Outline on Methodology of Educational Research

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Abstract:
Research is systematic search for new knowledge. Knowledge is power; it purifies human life and improves its quality. NCERT has adopted a logo, which focuses knowledge, makes a man immortal. Research shows how to solve any problem scientifically. It is a careful enquiry through search of any kind of knowledge. It is a journey from known to unknown. It is a systematic effort to gain new knowledge in any kind of discipline. Curiosity is a natural gift to man and it forms the base of any kind of research. When research is intended to add new knowledge in the field of education or when it seeks solution of any educational problem then it becomes educational research. According to Mouly educational "research is the systematic application of scientific methods for solving educational problems". In short educational research in its widest sense is nothing but cleansing of educational process & its ultimate aim is to enhance the quality of education.

Keywords: *Educational Research, Research, Methodology, Problem*

1. Types or kinds of Educational Research

Basically there are three types of educational research
1. Historical Research
2. Descriptive Research
3. Experimental Research

2. Approaches to Educational Research

2.1 Mixed Method Approach

Mixed method approach involves combination of both qualitative and quantitative techniques of research in a unique way to answer research questions that could not be answered in any other way. Triangulating the information from different data sources, a technique that emerged first from psychology, it was first applied for research in evolution in 1990 by Patton.

3. Inter-Disciplinary Research – IDR

IDR is a mode of research by teams or individuals that integrate information, data, techniques, tools, perspectives, concepts &/ or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solution are beyond the scope of single discipline or area of research practice. The pre-Socratic philosopher Anaxi Mender brought together his knowledge of Geology, Paleontology and Biology to propose that living beings develop from simpler to more complex forms. In recent years the growth of scientific and technical knowledge has prompted scientist, engineers, social scientist & humanist to join in addressing complex problems that must be attacked simultaneously with deep knowledge from different disciplines. Carl Popper rightly remarks that

"we are not students of some subject matter but students of problems and problems may cut right across the borders of any subject matter or discipline".

Inter-disciplinary involves the combining of two or more academic disciplines in to one activity it is about creating something new by crossing boundaries & thinking across them. The term inters - disciplinary is applied within education & training pedagogies to describe the studies that use methods & insights of several established disciplines or traditional fields of study.

4. Quality Assurance in Educational Research

The word 'Quality' is derived from Latin word qualities which means excellent. Quality is the standard of something as measured against other things of similar kind. Quality is a relative term & its perception may differ from individual to individual. When we use the term Quality Assurance in educational Research we simply mean assuring general excellence in educational research.

To achieve excellence in research first of all the researcher should possess the following qualities-

- A researcher should have an open mind without bias & prejudices.
- He should be curious & a keen observer.
- He should be capable of canalizing any phenomena critically.
- He should be sincere & handworker
- He should possess a high degree of intellectual capacity & honesty
- He should have the courage to present inconvenient truths
- He should have good inter personal & social skills to administer tests/questionnaire, interact with others & to present the research report.
- He should be confident & courageous with problem solving abilities
- He should possess knowledge of research methods & data analysis
- He should have good knowledge of languages & should possess interpretation skills.
- He should have enough patience

5. The Problem

a) Is the problem stated clearly?
b) Is the problem researchable?
c) Is background information on a problem presented?
d) Is the significance of the problem given?
e) Are the variables defined operationally?

6. The Objectives

a) Are the Objectives testable and stated clearly?
b) Are the Objectives based on sound rationale?
c) Are the assumptions, limitations and delimitations stated?

7. The Hypotheses

a) Are the hypotheses testable and stated clearly?
b) Are the hypotheses based on sound rationale?
c) Are the hypotheses statistically verifiable?

8. Review of Related Literature

a) Is it adequately covered?

b) Are most of the sources primaries?
c) Are important findings noted?
d) Is it well organized?
e) Is the literature given directly relevant to the problem?
f) Have the references been critically analyzed and the results of studies compared and constructed?
g) Is the review well organized?
h) Does it conclude with a brief summary and its implications for the problem investigated?

9. Sample

a) Are the size and characteristics of the population studied described?
b) Is the size of the sample appropriate?
Is the method of selecting the sample clearly described?

10. Instruments and Tools

a) Are data gathering instruments described clearly?
b) Are the instruments appropriate for measuring the intended variable?
c) Are validity and reliability the instruments discussed?
d) Are systematic procedure followed if the instrument was developed by the researcher?
e) Are Administration and interpretation procedures described?

11. Design and Procedure

a) Is the design appropriate for testing the hypotheses?
b) Are the procedures described in detail?
c) Are control procedures described?

12. Results

a) Is the statistical method appropriate?
b) Is the level of significance given?
c) Are tables and figures given?
d) Is every hypotheses tested?
e) Are the data in each table and figure described clearly?
f) Are the results stated clearly?

13. Discussions

a) Is each finding discussed?
b) Is each finding discussed in terms of its agreement and disagreement with previous studies?
c) Are generalizations consistent with the results?

14. Conclusions and Recommendations

a) Are theoretical and practical implications of the findings discussed?
b) Are recommendations for further action made?
c) Are recommendations for further research made?

15. Summary

a) Is the problem restated?
b) Are the number and type of subjects and instruments described?
c) Are procedures described?

d) Are the major findings and conclusions described?

16. Some Good Sources of Research Topics

Classroom environment Curriculum Transactions (T-L methods/techniques etc.) Instructional Materials (A-V Aids, Text books etc.) Classroom Management Instructions The relation of human growth patterns to educations

- Peer group interaction Group Dynamics Concealing Examination systems Evaluation Effective Communication Effective Supervision
- Effective Management Public relations Leadership Issues Psychological Aspects (intelligence interests, attitudes, values, anxieties, aspirations, personality aspects etc.) Educational problems Philosophical aspects of education
- Assessment of learning disabilities for ex dyslexia, AD/SD i.e. Attention deficit and hyper activity disorder. Neurological disorders, Autism etc. Community Health education Adolescent reproductive health education of Disadvantaged children Special education ICT (application of ICT to education, impact of PPT, impact of Mobile learning, web bases instruction, Use of multimedia & CCTV, Internet , Virtual learning etc.
- Early childhood Education Health Education
- Total Quality Management (TQM)

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