PRE-PH.D SYLLABUS

Paper 1

RESEARCH METHODS IN EDUCATION

Credit -4

Course Objectives:

After completion of this paper students will be able -

1. To understand different types of Experimental Research Designs.
2. To understand different types of Qualitative Research Designs and their importance.
3. To understand importance and process of sampling
4. To review relative literature and prepare a good research proposal

Course Content:

- Research Designs: types of Experimental Design, Quasi Experimental and Non-Experimental Research
- Qualitative Research: Grounded Theory, Ethnography, Phenomenology and Case Study, Content Analysis in Qualitative Research
- Review of Related Literature
- Academic Writing: Research Report, Research Paper, Bibliography and References

Practicum

Preparation and Presentation of Summary of Ph.D. Thesis

Babbie, E. R. (2021). *The practice of social research*.

Columbus, A. (2010). *Advances in psychology research: Volume 67*. New York: Nova Science Publishers.

Cozby, P. C., & Bates, S. (2020). *Methods in behavioral research*.

Flick, U. (2008). *Designing Qualitative Research*. London: Sage Publications.

Goddard, W., & Melville, S. (2011). *Research methodology*. Kenwyn, South Africa: Juta & Co.

Habib, M., Pathik, B. B., & Maryam, H. (2014). *Research methodology -- contemporary practices: Guidelines for academic researchers*. Newcastle upon Tyne: Cambridge Scholars Publishing.

Jain, S. (2019). *Research Methodology in Arts, Science and Humanities*. Oakville, ON: Society Publishing.

Kettley, N. C. (2010). *Theory building in educational research*. New York: Continuum International Pub. Group.

Kothari, C. R., & Garg, G. (2019). *Research methodology: Methods and techniques*.

Koul, Lokesh. (1984). Methodology of educational research. New Delhi : Vikas

Kumar, R. (2019). *Research methodology: A step-by-step guide for beginners*.

Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*. Thousand Oaks, Calif: SAGE Publications.

Lucas, L. (2006). *The research game in academic life*. Maidenhead, England: Open University Press.

Mastropieri, M. A., & Scruggs, T. E. (2009). *Applications of research methodology*. Bingley: Emerald Group Publishing Limited.

Phophalia, A. K. (2010). *Modern Research Methodology*. New Delhi: Paradise Publishers.

Paper 2

RESEARCH AND PUBLICATION ETHICS (RPE)

Credit - 2

About the Course:

Overview: This course has 6 modules mainly 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 and p metrics and plagiarism tools introduced in the course.

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 relations.

RPE 02: SCIENTIFIC CONDUCT (5 HRS)

1. Ethics with respect to science and research

2. Intellectual honest and research integrity

3. Scientific misconducts: falsification, fabrication, and plagiarism.

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 verse, types

5. Violation of publication ethics, authorship and contributor ship

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 and 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 (4 HRS)

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 (7 HRS)

A Databases (4 hrs.)

1. Indexing databases

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

B. Research Metrics (3 hrs.)

Impact Factor of journal as per journal citation report, SNIP, SJR, IPP, Cite Score.Metrics: h-index, g index, i10 index, altmetrics

Byrne, D. (2017). *Research ethics*.

Committee on Assessing Integrity in Research Environments (U.S.), National Research Council (U.S.), & United States. (2002). *Integrity in scientific research: Creating an environment that promotes responsible conduct*. Washington, D.C: National Academies Press.

Federman, D. D., Hanna, K. E., Rodriguez, L. L., & Institute of Medicine (U.S.). (2003). *Responsible research: A systems approach to protecting research participants*. Washington, D.C: National Academies Press.

In Lee-Treweek, G., & In Linkogle, S. (2000). *Danger in the field: Risk and ethics in social research*. London: Routledge.

In Salkind, N. J. (2010). *Encyclopedia of research design*. Thousand Oaks, Calif: Sage.

Jerjes, W., Hamoudi, R., & Hopper, C. (2018). *The power of research: Best practices and principles in research integrity and publication ethics*.

Love, K. (2012). *Ethics in social research*. Bingley, U.K: Emerald.

Oliver, P. (2010). *The student's guide to research ethics*. Maidenhead, Berkshire, England: McGraw-Hill/Open University Press.

Roberts, P. M., & Perez, E. O. (2013). *Ethics research compendium*. New York: Nova Publishers.

Smith, I. A. (2006). *Research ethics*. New York: Routledge.

Synopsis Preparation &Presentation

credit 1

Course Objectives:

1. To Understand the process of identification of research problem
2. Research scholars will be able to prepare and present their research proposal/synopsis

Course Content:

- Identification of problems
- Research review writing
- Synopsis preparation
- Synopsis presentation

Behling, J. H. (1984). *Guidelines for preparing the research proposal*. Lanham, MD: University Press of America.

Crawley, G. M., & O'Sullivan, E. (2016). *The grant writer's handbook: How to write a research proposal and succeed*.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education*.

Gardner, D. C., & Beatty, G. J. (1980). *Dissertation proposal guidebook: How to prepare a research proposal and get it accepted*. Springfield, Ill: Thomas.

Harland, D. J. (2011). *STEM student research handbook*. Arlington, Va: National Science Teachers Association.

In Salkind, N. J. (2010). *Encyclopedia of research design*. Thousand Oaks, Calif: Sage.

Krathwohl, D. R. (1977). *How to prepare a research proposal: Suggestions for those seeking funds for behavioral science research*. Syracuse, N.Y.: publisher not identified.

Krathwohl, D. R. (1988). *How to prepare a research proposal: Guidelines for funding and dissertations in the social and behavioral sciences*. Syracuse, N.Y: Syracuse University Press.

Vithal, R., & Jansen, J. D. (2019). *Designing your first research proposal: A manual for beginning researchers*.

Computer Application in Education(Elective)

Credit -4

Course Objectives:

1- To understand the concept of computer in research
2- To acquaint the students with different types of computer skills i.e. word, excel, power point
3- To acquaint the students with different types of online tool construction and data collection techniques
4- To acquaint the students with usage of data analysis software (SPSS)

Course Content:

- Computer application functions of computer: use and importance of computer in research
- MS Office: word (preparation of resume), Excel (application of functioning worksheet) and PowerPoint (inserting taxi objects, formatting text, graphs animation, web page and clip-in slides) presentation skill
- Use or Computer in data analysis, developing online research tool & online data collection
- Introduction of data analysis software SPSS and its application.

Practicum

Perpetration of power point presentation.

Borghans, L., &Weel, B.. (2003). *Are computer skills the new basic skills? The returns to computer, writing and math skills in Britain*. Maastricht: Research Centre for Education and the Labour Market, Faculty of Economics and Business Administration, Maastricht University.

Brook Lapping Productions. (2010). *Computer skills: Internet search*. England: Teachers TV/UK Dept. of Education.

ElAtia, S., Ipperciel, D., &Zaïane, O. (2017). *Data mining and learning analytics: Applications in educational research*.

Field, A. P. (2018). *Discovering statistics using IBM SPSS statistics*. London [etc.: Sage.

Milburn, M. J. F. (2001). *Basic computer skills: Level 1*. Columbus, Ohio: SRA/McGraw-Hill.

Milburn, M. J. F. (2001). *Basic computer skills: Level 6*. Columbus, Ohio: SRA/McGraw-Hill.

Norusis, M. (n.d.). *SPSS books*. Spss Inc.

SHERMAN, J. (2004). *Basic Computer Skills*. Elsevier Ltd.

SPSS Inc. (1996). *SPSS advanced statistics*. Chicago: SPSS Inc.

SPSS Inc. (1999). *SPSS: Regression models 9.0*. Bologna: SPSS Italia.

Stephen, M. (2008). *Teach yourself basic computer skills*. London: Teach Yourself Books.

Wray, P. (2001). *Basic computer skills*. New York, NY: DDC Pub.

Advanced Research Statistics (Elective)

Credit – 4

Course Objectives:

1. To understand the concept of Descriptive and Inferential Statistics
2. To understand the concept of qualitative and quantitative data analysis
3. To acquaint the students with different types of parametric and non parametric statistical techniques
4. To understand the concept of Normality of data, Normal Probability Curve (NPC), Homogeneity in data and level of significance

Course Content:

- Statistics: Meaning, Scope, Importance and Nature, Descriptive and Inferential Statistics.
- Data analysis techniques of quantitative and qualitative data.
- Parametric Statistics: T, ANOVA, Pearson correlation & regression and Non-parametric statistics: chi-square, Mann –Whitney test, median test, rank difference test, Spearman correlation, sign test.
- Normality of Data: Normal probability curve, Homogeneity of variance, level of significance.

Practicum

Interclass room discussion and report preparation of use of statistics in educational research

Croxton, F. E., & Cowden, D. J. (2011). *Applied general statistics*. New York: Prentice-Hall, Inc.

Moore, D. S., McCabe, G. P., & Craig, B. A. (2017). *Introduction to the practice of statistics*.

Newbold, P., Carlson, W. L., & Thorne, B. (2020). *Statistics for business and economics*.

Kendall, M. G., Ord, J. K., & Stuart, A. (1983). *The advanced theory of statistics: In three volumes*. London: Griffin.

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2019). *Using multivariate statistics*.

Spiegel, M. R., & Stephens, L. J. (2018). *Statistics*.

Graham, A. (2011). *Statistics*. London: Hodder Education.

Harper, W. M. (2000). *Statistics*. London: Financial Times Pitman Pub.

Moore, D. S., &Notz, W. (2020). *Statistics: Concepts and controversies*.

Garrett, H. E. (1972). *Elementary statistics*. New York: D. McKay.

Guilford, J. P. (2000). *Fundamental Statistics in Psychology and Education*. Islambad District (Pakistan: National Book Foundation.

MEASUREMENT AND EVALUATION(Elective)

credit 04

Course Objectives:

5- To understand the concept of measurement and its importance in education
6- To understand the concept of tests, differentiate between standardized and teacher made tests and to know the steps in test construction
7- To acquaint the students with different types of tools used in assessment
8- To understand the concept of evaluation and its importance

Course Content:

- Measurement: Meaning, need, importance, errors, classification
- Test: Types NRT/CRT, characteristics of good tests, Scales of measurement, validity, reliability, tool construction, item analysis
- Tools in assessment: checklist, questionnaire, schedule, cumulative records, Sociometry, observations, interview, projective techniques
- Evaluation: Introduction, steps, functions, External and Internal Evaluation, formative and summative evaluation, Continuous and comprehensive evaluation, Teacher's role in evaluation.

Practicum:

I. Preparation of Blue Print of Achievement Test
II. Construction of Achievement test (CRT)

References-

1- Educational Administration, Bhatnagar R.P & Vidya Aggarwal Loyal Book Depot, Meerut

2- Educational Evaluation, Ramabhai N. Patel, Himalay Publishing House
3- Basic Educational Tests and Measurements- Stodola&Stordahl
4- AadhunikManovaigyanikparikshanevammaapan – Dr. Mahesh Bhargav
5- Manovigyanaurshiksha me maapanevammulyankan – Vipin Asthana evam R.N. Agarwal
6- Assessment for Learning , A.J.S. Parihar, Lall Book Depot
7- Psychological Testing, A. Anastasi, Pearson Education Asia

RECENT ADVANCES IN EDUCATION (Elective)

Credit-04

Course Objectives:

1. To enable students critically examine the various recommendations of New Education Policy-2020.

2. To know about the Role, Responsibilities and Contribution of various Regulating Bodies for maintaining standards in Higher Education.

3. To enable students to understand the recommendations of Act and Reports related to elementary education.

4. To acquaint with various digital platforms which are related to research and study material resources.

Course Content:

- New Education Policy-2020, NIRF, NAAC, AISHE.
- Right to Education, Delors Report, NTA.
- National Digital Library: ShodhGanga, ShodhGangotri, e-ShodhSindhu.
- Online Resources: ePathshala, e-PG Pathshala, swayam, moocs, arpit

Practicum

- Educational Field Trip and Report Presentation
- Presentation of Library Based Assignment

Geinare, P. F. (2009). *Recent trends in life long education.* New York: Nova Science Publishers.
http://aishe.nic.in/aishe/home

http://www.naac.gov.in/

https://en.unesco.org/themes/education/research-foresight/revisiting-learning

https://epathshala.nic.in/

https://epgp.inflibnet.ac.in/

https://inflibnet.ac.in/

https://ndl.iitkgp.ac.in/

https://www.mhrd.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

https://www.mhrd.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

https://www.nirfindia.org/Home

https://www.nta.ac.in/

In Wang, Y. (2013). *Education policy reform trends in G20 members*.

Kulshreshtha, S. P., &Rahinwal, D. N. (1984). *Recent advances in educational and psychological testing in India*. Dehra Dun: Jugal Kishore & Co.

Tilak, J. B. G. (2018). *Education and development in India: Critical issues in public policy and development*.