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Selecting a Problem and Preparing a Research Proposal-A Process

Naila Mushtaq

Education Department, National University of Modern Languages (NUML), Islamabad, Pakistan.

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ABSTRACT

The current paper is a helping attempt to facilitate those students who are interested in the field of research especially for the partial fulfillment of the degree requirement. In most of the universities of different countries degrees are awarded after conducting a research thesis, but mostly student face problems in the selection and preparation of research proposals. Most of the time supervisors show the negligence for helping the students that, from which area they can select the topic of the research due to which the students who don't have mastery in the field of research they get confuse and tense. The objectives of this paper were: to highlight the sources for the selection of the topic from different areas, to highlight the steps of the preparation of the research proposal, to give the general steps for preparing the research proposal. The nature of this paper is theoretical for which relevant literature is explored. This paper will help out the researchers for selecting an appropriate way for the selection and preparation of research proposal.

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Introduction

Research is the backbone of the education system of every country and without research there will be no development in the education sector. Because, educational research deals with the problems related to the teachers, students, policy makers and implementers.

Selection and Statement of a Problem

After a problem area of interest is identified, a specific problem is selected for investigation. Theory and experience are two major sources of problems. A good problem has a number of identifiable characteristics. A good statement of a problem also confirms to a set of important criteria.

Selection

For beginning researchers, selection of a problem is the most difficult step in the research process. Some graduate students spend many anxiety-ridden days and sleepless nights worrying about where they are going to "find" the problem they need for their thesis or "Dissertation. The problem is a lack of familiarity with the literature on the student's part. Learning how and where to locate problems, and systematically attacking this phase of the research process, is much better for one's mental health than worrying oneself into an anxiety attack!

- The first step in selecting a problem is to identify a general problem area that is related to your area of expertise and of particular interest to you. Examples of problem areas might be structured programmes for preschoolers. Use of manipulatives for elementary mathematics, discipline approaches for disruptive junior high school students, the use of paraprofessionals in the elementary school, the whole language approach to reading, and the use of reviews to increase retention. Since you will be doing a great deal of reading in the area you select, and devoting many hours to the planning and execution of the ultimate study, choosing a topic of interest which will increase your knowledge and understanding of your particular professional area makes good sense.
- The next step is to narrow down the general problem area to a specific researchable problem. A problem that is too general can

only cause you grief. In the first place, the scope of the review of related literature that you must inevitably conduct will be unnecessarily increased, possibly resulting in many more hours being spent in the library. This will in turn complicate organization of the results of the review and subsequent hypothesis development.

- One major way to narrow your problem is to read sources giving overviews or summaries of the current status of research in your area; references such as the review of Educational Research and the Encyclopedia of Educational Research may be very helpful. In narrowing the problem area you should select an aspect of the general problem area that is related to your area of expertise.

A study such as "the effectiveness of pre-class reminders in reducing instances of pencil sharpening during class time" would probably contribute little, if anything, to the science of education!

Characteristics

- Since a research problem by definition involves an issue in need of investigation, it follows that a basic characteristic of a research problem is that it is "researchable". A researchable problem is one that can be investigated through the collection and analysis of data. Problems dealing with philosophical or ethical issues are not researchable. Research can assess how people feel about such issues but research cannot resolve them. Whether or not there is reward and punishment in the hereafter may be an important problem to many people but it is not researchable.
- A major characteristic of a good problem is that it has theoretical or practical significance.
- A third major characteristic of a good problem is that it is a good problem for you. The fact that you have chosen a problem of interest to you, in an area in which you have expertise, is not sufficient. It must be a problem that you can adequately investigate given (1) your current level of research skill (2) available resources, and (3) time and other restrictions. The availability of appropriate subjects and measuring instruments,

Tele:

E-mail addresses: mushtaq.naila@yahoo.com

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for example, is an important consideration. As a beginning researcher, you more likely have access to one or more faculty advisors who can help you to assess the feasibility of your problem.

Statement of The Problem

The study was entitled as Selecting a Problem and Preparing a Research Proposal-A Process

Objectives

These were the objectives of the study:

1. To highlight the sources for the selection of the topic from different areas.
2. To highlight the steps of the preparation of the research proposal.
3. To give the general steps for preparing the research proposal

Research Questions

1. What are the sources for the selection of the topic from different areas?
2. What are the steps of the preparation of the research proposal?
3. What are the general steps of the preparation of the proposal?

Research Design

The nature of this paper is theoretical for which related literature is explored below for meeting the objectives of the study.

Sources

In sources we have to talk about the theory and experience.

Theory:

The fact that a theory is a theory and not a body of facts means that it contains generalizations and hypothesized principles which must be subjected to rigorous scientific investigation. Problems derived from a theoretical problem area are not only preferable in terms of contribution to true scientific progress in education, they also facilitate the formulation of hypotheses based on sound rationale; these hypotheses in turn facilitate ultimate interpretation of study results. The results of a study based on a theoretical problem contribute to their related theory by confirming some aspect of the theory and also by suggesting additional studies that need to be done.

Experience:

To be perfectly honest, however, selection of a problem based on theory may be a bit heavy for many beginning researchers. There are a great number of problems that need researching that are not theoretical in nature. An obvious source of such problems is the researcher's personal experiences. It is more probable that the problem will result in a very applied research study. Narrowing down a problem area, specific studies often indicate nest-step studies which need to be conducted. A study investigating the effectiveness of microcomputer-assisted instruction in elementary arithmetic might suggest the need for similar studies in other curriculum areas.

The choice of a suitable problem is always difficult. Few beginners possess real problem awareness and even the more experienced researcher hesitates at this step. It is a serious responsibility to commit oneself to a problem that will inevitably require much time and energy and that is so academically significant.

What are the most likely sources to which one may go for a suitable research problem, or from which one may develop a sense of problem awareness?

Many of the problem confronted in the classroom the school or the community lend themselves to investigation and they are perhaps more appropriate for the begging researcher than are problems more remote from his or her own teaching experience.

What organizational or management procedures are employed? How is learning material presented? To what extent does one method yield more effective results than another? How do teachers feel about them? What out of school activities and influences seem to affect students and the teaching-learning process?

Teachers will discover acres of diamonds in their own backyards and an inquisitive and imaginative mind may discover in one of these problem areas an interesting and worthwhile research project.

Technological changes and curricular developments are constantly bringing forth new problems and new opportunities for research. Perhaps more than ever before educational innovations are being advocated in class room organization, in teaching materials and procedures and in the application of technical devices and equipment. Such innovations as computer assisted instruction teaching by television programmed instruction modified alphabets new subject matter concepts and approaches flexible scheduling and team teaching need to be carefully evaluated through the research process.

The graduate academic experience should stimulate the questioning attitude toward prevailing practices and effectively promote problem awareness. Classes room lecture, class discussions, Seminar report and out of class exchanges of ideas with fellow students and professors will suggest many stimulating problem to be solved. Students who are fortunate enough to have graduate assistantships have a special opportunity to profit from the stimulation of close professional relationships with faculty members and fellow assistants.

Reading assignments in textbooks special assignments, research reports and term papers will suggest additional areas of needed research. Research articles often suggest techniques and procedures for the attack on other problems. A critical evaluation may reveal fault or defects that made published findings inconclusive or misleading. May research articles suggest problems for further investigation that may prove fruitful?

Consultation with the course instructor, advisor or major professors is helpful. Although the student should not expect research problems to be assigned, consultation with a faculty member is desirable. Most students feel insecure as they approach the choice of a research problem.

They wonder if the problem they may have in mind is significant enough, feasible, and reasonably free of unknown hazards. To expect the beginner to arrive at the advisor's office with a completely acceptable problem is quite unrealistic. One of the most important functions of the research advisor is to help students clarify their thinking achieve a sense of focus and develop a manageable problem from one that may be too vague and complex.

The following list may suggest area from which research problems may be further defined.

1. Programmed instruction: scrambled texts; teaching machines; computer assisted instruction.
2. Television instructions; closed- circuit TVs
3. Modified alphabets; Union, Initial teaching Alphabet
4. Flexible scheduling
5. Team teaching
6. Evaluation of learning; reporting to parents
7. Student regulation/control
8. Learning styles
9. Evaluation of learning

10. Homework policies and practices
11. Field trips
12. School buildings and facilities; lighting space safety
13. Extracurricular programs
14. Student out of school activities; employment; recreation; cultural activities, reading; television viewing
15. Teacher out of school activities; employment; political active recreations
16. The open classroom
17. Linguistics
18. New approaches to biology/chemistry/physics
19. Language laboratories: foreign languages; reading
20. Multiple text books
21. Independent study programs
22. Advanced placement program
23. Audiovisual programs
24. Sociometry
25. Health services
26. Guidance counseling programs
27. Teacher morale: annoyances and satisfactions
28. Teacher welfare: salaries; merit rating; retirement; tenure
29. educational organizations: local, state, and national; NEA; AFT
30. Inner- city schools; the culturally deprived; Head Start; Upward Bo tutoring
31. Pre-service education of teachers and students
32. Teachers attitude on a variety of issues, e.g. mainstreaming
33. In-service programs
34. Racial integration: student teacher; teacher
35. Private school problems; tax credits
36. Follow up of graduates; early school leavers
37. Religion and education: released time programs; dismissed times; shared time
38. Non-school-sponsored social organizations or clubs
39. School district reorganization
40. Community pressures on the school: academic freedom; controversial issues
41. Legal liability of teachers
42. Cadet teaching; teacher recruitment
43. Teaching internship
44. sex education
45. Ability grouping; acceleration; retardation promotion
46. Special education; speech therapy; clinical services; social services
47. Problems in higher education; selection; prediction of success; graduate programs
48. Work-study programs
49. Attribution of success and failure
50. Comparison of the effectiveness of two teaching methods, procedures
51. Self- image analysis
52. Vocational objectives of students
53. History of an institution, program or organization
54. Factors associated with the selection of teaching/ nursing/ social work as a career
55. Case studies
56. Socioeconomic status and academic achievement
57. Perception of administrative leadership
58. The effect of stress on academic achievement
59. Minimal competency tests for promotion and /or graduation
60. Merit pay of teachers

For those students who are not teachers, some of the problem areas listed may be appropriate in social agency, hospital, or industrial situations.

Keep in mind that the above list includes general topics that need a great deal of refinement in order to become a researchable problem. The student will usually need the help of a faculty member in gradually refining the general topic into a useful statement of a research problem.

In order to take a general topic or problem, such as those just listed, and refine it into a general researchable problem, the individuals needs to define certain components of the problem: the population of interest, the situation, what part of the issue is to be addressed in the first or next study, and so forth.

For example, number 49 deals with the issue of attribution of success and failure. To make this a researchable problem requires a good deal of narrowing and refinement. One researchable problem that can be derived from this broad topic (using the approach referred to in the previous paragraph) would ask the question, will college freshmen who are internally focused (those who attribute their success and failure to themselves) do better in their first year of college than those who are externally focused (those who attribute their success and failures to external factors)? Another equally plausible research question from this same topic would be, do learning-disabled adolescents differ from nondisabled adolescents on a measure of attribution? As can be seen, a large number of researchable problems can be derived from this topic. Only by narrowing the focus (e.g. population, situation, measurements, etc.) can a researchable problem be derived.

Once the scope of the topic or problem has been narrowed to make it a potentially researchable problem. We can then determine its importance and feasibility.

Evaluating the Problem

Before the proposed research problem can be considered appropriate, several searching questions should be raised. Only when those questions are answered in the affirmative can the problem be considered a good one.

1. Is this the type of problem that can be effectively solved through the process of research? Can relevant data be gathered to test the theory or find the answer to the question under consideration?

2. Is the problem significant? Is an important principle involved? Would the solution make any difference as far as educational theory or practice is concerned? If not, there are undoubtedly more significant problems waiting to be investigated.

3. Is the problem a new one? Is the answer already available? Ignorance of prior studies may lead a student to spend time needlessly on a problem already investigated by some other worker. However, although novelty or originality is an important consideration, the fact that a problem has been investigated in the past does not mean that it is no longer worthy of study. There are times when it is appropriate to replicate (repeat) studies to verify its conclusions or to extend the validity of its findings to a different situation or population. For instance, research with nonhandicapped children might be of great importance to replicate with mentally retarded children. Similarly, much cross-cultural research consists of replicating research conducted in one country with sample in another country. Kohlberg's (1969) theory of moral reasoning has to be shown to be valid in a number of countries, thereby supporting the universality of the theory.

4. Is research on the problem feasible? After a research problem has been evaluated, there remains the problem of suitability for a particular researcher. The student should ask: Although the problem may be a good one, is it a good problem for me? Will I be able to carry it through to a successful conclusion? Some of the questions the students should consider are the following:

a. Am I competent to plan and carry out a study of this type? Do I know enough about this field to understand its significant aspects and to interpret my findings? Am I skillful enough to develop, administer, and procedures? Am I well grounded in the necessary knowledge of research design and statistical procedures?

b. Are pertinent data accessible? Are valid and reliable data-gathering devices and procedures available? Will school authorities permit me to contact the students, conduct necessary experiments or administer necessary tests, interview teachers, or have access to important cumulative records? Will I be able to get the sponsorship necessary to open doors that otherwise would be closed to me?

c. Will I have the necessary financial resources to carry on this study? What will be the expense involved in data gathering equipment, printing, test materials, travel, and clerical help? If the project is an expensive one, what is the possibility of getting a grant from a philanthropic foundation or from such governmental agencies as the National Institute of Education?

d. Will I have enough time to complete the project? Will there be time to devise the procedures, select the data gathering devices, gather and analyze the data, and complete the research report? Since most academic programs impose time limitations, certain worthwhile projects of a longitudinal type are precluded.

e. Will I have the courage and determination to pursue the study in spite of the difficulties and social hazards that may be involved? Will I be willing to work aggressively when data are difficult to gather and when others are reluctant to cooperate? Sex education, racial integration, and other controversial problem areas, however, may not be appropriate for a beginning research project.

Preparation of Research Proposal

The preparation of a research proposal is an important step in the research process. Many institutions require that a proposal be submitted before any project is approved. This provides a basis for the evaluation of the project and gives the advisor a basis for assistance during the period of his or her direction. It also provides a systematic plan of procedure for the researcher to follow.

The proposal is comparable to the blueprint that the architect prepared before the bids are let and building commences. The initial draft proposal is subject to modification in the light of analysis by the student and his or her project advisor. Because good research must be carefully planned and systematically carried out, procedures that are improvised from step to step will not suffice. A worthwhile research project is likely to result only from a well-designed proposal.

The seven-part proposal format presented here should not be considered the only satisfactory sequence. In fact, the first five steps are often contained in two major components: the statement of the problem and its significance; and the review of related literature and hypotheses, which might also include definitions, assumptions, limitations, and delimitations. Many institutions and funding agencies suggest or require other formats for the research proposal. Still, most proposal formats include the need for all of the information requested in the

seven-part format presented here. When one is submitting a proposal for funding, it is wise to follow the format suggested by the funding source.

Part 1: The statement of the problem: This is often a declarative statement but may be in question form. This attempt to focus on a stated goal gives direction to the research process. It must be limited enough in scope to make a definite conclusion possible. The major statement may be followed by minor statements. The problem areas that previously have been listed in this chapter are not statements of problems. They are may broad areas of concern from which problems may be selected.

A problem usually implies that a controversy or difference of opinion exists. Problems can be derived from theory, prior research results, or personal observation and experience. Frequently, problems are based upon a significant concern (e.g. a rate of illiteracy among adults that is unacceptable in modern society) and an insufficient knowledge base regarding what to do about the concern.

Part 2: The significance of the study: It is important that the researcher point out that how the solution to the problem or the answer to the question can influence educational theory or practice. That is, the researcher must demonstrate why it is worth the time, effort and expense required to carry out the proposed research. Careful formulation and presentation of the implication of the implications or possible applications of knowledge help to give the project urgency, justifying its worth.

Part 3: Definition, Assumptions, Limitations, and Delimitations: It is important to define all unusual terms that could be misinterpreted. These definitions help to establish the frame of reference with which the researcher approaches the problem. The variables to be considered should be defined in operational terms. Such expressions as academic achievement and intelligence are useful concepts, but they cannot be used as criteria unless they are defined as observable samples of behavior. Academic grades assigned by teachers or scores on standardized achievement tests are operational definitions of achievement. A score on a standardized intelligence test is an operational definition of intelligence.

Assumptions: are statements of what the researcher believes to be facts but cannot verify. A researcher may state the assumption that the participant observes in the classroom, after a period of three days, will establish rapport with the students and will not have a reactive effect on the behavior to be observed.

Limitations: are those conditions beyond the control of the researcher that may place restrictions on the conclusions of the study and their application to other situations. Administrative policies that preclude using more than one class in an experiment, a data-gathering instrument that has not been validated, or the inability to randomly select and assign subjects to experimental and control groups are examples of limitations.

Delimitations: are the boundaries of the study. A study of attitudes toward racial minorities may be concerned only with middle-class, fifth-grade pupils, and conclusions are not to be extended beyond this population sampled.

Part 4: Review of Related Literature: A summary of the writings of recognized authorities and of previous research provides evidence that the researcher is familiar with what is already known and what is still unknown and untested. Since effective research is based upon past knowledge, this step helps to eliminate the duplication of what has been done and provides useful hypotheses and helpful suggestions for significant investigation. Citing a study that shows the substantial

agreement those that seem to present conflicting conclusions helps to sharpen and define understanding of existing knowledge in the problem area, provides a background for the research project, and makes the reader aware of the status of the issues. Only those studies that are plainly relevant, competently executed, and clearly reported should be included.

In searching related literature, the researcher should note certain important elements:

1. Reports of studies of closely related problems that have been investigated.
2. Design of the study, including procedures employed and data gathering instruments used.
3. Populations that were sampled and sampling methods employed
4. Variables that were defined
5. Extraneous variables that could have affected the findings
6. Faults that could have been avoided
7. Recommendations for further research

Part 5: The Hypothesis: It is appropriate here to formulate a major hypothesis and possibly several minor hypotheses. This approach further clarifies the nature of the problem and the logic underlying the investigation and gives direction to the data-gathering process. A good hypothesis has several basic characteristics:

1. It should be reasonable.
2. It should be consistent with known facts or theories.
3. It should be stated in such a way that it can be tested and found to be probably true or probably false.
4. It should be stated in the simplest possible terms.

The research hypothesis is a tentative answer to a question. It is an educated guess or hunch, generally based upon prior research and/or theory, to be subjected to the process of verification or disconfirmation. The gathering of data and the logical analysis of data relationships provide a method of confirming or disconfirming the hypothesis by deducing its consequences.

It is important that the hypothesis be formulated before data are gathered. Supposed that the researcher gathers some data and, on the basis of these, notes something that looks like the basis for an alternative hypothesis. Since any particular set of observations may display an extreme distribution, using such observations to test the hypothesis would possibly lead to an unwarranted conclusion.

The formulation of the hypothesis in advance of the data-gathering process is necessary for an unbiased investigation. It is not inappropriate to formulate additional hypothesis after data are collected, but they should be tested on the basis of new data, not on the old data that suggested them.

Part 6: Methods: This part of the research proposal usually consists of three parts: subjects, procedures, and data analysis.

The subject section details the population from which the researcher plans to select the sample. Variables that are frequently included, depending on the type of project proposed.

The procedures section outlines the research plan. It describes in detail what will be done, how it will be done, what data will be needed, and what data-gathering devices will be used.

The information given in the data-analysis section should be specific and detailed enough to demonstrate to the reader exactly what is planned. No details should be left open to question.

Part 7: Time Schedule: Although this step is not be required by the study advisor, a time schedule should be prepared so that the researcher may budget his or her time and energy effectively.

The Ethics of Research

1. There are ethical considerations involved in all research studies. Ethical concerns are, of course, more acute in experimental studies which, by definition, “manipulate” and “control” subjects.
2. Perhaps the foremost rule of ethics is that subjects should not be harmed in any way (physically and mentally) in the name of science.
3. The subject’s right to privacy is also an important consideration.
4. The most definitive source of ethical guidelines for researcher is Ethical Principles in the Conduct of Research with Human Participants. which was prepared for , and is published by, the American Psychological Association (APA)
5. Above all, the researcher must have personal integrity.

General Steps for Preparing Research Proposal

- Introduction
- Theoretical Framework
- Conceptual Framework
- Objectives
- Review of Related Literature
- Study design
- The setting of the Study
- Research Instrument
- Sampling
- Ethical Issues
- Data Analysis
- Structure of Report
- Problems and Limitations
- Proposed Framework

Conclusion

Research deals with the problems and issues related to the teachers, students and policy makers and educational planners. In different countries degrees are awarded after conducting the researches and submission of thesis. But mostly students are not guided properly that how to conduct research and select the topics for the thesis. There are some specific and general steps which are followed by the researchers for the preparation of research proposal which are discussed above for the understanding of readers in a better way.

References

- American Psychological Association (1963). Ethical standards of psychologists. Washington, D.C. APA.
- American Psychological Association (1973). Ethical principles in the conduct of research with human participants. Washington, D,C, APA.
- American Psychological Association (1982). Ethical principle in the conduct of research with human participants. Washington, D. C. APA.
- Belmont report: Ethical principles and guidelines for the protection of human subjects of research. (1979). Washington. D.C. Smithsonian institution, Superintendent of Documents, U.S. Government Printing Office.
- KOHLBERG, L. (1969) Stage and sequence: The cognitive development approach to socialization. In D. A. Goslin (Ed) handbook of socialization theory and research. Chicago. Rand McNally.