1. Meaning of Research

Research is a search of knowledge. It is define as scientific and systematic search for relevant information on a specific topic. Infect, research is an art of scientific investigation.

Accordingly to woody " research accumulated formulating research problem, formulating hypothesis, collecting and evaluation data and making hypothesis and suggested research conclusion and finally testing the hypothesis".

2. Characteristics of Research

- Research is directed toward the solution of problem.
- Research emphasizes the development of generalizations principles or theories that will be helpful in predicting future occurrences.
- Research emphasizes both qualitative and quantitative.
- Research strives to be objective and logical, applying every possible test to be validating the procedures employed.

3. Objectives of Research

- The main objective is to find out the truth which is hidden and which has not been discovered yet.
- To gain up knowledge of a phenomena or to accomplish new experiences into it.
- Discover the solution of the problems.
- To test a hypothesis of a casual relationship between variables.
- Research is to discover the unsolved problems and formulating a new theory which should be accepted by the globally.

4. Hypothesis

Ordinarily, when one talks about hypothesis, one simply means a mere assumption or some supposition to be proved or disproved. But for a researcher hypothesis is a formal question that he intends to resolve. Thus a hypothesis may be defined as a proposition or a set of proposition set forth as an explanation for the occurrence of some specified group of phenomena either asserted merely as a provisional conjecture to guide some investigation or accepted as highly probable in the light of established facts. Quite often a research hypothesis is a predictive statement, capable of being tested by scientific methods, that relates an independent variable to some dependent variable. For example, consider statements like the following ones:

"Students who receive counselling will show a greater increase in creativity than students not receiving counselling" Or
"the automobile A is performing as well as automobile B."
These are hypotheses capable of being objectively verified and tested. Thus, we may conclude that a hypothesis states what we are looking for and it is a proposition which can be put to a test to determine its validity.

5. Characteristics of hypothesis

Characteristics of hypothesis: Hypothesis must possess the following characteristics:

(i) Hypothesis should be clear and precise. If the hypothesis is not clear and precise, the inferences drawn on its basis cannot be taken as reliable.
(ii) Hypothesis should be capable of being tested. In a swamp of untestable hypotheses, many a time the research programmes have bogged down. Some prior study may be done by researcher in order to make hypothesis a testable one. A hypothesis "is testable if other deductions can be made from it which, in turn, can be confirmed or disproved by observation".
(iii) Hypothesis should state relationship between variables, if it happens to be a relational hypothesis.

(iv) Hypothesis should be limited in scope and must be specific. A researcher must remember that narrower hypotheses are generally more testable and he should develop such hypotheses.

(v) Hypothesis should be stated as far as possible in most simple terms so that the same is easily understandable by all concerned. But one must remember that simplicity of hypothesis has nothing to do with its significance.

(vi) Hypothesis should be consistent with most known facts i.e., it must be consistent with a substantial body of established facts. In other words, it should be one which judges accept as being the most likely.

(vii) Hypothesis should be amenable to testing within a reasonable time. One should not use even an excellent hypothesis, if the same cannot be tested in reasonable time for one cannot spend a life-time collecting data to test it.

(viii) Hypothesis must explain the facts that gave rise to the need for explanation. This means that by using the hypothesis plus other known and accepted generalizations, one should be able to deduce the original problem condition. Thus hypothesis must actually explain what it claims to explain; it should have empirical reference.

7. Types of Research Hypotheses:

1. Alternative hypothesis: The alternative hypothesis states that there is a relationship between the two variables being studied (one variable has an effect on the other). It states that the results are not due to chance and that they are significant in terms of supporting the theory being investigated.

2. Null hypothesis: The null hypothesis states that there is no relationship between the two variables being studied (one variable does not affect the other). It states results are due to chance and are not significant in terms of supporting the idea being investigated.

3. Non-directional hypothesis: A two-tailed non-directional hypothesis predicts that the independent variable will have an effect on the dependent variable, but the direction of the effect is not specified. E.g., there will be a difference in how many numbers are correctly recalled by children and adults.

4. Directional hypothesis: A one-tailed directional hypothesis predicts the nature of the effect of the independent variable on the dependent variable. E.g., adults will correctly recall more words than children.

5. Simple Hypothesis: It shows a relationship between one dependent variable and a single independent variable. For example – If you eat more vegetables, you will lose weight faster. Here, eating more vegetables is an independent variable, while losing weight is the dependent variable.

6. Complex Hypothesis: It shows the relationship between two or more dependent variables and two or more independent variables. Eating more vegetables and fruits leads to weight loss, glowing skin, reduces the risk of many diseases such as heart disease, high blood pressure and some cancers.