



**Syllabus
of
Ph.D. Course Work**

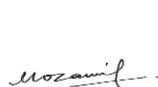
**Department of Teacher Education
School of Education
Central University of South Bihar, Gaya**

2021-22 onwards

Ph.D. Course Work Structure

(Total Credits-14)

Course Code	Course Title	Credits
EDU101DC00104	Research Methodology	4
EDU101DC00204	Tools and Techniques of Research	4
EDU101DC00304	Preparation and Presentation of Research Proposal	4
EDU101DC00402	Research and Publication Ethics	2
	Total Credits:	14














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**Department of Teacher Education
School of Education
Central University of South Bihar, Gaya**

Research Methodology

Course Code	EDU101DC00104	Credits	4
L + T + P	3 + 1 + 0	Course Duration	One Semester
Semester	IV	Contact Hours	45 (L) + 15 (T) Hours
Course Type	Discipline-Based Core Course		
Nature of the Course	Theory/ Practicum		
Methods of Content Interaction	Lecture, Tutorials, Group discussion; self-study, seminar, presentations by students, individual and group drills, group and individual field-based assignments followed by workshops and seminar presentation.		
Assessment and Evaluation	As Per Ph.D. Ordinance of Central University		

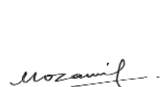
Course Objectives:

1. To enable students to understand various research concepts.
2. To enable them to understand steps and types of research.
3. To make them aware about the ethical issues of research.
4. To strengthen their research skills and develop them as effective researchers
5. To enable them to use computer in the process of research.
6. To enable them to know the basic concepts and scope of research in education.
7. To enable them to understand basic steps and methods of research education.

Course Outcomes:

After the completion of the course the student will be able to:

1. Understand various research concepts.
2. Understand steps and types of research.
3. To know the ethical issues of research.








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4. To strengthen their research skills and develop them as effective researchers
5. Use computer in the process of research.
6. know the basic concepts and scope of research in education.
7. Understand basic steps and methods of research education.

Course Contents

(Part-A)

(2 Credit)

Unit-I: Research: A Conceptual Framework

- Research: Its meaning and concept
- Knowledge, facts, principles, theories and research as a source of knowledge
- Scientific steps of enquiry and basic steps of research
- Types of research: Basic Applied and Action research
- Ethics in research
- Methods and methodology
- Intellectual property rights

Unit-II: Computer Applications

- Word processing, data processing, graphical processing, uses of web tools for research, use of multimedia tools.

(Part-B)

(2 Credit)

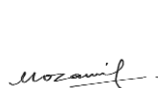
Subject Specific Research Methodology


Unit-III: Educational Research: Conceptual Framework and Scope

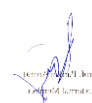
- Concept of educational research, Educational research as behavioural/social science research, Differentiating educational research from science research, Characteristics of educational research, Aims and significance of educational research.
- Understanding concepts and their roles in research: Concepts of variables, constructs, assumptions and theories, and their role in educational research.
- Stage specific (pre-primary, primary, secondary, higher education stages etc.), component specific (aims of education, curriculum, techniques of teaching, discipline, evaluation system etc.) and area specific (educational philosophy, educational psychology, educational sociology and history of education including many other areas of education), scope and challenges of educational research

Unit-IV: Steps and Methods of Educational Research

- Basic Steps followed in educational research.



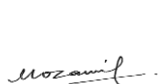

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- Methods of educational research: Descriptive, experimental, philosophical, participatory, ethnographic, content analysis, evaluative and historical.
- Qualitative, quantitative and mixed research methods: Basic features, scope and limitations.
- Policy research: Process of conducting and its implication
- Interdisciplinary and intra-disciplinary perspectives of educational research
- Designing the educational research: Designing process and steps for conducting research in different areas – experimental and non-experimental


Suggested Readings

- Ary, Donald, Jacobs, L.C., Sorenson, Chris. (2010). *Introduction to Research in Education*. Canada: Cengage Learning.
- Bailey, C.A. (2007). *A Guide to Qualitative Field Research*. California: Pinus Forge Press.
- Best, J. W. & Kahn, J.V. (2008). *Research in Education (10th edition)*. New Delhi. Prentice Hall Inc.
- Baker, P.J., & Beveridge, W.T. (1970). *Basic Computer Studies*. Edinburgh: Oliver and Boyd.
- Cohen, M. R. (1964). *Introduction to logic and scientific method*. London: Routledge & Kegan Paul,
- Edwards, A. L. (1953). *Experimental designs in psychological research*. New Delhi: Amerind Publishing Co.
- Fields, C. (1973). *About Computers*. Massachusetts: Winthrop Publishers, INC.
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- Good, Barr & Scates (1962). *Methodology of Educational Research*. New York: Appleton Crofts
- Gorard, Stephen. (2001). *Quantitative Methods in Educational Research: The Role of Numbers made easy*. Continuum: London.
- Keevis, J. (1988). *Educational Research Methodology: An International Handbook*. Pergamon: Oxford.
- Kerlinger F.N. (1978). *Foundation of Behaviour Research*. Delhi: Surjeet Publications.
- Lewis-Beck, MS. (Ed) (2004). *The Sage Encyclopedia of Social Science Research Methods*. New Delhi: Sage Publications.
- Martyn H. (1989). *The Dilemma of Qualitative Method*. London: Routledge.
- Mc Burney, D. H & White, T. L. (2007). *Research Methods*. 7th Edition. Delhi: Akash Publication.
- McMillan, J. H., & Schumacher, S. (2001). *Research in Education*. New York: Longman.
- Mouly, G. J. (1964). *The science of educational research*. New Delhi: Eurasia Publishing House Pvt. Ltd.
- Patton, Michael Quinn. (1982). *Qualitative Evaluation Methods*. London: Sage Publication.








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- Raman, V. Raja. *Fundamentals of Computer*. New Delhi: Prentice Hall of India.
- Sax, G.(1968) *Empirical Foundation of Educational Research*. New Jersey, Englewood Cliffs
- Singh, Kultar (2007). *Quantitative Social Research Methods*. New Delhi: Sage
- Sukia S.P, & Others. (1974). *Elements of Educational Research* (3rd edition). Bombay: Allied Publishers.
- Townsend, C. (1983). *How to get started with MS-DOS*. Oregon: Dilithium Press.
- Travers, R. M. W. (1978). *An Introduction to Educational Research*. New York: Mac Millan Publishing Co., Inc.
- Tuckman, B.W. (1978). *Analysing and Designing Educational Research*. New York: Harcourt Brace Jovanovich, Inc.

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**Department of Teacher Education
School of Education
Central University of South Bihar, Gaya**

Tools and Techniques of Research

Course Code	EDU101DC00204	Credits	4
L + T + P	3 + 1 + 0	Course Duration	One Semester
Semester	IV	Contact Hours	45 (L) + 15 (T) Hours
Course Type	Discipline-Based Core Course		
Nature of the Course	Theory/ Practicum		
Methods of Content Interaction	Lecture, Tutorials, Group discussion; self-study, seminar, presentations by students, individual and group drills, group and individual field-based assignments followed by workshops and seminar presentation.		
Assessment and Evaluation	As Per Ph.D. Ordinance		

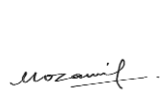






Course Objectives

1. To enable students to identify the frontier problems in research with proper rationale.
2. To enable them to formulate appropriate research questions, objectives and hypotheses for research.
3. To develop their skills and competency in reviewing and referencing the research materials.
4. To enable them to identify, construct and use the different tools for research.
5. To develop understanding about data scoring, data tabulation, and data analysis skills.
6. To develop skills in them for preparing appropriate research proposals and research reports in Education.
7. To develop their competency to evaluate research proposals and research reports.

Course Outcomes:

After the completion of the course the student will be able to:

1. Identify the frontier problems in research with proper rationale.
2. Formulate appropriate research questions, objectives and hypotheses for research.
3. To develop their skills and competency in reviewing and referencing the research materials.
4. Identify, construct and use the different tools for research.
5. Understand about data scoring, data tabulation, and data analysis skills.





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6. To develop skills in them for preparing appropriate research proposals and research reports in Physical Education.
7. To develop their competency to evaluate research proposals and research reports.

Course Contents

Unit-I: Problem selection, Hypothesis and Sampling in Research

- Selection of problem: Characteristics, sources and importance, limitation and delimitation; Identifying issues at frontiers of knowledge; Deriving research questions.
- Review of literature: Process, steps, sources and its importance in problem selection; Referencing and bibliography; Different styles of referencing.
- Hypothesis: Characteristic of a good hypothesis, sources, types and importance.
- Sample selection: Types of sampling techniques and their steps, importance of sampling, characteristics of a good sample.

Unit-II: Tools and Techniques of Educational Research

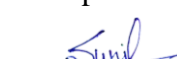
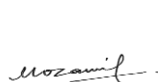
- Selection of Tools: Importance of Tools for Collection of data in research, Selection and Types of Tools used for collection of primary and secondary data.
- Subjective and objective tools: Nature, characteristics and need for using subjective and objective tools in research.
- Construction and uses of different types of tools in research: Tests, scales, questionnaire and schedules

Unit-III: Data Analysis in Research

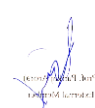
- Data analysis: Scoring, tabulation and analysis of data; Procedure for data analysis and uses of parametric and non-parametric statistical techniques for data analysis
- Uses of descriptive statistics in research: Measures of central tendency-Mean, median, mode; Measures of variability- range, average deviation, standard deviation, quartile deviation; and Measures of correlation- rank difference method and product moment method.
- Uses of inferential statistics in educational research: Chi-square, Sign test, Median test, significance of difference between mean, ANOVA, ANCOVA.
- Uses of computer in data generation, data processing and dissemination of research outcomes in educational research; Use of statistical software of data analysis.

Unit-IV: Preparation and evaluation of Research Proposal and Report

- Preparation of proposal for research: Format and steps
- Preparations of research report: Significance, Format and Style of Reporting.
- Evaluation of research proposal and research report

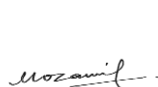


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Suggested Reading:

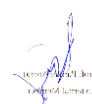
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- Cohen, L., Manion, L. & Morrison, K. (2007). *Research Methods in Education* (6th Ed.). London: Routledge.
- Cohen, Lewis and Manion Lawrence. (1994). *Research Methods in Education*. New York: Holt Rinchart and Winston Inc.
- Cohen, Louis. (2011). *Research Methods in Education*. London: Routledge
- Cresswell, J. W. (1994). *Research design*. London: Sage
- Elhance, D.N. (1975): *Practical Problems in Statistics*. Allahabad: Kitab Mahal, ELHP 9341
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- Guilford, J. P. (1965). *Fundamental statistics in psychology and education*. New York: McGraw Hill Book Co.
- Guilford, J.P. & Fruchter, B. (1974) *Fundamental Statistics in Psychology & Education*. New York: McGraw Hill.
- Gupta, S.P. (2010). *Statistical Methods*. New Delhi: Sultan Chand
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- James H. M. and Schomachers, S. (1989). *Research in Education: A conceptual Introduction*. New York: HarperCollins.
- Kothari, C. R. (1998). *Quantitative Techniques*. New Delhi: New Age Publications.
- Koul, L. (1998). *Methodology of Educational Research*. New Delhi: Vikas Publications.
- Kurtz, A. K. & Mayo, S.T. (1980). *Statistical Methods in Education and Psychology*. New Delhi: Narosa Publishing House.
- Nagar, A.L. (1981): *Basic Statistics*. Bombay: Oxford, 1981. 299p. NAG-B 9793; 16609
- Pring, R (2004): *Philosophy of Education – Aims, Theory, Common Sense and Research*. Continuum: New York.
- Seigal, Sydne, Y. (1978) *Non-parametric Statistics for Behavioral Science*. New Delhi, McGraw Hill,
- Siegal, S. (1956). *Non-Parametric statistics for behavioral sciences*. New York: McGraw Hill.
- Singh, Arun Kumar (1986) *Test, Measurement and Research Methods in Behavioural Sciences*. New Delhi: McGraw Hill
- Togrerson, W. S. (1965). *Theory and methods of scaling*. New York: Willey.








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- Tuckman, B.W. (1979) *Conducting Educational Research* (2nd edition). New York: Harcourt Brace Javanovich, Inc.
- Wayne, K. Hoy (2010). *Quantitative Methods in Education*. Los Angeles: Sage

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**Department of Teacher Education
School of Education
Central University of South Bihar, Gaya**

Preparation and Presentation of Research Proposal

Course Code	EDU101DC00304	Credits	4
L + T + P	0 + 0 + 4	Course Duration	One Semester
Semester	IV	Contact Hours	60 Hours
Course Type	Discipline-Based Core Course		
Nature of the Course	Practicum		
Methods of Content Interaction	Lecture, Tutorials, Group discussion; self-study, seminar, presentations by students, individual and group drills, group and individual field-based assignments followed by workshops and seminar presentation.		
Assessment and Evaluation	25% - Presentation of Research Proposal 75% - Research proposal writing		

Course Objectives

1. To enable students to develop research proposal in Education as per research norms.
2. To develop research proposal presentation skills among them.
3. To develop competency among them to conduct research as per the guided research proposal.

Course Outcomes:

After the completion of the course the student will be able to:

1. Develop research proposal in Education as per research norms.
2. To develop research proposal presentation skills among them.
3. To develop competency among them to conduct research as per the guided research proposal.

Course Contents

The research proposal on the topic chosen by the candidate for her/his Ph.D shall be submitted as computer typed script as per the writing discipline followed by seminar presentation. Each student shall be required to articulate in about 5000 words in her/his individual subject of study in the intended area of research by selected bibliography. The written submission on the chosen topic shall be evaluated for 75 percent weightage and the seminar presentation for 25 percent weightage. The research proposal is supposed to give evidence of two things: a comprehensive review of existing literature of the past studies in the subject-area, and the student's awareness of and adherence to the discipline of writing research proposal/ paper/ dissertation and documentation.









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Central University of South Bihar, Gaya**

Research and Publication Ethics (RPE)

Course Code	EDU101DC00402	Credits	2
L + T + P	2 + 0 + 0	Course Duration	One Semester
Semester	IV	Contact Hours	30 Hours
Course Type	Discipline-Based Core Course		
Nature of the Course	Theory/ Practicum		
Methods of Content Interaction	Lecture, Tutorials, Group discussion; self-study, seminar, presentations by students, individual and group drills, group and individual field-based assignments followed by workshops and seminar presentation.		
Assessment and Evaluation	As Per Ph.D. Ordinance		

Course Objectives

This Course enable research Scholars:

- To enable students to understand moral Philosophy, ethics with respect to Science and Research. Intellectual honesty and Research Integrity.
- To make them understand about open access publications and initiatives
- To make them aware about databases and research matrix.
- To give them knowledge about Software tools to check plagiarism.

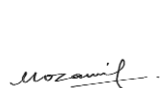
Course Outcomes:

After the completion of the course student will be able to:

- internalized moral Philosophy, ethics with respect to Science and Research. Intellectual honesty and Research Integrity.
- explain about open access publications and initiatives.
- get Acquainted with databases and research matrix.
- get Acquainted about Software tools to check plagiarism.


Unit-1: Introduction of Publication Ethics


- Introduction to philosophy: Definition, Nature and Scope, Concept, Branches.
- Ethics: Definition, Moral Philosophy, Nature of Moral Judgement and reactions. Ethics with respect to Science and Research. Intellectual honesty and Research Integrity.








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- Scientific misconduct: Falsification, Fabrication and Plagiarism. Redundant publications. Duplicate and overlapping publications, Salami slicing. Selective reporting and misrepresentations of data.
- Best practices/ standards setting initiatives and guidelines: COPE, WAME etc. Conflict of Interest. Violation of publication ethics, Authorship and contributionship.
- Predatory publishers and journals.

Unit-2: Research and Publication Ethics: Tools and Techniques

- Open access publications and initiatives.
- SHERPA/RoMEO online resource to check publisher copyright and self-archiving policies. Software tools to identify predatory publications developed by SPPU.
- Journal finder/Journal suggestions tools viz. JANE, Elsevier journal Ader, Springer journal suggesters etc

Group Discussion:

- Subject specific ethical issues, FFP, Authorship, Conflict of interest. Complaints and appeals: examples and fraud from India and abroad.
- Use of plagiarism software like Turnitin, Urkund and other open-source software tools to check plagiarism.
- Databases and research matrix: Indexing data bases, Citation data base, Web of Science, Scopus etc.
- Impact factor of Journal as per Journal citation report, SNIP, SJR, IPP, Cite Score.
- Metrics: h-index, g-index, i-10 index and altmetric.

Suggested Readings:

- Research Methods for Science, M. P. Marder, Cambridge University, 2011.
- Fundamentals of Research Methodology and Statistics, Y.K. Singh, New Age, 2006.
- Bird, A. (2006). Philosophy of science. Routledge.






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