CENTRAL UNIVERSITY OF TAMIL NADU

SYLLABUS

OBE Format

Ph.D. Course Work

Programme Code: 1103

DEPARTMENT OF EDUCATION
SCHOOL OF EDUCATION & TRAINING

From the academic year 2023-24 onwards

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Regulations and Syllabus for Ph.D. Course Work (Full Time/ Part-Time)

1. Title:

The title of the course is Ph.D. coursework for Full Time/Part Time Ph.D. Scholars in Education.

2. Objectives

At the end of or during the course, the student will be able to:

- ✓ Explore educational research methods in detail.
- ✓ Explore different types of educational research.
- ✓ Explore the different statistical techniques for educational research.
- ✓ Apply statistical packages for data analysis.
- ✓ Conduct a detailed review of related literature.
- ✓ Reflect on the contemporary trends and discourses in Educational Research.
- ✓ Explore the different dimensions of research ethics and academic writing.

3. Duration

The duration of the program shall be one semester or two semesters, as prescribed in the Ph.D. ordinance of the university/ regulations for the Full Time and Part Time Ph.D. The coursework will consist of 14 credits.

4. Medium of Instruction

The medium of instruction shall be English.

5. Instruction

Instruction will be face-to-face/online for the Full Time/Part Time Scholars.

6. Course Outline

A minimum of four credits shall be assigned to one or more courses on Research Methodology which could cover areas such as quantitative methods, computer applications, research ethics and review of published research in the relevant field, training, fieldwork, etc. The credits assigned to the Ph.D. coursework shall be a minimum of 8 credits and a maximum of 16

credits. All candidates admitted to the Ph.D. programs shall be required to complete the course work during the initial one or two semesters. The scholars of the coursework are required to secure a minimum of attendance as per the norms of CUTN PhD Regulations. There are four papers included in the coursework of the Ph.D. Program

7. Course Details

The course details are as follows;

S.No.	Course Code	Title of the course	Type of Course - Core / DSE / SEC / AECC/ others	Credits
1	**EDU3011**	Contemporary Trends and Discourses in Educational Research	Core	4
2	**EDU3012**	Advanced Research Methodology & Statistics	Core	4
3	**EDU3013**	Pre-PhD Specialization – Choice Based - Elective	Core	4
4	**CPERPE**	Research and Publication Ethics	Core	2
	Four courses			**14 credits**

8. Assessment

The assessment is continuous and comprehensive including internal and course end assessments. An absolute grading system is followed by the Central University of Tamil Nadu. Under this system, the marks are converted to letter grades based on pre-determined mark intervals. The marks infractions shall be rounded off to the nearest integer. The performances of students in each course are expressed in terms of marks as well as in Letter Grades.

S.No.	Range of Marks in %	Letter Grade	Grade Point	Description
1	90 to 100	O	10	Outstanding
2	80 to 89	A+	9	Excellent
3	70 to 79	A	8	Good
4	60 to 69	B+	7	Above Average
5	50 to 59	B	6	Average
6	Below 50	RA	0	Reappear
7		FA	0	Failure due to lack of attendance
8		AE	0	Absent in the End Semester Examination
9		AU	None	Audit Course

SYLLABUS

Ph.D. Education

A. Vision

Vision Statement of the Department

Excellence in Education

B. Mission

Mission Statements of the Department

M1	To provide Leaders in School and Teacher Education
M2	To develop and disseminate Innovative Best Practices in Teaching, Learning, and Research
M3	To integrate ICT Tools in Teaching, Learning, and Research

C. Program Educational Objectives (PEO)

After five years of successful completion of the program, the student will be able to

PEO1	Independently design and conduct research
PEO2	Integrates ICT tools in research
PEO3	Develops innovative practices
PEO4	Becomes a reflective researcher
PEO5	Practices ethics in research

D. PEO to Mission Statement Mapping

	PEO1	**PEO2**	**PEO3**	**PEO4**	**PEO5**
M1	2	3	3	3	1
M2	3	3	3	3	3
M3	3	3	1	3	3

E. Graduate Attributes of Ph.D. Program

1. **Disciplinary Knowledge:** Synchronize research methodology and statistics in doing research
2. **Communication Skills:** Possess clarity in conveying the ideas
3. **Critical Thinking:** Capacity to apply analytical thought in the research process
4. **Problem-Solving:** Participate in educational problem solving and apply the knowledge in day-to-day professional endeavors.
5. **Cooperation:** Appreciate collaboration and cooperation among stakeholders of education.
6. **ICT Skills:** Selecting and integrating appropriate ICT skills for professional development.
7. **Ethics:** Doing what is right for society
8. **Self-Directed Learning:** Developing autonomy and self-regulation in teaching-learning and professional development.
9. **Reasoning:** Ability to interpret and draw the conclusion from qualitative/quantitative data with open-mindedness
10. **Creativity:** Ability to produce new ideas
11. **Societal and Environmental Concern:** Performing an act or solving a problem with respect to societal and environmental concern
12. **Lifelong Learning:** Understands the need for learning and practices it throughout life

E. Program Outcomes (PO)F

On the successful completion of the program, the student will be able to

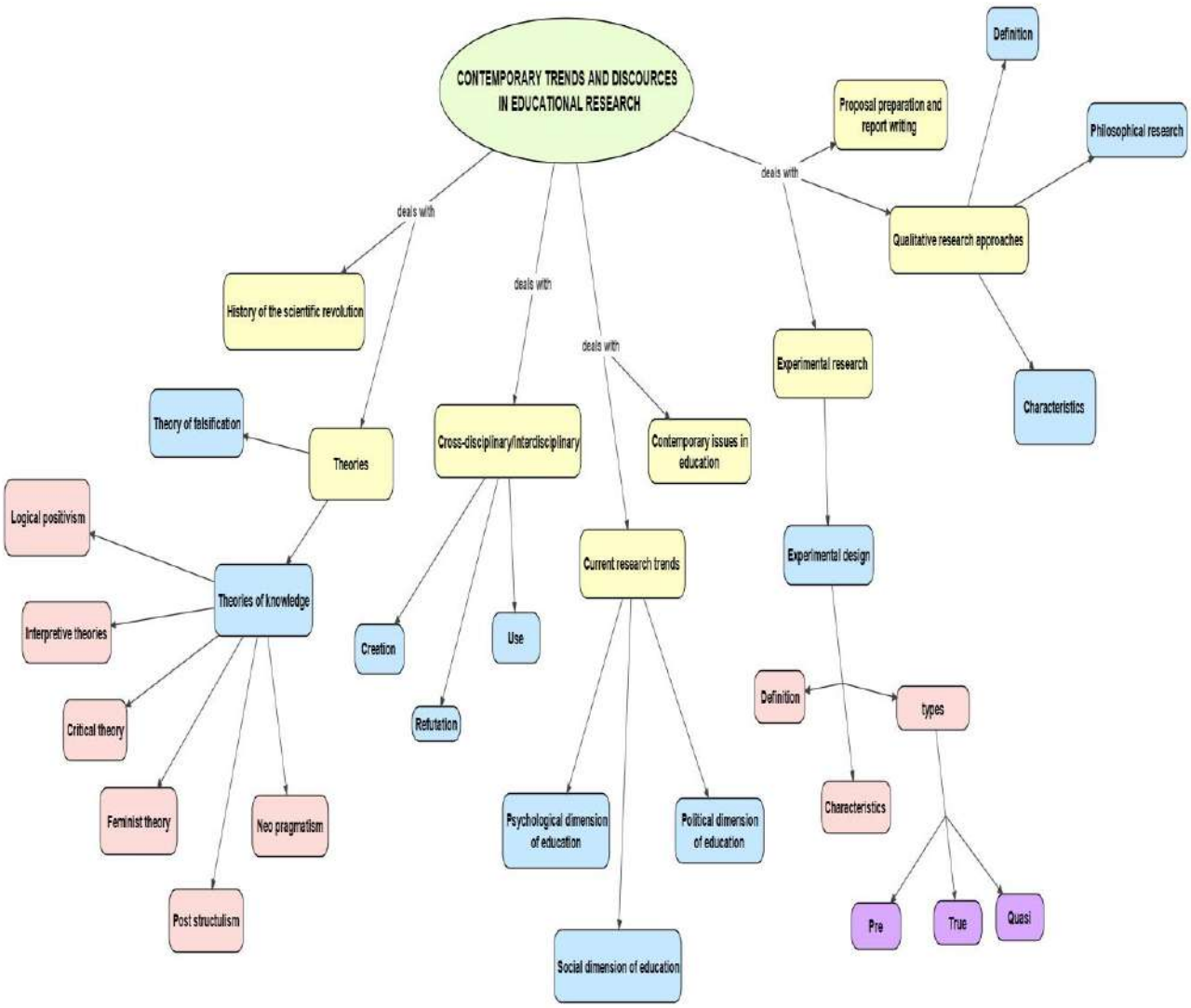
PO1	Identifies a research problem
PO2	Executes a research plan
PO3	Demonstrates problem-solving skill
PO4	Construct and validate appropriate tools for assessment
PO5	Communicates the findings of a research
PO6	Teachers at the tertiary level

G. PO to PEO Mapping

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**
PEO1	3	3	3	3	3	1
PEO2	3	3	3	3	3	2
PEO3	1	1	2	1	2	3
PEO4	3	3	3	2	3	3
PEO5	3	3	2	3	3	1

PhD					
Course Code	**Course Name**	**L**	**T**	**P**	**Credits**
EDU3011	Contemporary Trends and Discourses in Educational Research	3	1	0	4
Internal	40	External	60	Total	100

Concept Map



a. Course Outcome (CO)

On the successful completion of the course, the student will be able to

	Course Outcome	Level
CO1	Identify the contemporary issues in educational research	Understand
CO2	Interpret various dimensions of educational research	Apply
CO3	Investigate the methods of quantitative and qualitative data	Analyze
CO4	Develop a sample research report that is valid, ethical, and plagiarism-free	Create
CO5	Appreciate the practical consequences of theories for research and change in schools.	Skill

b. Syllabus

Units	Content	Hrs.
I	History of the Scientific Revolution- Theory of falsification-Theories of Knowledge- Logical positivism, interpretive theories, critical theory, feminist theory, poststructuralism, and neo-pragmatism- Applications to Curriculum, Instruction, and Teacher Education.	18
II	Cross-disciplinary/interdisciplinary knowledge - its creation, refutation, and use-Correspondence between disciplinary knowledge and knowledge as represented in schools- Social science perspectives on factors outside and inside school systems that shape policy and influence the nature of policy problems and the form of educational solutions.	18
III	Current research trends in the psychological, social, and political dimensions of Education- Contemporary Issues in Education and allied disciplines and research concerns- Assessment of current issues in the educational domain as they relate to historical reforms- Analysis of multiple resources and perspectives on current issues.	18
IV	(a) Experimental Research- Experimental Design-Definition, Characteristics, Methods of Control -Types of Experimental Design: Pre, True, and Quasi-experimental design- Factors affecting Internal and External Validity of Experimental design (b) Qualitative Research Approaches –Definition, Characteristics-Ethnography, Phenomenology, Naturalistic Enquiry, Historical & Case Studies, Philosophical research - Analysis of Qualitative Data - Content analysis (c) Proposal preparation and Report Writing.	18
	References: Ann Hogue. Alice Oshima. 3rd ed. (2007). Introduction to academic writing. Pearson Education, Inc. Audi, Robert (213). Epistemology: a contemporary introduction to the theory of knowledge. New York, NY: Routledge Denzin Norman K. & Lincoln Yvonna S. (2018). The SAGE Handbook of Qualitative Research (5th Edition). SAGE Publications, Inc.	

	Flick, Uwe (1996): An Introduction to Qualitative Research. London: Sage publication.	

c. Mapping of Program Outcomes with Course Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	3	3	1	1	3
CO2	2	2	2	1	1	2
CO3	2	3	2	3	2	2
CO4	1	3	1	3	3	1
CO5	2	2	1	1	1	1

d. Evaluation Scheme

	CO1	CO2	CO3	CO4	CO5	Total
Internal	8	8	8	8	8	40
External	12	12	12	12	12	60
Total	**20**	**20**	**20**	**20**	**20**	**100**

e. Mapping Course Outcome with Internal Assessment (40 Marks)

	CO1	CO2	CO3	CO4	CO5
Assignments	2	2	-	-	2
Seminar	-	-	2	2	-
Test	5	5	5	5	5
Attendance	1	1	1	1	1
Total	8	8	8	8	8

f. Mapping Course Outcome with External Assessment (60 Marks)

Category	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Part – A **(Objective - 10 x 1 = 10 marks)**	2	2	2	2	2
Part – B **(Short Answer - 5 x 4 = 20 marks)**	10	10	-	-	-
Part – C **(Essay- 3 x 10 = 30 marks)**	-	-	10	10	10
Total	**12**	**12**	**12**	**12**	**12**

g. Rubric for Assignments

Sl. No	**Criteria**	**100%**	**75%**	**50%**	**25%**	**0%**	**Relation to COs**
1	**Content** **50%**	Ideas are detailed, well developed, supported with specific evidence & facts, and examples	Ideas are detailed, Developed and supported with evidence and facts mostly specific.	Ideas are presented but not particularly developed or supported;	The content is not sound	Not attended	CO1, CO2, CO3, CO4
2	**Organization-n** **50%**	Includes title, introduction, statement of the main idea with illustration and conclusion.	Includes title, introduction, statement of main idea and conclusion.	organizational tools are weak or missing	No organization	Not attended	CO1, CO2, CO3, CO4

h. Rubric for Seminar

Sl. No.	Criteria	100%	75%	50%	25%	0%	Relation to COs
1	**Knowledge and Understanding** **50%**	Exceptional knowledge of facts, terms, and concepts	Detailed knowledge of facts, terms, and concepts	Considerable knowledge of facts, terms, and concepts	Minimal knowledge of facts, terms, and concepts	Not Attended	CO3, CO4, CO5
2	**Presentation** **50%**	Well Communicated with logical sequences, examples, and references	Communicated with sequences	Just Communicated	No coherent communication	Not Attended	CO3, CO4, CO5

i. Model Question Paper

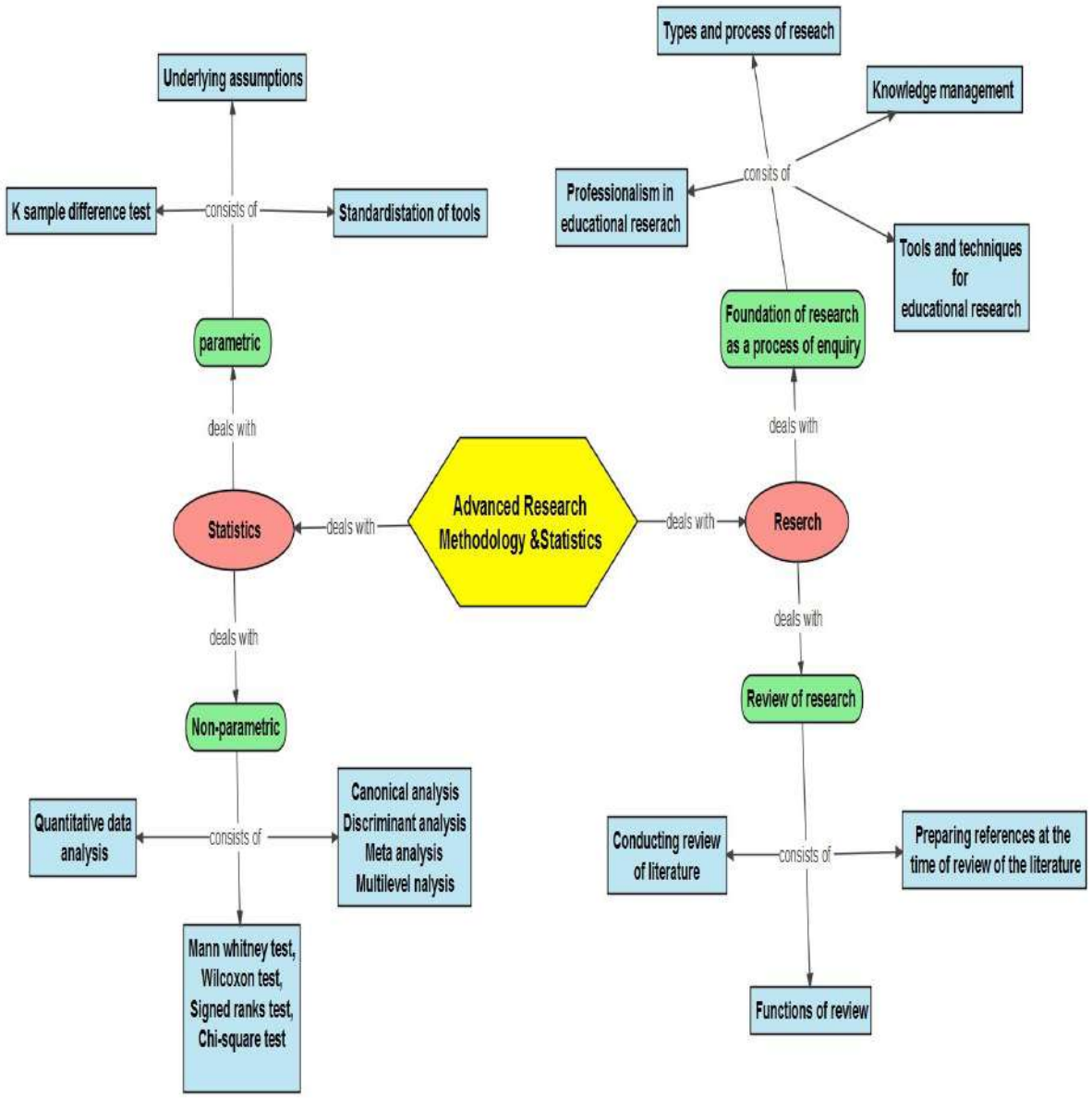
Sl. No.	Model Questions	Specification	Level
	Part – A: Objective Type **Multiple choice 10 x 1 = 10**		
1	Which of the following theory aims to understand the nature of gender inequality? a. Theory of falsification **b. Feminist theory** c. Critical theory d. Interpretive theory	Recognize	Remember
2	Which of the following principles is not correct regarding pragmatism? **a. Pragmatism accepts any definite/eternal truth or principle** b. According to pragmatists truth is man-made c. Pragmatists do not support spiritualism d. Pragmatists stress equally acts and thoughts	Recognize	Remember

3	The ability to speak to (if not from) a broad spectrum of knowledge and experience is known as **a. Intellectual dexterity** b. Strong sense of critical thinking c. Metacognition d. Intellectual autobiography	Identify	Remember
4	Ethical analysis is the application of _____ analysis to ethical issues. a. Disciplinary **b. Interdisciplinary** c. Integrated d. Intellectual	Recall	Remember
5	The research method which focuses on establishing a casual relationship with controls among variables – independent, moderator, and dependent is called a. Ex post facto method b. Survey method c. Case study method **d. Experimental method**	Recognize	Remember
6	Experimental research is aimed at _____ **a. Establish association between variables** b. Describe variables c. Study the application theory d. Study trend analysis	Recall	Remember
7	In the true experimental research design a. No control over external variables b. Less control over external variables **c. Control on external variables by randomization** d. No use of randomization	Identify	Remember
8	Which of the following is characteristic of qualitative research? a. Generalization of the population b. Random sampling **c. Unique case orientation** d. Standardized tests and measures	Recognize	Remember
9	Phenomenology has its disciplinary origins in the following: **a. Philosophy** b. Anthropology	Recognize	Remember

	c. Sociology d. Many disciplines		
10	_____ is used to describe cultural scenes or the cultural characteristics of a group of people. a. Phenomenology **b. Ethnography** c. Grounded theory d. Instrumental case study	Recall	Remember
	PART – B Short Answer **The answer should not exceed 200 words 5 x 4 = 20**		
11	Write short notes on feminist theory and its application in teacher education.	Explain	Understand
12	What do you understand by Cross-disciplinary and interdisciplinary knowledge? How you can apply it in your research?	Employ	Apply
13	What are the contemporary Issues in Education? Comment in your own words.	Comment	Skill
14	What Factors affect the Internal and External Validity of Experimental design? Could you explain how you can control it?	Interpret	Analyze
	PART – C Essay Answer **The answer should not exceed 400 words 3 x 10 = 30**		
15	What broad topic have you decided on for your research, and what reasons for selecting that topic	Propose	Skill
16	Review of related literature is essential or not for conducting research? If yes, give reasons.	Appraise	Skill
17	Write a detailed note on qualitative research approaches	Describe	Understand

Ph.D. Coursework					
Course Code	**Course Name**	**L**	**T**	**P**	**Credits**
EDU3012	Advanced Research Methodology & Statistics	2	1	1	4
Internal	40	External	60	Total	100

Concept Map



a. Course Outcome (CO)

On the successful completion of the course, the student will be able to

	Course Outcome	Level
CO 1	Explain the process and procedure involved in the research	Understand
CO 2	Discover the statistical tools and techniques used in research	Analyze
CO 3	Differentiate the univariate and bivariate methods of statistical analysis in research.	Understand
CO 4	Use SPSS, MS Excel to analyze data, and interpret results obtained during the analysis ·	Apply
CO 5	Develop a detailed review of related literature	Create

b. Syllabus

Units	Content	Hrs.
I	**Explore data processing packages for quantitative and qualitative data analysis** Revisit the foundations of research as a process of inquiry and basics of educational research - types and process of research - tools, and techniques for education research - knowledge management - professionalism in educational research.	16
II	**Review of Research** Concept, Purpose, and Importance -The functions of review; a) Conceptual frame of reference, b) Status of research, c) Research Approach, Method, Instrumentation, and Data Analysis, d) Probability of success and significance of findings, e) Stating the definitions, assumptions, limitations and hypotheses, f) Selection of Tools and Design - Conducting a review of the literature - Listing key words, checking preliminary sources, Reading and noting selected references - Preparing references at the time of review of the literature.	16
III	**Scales of Measurements** Nominal, Ordinal, Interval & Ratio - Parametric & Nonparametric tests -Underlying assumptions - considerations for deciding the appropriateness of parametric tests –Tools and techniques- standardization of tools- the concept of Hypothesis testing - K-Samples difference tests - One way ANOVA, Post Hoc tests of varying powers -Two ways ANOVA with equal and unequal cell size - One & Two ways ANCOVA of equal & unequal cell size- Correlation analysis.	16
IV	**Non - Parametric statistics** Mann Whitney test, Kruskal Wallis test, Wilcoxon test, Signed Ranks test, Chi-Square test- Canonical Analysis - Discriminant Analysis- Meta-	16

	Analysis, Multilevel Analysis - Significance level v/s magnitude of effect size. (**b**) Qualitative Data Analysis.	
	Practical Work: Hands-on experience in data processing packages for quantitative and qualitative data analysis.	16
	Tasks and Assignments: · Conducting a review of research in the area of research interest under the guidance of the supervisor. · Preparing review of a Ph. D. thesis. · Presentation of the research proposal · Publish/Prepare a paper for publication in any of the reputed national or international journals. **References:** · Audi, Robert (213). Epistemology: a contemporary introduction to the theory of knowledge. New York, NY: Routledge · Bernie Grummell and Fergal Finnegan (Ed.) (2020). Doing Critical and Creative Research in Adult Education, Case Studies in Methodology and Theory. Research on the Education and Learning of Adults, Volume: 9. Brill Publications. · Borg, W.R. and Gall, M.D. (1983). Educational Research – An Introduction, NewYork: Longman, Inc. · Bridges David. (2017). Philosophy in Educational Research Epistemology, Ethics, Politics, and Quality. Springer International Publishing. · Christensen, L. (2007). Experimental Methodology. Boston: Allyn & Bacon. · Clive Opie (2004). Doing Educational Research - A Guide for First-time researchers. New Delhi: Vistar Publications. · Cohen, Lewis and Manion Lawrence. (1994). Research Methods in Education New York: Holt Rinehart and Winston Inc. · Cononver, W.J. (1971). Practical Non-Parametric Statistics. New York: John Wiley & Sons Inc. · Denzin Norman K. & Lincoln Yvonna S. (2018). The SAGE Handbook of Qualitative Research (5th Edition). SAGE Publications, Inc. · Ferguson, G. (1981). A Statistical Analysis in Psychology and Education, New York: McGraw Hill. · Flick, Uwe (1996): An Introduction to Qualitative Research. London: Sage publication. · Fraenkel, J.R., Wallen, N.E. (1996). How to Design and Evaluate Research in Education. New York: McGraw Hill.	

c. Mapping of Program Outcomes with Course Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	3	3	1	1	2
CO2	2	2	2	3	1	1
CO3	1	1	1	2	1	1
CO4	1	1	3	3	1	2
CO5	3	3	3	2	1	2

d. Evaluation Scheme

	CO1	CO2	CO3	CO4	CO5	Total
Internal	8	8	8	8	8	40
External	12	12	12	12	12	60
Total	**20**	**20**	**20**	**20**	**20**	**100**

e. Mapping Course Outcome with Internal Assessment (40 Marks)

	CO1	CO2	CO3	CO4	CO5
Assignments	2	2	-	-	2
Seminar	5	-	2	2	-
Test	-	5	5	5	5
Attendance	1	1	1	1	1
Total	8	8	8	8	8

f. Mapping Course Outcome with External Assessment (60 Marks)

Category	CO1	CO2	CO3	CO4	CO5
Part – A (Objective - 10 x 1 = 10 marks)	2	2	2	2	2
Part – B (Short Answer - 5 x 4 = 20 marks)	10	10	-	-	-
Part – C (Essay- 3 x 10 = 30 marks)	-	-	10	10	10
Total	**12**	**12**	**12**	**12**	**12**

g. Rubric for Assignments

Sl. No.	Criteria	100%	75%	50%	25%	0%	Relation to COs
1	**Content 50%**	Ideas are detailed, well developed, supported with specific evidence & facts, and examples	Ideas are detailed, Developed and supported with evidence and facts mostly specific.	Ideas are presented but not particularly developed or supported;	Content is not sound	Not attended	CO1, CO2, CO5

2	**Organiza-tion** **50%**	Includes title, introduction, statement of the main idea with illustration and conclusion.	Includes title, introduction, statement of main idea and conclusion.	organizational tools are weak or missing	No organization	Not attended	CO1, CO2, CO5

h. Rubric for Seminar

Sl. No.	**Criteria**	**100%**	**75%**	**50%**	**25%**	**0%**	**Relation to COs**
1	**Knowledge and Understanding** **50%**	Exceptional knowledge of facts, terms, and concepts	Detailed knowledge of facts, terms, and concepts	Considerable knowledge of facts, terms, and concepts	Minimal knowledge of facts, terms, and concepts	Not Attended	CO3, CO4
2	**Presentation** **50%**	Well Communicated with logical sequences, examples, and references	Communicated with sequences	Just Communicated	No coherent communication	Not Attended	CO3, CO4

i. Model Question Paper

Sl. No.	**Model Questions**	**Specification**	**Level**
	Part – A: Objective Type **Multiple choice 10 x 1 = 10**		
1	What is the major attribute of Correlation Analysis? **Association among variables** Difference among variables Regression among variables Variations among variables	Identify	Remember
2	How is random sampling helpful? Reasonably accurate An economical method of data collection	Recall	Remember

	Free from personal biases **All of the above**		
3	What is the main role of education research? To upsurge one's social status. To increase one's job prospects. To augment one's personal growth. **To help an applicant in becoming a renowned educationalist**.	Recall	Remember
4	What does the longitudinal research approach deal with? **Long-term research** Short-term research Horizontal research None of the above	Identify	Remember
5	Evaluation Research is concerned with _____ **How well are we doing?** Why are we doing? What are we doing? None of the above	Recognize	Remember
6	The main aim of the scientific method in the research field is to _____ Improve data interpretation Confirm triangulation Introduce new variables **Eliminate spurious relations**	Identify	Remember
7	A researcher is interested in studying the prospects of a particular political party in an urban area. So, what tool should he prefer for the study? Rating Scale Interview **Questionnaire** Schedule	Identify	Remember
8	How do judge the depth of any research? By research title By research duration **By research objectives** By total expenditure on research	Recall	Remember
9	Which of the following is not the method of Research? Survey Historical **Observation** Philosophical	Identify	Remember
10	The authenticity of a research finding is its Validity **Objectivity** Originality All of the above	Identify	Remember
	PART – B Short Answer **The answer should not exceed 200 words 5 x 4 = 20**		
11	Write short notes on a. Focus group discussion b. Application of parametric and non-parametric statistics c. Type -1 and	Define	Understand

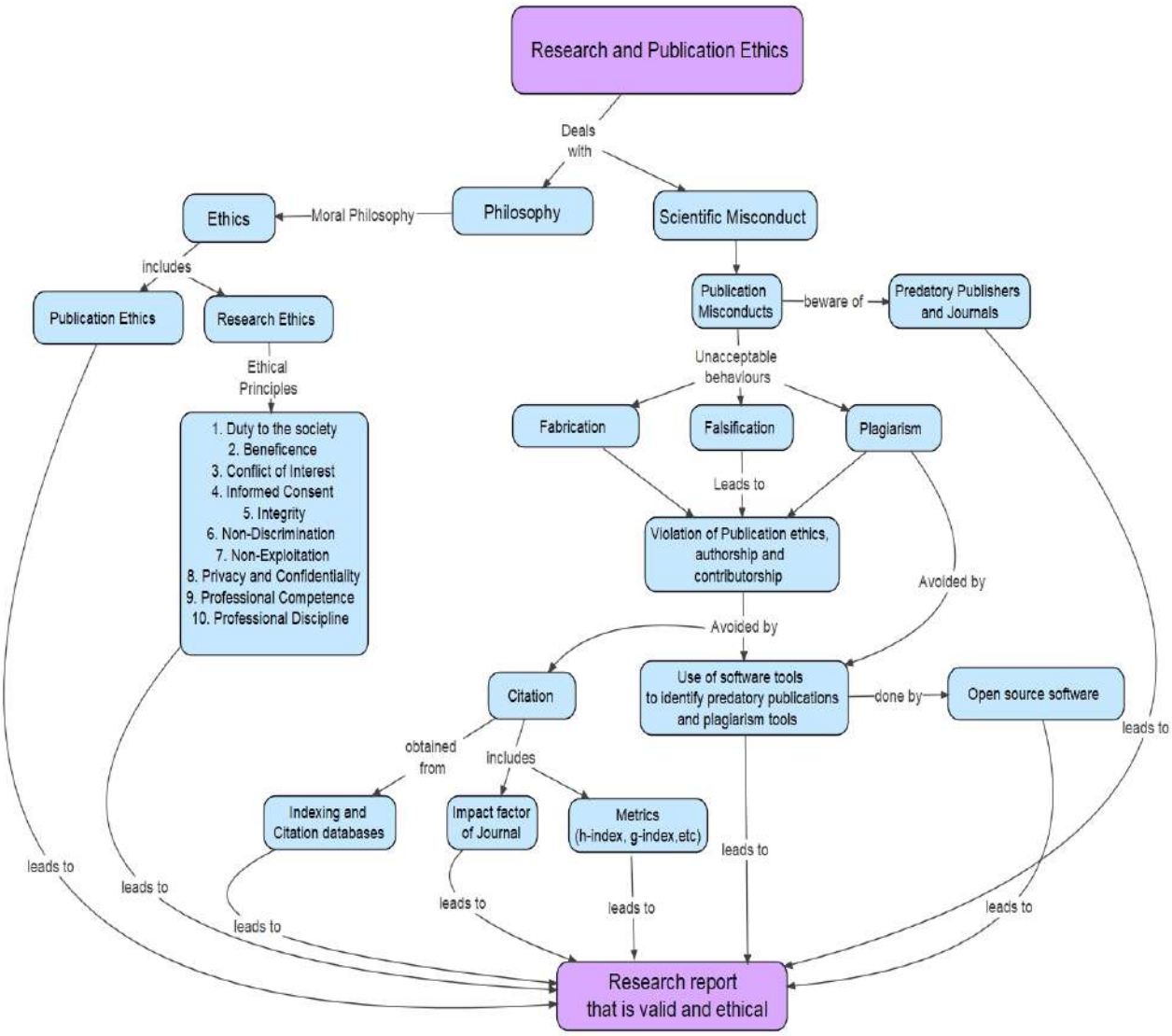
	Type -11 Errors d. Observation e. Format of the research report		
12	Differentiate between thesis writing and writing a scholarly article. Explain the general format of a thesis research report with necessary details.	Differentiate Define	Understand
13	What is Experimental Research Design? Explain the concept and characteristics of true Experimental design.	Explain	Understand
14	An Intelligent test was given to 600 students. Their mean and SD were found to be 110 and 17 respectively. Assuming the distribution obtained to be normal. How many students fall in the IQ ranges between 90 and 120?	Identify	Apply
PART – C Essay Answer **The answer should not exceed 400 words 3 x 10 = 30**			
15	Write a research proposal for the research problem of your choice.	Write	Create
16	When is a non-parametric test used? Explain any two non-parametric tests used in inferential statistics.	Explain Discuss	Understand
17	Describe experimental design in detail	Describe	Analyze

Ph.D. Coursework					
Course Code	**Course Name**	**L**	**T**	**P**	**Credits**
EDU3013	Pre Ph.D. Specialization	3	1	0	4
Internal	40	External	60	Total	100

The research supervisor formulates the syllabus with four credits from the proposed area of research. The research supervisor offers choices, thereby converting the Ph.D. syllabus to a CBCS pattern. The assessment needs to be done by the respective research supervisor.

PhD					
Course Code	**Course Name**	**L**	**T**	**P**	**Credits**
EDU3014	Research and Publication Ethics	1	0	1	2
Internal	40	External	60	Total	100

Concept Map



a. Course Outcome (CO)

On the successful completion of the course, the student will be able to

	Course Outcome	Level
CO1	Discuss the ethics in the conduct of scientific research	Understand
CO2	Utilize indexing and citation databases, open access publications, research metrics	Apply
CO3	Identify research misconduct and predatory publications	Analyze
CO4	Infer the ethical framework and principles	Analyze
CO5	Explore plagiarism tools for a valid and ethical research report	Skill
CO6	Develop a valid and ethical research report	Create

b. Syllabus

Units	Content	Hrs.
I	***THEORY:***	3
	RPE 01: Philosophy And Ethics 1. Introduction to Philosophy: definition, nature and scope, concept, branches 2. Ethics: definition, moral philosophy, nature of moral judgments and reactions	
II	**RPE 02: Scientific Conduct** 1. Ethics with respect to science and research 2. Intellectual honesty and research integrity 3. Scientific misconducts: Falsification, Fabrication, and Plagiarism 4. Redundant Publication: duplicate and overlapping publications, salami slicing 5. Selective reporting and misinterpretation of data	5
III	**RPE 03: Publication Ethics** 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	7
IV	***PRACTICE***	4
	RPE 04: Open Access Publishing 1. Open access publications and initiatives 2. SHERP/ RoMEO online resource to check publisher copyright and self–archiving policies 3. A software tool to identify predatory publications developed by SPPU 4. Journal finder/ journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer and Journal Suggester, etc.	

V	**RPE 05: Publication Misconducts** **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	4
VI	**RPE 06: Databases and Research Metrics** **A. Databases (4 hrs)** 1. Indexing databases 2. Citation databases: Web of Science, Scopus, etc. **B. Software Tools (3 hrs)** 1. Impact Factor of a journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score 2. Metrics: h-index, g-index, i10 index, altmetrics 3. National Academies Press	7
	TASKS AND ASSIGNMENTS: **The internal assessment will be based on the following:** 1. Explore the SHERPA/ RoMEO online resources to check publisher copyright and self-archiving policies. 2. Investigate the software tools to identify predatory publications developed by SPPU. 3. Group discussions on subject-specific ethical issues, falsifications, fabrications, plagiarism. 4. Critically analyze a research article to identify publication misconduct and ethical issues. 5. Presentation on examples of fraud publications from India and abroad 6. Paraphrase a given text in the student's own words without repeating the same words in the original text and use the open-source software tools like Turnitin and Urkund to check for plagiarism. 7. Discussions on the varieties of journal finders and identifying their target journal finder. 8. Quizzes and Assignments on the topics Impact Factor of a journal as per Journal Citation Report, SNIP, SIR, IPP, Cite Score, Metrics: h-index, g index, i10 index, altmetrics.	
	REFERENCES: 1. Bird, A. (2006). *Philosophy of science.* Routledge. 2. MacIntyre, Alasdair (1967) *A Short History of Ethics.* London. 3. P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN: 978-9387480865 4. National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. (2009) *On Being a scientist: A guide to Responsible Conduct in Research: Third Edition.* National Academies Press. 5. Resnik, D. B. (2011). What is ethics in research and why is it important. *National Institute of Environmental Health Sciences*, 1 – 10. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm	

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c. Mapping of Program Outcomes with Course Outcomes'

	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	3	1	1	1	1
CO2	1	2	2	2	3	1
CO3	1	3	3	1	3	1
CO4	1	2	2	2	2	1
CO5	1	2	3	3	3	1
CO6	2	2	3	2	2	1

d. Evaluation Scheme

	CO1	CO2	CO3	CO4	CO5	CO6	Total
Internal	5	7	7	5	9	7	40
External	10	10	10	10	10	10	60
Total	15	17	17	15	19	17	**100**

e. Mapping Course Outcome with Internal Assessment (40 Marks)

	CO1	CO2	CO3	CO4	CO5	CO6
Assignments	-	2	-	3	2	5
Seminar/ Presentations	-	-	3	2	5	-
Group Discussions	-	-	4	-	2	2
Tests/ Quiz	5	5	-	-	-	-
Total	5	7	7	5	9	7

f. Mapping Course Outcome with External Assessment (60 Marks)

Category	CO1	CO2	CO3	CO4	CO5	CO6
Part – A (Objective - 10 x 1 = 10 marks)	1(2)	1(1)	1(1)	-	1(6)	-
Part – B (Short Answer - 5 x 4 = 20 marks)	4(2)	4(1)	4(1)	-	4(1)	-

Part – C **(Essay- 3 x 10 = 30 marks)**	-	5(a)	5(b)	10	-	10
Total	**10**	**10**	**10**	**10**	**10**	**10**

g. Rubric for Assignments

Sl. No.	**Criteria**	**100%**	**75%**	**50%**	**25%**	**0%**	**Relation to COs**
1	**Content** **50%**	Ideas are detailed, well developed, supported with specific evidence & facts, and examples	Ideas are detailed, Developed and supported with evidence and facts mostly specific.	Ideas are presented but not particularly developed or supported;	content is not sound	Not attended	CO2, CO4, CO5, CO6
2	**Organization** **50%**	Includes title, introduction, statement of the main idea with illustration and Conclusion.	Includes title, introduction, statement of main idea and Conclusion.	organizational tools are weak or missing	No organization	Not attended	CO2, CO4, CO5, CO6

h. Rubric for Seminar

Sl. No.	**Criteria**	**100%**	**75%**	**50%**	**25%**	**0%**	**Relation to COs**
1	**Knowledge and Understanding** **50%**	Exceptional knowledge of facts, terms, and concepts	Detailed knowledge of facts, terms, and concepts	Considerable knowledge of facts, terms, and concepts	Minimal knowledge of facts, terms, and concepts	Not Attended	CO3, CO4, CO5,

2	**Presentation** **50%**	Well Communicated with logical sequences, examples, and references	Communicated with sequences	Just Communicated	No coherent communication	Not Attended	CO3, CO4, CO5,

i. Rubric for Group Discussions

Sl. No.	**Criteria**	**100%**	**75%**	**50%**	**25%**	**0%**	**Relation to COs**
1	**Participation in Discussion**	Provided many good ideas for the unit development; inspires others; clearly communicated desires, ideas, personal needs, and feelings.	Participated in discussions; shared feelings and thoughts.	Listened mainly; on some occasions, made suggestions.	Seemed bored with conversations about the unit; rarely spoke up and ideas were off the mark.	Does not participate in discussion	CO3, CO5, CO6
2	**Conduct**	Does not dominate the discussion. Student challenges ideas respectfully, encourage and supports others to do the same.	Participates regularly in the discussion but occasionally has difficulty accepting challenges to his/her ideas or maintaining a respectful attitude when challenging others' ideas.	Often dominates the discussion or disengages from the process.	Resorts to ad hominem attacks when in disagreement with others.	Does not participate in discussion	CO3, CO5, CO6

3	**Listening**	Always actively attends to what others say, as evidenced by regularly building on, clarifying, or responding to their comments.	Usually listens well and takes steps to check comprehension by asking clarifying questions.	Does not regularly listen well as indicated by the repetition of comments or questions presented earlier	Fails to listen or attend to the discussion as indicated by the repetition of comments and questions	Does not participate in discussion	CO3, CO5, CO6
4	**Preparedness and Content Knowledge**	Always prepared for class with assignments and required materials Accurately expresses foundational knowledge pertaining to issues raised during the discussion	Usually equipped with assignments and required materials Expresses basic foundational knowledge pertaining to class discussions	Seldom prepared with assignments and required materials Expresses limited foundational knowledge pertaining to class discussions	Consistently unprepared for class Expresses no relevant foundational knowledge	Does not participate in discussion	CO3, CO5, CO6

j. Model Question Paper

Sl. No.	**Model Questions**	**Specification**	**Level**
	Part – A: Objective Type **Multiple choice 10 x 1 = 10**		
1	Which among the following is not a kind of plagiarism? a. Patch Writing **b. Untainted Plagiarism** c. Indirect Plagiarism d. Direct Plagiarism	Recognize	Remember
2	In the capacity of a researcher, how can you solve the problems that exist in society? a. Eradicate unethical people from society. b. Request the research institute form a body of members to solve the problems. c. Participate in a suitable NGO's activities to help fight the problems. **d. None of the above.**	Implement	Apply
3	The final aim of every research is a a. Ethical research **b. Research report**	Identify	Remember

	c. Sponsorship d. Future research		
4	Copying the work of other authors in whole pieces is called as a. Self-plagiarism b. Indirect plagiarism c. Direct plagiarism **d. Patch writing**	Define	Remember
5	'International Standard Book Number (ISBN)' is a _____ digit unique numeric commercial machine-readable identification number meant for monograph publications. a. Eight b. Ten c. Eleven **d. Thirteen**	Memorize	Remember
6	Ethics in research lays the bounds of discipline for a researcher. **a. True** b. False	Paraphrase	Understand
7	A hypothesis that is tested for possible rejection is known as: a. Positive hypotheses b. Absolute hypotheses c. **Null hypotheses**	Define	Remember
8	One of the valuable skills for a researcher is: a. The ability to understand the research b. **The ability to write an effective research report**		
9	Which of the following options most appropriately explains 'Research Ethics'? a. It states how to write a research report flawlessly. b. It gives the methodology of researching within social norms c. It governs the prevention of plagiarism **d. It provides a standard set of dos and don'ts of conducting ethical research**	Explain	Understand
10	The interplay of imagination and innovation on a researcher's part creates a unique research report. **a. True** b. False	Relate	Remember
	PART – B Short Answer **The answer should not exceed 200 words 5x4= 20**		
11	**a)** "Ethics differ from morality" – justify your answer with examples **(or)** **b)** Discuss how a researcher can overcome duplicate publications.	Justify	Skill
12	**a)** What is research integrity? As a researcher, what precautions will you take to sustain research integrity? **(or)** **b)** As a researcher in social science, discuss the ways and means of protecting participants' data in your research.	Implement	Apply
13	**a.** Calculate the h and g index for the following data of the author Egghe	Compute	Apply

	Rank	**Total Citation**	**Rank**	**Total Citation**	**Rank**	**Total Citation**		
	1	47	9	16	17	12		
	2	42	10	16	18	12		
	3	37	11	15	19	12		
	4	36	12	13	20	11		
	5	21	13	13				
	6	18	14	13				
	7	17	15	13				
	8	16	16	12				
	(or) **b.** (i) Calculate the i10 index for the above table. (ii) Calculate the Impact Factor of the journal "Nature" for 2019, given that the number of publications in 2017 and 2018 is 850 and 950, and the totalcitations in 2019 are 50,000.							
14	a. Discuss one unethical behavior in social science research and a solution to overcome the same. **(or)** b. As a researcher, how will you identify the publication misconduct?						Discuss	Understand
15	a) Why is research paper publication necessary during the research period? b) How do databases and research metrics help evaluate the publication?						Interpret	Skill
	PART – C Essay Answer **The answer should not exceed 400 words 3 x 10 = 30**							
16	Critically analyze (in 200 words) any of the following articles in the respectivelink. **A. https://drive.google.com/file/d/1iK97xxLK4YVGYYDfuEj1q3EIBbl_0rX1/view?usp=sharing** **(Or)** **B. https://drive.google.com/file/d/18AmMOIzIFnK4Mu78HNfn6hUNCDjk_vs8/view?usp=sharing**						Analyze	Skill
17	Paraphrase any one of the following paragraphs in your own words without repeating thesame words in the original text (plagiarism).						Paraphrase	Understand

	Teachers play a determinant role in ensuring that classroom diversity translates into social inclusion and delivers positive impacts for students (Farmer et al. 2019). However, teachers have many competing demands and often little training or support to achieve this task. While the benefits of classroom diversity are many, teachers may not have the tools to ensure that classroom diversity translates into successful social inclusion and student learning (Smylie 1999). Given the increasing demands placed on teachers to teach diverse students effectively across varying levels of intellectual differences, teachers often report feeling ineffective at their job and subsequent low self-efficacy (Curchod-Ruedi et al. 2013; Pang and Sablan 1998; Smylie 1999; Tucker et al. 2005). Furthermore, the negative impacts of teacher burnout and low self-efficacy on students have been well established (Jennings and Greenberg 2009; Osher et al. 2010; Piekarska 2000; Reinke, Keith, and Stormont 2013). As we consider how to increase student engagement in positive, diverse classroom environments, we must additionally prioritise teacher wellbeing in our response. (Or) *Teachers play a determinant role in ensuring that classroom diversity translates into social inclusion and delivers positive impacts for students (Farmer et al. 2019). However, teachers have many competing demands and often little training or support to achieve this task. While the benefits of classroom diversity are many, teachers may not have the tools to ensure that classroom diversity translates into successful social inclusion and student learning (Smylie 1999). Given the increasing demands placed on teachers to teach diverse students effectively across varying levels of intellectual differences, teachers often report feeling ineffective at their job and subsequent low self-efficacy (Curchod-Ruedi et al. 2013; Pang and Sablan 1998; Smylie 1999; Tucker et al. 2005). Furthermore, the negative impacts of teacher burnout and low self-efficacy on students have been well established (Jennings and Greenberg 2009; Osher et al. 2010; Piekarska 2000; Reinke, Keith, and Stormont 2013). As we consider how to increase student engagement in positive, diverse classroom environments, we must additionally prioritise teacher wellbeing in our response.*		
18	a) How does the misrepresentation of data affect the results and conclusion of research? (or) b) How does the knowledge of ethical principles help develop a valid and ethical research report?	Implement	Apply