

## **RESEARCH METHODS IN EDUCATION**

**Course Code: ED319**

**Credit Hours: 3**

### **Course Description**

This course is an introduction to educational research and methods used in the study of educational settings and institutions. One of the major purposes of this course is to familiarize students with basic methods and techniques for designing, conducting, and analysing research in education. Emphasis is on developing appropriate and researchable questions, reviewing the literature critically, and planning cogent research.

Equal attention will be paid to the process of instrument development (e.g. attitude scale, questionnaire) so that valid and reliable data can be produced and subsequently analysed. The second major purpose of this course is to build up a solid knowledge base on which selection of an appropriate statistical tool from a variety of parametric and non-parametric procedures can be made.

Extensive emphasis will be placed on using the most modern tools for locating information resources and for communicating and sharing research knowledge with fellow student's and other professionals. Thus tools such as e-mail, the Internet, the World Wide Web, Electronic data base, and electronic search engines are integral part of this course.

### **Learning Outcomes**

Upon successful completion of the course, students will be able to:

1. Understand and describe the importance and use of educational research.
2. Identify and discuss the major types of research methodologies;
3. Identify and conceptualize research question and problem statements.
4. Review and evaluate relevant literature;
5. Formulate and state the hypotheses;
6. Describe techniques related to sampling, statistical analysis, and research design.
7. Develop data collection instruments commonly used in research in education;
8. Define and discuss the concept of validity and reliability;
9. Analyse and interpret statistical data
- 10 Use the Internet for access to ERIC, the www., e-mail and other informational resources;
11. Develop a research proposal;
12. Evaluate a research report/article.

### **Contents**

#### **1. Introduction to educational research**

- 1.1 Meaning and definition of educational research
- 1.2 The scientific method
- 1.3 Purposes and features of research
- 1.4 Application of the scientific methods in education

#### **2. Types of research**

- 2.1 Basic verses applied research
- 2.2 Historical research
- 2.3 Descriptive research
- 2.4 Correlational research

- 2.5 Causal comparative research
- 2.6 Experimental research
- 2.7 Action research
- 2.8 Qualitative and quantitative research
- 3. Research problem**
  - 3.1 Selection
  - 3.2 Sources
  - 3.3 Characteristics/criteria
  - 3.4 Statement
- 4. Review of related literature**
  - 4.1 Definition, purpose, and scope
  - 4.2 Preparation
  - 4.3 Sources
  - 4.4 Abstracting
  - 4.5 Reporting
- 5. Research hypothesis or questions**
  - 5.1 Definition and purpose
  - 5.2 Characteristics
  - 5.3 Types of hypotheses
  - 5.4 Stating the hypothesis/question
- 6. Sampling**
  - 6.1 Definition and purpose
  - 6.2 Techniques of sampling
  - 6.3 Probability sampling techniques
  - 6.4 Random sampling
  - 6.5 Stratified sampling
  - 6.6 Cluster sampling
  - 6.7 Systematic sampling
  - 6.8 Non-probability sampling techniques
  - 6.9 Convenience sampling
  - 6.10 Purposive/judgmental sampling
  - 6.11 Snowball sampling
  - 6.12 Quota sampling
- 7. Research instruments**
  - 7.1 Purpose of research instruments
  - 7.2 Characteristics of research instruments
  - 7.3 Validity
  - 7.4 Reliability
  - 7.5 Usability
  - 7.6 Construction of instruments
  - 7.7 Questionnaire
  - 7.8 Observation scale
  - 7.9 Rating scale
  - 7.10 Tests (and their types)

## 8. Research types (detail description)

- 8.1 Historical research
- 8.2 Descriptive research
- 8.3 Correlational research
- 8.4 Causal-comparative research
- 8.5 Experimental research

## 9. Collection and analysis of data

- 9.1 Data collection
- 9.2 Scoring, coding and tabulation of data
- 9.3 Data analysis
- 9.4 Interpretation of data

## 10. Statistics in education

- 10.1 Need of statistical analysis
- 10.2 Levels of measurement
- 10.3 Descriptive statistics
- 10.4 Inferential statistics
- 10.5 Parametric tests (t-test, f-test)
- 10.6 Non-parametric test ( $\chi^2$ )

## 11. Writing research proposal and report

- 11.1 General rules for writing and typing
- 11.2 Formal and style
- 11.3 Type of research reports
- 11.4 Theses and dissertations
- 11.5 Journals article
- 11.6 Papers read at professional meetings

## Teaching-learning Strategies

The instructional strategies will focus on constructionist learning approach. These strategies will be diverse in line with the course contents. Therefore, these strategies will include but not limited to demonstration, cooperative learning, collaborative learning, teacher and student-led discussion, individual and group presentations, reflective practices and classroom activities.

## Assessment and Examinations

The students will be assessed according to the following criteria.

Examination	Marks Distribution
Sessional work	25 %
Mid Semester	35%
Final Semester	40%

### Suggested Readings

Following books will be used as **TEXTBOOKS** for this course

- Creswell, J. W. (2014). *Research design: Quantitative, qualitative and mixed methods approaches*. London: Sage Publications.
- Creswell, J. W. (2012). *Research design: Planning, conducting, and evaluating Quantitative, qualitative research*. London: Pearson.
- Fraenkel, J. R., Wallen, E. N., & Hyun, H. H. (2012). *How to design and evaluate research in education*. New York: McGraw-Hill.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction*. New York: Pearson
- Gay, L.R. (2012). *Educational research: competencies for analysis and application*. New York: Macmillan Publishing Co.
- Johnson, B., & Christensen, L. (2012). *Educational research: Quantitative, qualitative and mixed approaches*. London: Sage Publications.

### Further Readings/ Additional Readings

- Anderson, G., & Arsenault, N. (1998). *Fundamental of educational research (2<sup>nd</sup> ed)*. London: The Falmer Press.
- Abell, N., Springer, D. W., & Kamata, A. (2009). *Developing and validating rapid assessment instrument*. New York: Oxford University Press.
- Babbie, E. (2010, 2007). *The practice of social research*. Australia: Wadsworth Cengage Learning.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education (5<sup>th</sup> ed.)*. New York: Routledge.
- Colton, D., & Covert, R. W. (2007). *Designing and constructing instruments for social research and evaluation*. United State of America: Jhon Wiley & Sons, Inc.
- DeMarrais, K. & Lapan, S. D. (2004). *Foundations for research methods of inquiry in education and social science*. London: Lawrence Erlbaum Associates Publishers.
- Fink, A. (2014). *Conducting research literature reviews: From the internet to paper*. Los Angeles: Sage Publications.
- McCoach, B. D., Gable, R. K., & Madura, J. P. (2013). *Instrument development in the affective domain: School and corporate Applications*. New York: Springer.
- Neuman, W. L. (2015). *Social research methods: Qualitative and quantitative approaches*. New Dehli: Pearson.
- Ridley, D. (2012). *The literature review: A step-by-step guide for students*. Los Angeles: Sage Publications.
- Scott, D., & Usher, R. (2011). *Researching education: Data, methods and theory in educational enquiry*. London: Sage.