

Research Problem: -

In Research Process, the first and foremost step happens to be that of selecting and properly defining a research problem.

Selecting the Research Problem: -

The following points must be observed by a researcher in selecting a subject or research problem for research: -

- i) Subject which is overdone should not be chosen because new light can not be thrown by a researcher.
- ii) Before the final selection of a problem is done, a researcher must understand the importance of subject, the cost involved, the time factor, the qualification and training of a researcher.
- iii) The selection of a problem must be preceded by a preliminary study.
- iv) Too narrow or vague subject or problem must be avoided.
- v) The selected subject or problem for research should be familiar and feasible so that the related research material or sources of research are within the reach of a researcher.

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Test for work is must for a researcher

Techniques involved in Defining a problem

Subject : -

Defining a research problem properly and clearly is a crucial part of a research study and must in no case be accomplished haphazardly. The techniques for the purpose ~~involved~~ involves the undertaking of the following steps generally one after the other: -

- i) **Statement of the problem in a general way** - First of all the problem should be stated in a broad general way, keeping in view either some practical concern or some scientific or intellectual interest. The problem stated in broad general way may have many ambiguities which must be resolved by ~~good~~ thinking and rethinking over the problem.
- ii) **Understanding the nature of the problem** :- The next step is defining the problem in to understand its origin and nature clearly. The researcher should also keep in view the environment within which the problem is to be studied and understood.

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iii) Survey the available literature:-

All available literature concerning the problem at hand must necessarily be surveyed and examined before a definition of the research problem is given.

iv) Developing the ideas through discussions

Discussion concerning a problem often produces useful ~~discussions~~ information. Various new ideas may be developed through discussion. A researcher must discuss his problem with his colleagues and others who have enough experience in the same area or is working on similar problems.

v) Rephrasing the Research Problem:-

Finally, the researcher must try to rephrase the research problem into a working proposition, once the nature environment, discussion, survey and all other related ~~problems~~ ^{issues} are ~~thoroughly~~ and clearly understood then rephrasing the problem into analytical or operational terms will not be a difficult task.

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Research Process

Research process has various steps or actions which are necessary for carrying out research ~~and~~ effectively and the desired sequencing of these steps. The following codes concerning various steps provides a useful procedural guideline regarding the research process: -

1) Formulating the Research Problem: -

There are 2 types of research problems; related with states of nature and related with relationships between variables. A researcher must decide the area of interest or aspect of a subject matter that he would like to inquire into.

The researcher must examine all variable literature to get himself acquainted with the selected problem. A researcher may discuss with his colleague or those having some expertise in the matter regarding the research problem.

2) Extensive Literature Survey: -

Once the research problem is formulated, the researcher should have extensive literature survey connected with the problem. A good library, journals, published or unpublished articles, govt. reports etc

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will be a great help to the researcher.

iii) Development of working hypotheses: -

The next step in working hypotheses or hypothesis. This is an important aspect of research because it provides the focal point for research. In most types of research, the development of working hypothesis plays an important role. The role of hypothesis is to guide the researcher by delimiting the scope of research and to keep him on right track. It sharpens his thinking and focuses attention on the more important facets of the problem.

iv) Preparing the research design: -
The next step for a researcher is to prepare a research design means he will have to state a conceptual structure within which research is to be carried out. The function of design is to provide for the collection of relevant evidence with a minimum expenditure, time and effort.

v) Determination of Sample design: -
All the items under consideration in any field of inquiry constitute a 'population' or 'universe'. The items selected for research is technically called sample. A sample design is a definite plan determined before any data are actually collected for obtaining

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a sample from a given population.
eg. - To select 15 of city's 300 medicine shops in a certain way constitutes a sample design.

vii Collecting the Data: - In dealing with any real life problem it is often found that data at hand are inadequate and therefore it becomes necessary to collect data that are appropriate.

viii Execution of the Project: - This is a very important step in research process. If the execution of project proceeds on correct lines, the data to be collected would be adequate and dependable.

ix Analysis of Data: - The researcher analyses the collected data with the help of various statistical measures. After the data have been collected the researcher turns to the task of analysing them. The researcher should classify the raw data into some purposeful and usable categories.

x Hypothesis - Testing: - The next important step is hypothesis testing. There are many tests which have been developed by the statisticians for test of hypothesis. Chi-Square test, t-test, F-test, ANOVA, Correlation, Regression, Non-parametric tests etc.

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Hypothesis testing will result in accepting or rejecting it.

17 Generalization and Interpretation: - If a hypothesis is tested and accepted, it may be possible for the researcher to arrive at a generalization i.e. to build a theory. If the researcher had no hypothesis then he may explain his findings on the basis of some theory which is known as interpretation.

18 Preparation of the report or the thesis:

Preparation of the report is the final step of a researcher. Writing of report must be done with great care. The layout of report should be as follows - i) Preliminary pages, ii) the main text and, iii) the end matters. At the end of report, appendices should be included in respect of all technical data, Bibliography, i.e. list of books, journals, reports etc. consulted should also be given in the end. Index should also be given specially in a published research report.

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