Achievement Tests, Aptitude Tests, Interest inventories, Personality inventories, Projective devices: Nature and Characteristics of projective devices, Association, Completion, Role-playing and Creative or Constructive techniques – Rorschach Test, Thematic Apperception Test.

UNIT - IX: INTERVIEW AND OBSERVATION TECHNIQUES

Interview: Meaning, Process of interview, Types of Interviews, Merits and Demerits of interview
– Observation technique: Types of observation: Participant and non-participant – observations -
Observation devices: Checklist, Rating scales – Case Study.

UNIT - X: INQUIRY FORMS AND SOCIAL SCALING

Questionnaire: Types of questionnaire, Characteristics of a good questionnaire, Preparing and
administering the Questionnaire – The opinionnaire: Thurston technique, Likert method and
Semantic differential method – Social Scaling: Sociometry.

SUGGESTED ACTIVITIES:

1. Talk by teacher educators on various research designs in education.
2. A debate on phases of educational research.
3. Seminar on sampling technique.
4. Invited talk on scaling techniques.
5. Discussion on procedure for hypothesis testing and level of significance.

REFERENCES:

1. Agarwal.L.R.(2007).*Modern educational research*. New Delhi: Dominant Publishers.
2. Bhandarkar, P.L. Wilkinson, T.S., and Laldas, D.K., (2004). *Methodology and techniques of social research*. Mumbai: Himalaya Publishing House.
3. Best. John.W and Kahn, James.V. (2006). *Research in education*. Delhi:PHI Learning.
4. Chandra, S.S and Sharma, R.K. (2007).*Research in education*. New Delhi: Atlantic Publishers.
5. Creswell, John. W. (2014).*Educational Research*, Delhi: PHI Learning.

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