COURSE CODE: JILL 111

COURSE TITLE: Introduction to Logic

LEVEL: 100

COURSE LECTURER: Rev. Fr. Dr. Peter Egielewa

COURSE CONTENT/OUTLINE

Weeks	Subject Content
1 & 2	Meaning and Nature of Logic
3	The Vocabulary of Logic
4 & 5	Arguments and Types
6	Truth and Validity
7	Uses of Language
8 & 9	Fallacies
10 & 11	Definitions
12	Revision

Week 1 & 2		Meaning and Nature of Logic
Week 3		The Vocabulary of Logic
Week 4 & 5		Arguments and Types
Week 6		Truth and Validity
Week 7		Uses of Language
Week 8		Fallacies I
Week 9		Fallacies II
Week 10		Definitions I
Week 11		Definitions II

COURSE ASSESSMENT MARKING SCHEME

Assessment	Marks
Written test	30 marks
End of semester examination	70 marks
Total	100%
Attendance compulsory	75% to enable candidate seat for exams

FIRST SEMESTER COURSE SCHEDULE

1st semester (12 weeks)	Date	Topic	Lesson content	Resources	Assessment
Week 1		Meaning and nature of Logic	Definition of Logic, origin of Logic, Classification of logic	Textbooks/Multi-media	Question and answer with all students
Week 2		Meaning and nature of Logic	Definition of Logic, origin of Logic, Classification of logic	Textbooks/Multi-media	Question and answer with all students
Week 3		The Vocabulary of Logic	Objective, Statement, Premise, Inference, Conclusion, Summary, Conclusion	Textbooks/Multi-media	Question and answer with all students
Week 4		Arguments, types	Definition of Argument, Inductive and Deductive Arguments, Valid & Invalid Arguments, Sound and Unsound Arguments	Textbooks/Multi-media	Question and answer with all students
Week 5		Arguments, types	Definition of Argument, Inductive and Deductive Arguments, Valid & Invalid Arguments, Sound and Unsound Arguments	Textbooks/Multi-media	Question and answer with all students
Week 6		Truth and validity	a)What are arguments, b)what must be present for a discourse or assertion to be called an argument c) Rules of argumentative discourse d) Premises as important pieces of argument	Textbooks/Multi-media	Question and answer with all students

			e) Premises and conclusion in argument f) Conditional statements and bi-conditional statements, if and only if g)Validity and soundness of arguments, weak and strong arguments		
Week 7		Uses of language	i) Functions of language ii) Models of Linguistic Analysis (Chomsk's Structural Analysis, J.I. ustin, M.A.K. Halliday)	Textbooks/Multi-media	Question and answer with all students
Week 8		Fallacies I	Definition and Classification of fallacies,	Textbooks/Multi-media	Question and answer with all students
Week 9		Fallacies II	Fallacies of Ambiguity, Equivocation, Amphiboly, Division, Unwarranted Assumptions, begging the Question, False Dilemma, fallacy of false Cause, Appeals of False Authority, Complex Question	Textbooks/Multi-media	Question and answer with all students
Week 10		Definitions I	Major types of Definitions	Textbooks/Multi-media	Question and answer with all students
Week 11		Definitions II	Stipulative Definition, Real definition, definitions by Genus and Difference.	Textbooks/Multi media	Question and answer with all students
Week 12		All course contents	Revision	Lecture note	Question and answer with all

					students

Recommended literature

Hausman, Alan et al (2013), logic and Philosophy: A Modern Introduction, USA, Wadsworth Cengage Learning.

Maduka, Chukwugozie (1996), Philosophy and Logic: A First Course, Iliad Publishers.

Ujomu, P. et al (2011), Philosophy and Logic: An Introduction, Benin City, University of Benin Publication.

1. General Introduction and setting the tone, Defining Philosophy and Etymology.

1.1 What is Logic?
Logic has a definition that is generally agreed upon. This is not the case with other disciplines such as philosophy. From its etymology, Logic is from the Greek word *"Logos"* meaning "word, discourse, study. There are different scholars who have defined Logic thus
"Study of the methods and principles used in distinguishing good (correct from bad (incorrect reasoning)" (Copi, 1968). It is the science of the discovering correct or incorrect reasoning. Logic can also mean the study of the evaluation of arguments. Infact, the trains of logic is referred to Arguments or arguments schemata. Logic involves analyzing concepts using rigorous critical and analytical tools to discover reasoning that can be judged or weak. To be logical, certain laws and principles must be adhered to. It is principally the study of arguments in order to be able to determine good from bad arguments. Logic forms the foundation of logical thought. Thus, it is the business of logic to find out what makes an argument valid. The components of such logical thought come from various facts which come from personal experience, recorded experience of others and the ability to reason. Such facts which can be erroneous are then subjected to critical evaluation through the process of identification, interpretation and analysis. Because of the possibility of error, all logical processes must be carefully and thoroughly examined without hast.

1.2.   Origin of Logic

Logic can be traced back to Aristotle more than 2000 years ago. He assembled and arranged a philosophical what is known as "syllogistic logic" or syllogism. Syllogism is a kind of inference in which a conclusion is drawn from two premises e.g

P1   All men are mortal.
P2   Peter is a man.

C   Peter is Mortal.

And

P1   All children are selfish.
P2   Some people are not selfish.
………………………………………………
C   Some people are not children.

The following syllogisms of Aristotle.

All A are B (Universal Affirmative)
All A are not-B (Universal Negative)
Some A are B (Particular Affirmative)
Some A are not-B (Particular Negative)

1.3 Subject matter of Logic

Logic is not interested in our thoughts. Logic is interested more in expressed thoughts verbally or in writing. Thought in the context is not the process. In the process of thinking, logic is very useful in helping your formulate your thought pattern and arrange your ideas to make sense. But the product of one's thought process is the main subject of logic. Once the thought process is completed, logic comes in to evaluate the thought process using logical principles and rules. In other words, logic is concerned about

1.   Your conclusion, position, recommendation
2.   Your evidence and reasons adduced for reaching certain conclusions
3.   Interested in the connection between your conclusion, recommendation and the premises, basis or evidences for them

Logic is not concerned about thought processes that do not have conclusion and evidence form them. This is called reasoning. Thus, All reasonings are products of thinking. But not all thinking are reasoning. When you are reasoning on an issue in such as way to arrive at a conclusion, you are thinking and doing logic but if your thinking does jot end with the reason-evidence template, you are just think.

An Example:

The banana I bought yesterday is spoilt and thank God that you did not eat it=That is thinking and religion at play, not logic.

But when you say:

The banana I bought yesterday is spoilt. Therefore, I will return it and demand for refund, then you are doing logic.

P1   The banana I bought yesterday is spoilt.
…………………………………………………………………………………….
C   I will return it and ask for a refund.

As Onyeocha I.M puts it, "what logic requires is that thought think about thought". So, logic studies thought which is the end product of thinking.

1.4 Logical Processes

There are three logical processes: Simple Apprehension, judgement, Reasoning and Argument.

1.4.1 Simple Apprehension.

This is the process by which the mind perceives something without necesaryily passing any judgement. It is the act of intellectually perceiving an object without affirming or denying it. It is recognizing an object only for its sake.[1] Since the mind cannot physicaaly bring an object to itself, it can nonetheless intellectually capture such as object in what can be called "species of the object". This act of forming such a mental image of an object is called "conception". This process of conception derives from the original object, concept, idea, or notion.

An Example:

That is a boy. This is a simple apprehension because I have not denied or affirmed the object of a boy.

1.4.2 Judgement

Judgement is the act by which a mind affirms or denies something about something. If we take the example above, it can be reformulated thus: that is a fat boy. By adding "fat", a judgment has been passed on the object.

1.4.3 Reasoning and Argument

This is the final phase of the logic process. It is the process through which different kinds of judgments arrive at a conclusion or other judgments in a process that is called reasoning. Using the last example, we could say

That is fat boy because he is should be weighing approximately 100Kg.

1.5   Classification of Logic

There are two main classification of Logic: formal and Informal Logic

1.5.1   Formal Logic

Formal Logic, otherwise called Aristotelian Logic or Traditional Logic is the form of logic that follows logical rules and that are straightforward and clear. Some authors refer to them as logic that are also deductive in nature. It is the main domain of logic and has a set out methodology. It includes simple apprehension (definition), judgement (proposition) and reasoning (syllogism).

An example is:

P1   Everyone living in Iyamho lives in Etsako West LGA.

P2   Everyone living in Etsako West LGA lives in Edo State.

        ………………………………………………………………………….

C   Therefore, everyone living in Iyamho lives in Edo State.

1.5.2   Informal Logic

Informal logic, otherwise called material logic is also called *inductive logic because it is usually based on* informal, inductive logic that goes from statements of evidence (premises) to

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[1] https://www3.nd.edu/~maritain/jmc/etext/lamp01.htm. Accessed on 08.12.2017

a conclusion that generalizes the evidence. It is informal because it does not follow a set of rules and the arguments are usually not neatly presented. It reflects on the meanings of words, concepts, propositions.

An Example:
Some people in Edo State are not famous. However, because I live in Edo State, I ride around Iyamho in limos and hang out with celebrities. Therefore, I am famous by association.

1.6   Why Study Logic

Logic is studied for various reasons. The importance of Logic is captured in the popular stamen of As Abraham Lincoln, namely; "you can fool some of the people all of the time, and all of the people some of the time, but you cannot fool all of the people all of the time." Logic is found also in Will Rogers Statement: "A King can stand people fighting, but he can't last long if people start thinking." Thus, some of the reasons why people study logic include;

1. It lays down rules for critical reasoning.
2. Teaches one how to formulate sound arguments.
3. Equips one with the skills necessary for presentation of one's position in an order manner.
4. Logic will make you a convincing debater, able to detect errors in others and avoid similar pitfalls.
5. Logic would streamline your life by helping you decide which things are important and which are not.
6. Logic will reduce the chances of you being manipulated by those who want to control your thinking and conscience.
7. The logic will reduce the stress
8. Logic helps one to see and discover the interrelationship in the different sciences.

Source: http://fashionmind.eu/fashion-season-2015-2016/10-reasons-for-studying-logic.html

1.7   Logic and other Disciplines

Because almost all disciplines have positions and theories which they always defend, it is imperative to have the tools for presenting such positions in an error-free context.

1.8   Key Concepts in Logic

To explain Logic, there are basic concepts that help understand logic and its application. These include: Statements, proposition, arguments, premises, conclusion

1.2.1   Statement: A statement is a declarative sentence or part of a sentence which can be considered either true or false. In other words, a statement should contain an idea or more ideas that are subject to critical analysis in order to determine if those set of idea or ideas are true or false.

2. The Vocabulary of Logic

The vocabulary explains the different terms, concepts that are commonly used in logic in general and logical discourses in particular. These include: Statement and proposition, premise, conclusion and inference.

2.1 Statement and Proposition

There is generally no difference between statement and proposition as they are used interchangeable. However, logicians tend to see a difference between a statement and a sentence. A statement is a declarative sentence or part of a sentence which can be considered either true or false. A sentence is a set of words that expresses a statement, a question or command. In this case only a sentence which expresses an idea or ideas that can be true or false is a statement and such sentences are called logical statements. A sentence that expresses command or question is not a statement and therefore is not a logical statement. In other words, a statement should contain an idea or more ideas that are subject to critical analysis in order to determine if those set of idea or ideas are true or false.

EXAMPLES: Which of these are statements and which are not?

The Man is tall

Auchi is the capital of Edo State.

Sit down!

Has John resumed?

2.2 Premise

A premise is a statement in an argument that provides reason or support for reaching the conclusion in that argument. Usually there can be one or several premises in an argument. A premise can be found at different points of an argument and not necessarily the first statement or last. But more importantly is that a premise is implied in the conclusion.

An Example:

All Men are mortal
John is a man
Therefore John is mortal

Rewritten, it reads thus;

All Men are mortal (premise)
John is a man (premise)
Therefore John is mortal (conclusion)

From the above, one notices that the first two statements are premises while the last is the conclusion.

2.3 **Premise Indicators**

Premise indicators are words which indicate or point to the presence of a premise in an argument. These include; because, since, for, as, for the reason that, in as much as, as indicated by, in that, may be inferred from, given that, seeing that, owing to. Statements which follow these indicators are considered to be premises.

Examples:

The University has done its matriculation ceremony because the new students have their matriculation numbers.

2.4   Conclusion

A conclusion is a [statement](#) within an [argument](#) that indicates of what the arguer is trying to convince the reader/listener. It is the proposition arrived at on the strength of the premises deduced for it. In such argument where the conclusion follows from the premises, it is called valid argument. What is the argument he is trying to prove? There is usually only one conclusion in a single argument.

All 100 Level students of Edo University take the GST 112 course.
Lucy is a 100 level student.
Lucy is taking the GST 112 course.

The Last premise, which is the conclusion, is arrived at on the basis of the first two premises.

In examining premises and conclusion, the task of the reader or listener is to ask what the author of the argument is trying to get you to believe. The answer to this question is the conclusion.

There must also be at least one reason and possibly many why the author wants you to believe what he is saying. These are your premises.

2.5   Conclusion Indicators

These are words which point to a conclusion in an argument. When a statement follows such an indicator, such a statement is likely to be a conclusion. Such indictors may include: Therefore, wherefore, accordingly, it must be that, for this reason, entails that, it implies that, as a result, consequently, hence, we may infer, we may conclude, thus, so, it follows that.

Examples:

Suspected Fulani herdsmen are guilty of extreme human rights abuses. Further, they kill people unprovoked. Thus, the FG should declare them terrorists.

Students who do sports perform better in school. Hence, students should be encouraged to do sports.

2.6 Inference

This is the process through which a conclusion is derived from premises.

In the example,

All 100 Level students of Edo University take the GST 112 course
Lucy is a 100 level student
Lucy is taking the GST 112 course.

The process of arriving at "Lucy is taking the GST 112 course" is called an inference.

ASSIGNMENT:

Rewrite the following arguments listing the premise(s) first and the conclusion last. Each line should be a single statement written as a complete sentence. Label the premise(s) P^1, P^2, P^3, etc. and the conclusion C. Also write our any premise or conclusion indicators you find and label them as such.

1. Since students are hardworking. Parents should increase their monthly pocket money.

2. We may infer that the Nigerian Army is good from the results of the Persian Gulf War.

3. Junior is two years old. Most two year olds can walk. It follows that Junior can walk.

4.   Because Ibrahim spends is commended by most customers in the bank. He deserves an award.

Auguments and Types
An argument is a series of statements, one of which is the conclusion (the thing argued for) and the others are the premises (reasons for accepting the conclusion). (Alan Hausman, 2007)
An arugument is a group of propositions, one of which is called the conclusion, is affirmed on the basis of the others, which are called the premises.(Kouassi, 2014).

An argument is the smallest unit of argumentation. There are atleast two statements or propositions that make up an argument, one of which must be premise and the other conclusion. But it is important to note that not all statements are arguments. Arguments can be grouped into broad groups: those, whose premises support the conclusion and those whose premises do not support the conclusion even if they claim to do so. The first group can be called good arguments while the seconds are bad arguments. The tasks of logicians is to find techniques to formlate and use good arguments.

Arguments are a group of statements. Statements are declarative sentences that can either be true or false.
It is not necessary that the premises provide true reason, neither is it important that premises actually support the conclusion. What is important is that the premises must claim to present evidence or reason and there must be a claim that the edivence or reason support.

So it is not sufficient that because a sentence expresses a statement it is an argument, the statements must be related to one another in appropriate way. Explanations, exposition do not offer reason that make a concluson to be accepted.

Examine the following and determine which is an argument and which are not and why.

1. I believe in God because that is how I was raised (This is biography. The because is explanatory, explaining one's belief in God?
2. I believe in God because life has meaning. If there is no God, Life would be meaningless. (This is an argument.)
   Life has meaning
   If there is no God, life would be meaningless
   God exists
3. John was afraid of making a commitment to marry. There Agnes was not surprise that broken up. (This is explantory, explaining why Agness was not surprised of the break up)
4. We will get a tax break if we marry before the end of the year. Therefore, I think we should move our wedding date up and not waitign until January. (This is an argument)
   We will get a tax break if we marry before the end of the year.
   Therefore, we should move our wedding date up and not waitign until January.

Deduductive and Inductive arguments
Deductive Argument
A deductive argument is an argument in which the arguer claims that the conclusion cannot be false if the premises are true. In such a case, the conclusion is said to follow necessarily from the premises. So deductive arguments are those that involve necessary reasoning.

Example:
All dogs are carnivores
Poppy is a dog
Therefore, Poppy is a carnivore

Inductive Argument

An inductive argument is an argument in which the arguer claims that it is improbable that the conclusion is false when the premises are true, that is the conclusion is calimed to follow only prpbably from the premises. Inductive arguments are those that involve probabbilistic reasoning due to the use of such words as improbble, plausible, implausible, likely, unlikely,.

Example:
The Dog is closely related to the tiger
The tiger thrives on rabbits
Therefore, the dog prpbably thrives on rabbits.

The main difference between the deductive and inductive argument is the strength of the argument's inferential claim, that is how strong the conclusion is claimed to follow from the premises.

Since the strength of the inferential claim is sometimes difficult to know, one must employ one's interpretative abilities to make this distinction. However, there are certain criteria that should be met in order to arrive at such judgement:

(1) The occurrence of the special ´indicator words (2) the actual strength of the inferantial link btween premises and conclusion (3) the form or style of argumentation used by the arguer.

Deductive argument Forms:

Many Arguments have unique character that indicate that the premises are supposed to give absolute support to the conclusion.Five of such shall be examined:

1. **Arguments based on mathematics:** These are deductive arguments in which the conclusion are based on some mathematical computation or geometry. These arguments ar deductive because the premises provide absoulate support for the conclusions.

Example:

There are 2 shoes in my bag
There are 3 sandals in my bag
Therefore, there are 5 footwears in my bag.

2. Arguments based on definition: This is an argument in which the conclusion is based on the definition of certain words or phrases used in the premises. These arguments are deductive because the concluion follows necessarily from the conclusion.

Examples:

Because Joseph is a genius, it follows that Joseph has a peculiar, distinctive, or identifying character.

Since Agatha is an undergraduate, therefore she is a student at university who has not received her bachelor's degree.

3. **Categorical Syllogism.** A syllogism is an argument made up exactly of two premises and a conclusion. A categorical syllogism is a type of syllogism in which each statement begins with the words "all", "no" or "some".

Example:
All EUI students are innovative students
Some EUI students are hard working
Some innovative students are hard working

4. Hypothetical Syllogism

A hypothetical syllogism is one that has a conditional statement in one or both of its premises.

Examples:

If petrol prices continue to increase, people will lose their jobs
If people lose their jobs, the country will be unstable
Therefore, if petrol prices continue to increase, the country will be unstable

If NTA airs only the ruling party view during political campaigns, then opposition parties will use other media outlets during campaigns.
 NTA airs only the ruling party view during political campaigns.
Therefore, opposition parties will use other media outlets during campaigns

5. Disjunctive Syllogism: this is a syllogism that contains disjunctive statements in one of its premises in its argument, that when it uses such words as "either.....or".

Examples:

Either Lagos will be the capital of Nigeria, or Abuja will become the capital of Nigeria.
Lagos will not be the capital of Nigeria
Therefore, Abuja will be the capital of Nigeria

Either JILL 111 lectures take place in Campus A **or** Either JILL 111 lectures take place in Campus B.
JILL 111 lectures do not take place in Campus B.
Therefore, JILL 111 lectures take place in Campus A.

Inductive Argument Forms
Generally, inductive arguments re those in which the content of the conclusion intend to go beyond the content of the premises. The content of the typically deal with familiar content and goes from there to content in the conclusion that are less familiar. Below are common inductive argument forms:

1. Prediction: This is an argument that begins from the knowledge of the past to make a claim about the future. But because, no one knows the future with certainty, such arguments are normally categorised as inductive.
Examples:
Because people loved Buhari in 2015, they voted for him.
People love Goodluck Jonathan now.
They will vote for him in 2019.

Most students ate in the school canteen last year and not in the local restaurant because their meals were delicious
Most students will eat in the school canteen this year because the meals are delicious.

2. Arguments from Analogy: this type of argument depends on an analogy or similarity between two things or states of affairs. This is such that the condition that is considered to affect the better known thing or condition is concluded to affect the less-known thing or conclusion.

   Example:
   Serena and Venus Williams are Sisters and they good in Tennis
   Because Serena Williams won the 2017 Australian Open Tennis championship, Venus Williams will win the 2018 Australian Open Tennis championship.

3. Argument from Authority: This is an argument which claims that somethings is true because someone in authority or an expert has said it is so.

   Example:
   Because the IG of Police has said recently that the recent killings in Benue state are communal clashes, therefore, it was a communal class

4. Argument based on signs: This is an argument that is based on the knowledge of a sign to a claim about something or a situation.

   Example: Because the road sign says the road is curvy, the road is curvy.

Deductive Arguments

Valid and Invalid Arguments

Valid Arguments
A valid argument is an argument in which it is impossible for the conclusion to be false if the premises are true. In other words, the conclusion follows necessarily from the premises. Once the premises are true, the conclusion must necessarily be true as well. There is a connection between the premises and conclusion. In a valid argument, the truth or falsity of the content of the statements of the arguments does not really matter as long as the conclusion necessarily derives from the premises. An argument can be valid even when all the premises are false.

Examples:

All EUI students are hardworking
John is an EUI student
Therefore, John is hard working

All Logic students know Syllogism
Elizabeth is a logic student
Therefore Elizabeth knows logic

Note that an argument can be valid even when one or more of the premises are false. The most important factor is that if the premises are given as true, the conclusion must necessarily be true.

Examples:
All men eat pork (False)
James is a man (True)
Therefore, James eats pork (True/False)

All Vegetarians eat only vegetables (True)
Some dogs are vegetarians (False)
Therefore, some dogs are eat only vegetables (False)

There are cases when all premises are true and the conclusion is false. One must not be in hast to make such conclusions on the basis of the premises.

Example:
Some Nigerians are bad (True)
Ukwa is a Nigeria (True)
Therefore, Ukwa is bad. (May be false)

Invalid Arguments
An invalid argument is an argument in which it is possible for the conclusion to be false when the premises are true. In this case, the conclusion does not follow necessarily from the premises.

Example:
All Universities are educational institutions
EUI is an educational instituion
Therefore, EUI is a University

In generally, validity preserves truths of the statements and does not concern itself with peserving the falsehold of the statements of an argument.

Sound and Unsound Arguments

Sound Arguments
A sound argument is an argument that is valid and all the premises are true. These two condition are necessary for an argument to be considered sound. If any of the conditions is missing that argument is unsound.

Example:
All men are mortal

Socrates is a man
Therefore, Socrates is mortal

This argument fulfils both conditions of validity and truth and therefore is a sound argument.

Unsound Arguments
An Unsound argument is an argument that is invalid and has one or more false premises. In an insound argument, the premise that is false must be needed to support the conclusion. Other premises that's are not needed to support the conclusion become superfluous.

Example:
All ducks are mammals.
Dave is a duck.
Therefore, Dave is a mammal.

This argument is valid because if the premises are true then the conclusion would also be true. But in this case, it does not have true premises. Therefore the argument is valid but unsound.

Inductive Arguments

Strong and Weak Arguments

Strong Arguments
A strong inductive argument is one in which it is improbable that the conclusion be false given that the premises are true. In other words, it is an argument that succeeds in providing probable, but not conclusive, logical support for its conclusion.

All dinosaur bones discovered to this day have been atleat 50 million years old
Therefore, probably the next dinosaur bone to be found will be at least 50 million years old.

All rain water tested to this day have contained sugar. Therefore, probably the next rain water to be tested will contain sugar.

Most Nigerians have grey hair.
Sam is a Nigerian.
Therefore, Sam has grey hair.

Weak Arguments

A **weak** argument is an inductive argument that fails to provide probable support for its conclusion. In other words, if the conclusion is unlikely to be true when the premises are true, then the argument is weak.

Examples:

Most Nigerians have grey hair.
Sam has grey hair.
Therefore, Sam is a Nigerian.

When a lit match stick is dipped in water, the flame is put out
Petrol is liquid, just like water,
Therefore, when a lit match stick is dipped in petrol, the flame is put out.

Nigerian economy has continued to slide in a downward fall.
Therefore, the transport sector will witness increase in traffic.

Weak and strong arguments have to do with the degree of probability. As the probablity increases, so does the argument become stronger. The likelihood thaat the conclusion istrue must be more than 50 percent.

Examine these two arguments

1. This bag has 100 oranges
4 selcted oranges were found to be ripe
Therefore, probably all the oranges in the bag are ripe

2. This bag has 100 oranges
82 selected oranges were found to be ripe
Therefore, probably all the oranges in the bag are ripe.

Argument 1 is weak while 2 is strong. But this can change if the selected in 1 becomes 30 and the selected in 2 reduces to 60.

Cogent and Uncogent Arguments

Cogent Arguments

A cogent inductive argument is one that is strong and has all true premises.

Examples:

Patrick was born in North America and Patrick wasn't born in Mexico. It's thus quite probable that Patrick was born in the USA.

(This argument is **strong** and cogent)

Most recording artists are gifted.

Don Jazzi is a recording artist.

Therefore, Don Jazzi probably is gifted.

(This argument is **strong** and cogent)

Uncogent Arguments

An Uncogent argument is one which is weak, has one or more false premises or both.

Example:

Most boys like to play sports.

Serena Williams is a boy.

Therefore, Serena Williams likes to play sports.

(strong but ***un*cogent argument)**

Uses of Language

The function of language is unlimited. Basically language is used to ask questions, tell stories, greet someone, form hypotheses, tell jokes, give directions, sing, songs, issue commands, launch verbal assault.

Definition of Language:

   1. **Informative Function**
This involves an attempt to communicate some information or content. The main goal here is to give information which may turn out to be true or false. Thus, one says: "My birthday is 4th February" or "My phone No is 0406329425" or "Edo University is located on Km 7, Abuja-Okene Express way, Iyamho", then one is using language informatively.

2.   Expressive Function
This kind of function of language is meant to express or evoke some feelings. This use does not, in general, convey any information, they are still very important in the day to day communication since feelings constitute a large part of are expressions and reaction to daily events around us. So if one yells, "ouch!" or "oh yes".
   3. Directive Function

This kind of function is meant to cause a certain action to take place or prevent it from taking place through a human agent. It involves, asking question, giving a direction, giving a command. One is using the directive function of language when one says, "open the door" or "read that book".

4. Emotive Function

The function is use to propagate feelings or attitudes, fo example when one says, "God is great".

5. Commissive Function

This occurs when language is used to make a commitment e.g. in vows, promises or undertakings. An example during wedding ceremony, the couple says to themselves "I promise to be true to you in good and in bad times".

6. Performatory or Declarative Function

This denotes an action which takes place when one uses the first person verb to make a declaration that makes something to happen. For example, I accept or I declare this meeting closed.

7. Ceremonial Function.

This is also called ritual language use. It involves a mix of expressive, directive and performatory functions of language in ceremonies especially religious ceremonies. E.g. " Dear beloved brothers and sisters, we are gathered here to witness the marriage ceremony between Lucy and John.

Some Models of Linguistic Analysis

1. Chomsky Structural Analysis of the Universals of Syntax

In the 1960s Noam Chomski proposed that the grammar of a language is a natural competence of the native speakers of that language. For him, all humans are born with an innate knowledge or competence that serves as the basis of all language acquisition. Such grammatical competence is defined as the native speakers' tacit knowledge of the grammar of their language (Chomsky, 1965). Thus, native speakers acquire this competence by their intuitions about grammaticality of sentences generated in their own language. A Universal Grammar is not necessarily tied to any individual language like Igbo, Yoruba or Hausa but is a set of hypotheses of the nature of possible and impossible grammars of human languages. When this happens then such a language is descriptive because it describes the properties of the intended language following the principles of Universal grammar or syntax. Chomsky argues that while language is innate and leaned, it is the innate dimension that makes it possible in the first place to learn it. It describes this as LAD (Language Acquisition Device). LAD is the device present in every infant, the mental capacity that enables people to acquire and use language. This capacity is inborn in humans. At infancy it is shown in sounds but later on it follows a linguistic form that language represents.

Language, according to Chomsky is governed certain number of rules and principles of syntax which determine the order of words and sentences. It is such innate rules that help one to understand language sentence even when we are unaware of them. Everyone says: "that's how you say it" and not "how that's you it say" and that the words

"John" and "him" cannot mean the same person in the sentence "John loves him." But refer to the same person in "John knows that his father loves him."

2. J. L. Austin Speech Acts

In 1962, in his work "How to do things with words", claims that speech acts not only describes a situation or states some facts, but also performs a certain kind of action by itself. Austin a speech can be categorized as a "performative sentence" or "performative utterance" based on the function that speech elicits. Our choice of utterance helps to fulfil what function that language is performing at the time. Language carries with it intentions of the speaker revealed by the choice of our utterances. The sentence, "You have a wonderful smile" can function of praise, telling irony, begging for money depending on contexts.

3. M.A.K Halliday Language function

Proposes some funtions of language and that language serves some extra-linguistic role. There are seven of such functions which include:

i. Instrumental: Language serves in this context to obtain goods and service or to express a need. E.g. I want ice cream.
ii. Regulatory Function: To control the behaviour of others. E g. sit down
iii. Interactional: To interract or relate with others. E.g you and I will go to the stream.
iv. Personal: This functions takes place when we try to express ourselves, our unique state or feelings.
v. Heuristic Function: This takes place when one tries to explore and gain knowledge of the immediate environment. E.g. What is that?
vi. Imaginative Function: This is when language is used to create an imaginary situation, tell jokes or stories. E.g lets pretend…………..
vii. Informative Function: This function of language happens when one tries to convery facts or information. It is about something is not known. E.g. "He is coming at 2:00pm."

Fallacies

A fallacy is from the latin word "falor" meaning "to be deceived". A fallacy tends to deceived one to accept the veracity of a claim or arugment, when the claims is not etablishe din th arugment. Thus, a Fallacy is a defect in an argument that consists in something rather than merely false premises. In other words, fallacy is a mistake in reasoning which can make a bad argument appear good. Such an argument that involves a mistake in reasoning is somethimes called "non sequitur" (Latin) which means "it does not follow". Fallacies do not provide justifuable reasons for the conclusions they are meant to support.

In trying to get people to believe in their positions, tricks, sentiments and emotions are often employed. A fallacy identifies the errors in a reasoning. According to Copi, a fallacy is "an argument that may seem to be correct but which proves upon examination not to be so".

People tend to accept fallacies because of the emotional or psychological dimensions which make them look like good argument but in reality, a fallacy is bad reasoning howesover it appears. It is an arror in reasoning.

There are certain factos that can lead to erroneous arguments or fallcy. These include; Commission, omission carelessness, passion about things in general, unexamined religious sentiments,

Classes of Fallacies
Fallacies can be classified into two: Formal and Informal fallacies

Formal falacies
These are fallacies that are those that are identified by merely examining the form or strcuture of an argument. Such types of fallacie are found only in deductive arguments. They have nothing to do with the subject matte of the argument butmore on the form of the arugment.

Examples:

All bullfights are grotesque ritual
All executions are grotesque ritual
Therefore, all bullfights are executions

It takes the form

 All A are B
All C are B
…………………….
All A are C

Problem is wih the 2nd premise. It does not offer any support
 To the conclusion.

If apes are intelligent, then apes can solves puzzles
Apes can solve puzzles.
Therfore, Apes are intelligent

It has the form:

If A then B
B.

A

Informal fallacies
These are auguments that can be detected only by examining the content of the argument.
To dtect this fallacy, one must know somehting about the content of the argument.

Example:

The Brooklyn bridge is made up of atoms
Atoms are invisible
………………………………..
The Brookly bridge is invisible

Note: The Brooklyn Bridge may be made up of atoms but it is not invisible.

An athlete is a person
A bad athlete is a bad person.

Note: bad must be defined. A bad athlete does not make a person bad.

Informal fallacies can be grouped into 5, namely

1. Fallacies of Relevance
2. Fallacies of Weak Induction
3. Fallacies of Presumption
4. Fallacies of Ambiguity
5. Fallacies of gramatical Analogy

1. Fallacies of Relevance

This fallacy occurs when the arguments in which they occur have premises that logically irrelevant to the conclusion. The premises may seem to support the conclusion, but they do not. The premises in this kind of argument only provide emotional justification for its conclusion and not logical premises.

a. Argumentum ad Baculum (Appeal to the "stick")/Appeal to Force
This type of fallacy occurs when an arguer compels another person to accept a conclusion by implicitly or explitely threatening the person with the use of focrce. It involves the use of threat to get someone to take the arguer's position. It could be a potential use of force or it could be a psychological threat. In such arguments, such use of focre is completely irelevant to the argument. It may be directed at a single individul or group of persons.

Examples:

I need some money from you, I will let your parents know you were not in school for a week.

Snakes swallow money in Nigeria. Say yes or I slap you.

2. Argumentum ad Misericordiam (Appeal to pity)
This fallacy occurs when the arguer appeals to pity from of the listener or reader or even a third party. This appeal to pity is not logically relevant to the conclusion but may evoke the

sense of pity of the listerner to accept the argument of the arguer. The aim of the arguer therefore, is to get the listener to accept the position of thr arguer.

Example.
Defendant accused of murdering his wife to Judge: Sir I am not guilty. I have a six month old baby, 3 children, all of them under the ages of 7. I don't have any relation who wants to have my kids. Please don't send me to jail.

3. Argumentum ad populum (Appeal to the people)
This fallacy occurs when an arguer tries to win an arguments. The arguer capitalises on the need of man to be loved, admired, esteemed, valued, recognised and accepted. In this kind of fallacy when an arguer excites the emotions and enthusiasm of a group of people in order to get approval or acceptance of his conclusion. This is common during election campaigns.

Example:

Vote for me: I know you want a new Local Government, you want your children to go to school free of charge, you want a generous man who will pay for your hospital bills. If you vote for me, I will do all these and more.

4. Argumentum ad Hominem (Argument against the person).
   There are three types of Argumentum ad Hominem, namely argumentum ad hominem abusive and argumentum ad hominem circumstantial and the argumentum ad hominem tu quoque.

   4.1 Argumentum ad Hominem Abusive.
   It is a form of fallacy that is not directed at the argument but at the person's past or background.

   Examples:
   Mr. John are argues that parents should increase pocket allowance of undergraduates to N20,000. Mr. John never sent his kids to University even with best grades in secondary school. He is, thus, incompentent to speak about undergraduates.

   Mr. Alex is an expert in landscape design and has been brought to plan the landscape of our community. Mr Alex is a drunk. We cannot therefore trust what he will do.

   4.2 Argumentum ad Hominem Circumstantial
       In this kind of argument, the arguer opines that the respondent is predisposed to argue in a certain way because of the circumstance of his life.

Examples:
If Mr Ade says Nigeria will win in a match against Ghana. The Arguer says that Mr Ade says so because Mr Ade was born in Ghana.

If Mr Brown argues that women cannot be president of Nigeria because women are the weak sex, then the fallacy of argumentum ad hominem circumstantial is committed.

4.3   Argumentum ad Hominem "Tu quoque" (You too)
This fallacy is committed when the arguer argues that the respondent is guilty of the exactly point he is trying to make in his argument.

Example: Arguer. Stop beating children
Respondent: But you also beat your kid last week.

Child to Dad: You said I should stop stealing biscuits in the supermarket. But you told me yesterday that you stole biscuits as a child in supermarkets too.

5. Argumentum ad Ignorantiam (Argument from ignorance)
This fallacy is committed when an argument is consdered true simply because nobody has proved it wrong or false.

6. Accident
This fallacy occurs when a general rule is misapplied to a specific cases that it was not intended to cover. The general rule is cited to justify the particular case but wrongly apllied.

Example:
Freedom of speech is guaranteed in the consitution. Therefore, Boko Haram should ba allowed free speech if they come into the mosque.

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