

## Review Article

### Recent Trends in Interdisciplinary Research (Criteria for Selecting a Problem)

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#### Abstract

Every research topic in the social and behavioral science must have some concrete relevance to at least a small sub sample of its population. And therefore it should be possible for a determined researcher to develop a functional competence in the application and findings to their maximum benefit. In the case of research in education which is called 'ipso facto' in professional field of specialization e.g. in psychology or sociology disciplines. Now our universities are making amendments in their rules and regulations for progress. This is the time when the researchers are making efforts to progress in more and more progressive environments, and certainly it would win the approval and support of the public. Our national level agencies like NCTE, UGC and ICSSR are fully responsible to provide funds for doing research in education and social sciences and these are continuously evolving guidelines for rendering more relevant research experiences. Here the writer of this paper is going to discuss the criteria for Selection of a Problems in Interdisciplinary researches.

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#### Introduction

All normal children bear a positive and healthy curiosity. Even an infant is attracted by anything and everything that usually changes. Its curiosity at this stage is a 'passive one'. It may cry for the object taken away from his side but after a few more months when it grows more after examining the same many times his sensory perception turns in an active way. Such a healthy and active curiosity forms the foundation at this stage and turns in research later on. The main challenge is to identify the indicator of readiness for absorbing the processes of scientific enquiry this all is encountered as the main characteristics of a researcher.

#### Characteristics assumed in a researcher.

The researcher should be an-

1. Open minded person without bias and prejudice.
2. A keen observer.
3. Capable of analyzing the phenomena critically.
4. Should have the courage to present the inconvenient truths.
5. Should have good interpersonal skills.
6. Should have the sufficient knowledge of research methods and data analysis.
7. Should have good reference skills

#### Recent Trends in Research

The recent trends in research are the extension of the concept of reflective practice in a profession, particularly in teaching which also takes in the

academic setting. There are three levels of reflection have been identified so far.

**1. Rational Thinking** – When we think about what should be the appropriate means and methods to conduct a research enquiry. It is meant for the progress of research towards already chosen goals. It is the narrowest level of research without any technical reflection level. This method only allows the researcher to elaborate/apply his mind but within the frame work of the research project.

**2. Contextual Level-** This is the level at which the researcher goes beyond the rational technical level and deliberate the concept in and for the research is undertaken. The choice of methods and means is also determined. The choice of sampling, the tools and the level of analysis and data must be well checked before going to print. A full awareness of the context of research is absolutely essential in the field of research of social science and education. The conceptual level of reflection must include the sample, the tool, the methods and the degree of precision, the time limit and lastly the findings can be put. This contextual level obliges the researcher to go beyond the narrow framework of research work.

**3. Reflective Level-** This level is the dialectical one. It allows the researcher to take views diametrically opposite to the one that yielded a significant discovery. This dialectical level of reflection is must for social and behavioral researches. The scientist of social and behavioral fields do the

researches belong to the category of non parametric phenomena. The systematic enquiry requires a careful planning in an orderly investigation.

### Research is a scientific enquiry

The process of research begins logically with the rational thought process and scientific methods. This includes conceptualization, definition and inference. Clearly defined concepts used in the inference process, help in building laws, theories, principles and hypothesis etc. This reflective thought process is associated with all these ideas. The techniques or procedures to analyze empirical evidences and confirming the prior conceptions is known as scientific enquiry. The term empirical so used for research purpose means that something is verifiable by experiences, observation and experimentation. The primary goal of science is to understand the problems that perplex human beings. The scientific method may be a set of rules that is used to explain phenomena through systematic pursuit of knowledge.

### Solution of problems through scientific method

If someone wants to that how and why the things work, then s/he has to adopt a process of forming and testing solutions to problems. S/he will try to reduce the influence of faith or prejudice or bias of the experiments, to make the process valid anywhere in the world, then the method followed for research will be known as scientific method. The scientific method include –

Observe → Research → Hypothesis → Test → Conclude

### The Scientific Method for the Selection of a Problem (Flow Chart) -

The basic frame work for solution of a problem through scientific method includes the following eight steps. To answer the question concerning how, why and when, one should proceed for a research work following below mentioned steps.–

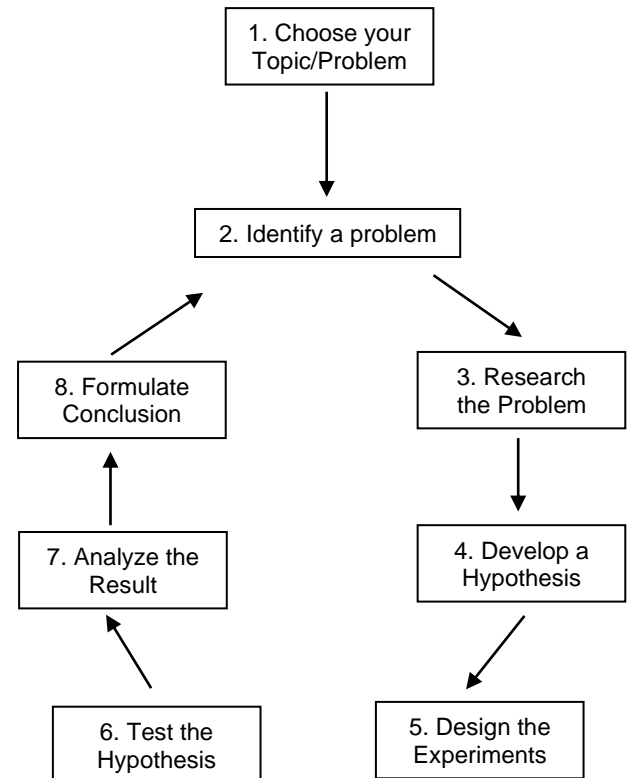
1. Create a short and meaningful title
2. Write the statement/purpose explaining what you want to do.
3. Step-by step make a careful notation.
4. Be objective
5. Gather information
6. Identify significant conditions
7. Summarize the problem in a clear and simple statement.
8. Formulate conclusion

### “The scientific Method”

### The educational research can improve when both the administrators and teachers learn to-

- Recognize that enquiry is a major part of decision making which is being undertaken poorly.
- Understand the requirements of scientific methods in applied research.
- Use of most appropriate techniques posed for proposed problem.

### Flow Chart of Scientific Method-



### Research Process activities-

Educational Research can take many forms, but scientific enquiry is the common thread joining all the research work. Therefore educational research activities include-

1. Defining a problem
2. Planning a research design
3. Planning a sample
4. Collection of data
5. Analyzing the data
6. Formulating the conclusion
7. Preparing the report

These activities may overlap and interrelated to one another. The pattern of these activities may be any i.e. forward linkage or backward linkage, e.g. the forward linkage implies the early stage of the research process influence the design of the later stages and the backward linkage implies the later stages of the research process will influence the early stages.

The objectives outline the definition of problem and ultimately it will impact on the selection of sample and the way of data collection for example if the researcher concentrate upon the respondents, then considering their education level the language of the questionnaire should be according to their education level whether too simple or too complex.

The efficient/ professional researchers always anticipates the reviewer's need for providing research related cooperation and considers this need during analysis and tabulation stage.

The research process can be analyzed with the help of a map or guide. A remarkable point is that there is no right path or the best path to go for the research process, as it is mingled with some other associated

factors like money, time and labor and so on. The map analogue is so useful for the researcher because there may be several paths to follow. There may be some instances of quickest path as the appropriate means of research process because of some time constraints. On the other hand, if we have plentiful money and human resources the path of research process will be the other one.

For this purpose researches have to be done in a decent manner by properly following all the steps being discussed here.

### General activities in the research process

S.No.	Questions in your mind	Steps you will take	Important elements of each step
1.	What is the problem and why should it be studied?	Selection, analysis and statement of the problem ↓ ↑	<ul style="list-style-type: none"> <li>• Problem identification</li> <li>• Prioritizing problems</li> <li>• Analysis</li> <li>• Justification of the study</li> </ul>
2.	What information is available?	Review of literature ↓ ↑	<ul style="list-style-type: none"> <li>• Keep and arrange all the information</li> <li>• Review the literature.</li> </ul>
3.	Why do we want to carry out research? What do we hope to achieve?	Formulate the research objectives ↓ ↑	<ul style="list-style-type: none"> <li>• Formulate the general and specific objectives</li> <li>• Formulate the hypothesis</li> </ul>
4.	What additional data do we need to meet our research objectives? How are we going to collect informations.	Research Methodology ↓ ↑	<ul style="list-style-type: none"> <li>• Variables</li> <li>• Type of study</li> <li>• Data collection technique</li> <li>• Sampling</li> <li>• Plan of data collection</li> <li>• Plan of data processing and analysis</li> <li>• Ethical considerations</li> <li>• Pre test and pilot study</li> </ul>
5.	Who will do what and when?	Plan of work ↓ ↑	<ul style="list-style-type: none"> <li>• Available human resources</li> <li>• Available time opportunities</li> </ul>
6.	What resources do we need to carry out our research work? What are the resources do we have?	Prepare a budget to conduct the research work ↓ ↑	<ul style="list-style-type: none"> <li>• Material support and equipments</li> <li>• Money required</li> </ul>
7.	How will the research project be administered? How will the utilization of results be ensured?	Prepare an appropriate plan for project administration and, Utilization of results. ↓ ↑	<ul style="list-style-type: none"> <li>• Administration</li> <li>• Monitoring</li> <li>• Identification of the potential users</li> </ul>
8.	How will we present our research proposal to relevant authorities, community and the funding authorities?	Summary of the research proposal ↓ ↑	<ul style="list-style-type: none"> <li>• Prepare a summary with briefing sessions and lobbying</li> </ul>

### “Sequential Pattern of General Activities Conducted in a Research Process”

**Definition of a Problem-**

A research problem should involve several inter related steps. These are as follows-

1. Ascertain the objectives
2. Understand the back ground of the problem
3. Determine the relevant variables
4. State research objectives and hypothesis
5. Isolate and identify research problem
6. Determine the unit of analysis

**Statement of the Problem/ Research Question-**

A researcher after isolating, identifying and clarifying the problem with or without exploratory research should make a formal statement of the problem and the research objectives. This will describe the type of information collected and provide a framework for the research project. On the other hand selecting a research problem does not mean that the problem is adequately stated. Generally it will require a number of re wording and editing before it is feasible.

**“The solution of a problem involves reading, discussing and .....concerned.”**

**“Wiersma and Jurs (2005)”**

**Characteristics of a Good Research Question-**

A good research question may include the following characteristics as indicated below.

1. It should be feasible
2. Interesting
3. Ethical
4. Novel
5. Relevant

**Criteria for selecting a problem-**

While selecting a research problem certain considerations with some cautions must be taken.

1. You should have a personal interest in the problem.
2. The problem selected by you should be important.
3. You must care that your findings must have any practical use.
4. Your investigations will provide to a good chance in the field of education.
5. Research problem should stimulate your enthusiasm and satisfaction.
6. Previous research works definitely have a worth in order to validate its methods and findings to see if they hold true over time.
7. Give attention to time and compare it when your research will be completed.
8. You should reflect on the difficulties of researching on the problem, in which you might be interesting.
9. Also consider the cost associated with your investigation.

After a good topic has been selected, it must be refined, before it can be researched satisfactorily. Firstly the research topics can be refined by a focus that is manageable in terms of time and efforts. And secondly state precisely what you want to find out so

that it can be answered from the information obtained by you.

**Conclusion-**

Modern day education is aided with a variety of technology, computers, projectors, internet and many more. As a result diverse knowledge is being spread for all the subjects. Now we have in our hands integrated learning tools, bit sized learning, augmented learning so many formative assessment tools with more flexible learning for professional development of teachers. Everything that was more difficult so far, is now being easy due to invent of recent technological tools. The science has explored every aspect of life, now there is much to learn and assimilate. Internet now is available for everyone and this is providing us a vast knowledge with endless boundaries. What we learn help us in our career and profession. To keep us up grade, we have to merge ourselves with recent trends and innovations best suited for interdisciplinary researches in every field. We can make it all possible by carefully selecting any problem related to our education and society and finding out its solution with the help of recent trends discussed so far.

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