# How Linguistics is a Science?

## What is linguistics?

The word linguistic has been derived from latin word lingua(tongue) and istics ( knowledge and science).it is study not only of one particular language but of human languages in general. It attempts to describe and analyze languages .

## Definitions of linguistics

It is defined as,
"The science of language or, alternatively, as the scientific study of language".

"Linguistics is a science which studies the origin, organization and natural development of a language .It can formulate general rules and regulations of grammar".

## Scientific approach of linguistics

Linguistic is discipline as scientific study of language, so there are some scientific and non scientific ways of doing things.

Linguistics scientific approaches are as follows:

### Objectivity

Objectivity is that, "it considers all languages to be equal ".For a linguist , there are no primitive ,pure, beautiful ,cultural and sophisticated languages. Objectivity is difficult to attain because language is so familiar to us that we can hardly dissociate ourselves from it. The objective study of language is hindered by various cultural, social and historical misconceptions about certain languages

**Empiricism**

Linguistics is basically an empirical, not a speculative or intuitive, discipline in the sense that it examines the specific data (e.g. speech and writing), and proceeds by variables and justifiable .It relies on observation and experiments, and uses formalized principles and the theory capable of formulation. It aims to analyze the data and make generalization about the regularities encountered in linguistics phenomenon under study.

## Canons Of Science

Linguistics obey following canons of science

**Exhaustiveness:**

Linguistics deals with all relevant data, i.e., it analyzes all the facts of languages that fall within its scope and studies systematically every linguistic element from all angles.

**Consistency**

It allows no contradictory statements and requires that all parts of analysis be consistent with the whole. Economy Repetition is not allowed ether, and more economic statements containing fewer concepts or symbols are preferred.

**Rationalism**

It emphasizes the role that mind plays in the acquisition of knowledge.

## Scientific methodology in linguistics

As we know that linguistics is scientific study of language. The approach and methodology of linguistics is scientific. Like a scientist a linguistic observes his data. Linguist uses by observing simple

listening and phonetic transcriptions and uses various instruments like oscilograph, endoscope, laryngoscope etc. A linguist has his own language laboratory too. Like a scientist a linguist develops hypothesis makes generalized statement in the favor of fact of language. When a linguist makes his statement about language he makes it on the basis of observation. First he observes linguistics events he finds some similarities and contrast on the basis of which he makes sounds. Like any scientific discipline linguistic too is not static. View points and theoretical method in the field change even in fundamental ways from time to time.

# Scientific method

Scientific methods include the following major steps:

## Ask a Question:

The scientific method starts when you ask a question about something that you observe: How, What, When, Who, Which, Why, or Where?

For a science fair project some teachers require that the question be something you can measure, preferably with a number.

## Do Background Research:

Rather than starting from scratch in putting together a plan for answering your question, you want to be a savvy scientist using library and Internet research to help you find the best way to do things and insure that you don't repeat mistakes from the past.

## Construct a Hypothesis:

A hypothesis is an educated guess about how things work. It is an attempt to answer your question with an explanation that can be tested. A good hypothesis allows you to then make a prediction: "If ____*[I do this]* ____, then ____*[this]*____ will happen."

State both your hypothesis and the resulting prediction you will be testing. Predictions must be easy to measure.

## Test Your Hypothesis by Doing an Experiment:

Your experiment tests whether your prediction is accurate and thus your hypothesis is supported or not. It is important for your experiment to be a fair test. You conduct a fair test by making sure that you change only one factor at a time while keeping all other conditions the same.

You should also repeat your experiments several times to make sure that the first results weren't just an accident.

## Analyze Your Data and Draw a Conclusion:

Once your experiment is complete, you collect your measurements and analyze them to see if they support your hypothesis or not.

Scientists often find that their predictions were not accurate and their hypothesis was not supported, and in such cases they will communicate the results of their experiment and then go back and construct a new hypothesis and prediction based on the information they learned during their experiment. This starts much of the process of the scientific method over again. Even if they find that their hypothesis was supported, they may want to test it again in a new way.

## Communicate Your Results:

To complete your science fair project you will communicate your results to others in a final report and/or a display board. Professional scientists do almost exactly the same thing by publishing their final report in a scientific journal or by presenting their results on a poster or during a talk at a scientific meeting. In a science fair, judges are interested in your findings regardless of whether or not they support your original hypothesis.

# Principles of linguistics

There are two principles that prove linguistics as science

**Verification principle**

The principle that no statement is meaningful unless it could by verified by observation standard scientific methods applied to the data provided by observation.

**Reductionism**

The principle that, of the sciences, some one more basic than others and that in the grand synthesis of unified science the concept and propositions of the less basic sciences were to be reduced.

## Relation of Linguistics to natural and Social Sciences

Finally closeness of linguistics with other natural sciences like biology, physiology, anatomy, etc. it is another proof of its scientific nature. Linguistics is getting more and more technical and sophisticated day by day. Yet it is not a pure science its position is between the natural science and social sciences.....In case of natural science it is impossible to produce language without use of internal and external structures of the human mouth...also their physiology is included in phonetics, so it is related to natural sciences. And in case of relation with social sciences, languages usually depict the behavioral aspects of a language, the values, social interactions with different societies...

## Conclusion:

By discussing the scientific and methodological approaches that are used in linguistics along with certain principles and theories it is believed that linguistics is a branch of science. Now a days it is progressing day by day and students of linguistics are much more concerned about understanding the deep physiology and method by which sounds are uttered instead of just uttering sound. Linguistics is now become vast subjects both technically and academically.