Models.

- Introduction
- Meaning of Models.
- Models as Representation/Categories.
- Models as Representation of Phenomenon.
- Schools of Thought.
- Linguistic and Non Linguistic Models.
- Crisis with representional style of Model.
- Importance
- Conclusion.

## INTRODUCTION

Models are very important tools used in mode science. This is because it helps one to gain a perfect understanding of the scientific developme Models are also instruments which makes it possi for easy understanding, recognizing and devel principles.

We are going to discuss Models in detail, as follo

## MEANING OF MODELS.

Models are representational category used to capt the universe or aspects of the universe, nature and reality. Models represent phenomenon or theories For instance the mathmatical formula "Force = Mass x Acceleration (F= MA) is used to represent all events in the universe where force is applied.

Models perform basically two fundamentally diff representational functions

1. A model can be a representation of selected part of the world, depending on the nature of the phenomenon
2. A model can also represent a theory in the sense that it interprets the Law and axioms of the theory.

## MODELS AS REPRESENTIONAL CATEGORIES.

This would be explained under two fundamental functions.

1. Models represent Theories
2. Model represent Object of reality.

### Models as Theories.

Theories are statements about aspects of the world that have undegone series of experimentation in various places and still proves itself to be valid.

A Model Theory is a theory that have been generally accepted and has proven indisputable such that it stands out as standard for formulating and enacting new theories. Hence a theory becomes a model if it can be used to interpret another theory as well as bring out the solutions and Consequences.

### Models as Representation of Objects of reality.

Models also represents objects in the physical world. ~~However, there are some objects that~~ As a representation, they capture essential features of a system or phenomenon, while abstracting away irrelevant details. They can be mathematical, conceptual

or physical representation. An issue here is how can models represent things which are not empirical, that is things which are not observable.

## SCHOOLS OF THOUGHT

These are two philosophical schools of thought that propose what model should represent.

Empiricism

Realism.

## THE VIEWS OF EMPIRICIST.

Empiricism is a philosophical school of thought that claim that knowledge can only be derived from the senses. They argue that models should represent only things that can the senses can perceive. Hence whatever the five senses are not able to observe should not be represented by models. Empiricist disregard non empirical realities.

## THE VIEW POINT OF REALISM.

Realist argue that non-empirical realities should also be represented by models. Since models represent aspect of the universe, they argue

that models should provide insight into the structures of reality even if they are idealized or simplified representations.

LINGUISTICS AND NON-LINGUISTIC MODELS.

Linguistic models deals with the use of language to capture or represent aspects of realities in the numeral world. Examples of such models are :- Mathematical models.

Non linguistic models deals with the use of objects to represent realities. It is aimed at reducing the excessive use of language. Examples are picture sketches.

THE CRISIS WITH REPRESENTATIONAL STYLE OF MODEL.

The crisis with representational style deals with whether a model should represent an object in its exactitude or not? That is, what is the best way to modelize an object. Must a model be an exact representation of what it represents? This is the problem of exactitude and similitude.

- EXACTITUDE :

Those in this group are of the opinion that models

should be the exactly the same with what it represents. This poses a problem; if models are exactly the same with the object it represents, what then make a model a model different from the other? How can model be identified between it and the true object. Exactitude of Models makes model to loose it states as model.

SIMILITUDE.

This group propose that models should not be exactly the same but should be similar to the object they are representing. This also has it own problem, which is "How similar should a model be to the object it is representing such that it does not become exactly the same with the object, and can still be identified as a model of that object and not something else.

This summarises the Crisis of representational Models.

IMPORTANCE OF MODELS.

Some of the importance of models include.

1. Models makes understanding easier and faster.
2. It summarizes and reduces the use of words in

Language.

3. Models makes it easier to identify a thing.
4. Models also ~~enables~~ serve as framework for hypothesis.
5. Models facilitate communication and education.

Conclusion.

Models