

A CHALLENGE TO STUDENTS OF EDUCATION AND SOCIAL SCIENCE RESEARCH

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ABSTRACT

One of the challenges faced by students in education and social sciences is that they state research problems as if they are stating a purpose of research (statement of intention). The work deals with understanding research problems and how they can be stated. Problems are based on given situations, conditions or state of affairs which posed a challenge or question, for which the researcher is convinced that the answer has never been known or conclusively found. By collecting and interpreting relevant data, the researcher finds answer to the question(s). It explains some sources of research problems, offering examples of problem statements, and outlining criteria for testing if an identified problem is researchable or worthwhile. Problem statement can be evaluated using some criteria. This should assist students in education and social sciences understand the aspects of problem statement at the onset of their thesis.

KEY WORDS: Statement of problem, Basic research, Applied research, Action research, Problem formulation, declarative form, interrogative form, Correlational, Experimental research

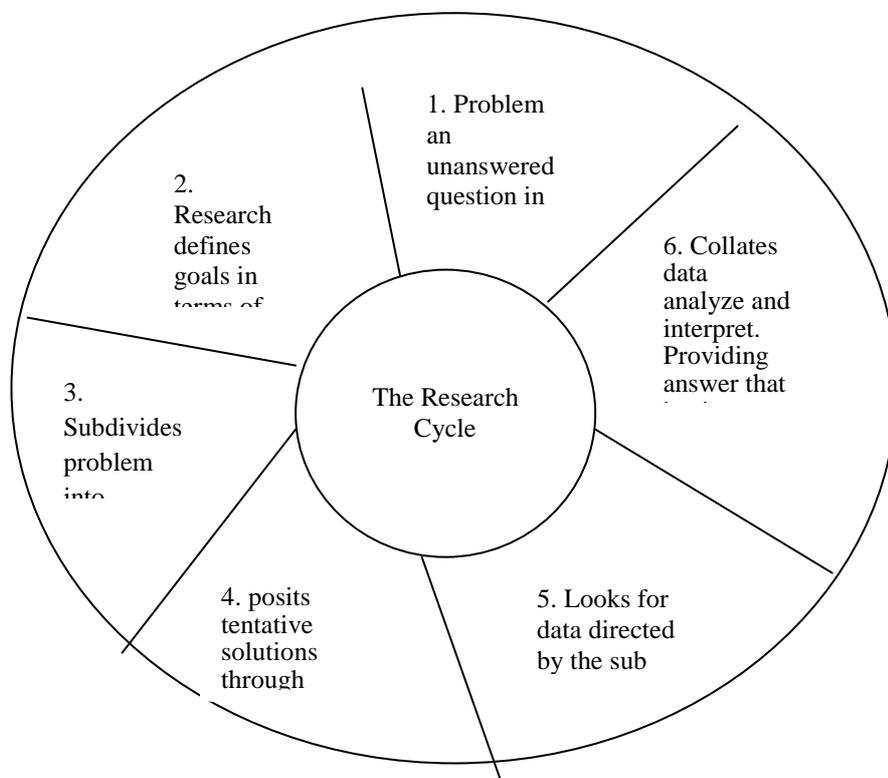
INTRODUCTION

The word research is used in everyday speech and has a broad range of meanings. This really makes it confusing for students especially those who must learn to use the word in a narrow and precise sense. Sometimes it can be used for finding out some information in the library or something it means searching through a set of materials for a particular information one has in mind. Sometimes those in business world use the word research as a means getting some information about a new product, introducing a new brand of products or improving standard of already existing product. To many people any activity which involves searching out data, information or any material, is called research. In actual sense all these activities listed above could be better described as information gathering. Research is not information gatherings, transportation of fact from one location to another, merely rummaging for information or a catch-word used by business men or marketers to get attention of prospective customers.

Research is a systematic process of collecting, analyzing and interpreting information (data) in order to increase our understanding of the phenomena about which we are interested or concerned (Ormrod and Leedy 2005). Research projects vary in complexity and duration. Research typically has eight characteristics

1. Research originates with a question or problem
2. Research requires clear articulation of a goal
3. Research requires a specific plan for proceedings
4. Research divides the principal problem into manageable sub-problems
5. Research is studied by specific research problems, question and or hypothesis
6. Research accepts certain assumptions
7. Research is the collection and interpretation of data in an attempt to resolve the problem that initiated the research
8. Research is by its nature cyclical or helical (that is it generates another problem)

RESEARCH CYCLE



UNDERSTANDING THE CONCEPT OF RESEARCH

Research can be a simple survey. It is a scientific way of solving problems. It is a systematic process of finding out an answer to a critical question, a burning issue, or searching for the solution to a problem which a researcher is interested in. It is structured inquiry regarding solution to a given problem.

A problem by itself is any hindrance or obstacle, which tends to prevent group or an individual from realizing desired objectives in any field of human endeavor. Thus research problem is any problem, issue or question that engages the attention of the researcher, example: in the field of technology, education, or social sciences. The researcher may be a student, lecturer, or some other person engaged in professional research.

Furthermore, a research problem may be a real problem that persons recognize to exist or an imaginary, theoretical one which a professional researcher may pose in order to direct his quest for additional knowledge in a particular field of learning. Academic research papers read at conferences and or published in learned journals are in this category

From the foregoing, the most important consideration in any research undertaking is the identification/determination of a problem and a systematic effort to take care of it

CLASSIFICATION OF RESEARCH

There are two major ways of classifying research. These are according to purpose and according to the method of investigation .

By purpose

1. Basic /fundamental /pure research
2. Applied Research
3. Action Research

By Method

1. Descriptive research
2. Historical Research
3. Experimental Research

There is no clear demarcation between them, there is an overlapping.

BASIC/ FUNDAMENTAL/PURE RESEARCH

This type of research involves a rigorous and well structured testing of variables and analysis of research finding for the purpose of determining characteristics/attributes of a selected sample which can be employed to make generalizations about the characteristic or parameters of the entire population from

which the sample was drawn. This type of research is normally carried out by scientists and Technologists in academic discipline such as Engineering, chemistry, physics, Biology and medicines.

APPLIED RESEARCH.

This is research carried out in field of action or in a real problems situation. Although its procedure are not controlled as in pure research. Applied research has most of the characteristics of Pure Research. It is therefore scientific in the outlook. Most of the research carried out in the in the field of social sciences and education are applied in nature .They are concerned with developing principles and making generations and making generations of a given phenomenon.

ACTION RESEARCH

This is a small scale research which a researcher may conduct to establish some fact or resolve some issues like validating his observation. In this way, the researcher's knowledge and skills are steadily enhanced. Unfortunately information from action research is usually limited in its usefulness and generalization. It cannot be applied to a large population target.

DESCRIPTIVE RESEARCH

This type of research is aimed at examining current events, to determine relationships that exists , opinion or processes that are in existence etc. Examples of descriptive research include survey observational case study, correlation, longitudinal, cross sectional and ex post-facto research. Data collection is by questionnaire, interviews and observations

HISTORICAL RESEARCH

This deal with evaluation of past events to establish relationship with the present as to predict the future. Data collection is from primary and secondary sources. Primary sources include an eye witness account, records and oral testimonies. Secondary sources include periodicals, newspapers, pamphlets etc

EXPERIMENTAL RESEARCH

This type of research is aimed at establishing cause and effect relationship. It involves manipulation of one, two or more variables eg independent and dependent variables, extraneous and interviewing variables. It also involves treatment and control groups. Evaluation could be through parametric and non parametric statistics. Finally, it involves applying appropriate test of significance to determine confidence level of the results of the study.

RESEARCH PROBLEMS

One of the ways of preventing students from being passive recipients of qualifies knowledge is by involving them in an active generation of knowledge through carrying out basic research (Amin, 2005). To see if students understand that education itself should be a source of problem solving for most societal problems a portion of the study periods (which is outside the course work) is marked out for

research work by students. Problems are found everywhere in the world and most of these problems could be solved if they are properly investigated, solutions found guidelines for solving the problems stated, and recommendation made. One area of difficulty is problem formulation and stating the problem concisely and precisely in an understandable way in the research

A researcher ought to have in mind

1. What do I want to study
2. Why is it worth studying
3. Does it contribute to new knowledge or help in understanding of previous knowledge

In understanding research problem and its statement, let us examine the following issues

1. Sources of problem in education
2. Problem formulation and stating the problem precisely
3. Research designs and problem statement
4. Summarizing and conclusion

It is always observed that students want to find solutions in areas where problems do not really exist. It is possible to see a problem in areas where problem exist by imaginations and try to find solutions to such imaginary problems. This is because statistical data or information which the students need for carrying out analysis are not easily accessible either due to lack of stored data or the cost implication of obtaining such data, so students tend to find an easy way out by imagining problem.

SOURCES OF PROBLEM IN EDUCATION RESEARCH

According to Nkata (2003) in Amin (2005) sources for identifying research problems include direct experience theories and such problems should have theoretical conceptual and contextual justification. The world is filled with unanswered questions and unresolved problems. Everywhere you look you see things that cause you to wonder to speculate to ask questions (Leedy & Ormrod (2005) by asking questions we strike the first spark igniting a chain of reaction that leads to the research process. Research starts from inquisitive mind. Questions like; why is this situation like this? Why does such as such things occur? How can this kind of thing be prevented? What is the cause of such and such?

This is the beginning of research

The problem or question is the axis around which the whole research effort revolves. The statement of the problem must first be expressed with utmost precision. It should be divided into more manageable sub problems. Such an approach clarifies the goals and direction of the entire research effort (Leedy and Ormrod 2005). The heart of every research project is the problem. It is paramount to the success of the research effort. It is always important that the problem be seen with unwavering clarity while stating it makes it.

SOURCES OF RESEARCH PROBLEM ACCORDING TO GOOD AND SCATES

They identified 5 sources of research problem for students

1. Specialization–This is from an intensive search to reveal accomplishments of completed research in your area of specialization. One tries to find if there are problems which are yet unresolved. You may take up research in an identified area in order to highlight the recommendations for resolving or solving such problem. You may also see solutions to a problem another way.
2. Analysis of an areas of knowledge:- Divide a known area into sub parts and try to see if there are problems or gaps in knowledge identified. You can then find problem that is researchable by carefully examining the gap that exist in that area of knowledge.
3. Considering existing practices and needs; In education for example, gaps exist between principles and practice. A systematic analysis of existing practice and needs in particular , is a challenging intellectual exercise , whether the area examined is local , regional or national. The gaps in knowledge identified through a canvass should be viewed as challenges . You may include problem manifested in the actual practice
4. Repetition or extension of investigation ; History is never complete. Surveys of status can only be accurate within time and space. Under various condition a different laboratories results are bound to differ. One may therefore decide to repeat the investigation and write new report on it
5. “Off-shoots “of studies; if one looks at other research work done by scholars, you may see recommendation for further studies. Since research is cyclical or helical a new research starts when another ends

OTHER SOURCES OF PROBLEM IN RESEARCH

Critical Reading and Listening: sometimes questions arise when you read or hear.

Topic Significance or Focus : Some articles you need or even lectures you attend may make you wonder and ask some questions

Result Applicability :In research the information collected by a researcher is always more than required for that particular research. Example; a case study may focus on gender (male and female). You may see that other categories or dimensions were not investigated and you may want to investigate that area like experiences, age, qualification, social status etc

There are several ways a student can source for problems in education. However below also are areas in education that a student can find researchable problems

1. Current issues in education
2. Educational standards

3. Educational administration
4. Education law and policy
5. Educational psychology
6. Learning styles and theories
7. Learning and developmental disabilities
8. Curriculum and instruction
9. Testing and assessment
10. Classroom management
11. Early elementary and secondary school education
12. Educational theories (motivation, decision making , leadership styles etc)
13. Institutional effectiveness
14. Teacher burnout
15. Teacher attrition
16. Teacher /student relationship
17. School and classroom climate
18. Accountability in education
19. Critical thinking
20. Multicultural education
21. Malpractices , drugs and gangs
22. Peer pressure and students
23. Academic achievements/performance (often over-researched)
24. School reform practices
25. Students evaluation
26. School drop outs / completion rates
27. Supervision of instruction/inspection
28. So many other areas needing research and the list are so expansive and inexhaustible

PROBLEM FORMULATION AND STATING THE PROBLEM

The problem provides the context for the research study and generates questions which the researcher will answer or hopes to get answers to.

Time should be spent in considering and rating research problem statement.

Problem statement should hook the reader and establish a persuasive context for what follows. You should answer the question “ what is the problem ?” and why is this problem worth my attention?.

PROBLEM FORMULATION

To formulate a problem, take a look at the world around you and discover where your interest lies. Regarding whether you conduct basic or applied research, research will definitely take a significant amount of your time and energy, so choose a problem that is worth your time and energy.

Two criteria or 2 tests are to be considered in identifying a suitable research problem

1. Your problem should address an important question such that the answer can actually make a difference
2. It should advance the frontier of knowledge and lead to new ways of thinking and possibly expose new ways of application or solving current issues and challenges

Some problems are not really reasonable because they do not elicit mental struggle or joggling example; ‘**factors that enhance reading**’ such a research will not elicit mental effort and does not contribute to knowledge as those factors are already known even without indulging in much analysis

An example is – how London bridge was built. The information finding effort would actually satisfy individuals by giving them information on how the bridge was built but it would not lead to any new knowledge. Because it will not add to knowledge, it is not a research topic. Another example is “steps in using lecture method to teach in Landers College”. This topic may appear catchy but it is not a researchable topic. It is a known fact that lecture method has a known pattern in subject delivery . It should not be any different in Landers College and therefore does not elicit mental struggle or effort. Energy or time is not vested and discovering the steps teachers use in lecture methods in Landers college and is not adding to new knowledge . This topic has not passed the criterion test- no difference and no additional knowledge and does not expose any new way or method of lecturing in field of teaching.

The assertion that the heart of any research project is the problem can never be over emphasized. Research process starts off in a smooth way and proceeds without much strain and stress on the researcher when the statement of the problem is unmistakably clear. Identifying the research problem helps the researcher articulate the methods to be used in population sampling, design of research, data collection and type of data analysis required.

Stating the Problem

Problem must be carefully phrased and represents the goal of the total research effort. The following are general guidelines to help a student researcher in statement writing.

1. State the problem clearly and completely. The problem statement should be clearly and simple so that anyone who reads English can read and understand it. If the problem is not stated in simple terms and clearly it will be confusing even for the researcher. It also means that the researcher is deceiving himself that he knows the problem when actually the problem is not clear to him.

You have to state the problem clearly only when you have stated it completely. At a minimum, you should describe it in one or more grammatically complete sentences. There are two main forms of writing problem statements. Problems can be stated in declarative form.

Example of declarative form

The problem of this research is to find out the level of satisfaction and the effectiveness of international support in Somaliland.

This can also be written in question form or interrogative.

What is the level of satisfaction and the effectiveness of international support in Somaliland?

Examine the following statement for various students.

From a student in sociology – welfare on children’s attitudes

From a student of Law – Nigeria and the tort.

From a students in Education- Teaching methods in school

From a student of Economics- Retirement plan for adults.

From all the five statements, no specific problem could be identified and all lack clarity. It is possible to take some fragments of the statements above and develop a more researchable example;

“Teaching methods in school” becomes;

What effect does lecture method have on student retention of subject matter?

This study will analyze the lecture method using a particular class of students and a topic in school(s) and compare their retention of the subject matter taught with lecture method to another method of teaching like experimental method, field-trip method, individualized instruction or any other known method of instruction.

Statements when written in full, limit the study to manageable size. Sometimes the problem statement does not limit the researcher to any length and this makes it difficult to know what direction the researcher should follow. Example “Attitude to work by employees in Uganda.” There are over 2

million employees in Uganda and in so many districts, organizations, factories, institutions and ministries. What is the problem? Which group of employees is referred to? Can this researcher cover the whole of Uganda? How long is he going to take to gather this enormous data. How is he going to analyze it? What is he looking for here and how much money does he have to cover the whole Uganda for this type of research. This takes us to the next point.

2. Think about the feasibility of the research and what it involves. This will definitely cause the above students so much money running in millions of shillings or dollars. It is obvious that the researcher did not consider the implications of such research undertaking. When research statements are made without considering the implication or involvement, the student meets a stonewall and cannot go ahead. Sometimes its complication cannot be adequately handled by the student and it becomes a problem to either continue or to abort the research.
3. State precisely what you mean and do not assume others will be able to read your mind. In research world, especially your status as a scholar, absolute honesty and integrity are assumed in every statement a scholar makes. Sometimes under the excuse that an introductory statement should be made, some students indulge so much in generalized discussion which obscures the problem and in the process the problem is never clearly articulated. Sometimes also pages are seen written by the student researcher while trying to state the problem but at the end of such a long essay, the reader cannot find the problem.

Usually, it is advised to state the problem before going into explanations that may carry one away from the problem. It is advisable to state the problem straight so that at the first glance it is identified without any difficulty.

4. Edit your work.

Editing helps the writer to sharpen a thought and helps eliminate verbiage. Verbiage are sentences or words which do not depict the writer's exact mindset. Some words are distracting and distort the meaning of a sentence because of its length. Verbiage could also mean unnecessary big words which may not bring out the writer's thought.

EVALUATING THE PROBLEM STATEMENT IN STUDENTS' RESEARCH

Step 1: Write a clear statement of problem for research.

Step 2: Review your statement and ask yourself the following questions.

- Is the problem in a complete grammatical sentence or question?
- Is it clear how the area of my study will be limited or focused?

Step 3: On the basis of your answers to questions in number 2, edit your written statement.

Step 4: Examine your edited statement and reflect on the following questions:

- Do the answers to this problem have potentials for providing important information?
- Will the result be more than a simple exercise of gathering information?
- Is the problem focused enough to be accomplished with a reasonable allocated time, money and effort.

Step 5: Looking at the statement once more consider this – is the problem really what I want to investigate.

Step 6: Show other research students your work. Ask them to consider the questions listed above and give their comments. With all these feedbacks, rewrite your problem statement once again. The need to show others your work is to accept constructive criticism as they say “two good heads are better than one’. Also show to those who are more knowledgeable than you in carrying out research and accept their inputs, criticisms and even grammatical corrections.

Sample of statement of research problem in selected research methods

ACTION RESEARCH

Action research it is a type of applied research that focuses on finding a solution to a local problem in a local setting. For example; a teacher investigates whether a new spelling program she has adopted leads to improvement in her students’ achievement scores.

Statement of the problem – Declarative form. This study is to investigate whether flip chart program in spelling leads to improvement in primary three students’ achievement scores in English language.

Interrogative form: The study will answer the question: Does flip chart program in spelling improve students’ achievement scores in English language?

CORRELATION RESEARCH

Correlation research is statistical investigation of the relationships but does not necessarily probe for casual reasons underlying them. For example: a researcher might investigate the relationship between entrance (admission) examination scores of students and final grade point average(GP) of students in secondary school.

STATEMENT OF THE PROBLEM

DECLARATIVE FORM

This study investigates the relationship between entrance examination scores of senior secondary students and the quality of final grade point average(GPA) in senior secondary examination in Kwara state of Nigeria.

SURVEY RESEARCH

This is a common research method in business, sociology and education. Surveys are used to describe the incidence, frequency and distribution of certain characteristics in a population. It also involves acquiring information about one or more groups of people about their opinions, attitudes characteristics or previous experiences by asking them questions and tabulating their answers. The idea is to learn about a large population by surveying a sample of that population. Sometimes it is called “descriptive survey or normative survey.” The researcher can use percentages, frequency counts or more sophisticated statistical index and then draws inference from the responses got from the sample. For example a researcher will want to find out why there are more female student drop outs in secondary schools in a particular district than male student drop outs in the same district.

DECLARATIVE FORM

The researcher proposes to identify and evaluate the existing discrepancy between female student drop-outs and male student drop- outs in Kuala district in Rwanda.

INTERROGATIVE FORM

The study will answer the question: Are there more female student drop outs than male student dropouts and in Secondary schools in Kuala district in Rwanda and why?

OTHER EXAMPLES OF INTERROGATIVE FORMS OF STATEMENT OF THE PROBLEM

1. To what extent does Hip hop music influence deviance behavior within the youths in new York?
2. How does funding affect internal efficiency of schools in Kwanya local government areas of Zanzibar in Tanzania?
3. What is the relationship between grade points average of Senior Secondary Schools and their reading skill in Banda Secondary School in Yanana?

Problem statement and the title are often nearly identical for example “To what extent does Hip hop music influence deviant behavior of youths in New York City.”

Title: Hip hop music influence on deviant behavior of youths in New York City.

EXPERIMENTAL RESEARCH

In experimental research design, the researcher can most convincingly identify cause and effect relationship. In such design the researcher considers many possible factors that might cause or influence a particular condition in phenomenon. In such research, the researcher tends to control all influential intervening and erroneous factors/variables except those under study. The research makes sure that the groups of individuals used in the research share similar characteristics which is called “Equivalent groups”. He carries out a pre-test (before treatment). One group is then exposed to a treatment or intervention perhaps a new teaching method or experience, which may have effect on the characteristics he is studying. After that, both groups are subjected to the same test called Post- test. If there is a change in the treated (treatment group) we attribute it to the treatment. Because we have not just observed or collected data we have manipulated the groups we say it is experimental design. There are many types of experimental design.

ONE SHORT EXPERIMENTAL CASE STUDY

One group is involved and only treatment and observation is made. The observation may not be because of the treatment.

Group I	Treatment	Observation
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\One Group Pretest – Post Test Design

In this design, pretest is done for one group before treatment .Then post test is done. Any difference in observation is attributed to treatment.

Group I	Observation	Treatment	Observation
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Static Group

In this design, 2 groups are involved-a control group and treatment group are involved. Treatment is given to one group and then observation is made.

Group 1	Treatment	Observation
Group 2	No treatment	Observation

Pretest – Post Test Control (Group Design)

In this design, the control group is not treated before pretest or after post test.

Group 1	Observation	Treatment	Observation
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Group 2	Observation	No treatment	Observation
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Solomon Four group design

4 groups are involved in the following patterns

Group 1	Observation	Treatment	Observation
Group 2	Observation	No treatment	Observation
Group 3	-	Treatment	Observation
Group 4	-	No treatment	Observation

Group 3 and 4 are like control groups but groups 1&3 are treated while groups 2 & 4 are not treated. Any change in observations could be attributed to treatment received by groups 3 & 1. This type of design requires very large samples.

STATEMENT OF THE PROBLEM IN EXPERIMENTAL DESIGNS

Example: a teacher wants to find out if pupils' academic performance is affected by use of Computer - Based instruction in mathematics.

Declarative: This study is focused on finding out if Primary One pupils' academic performance in mathematics is affected by use of Computer-Based instruction in Lander University staff school, York city.

Interrogative: Can Computer -Based instruction in mathematics enhance Primary One pupils' academic performance in mathematics in Lander University Staff school, York?

The teacher may have 2 groups of Primary One pupils. He tests them in particular mathematics topic, records their result (his observation). He goes ahead to teach Group 1 with computer and also teaches Group 2 same topic without computer using the common black or white marker board method. Group 1 is treated (treatment group) while Group 2 is control group. He exposes both groups to same test or examination. Teacher records the scores of the same test administered to both groups after teaching. He then analyses the results to ascertain which of the groups performed better in that same topic. Any observation is interpreted accordingly.

Group1 (Experimental)	Pretest	Treatment	Post test
Group 2 (Control)	Pretest	No treatment	Post test

This is the pretest – post test control group design (experimental) research in education.

CONCLUSIONS

The writer has attempted to explain how a student can find researchable problem in education. Attempt has also been made here to offer practical examples of how a problem can be formulated and stated precisely either in declarative form or interrogative form or in simple English. This work is not extensive in scope but will assist students in the faculty of education understand and become familiar with the writing of statement of problem. This aspect of research is sometimes worrisome at the preliminary stage in research supervision. Oftentimes, in the process of Proposal Defense, panel members spend quality time attempting to assist students come up with a problem statement. Most students do not know what the part called 'statement of problem' should focus on. A clear and concise problem statement gives a greater insight into what the researcher intends to do and what the researcher intends not to do. When a researcher thinks carefully about a problem and its focal centre, he/she distinguishes what is relevant and what is irrelevant in his study. Therefore, it is very crucial that from the onset, ruling out interfering or extraneous variables becomes paramount.

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