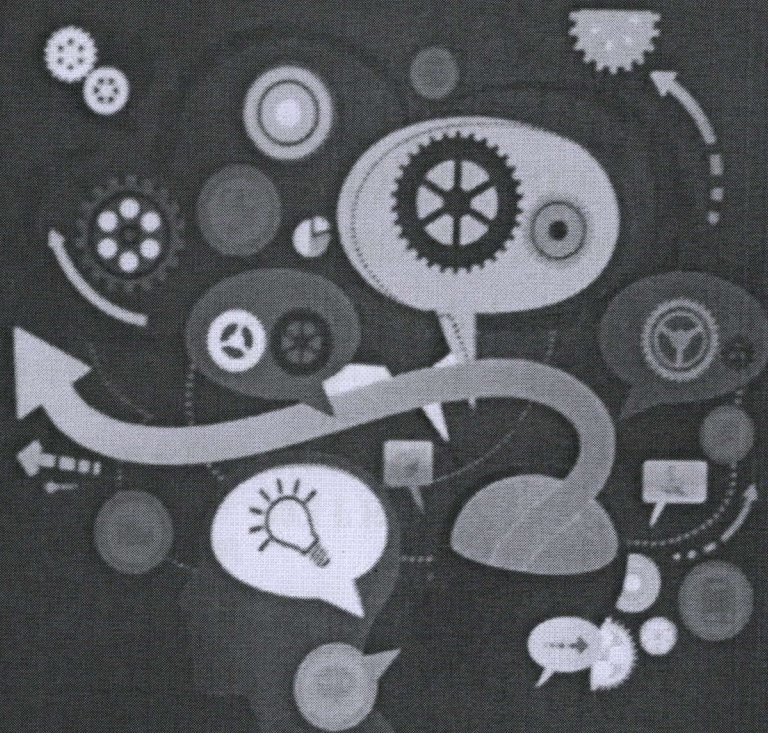
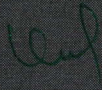


# FUNDAMENTALS ON EDUCATIONAL RESEARCH



  
Principal  
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Palayamkottai - 627 002

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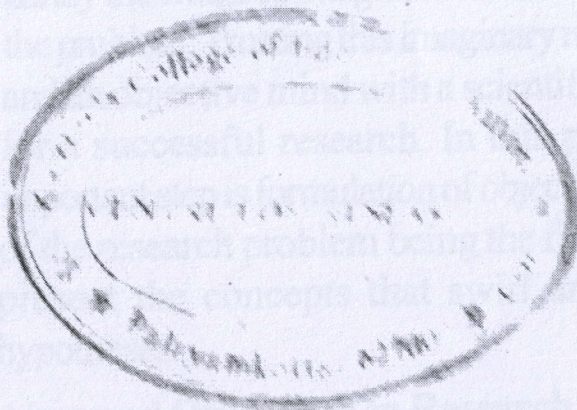
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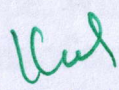
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### III. FORMULATION OF OBJECTIVES AND HYPOTHESES

Prof. A. John Lawrence

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#### Introduction

Academic success depends on teaching supported by research and publications. For an enthused and committed teacher, teaching and learning are the twin-hand-grippers; research and publications are the twin-leg-footers. It floats as crystal clouds that an advancing teacher is bound to be an effective teacher, a constant learner, an innovative researcher and an on-going publisher. The emerging techs and birthing new-knows-and-apps that pumps around the globe has a direct impact on classroom learners at first and teachers as rippling effect. To surf and win in this splashing tide one needs to be a researcher either at a formal or informal level. Research is creating new knowledge. Research is problem solving. Research is confirming or negating the pre-believed and pre-established facts. Research is what you do just because you don't know what to do, and yet you have to do it. Here comes in handy the wings of imaginations to visualize a possibility that may solute the problem. Trusting this imaginary road-link, moving ahead with hope and an objective mind with a scientific temperament is a pre-requisite for a successful research. In this process of research, the second important step is formulation of objectives and hypotheses, identification of the research problem being the first step. This chapter attempts to present the concepts that swirl around research objectives and hypotheses.

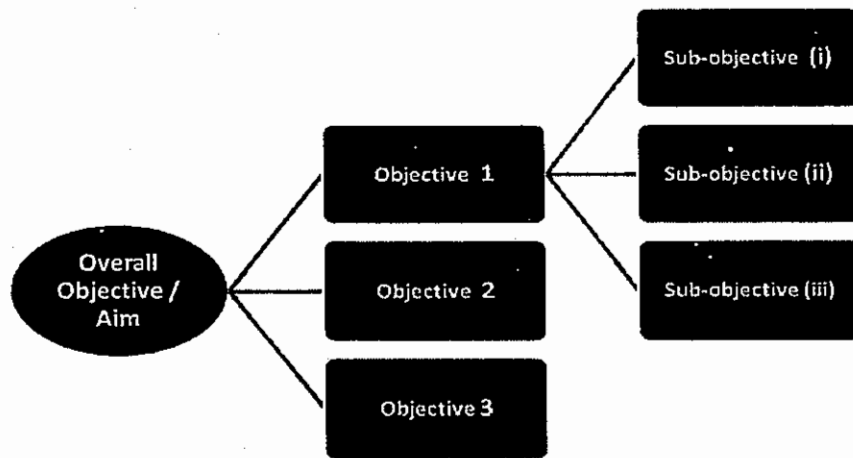
#### Aims and Objectives in Research

Aims and objectives has been used widely synonymously at a peripheral level as these two terms are related to each other in the aspect that both leads to the finality. The difference between aims and objectives, in its real sense, lies in the time and scope. While the aims are long-term plans, objectives are short-term plans of action. While the scope of aim remains broad and general, the scope of objective remains narrow and specific. An aim needs to be broken into specific



objectives that states in clear cut-and-throw terms what is to be done one after the other. If objectives are not formulated and fixed prior to begin the research investigation, it could lead to wastage, confusion and mess-in-the-midst in terms direction, time and energy. A statement of purpose is a sentence that you write, which states, in some detail, what you want to learn about in your research project. The statement guides you as you work so that you will read and take notes only on what's needed for your project. The aim of the research states what is indented to be found out at the terminals of research investigation, before starting the research effort? Exactly stating the purpose of doing the research is the aim of research.

The relationship between the aims and the objectives in the modus operandi of research could be diagrammatically presented as follows:



### Stating the Aims and Objectives in Research

The aims and objectives may be stated adopting any of the following styles:

- To find out the .....

### Hypotheses

The term derives from the ancient Greek, *'hypotithenai'* meaning *'to put under'* or *'to suppose'*. A hypothesis is an assumption about a population. A hypothesis is a suggested explanation of a phenomenon or reasoned proposal suggesting a possible correlation between multiple

phenomena. A hypothesis may be proven correct or wrong, but should be capable of testing. Hypotheses are framed on the basis of objectives. A well-knit relationship is pervasive from the beginning till the end of research, so as to say that even the arrived at inferences and conclusions of research are based on either the acceptance or rejection of tentatively formed hypotheses.

### Essentials of a Good Hypothesis

A hypothesis possesses the following characteristics:

1. It should be simple, specific, logical, unambiguous and conceptually clear.
2. It should be testable: either provable or non-provable.
3. It should be related to the existing body of knowledge.
4. It should be measurable.
5. It should be contributing to find a solution to the problem of study.
6. It should be scientifically related to other variables of study.
7. It should be comprehensively stated, without leaving out any essentials while stating the hypothesis.

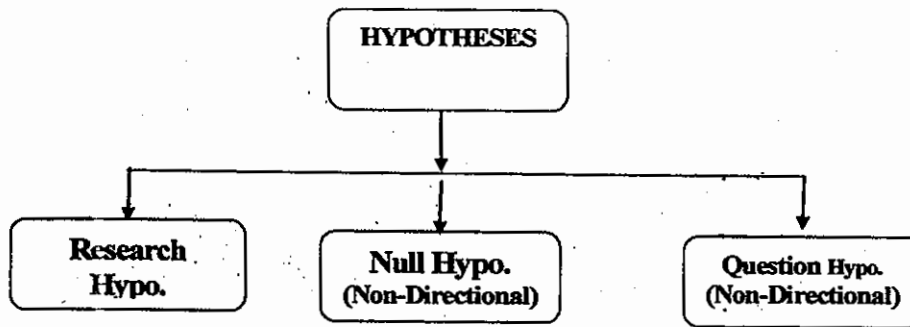
### Significance of Hypotheses

Hypotheses show the direction on proceeding research. A well-framed set of hypotheses is a half-done thesis.

Hypotheses	→	Experimentation	→	Results	→	Conclusions
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The data pertaining to research is collected on the basis of the hypotheses. Not all data are needed to be collected; only those that are needed to be tested are to be collected. In the project proposal and synopsis of the research, hypotheses have a significant role to play. Even the statistical techniques have to be chosen and applied in relation to the nature and demands of hypotheses. The investigator is certain of what to do and how to do and why to do and when the hypotheses are finalized.

## Types of Hypotheses



### 1. Research Hypotheses

A research hypothesis is stated positively and it is directional. The construction of a research hypothesis may be illustrated as follows:

#### a. Differential Hypotheses

- There is significant difference between boys and girls high school students with regard to stress.
- There is significant difference among Hindu, Christian and Muslim high school students with regard to stress.
- There is significant association between birth order and stress of high school students.

#### b. Correlational Hypothesis

- There is significant relationship between stress and academic achievement of high school students.

### 2. Null Hypotheses

A null hypothesis is stated negatively and it is non-directional. The construction of a null hypothesis may be illustrated as follows:

#### a. Differential Hypotheses

- There is no significant difference between boys and girls of high school students in their stress.
- There is no significant difference among Hindu, Christian and Muslim high school students in their stress.

- There is no significant association between stress and birth order of high school students.

#### b. Correlational Hypothesis

- There is no significant relationship between stress and academic achievement of high school students.

### Conclusion

Just as it is said, 'Well begun is half-ended', we could say 'Well founded objectives and hypotheses is half-done research'. Showing the track to rail without being derailed hypotheses moves the researcher to journey the research. Hence, the researchers ought to pay utmost care and consult all possible print and human resources prior to formulate the hypotheses to succeed in the time-bound completion research with specific assumed solutions to the problem.