Tamil Nadu Open University

Ph.D. - Course Work – Education
Syllabus

The Ph.D., Programme Structure shall comprise of the following courses:

Course Code	Subject Title	Mark Distribution			
		Internal Marks	External Marks	Pass Marks	Duration of Exam
MPED-01	Educational Research Methodology and Data Analysis	30	70	50	3 Hours
DPED-02	Education System - An Overview	30	70	50	3 Hours
RPE-04	Research and Publication Ethics	30	70	50	3 Hours

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MPED – 01 EDUCATIONAL RESEARCH METHODOLOGY AND DATA ANALYSIS

Unit 1 Basics of Research

Research as Phenomena – Method of acquiring knowledge (grounds) – Conventional Methods – Modern and Scientific Methods – Baseline assumptions of Scientific method – Theory building – Acquisition of Knowledge from multi sources– Nature, Type and Functions of Theories – Meaning and Concepts of Academic Writing, Expository Writing, Journal Reading, Research Reading. Types of Research: Fundamental, Applied and Action Research – Historical, Survey, Philosophical, Cross Sectional, longitudinal, Analytic, Comparative, Case Study, Genetic, Explorative, Descriptive, Experimental, Ex-post-facto.

Unit 2 Experimental Research Methods

Types of Experimental Designs: Between group, within group or Individual Designs (Single, Parallel group, rotation and Factorial Designs)

Characteristics: Random assignment, control over extraneous variables, manipulating treatment conditions, outcome measures, group comparisons, threats to validity, steps in conducting experimental research – Experimental Research Designs: Pre-experimental, True experimental, quasi experimental, factorial designs – Experimental Validity of Designs: Internal and External Validity.

Unit 3 Sampling and Hypothesis

Probability and Non-probability Sampling Techniques – Sampling Error – Hypothesis – Types – Hypothesis Testing –Hypothetical Errors: Type-I and Type-II – Interpretations and Hypothetical Inferences.

Unit 4 Tools of Research

Reliability and Validity of research tools – Types of tests and Inventories: Achievement tests, Aptitude tests, Interest inventories, personality inventories, projective Techniques – observation – Questionnaire: closed and open forms attitude scales (Thurston technique – likert method) - semantic differential forms – sort technique – Sociometry – limitations.

Unit 5 Descriptive Data Analysis

Need and use of descriptive analysis – parametric and Non-parametric Data – Measures of Central Tendency, Dispersion, Relationship, Positional Statistics and its interpretations – Normal distribution: Interpreting the normal probability distribution, Practical applications of the normal current – Statistics Inference.

Unit 6 Inferential Data Analysis

Need and use of interracial analysis – partial correlation – multiple regression – Analysis: path analysis, Multi-level analysis, predictor analysis, profile analysis, correspondence analysis, Discriminate analysis, Factor analysis and item analysis – Matrix display tactics for drawing conclusions.

Unit 7 Software Data Analysis:

Statistical Packages Ms-Excel, SPSS, MINI TAB, Graph pad – Qualitative analyses using computer software, NUD-IST (Non-numerical unstructured Data – Indexing, Searching and Theorising) – Review of Packages and their applications – Theoretical understanding of statistics – Statistical applications and interpretations – past – analysis considerations.

Unit 8 Enquiry Forms in Research:

Research Paradigms and approval Normative and Interpretive Paradigms – comparison and control in the research process – causal models: Nomothetic and Idiographic – critical theory models – oral history models – Making the abstract concrete – bringing theory to practice –

conceptualization – Operationalization – level of measurement: Normal, ordinal, Internal, Ratio.

Unit 9 **Qualitative Research:** Qualitative research model – Themes: Design strategies, Data Collection, Fieldwork strategies, analysis strategies – Theoretical Traditions. Ethnography, Phenomenology, Heuristic inquiry, Ethno – Methodology, Symbolic interaction, Hermeneutics. Triangulation, Narrative Analysis, Ecological Psychological Systems theory, Grounded Theory, Feminist inquiry – Research Strategies: Document or content analysis – Case Study, Ethnographic Studies, Meta Analysis – Data Collection Techniques: Observation, Interview, Review of Document.

Unit 10 **Writing and Dissemination of Research Report**

Report Writing: Organization of Research Report, Types of Research Reports, Style of writing the report, Research report in APA format Plagiarism and Grammar Checking – Software using for Plagiarism Checking - References and bibliography - Evaluation of research - Criteria of evaluation. Writing Research proposal: Style of Research Proposal, Criteria for writing good Research Proposal - Funding Agencies of Educational Research. Dissemination of Research Report: Significance of Research Dissemination, Dissemination of Research Report in International Standards, National and International Journals on Education – Predatory Journals, Journals with impact factor, Indexed Journals, H-factor, M-factor.

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Reference Books

- ***Basavayya, D. & Venkataiah, N. (2016).*** *Essence of Educational Research Methodology. New Delhi: Neelkamal Publications.*
- ***Bergman, M.M. (2008).*** *Advances in Mixed Methods Research. New Delhi: SAGE Publications.*
- ***Best, J. W. (1974).*** *Research in Education. New Delhi: Prentice-Hall of India.*
- ***Borg, W.R. & Gall, M.D. (1979).*** *Educational Research: An Introduction. (3rd Edition). New York: Longman Inc.*
- ***Boudah, D.J. (2011)*** *Conducting Educational Research. New Delhi: SAGE Publications.*
- ***Cohen, L. (2008).*** *Research Methods in Education. London: Routledge.*
- ***Dipti & Bhatt (2015).*** *Research Methods in Education. New Delhi: Neelkamal Publications.*
- ***Ford, N. (2012).*** *Using the Web for Research. New Delhi: SAGE Publications.*

- ***Golten, C. & Manion, L. (1981).*** *Perspectives on Classrooms and Schools. London: Holt, Rinehart and Winston.*
- ***Golten, C. & Manion, L. (1985).*** *Research Methods in Education. London: Routledge.*
- ***Gupta, M. (2013).*** *Research Methodology, New Delhi: Prentice Hall of India.*
- ***Gupta, S.L. (2013).*** *SPSS 17.0 for Researchers. New Delhi: International Publications.*
- ***Huizingh, E. (2007).*** *Applied Statistics with SPSS 1. New Delhi: SAGE Publications.*
- ***Johnson, B. & Christensen, L. (2012).*** *Educational Research: Quantitative, Qualitative and mixed Approaches. Los Angeles: Sage Publications.*
- ***Keith F. Punch. (2009).*** *Introduction to Research Methods in Education. Los Angeles: Sage Publications.*
- ***Kothari, C.R. (2015).*** *Research Methodology. New Delhi: New Age Publications.*
- ***Kumar, R. (2014).*** *Research Methodology: A Step-by Step Guide for Beginners. New Delhi: Sage Publications.*
- ***Maheswari, V.K. & Bansal,S. (2013).*** *Elements of Educational Research. Meerut: Raj Printers.*
- ***Paul, S. (2012).*** *Qualitative Data Analysis. New Delhi: Sage Publications.*
- ***Richard, A. (2013).*** *Interpreting Quantitative Data. New Delhi: SAGE Publications.*
- ***Sharma, R.A. (2013).*** *Educational Research. Meerut: R. Lall Book Depot.*

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DPED - 02 EDUCATION SYSTEM - AN OVERVIEW

Unit 1 Understanding Education and Its Nature

Education: Meaning, Definition, Nature, Concept of Education - Aims of Education- Process and functions of Education - Purpose of Education - Role and Importance of Education in Life - Characteristics of an Educated Person. Aspects of Education: Liberal and Vocational Education, Human Rights Education, Environmental Education, Inclusive Education. Social Aspects of Education: Women Education, Peace Education, Moral Education, Education for Deprived People, Education for Minority, Education for sustainable Development.

Unit 2 Philosophical Foundations of Education

Meaning, Definitions and Concept of Philosophy of Education – Relationship between Philosophy and Education - Eastern Thoughts: Vedic Education, Jainism, Buddhism, and Hinduism - Western Thoughts: Individualism, Socialism, Totalitarianism, Democracy, Idealism, Realism, Naturalism, Pragmatism, Eclecticism, Reconstructivism and Existentialism – Education for National Integration and International Understanding - Branches of Philosophy: Metaphysics, Epistemology, Axiology and Logic – Authoritative, Empirical, Scientific, Rational and Intuitive methods of acquiring Knowledge – Knowledge management

Unit 3 Vision of Education: Indian Thinkers

Salient features of the philosophy and practice of Education – Rabindranath Tagore: Liberationist pedagogy – M.K.Gandhi's Basic Education for self sufficiency – Aurobindo Ghosh's Integral education – J.Krishnamurthi 's Education for Individual and social transformation. Swami Vivekananda.

Unit 4 Education in the Modern Indian Society

Education in Concurrent List - Directive Principle: Article 21A - Universalisation of Elementary Examination - Wastage and Stagnation - Brain Drain - Brain Gain - Right to Education Act - Equitable Education - University Education Commission (1948) - Secondary Education Commission (1952-53) - Kothari Commission (1964-66) - Ishwar Bhai Patel Committee (1977) - Adisehiah Committee (1978) - National Policy on Education (1986) - Programme of Action (1992) - National Curriculum Framework (2005) - National Knowledge Commission (2007) - Justice J.S.Verma Committee (2012) - Characteristics of Modern Indian Society: Autonomy, Accountability - Digital Divide - E-Governance in Education - Constitutional Provisions related to Education.

Unit 5 Education System and Agencies

Education System: Formal, Informal and Non-formal - Distance Education and Open Education. Innovative Education: e-Learning, Mobile Learning, Online Learning, U-Learning - Value Oriented Education - Role of International Organizations on Education: UNESCO, OECD, The World Bank, ILO, WHO. Role of National Organizations on Education: NCTE, NCERT, CSIR, RCI, AICTE, NAAC, DEB, UGC. Role of State Organizations on Education: TANSCHE, DIET, SCERT.

Unit 6 Teacher Education in India

Changing roles of teachers - Development of secondary teacher education (STE) - Pre-service and in-service education of teachers - Structure of secondary teacher education system in India – Merits and limitations - Vertical and horizontal mobility - Professional development of teachers and teacher educators - Role expectations of teacher in the 21st century - Pandit Madan Mohan Malviya National Mission and Special Orientation of Primary Teachers (SOPT) - District (DPEP) and Sarva Shiksha Abhiyan (SSA)

Unit 7 Internet, Web and Mobile Technologies

Internet Basics - Internet services - Teleconferencing - Internet security - Synchronous and asynchronous communication - e-mail, chat, newsgroups and forums - Academic and Research content - Online journals and abstraction services - Online courses - Web2.0 and Web3.0 Technologies - Applications in learning - Social media - Professional forums - Blogs – Twitter - Wiki - Photo and videosharing - Mobile Technologies - Mobile Apps - ICT in Education - Learning Management Systems - Multiple learning spaces - Personalized learning - Online surveys - e-portfolio – Learning Analytics - Open Educational Resources -MIT Open Courseware – MOOCs – Blended learning - Flipped Classroom - Shodhganga - SWAYAM

Unit 8 Open and Distance Learning

System of Education: Formal, Informal, Non–formal and Distance Education Distance Education: Introduction, Concept, Scope - Evolution of Distance Learning - Characteristics of Distance Learners - Open learning Systems - Self learning - Virtual University - Digital Library - Management Information System - Virtual Classrooms - IGNOU – Organisational structure of National / State Open Universities - Open Educational Resources - OER University

Unit 9 School Management Perspectives

Teacher : Definition – Position - Teacher as a Manager - Classroom Supervision - Administration Vs Supervision - Teachers as a Planner in the Communicative System - Education as a Service Industry - School Management – Responsibilities, and Roles - Leadership Theories - Qualities and outcomes of educational management - Total Quality Management in

Education - School Development Plans - Key Areas - School climate – Quality Control Measures - IQAC- Policy Making - Management in Central and State Government - Local Educational Authorities – Role of NIEPA – School financial Management - Autonomy, Accountability –e-governance in Education.

Unit 10 Vocationalisation and Skill Development

Vocational Education – Need and Importance - Human Resource Planning - Government initiatives for Human Resource Development in rural areas - National Skill Development Mission – NSDC and SSDC - Skill development at various levels – Entrepreneurship.

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Reference Books

- ***Abdul Kalam, A. P.J., with Rajan, Y.S. (2002).*** *India 2020. A Vision for the New Millennium, Viking Penguin Books (P) Ltd., New Delhi.*
- ***Agarwal, J.C. (1999).*** *Theory and Principles of Education. Vikas Publications House Pvt. Ltd., New Delhi.*
- ***Bhahirathi Sahu (2007).*** *The New Educational Philosophy. New Delhi: Sarup & Sons.*
- ***Bhatnagar, R.P. and Vidya Arawal (1997)*** *Educational Administration. R. Lall Book Depot, Meerut.*
- ***Chandra, S. S. and Sharma, R. K. (1996)*** *Principles of Education. Atlantic Publishers, New Delhi.*
- ***Rather, A. R. (2007).*** *Theory and Principles of Education. New Delhi: Discovery Publishing House.*
- ***Sharma, A.P. (2010).*** *Indian and Western Philosophy. New Delhi: Unicorn Books.*
- ***Singh, Y. K. (2008).*** *Philosophical Foundations of Education. New Delhi: APH Publishing Corporation.*

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ANNEXURE

Course Title:

- **Research and Publication Ethics (RPE)**-Course for awareness about the publication ethics and publication misconducts.

Course Level:

- 2 Credit course (30 hrs.)

Eligibility:

- M.Phil., Ph.D. students and interested faculty members (It will be made available to post graduate students at later date)

Fees:

- As per University Rules

Faculty:

- Interdisciplinary Studies

Qualifications of faculty members of the course:

- Ph.D. in relevant subject areas having more than 10 years' of teaching experience

About the course

Course Code: CPE- RPE

Overview

- This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on-sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Pedagogy:

- Class room teaching, guest lectures, group discussions, and practical sessions.

Evaluation

- Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.

Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Modules	Unit title	Teaching hours
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	Total	**30**

Syllabus in detail

THEORY

- **RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**

1. Introduction to philosophy: definition, nature and scope, concept, branches
2. Ethics: definition, moral philosophy, nature of moral judgements and reactions

- **RPE 02: SCIENTIFICCONDUCT (5hrs.)**

1. Ethics with respect to science and research
2. Intellectual honesty and research integrity
3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
4. Redundant publications: duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

- **RPE 03: PUBLICATION ETHICS (7 hrs.)**

1. Publication ethics: definition, introduction and importance
2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
3. Conflicts of interest
4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
5. Violation of publication ethics, authorship and contributorship
6. Identification of publication misconduct, complaints and appeals
7. Predatory publishers and journals

PRACTICE

- **RPE 04: OPEN ACCESS PUBLISHING(4 hrs.)**

1. Open access publications and initiatives

2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

- **RPE 05: PUBLICATION MISCONDUCT (4hrs.)**

A. Group Discussions (2 hrs.)

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

B. Software tools (2 hrs.)

Use of plagiarism software like Turnitin, Urkund and other open source software tools

- **RPE 06: DATABASES AND RESEARCH METRICS (7hrs.)**

A. Databases (4 hrs.)

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

B. Research Metrics (3 hrs.)

1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, altmetrics

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