

CHAPTER 1

CONCEPT OF RESEARCH IN PHILOSOPHY

Curiosity and wonder gave birth to philosophy. No doubt human beings possess the vital instinct of inquisitiveness and wonder. This instinct prompts the human mind towards confronting the unknown. This instinct that prompts the human mind to confront the unknown already begins the process of demystifying the unknown making it knowable and tenable to the human mind. This process of demystification of the unknown is no other thing than the act of research.

Like other philosophical terms, the concept of research is so ambiguous that many experts have taken to different definitions. It is our desire here not to be so much attached with definitions but with concept analysis as a means of better understanding of the concept of research and as it concerns philosophy.

Etymologically, the word research is derived from the French word, *recherche* which means ‘to go about searching’. The concept of research has two words merged as one; *Re* and *Search*. The prefix *Re* is an English word meaning; about, concerning, regarding, in matter of, with reference to, in respect of, in connection with, again (emphasis on being thorough), e.t.c. In the same vain, the word search can be said to refer to the act of seeking or ‘looking out carefully in order to find something’.¹ The word “search” can be said to mean an attempt or trying to find the answer to a problem or to seek out what is missing.

Following etymological definitions, research simply means to seek thoroughly or to seek again in order to discover knowledge. Dominowski simply states that research is a fact-finding activity². As a fact finding activity, it rests on the process of research to uncover hidden, unknown or half known facts. According to Walliman, research can be said to mean the activity prompted by our need to satisfy our curiosity and the need to make sense of the world around us³. We recall that the birth of Philosophy is from the curiosity of human mind and the need to make sense of the world around us. Therefore, it is obvious that research is a wonderful tool towards satisfying the curiosity of the mind and the need to make sense of the world around us.

According to John Creswell, research is a process or steps used to collect and analyze information to increase our understanding of a topic or issue. All about research for him is to pose a question, collect data to answer the question and present the answer to the question.⁴ However, this definition did not take into account that all about research does not stop at collection and analysis of data to increase our understanding of a topic. Research may target not just our understanding but to argumentatively counter already existing knowledge.

Following the different parts of the word research as defined and explained above, the word can be said to refer to matters of finding answers to problems. It describes a number of activities concerning the quest for information and desire to probe into the unknown. Thus research can be defined as the act of

collecting data/information, probing into problems and puzzles encountered in human experience and coming up with new ideas⁵ or solutions to problems. Also, research can be defined as the systematic collection/gathering and analysis of information/data for the advancement of knowledge both for the individual and societal development.

.....By collection of data/information, one seeks or looks out for the desired information in desirable/choice fields/areas. It is sourced through text books, oral interview, journals, magazines, radio message, television, observation/experience, e.t.c. It is a capacity required of a researcher to choose rightly the required field to source expected information/data. Thus a wrong choice of field of study leads to possible collection of wrong data or insufficient data which logically affects the final result of research. This act of gathering or collection of information is an essential part of research process⁶.

Most importantly, it is worthy of note that mere collection or gathering of information is insufficient to qualify for research in philosophy. Even when the researcher has made a right choice of data/information and gathered such data adequately, there is still an important aspect which really makes a research philosophical. This aspect is the interpretation of data or information according to the set purpose of the research which the researcher has to define from the onset. This aspect of research involves data or information analysis to direct the research towards achieving the purpose for which it is made.

If research according to Walliman is the activity prompted by our need to satisfy our curiosity and the need to make sense of the world around us⁷, then data or information gathered/collected during research does not make sense yet until they are interpreted or analyzed minding the set objectives of the research. The compliment of data collection and analysis makes a research work meaningful, fruitful, and successful. However, a research is incomplete if not reported to the targeted audience either as research presentation or research documentation. However, in a case where the research is merely to gain knowledge for the self, it is still important that such a scientific work should be at least documented.

In Humanities and particularly Philosophy discipline, research refers to the pursuit, discovery and uncovering of truth. This is facilitated by means of data collection, studies, observation, organizing, comparison, evaluation/analysis, experimentation, drawing hypothesis, conclusion, e.t.c. It is worthy of note that research in philosophy is not very much interested in finding dogmatic answers to questions rather giving hermeneutical qualifications for answers. Hermeneutical qualifications here imply giving a robust analytical and critical appraisal of data as collected.

...Furthermore, a researcher in philosophy must arm oneself with clarity of purpose (research destination), relevance, literature, originality, argumentation, communication skills, accountability, credibility, objectivity, caution and ethical

consideration. By clarity of purpose, a researcher must describe the destination a research heads towards. A journey without a destination is an endless journey as the traveler may keep travelling and never to get to a defined destination. Thus a clear definition of a destination makes a journey a lot easier. In the same vain, a proper definition of research purpose makes research much easy.

Similarly, the research must be relevant to the contemporary society. Relevance here raises questions of importance and contributions of particular research to already existing knowledge. Irrelevant research makes no sense to anyone. Thus the choice of research topics should always be tailored to needs and topics capable of impacting knowledge or solving problems. This means that a research should be useful. Like the Biblical saying, ‘salt that isn’t useful, what is it for than to be thrown away and trodden upon’, hence irrelevant research has no use and it is good for nothing than to be thrown away and trodden upon.

Also, a good research must have a good repertoire of literature. A good mastery of related literature in the area of study/research shows a level of mastery by the researcher. More so a good repertoire of literature will give an assurance that the researcher has a gap in knowledge to fill. Also, it helps the researcher have a good understanding of what has been done earlier and what to contribute to knowledge from the research.

Originality can be defined as the quality of being new and interesting in a way that is different from anything that has existed before. Every research must be

capable of adding something new to knowledge. A researcher should be capable of originality and uniqueness, hence making his piece of work different from every other research outcome already in existence? Abel Ezeoha and Ike Elechi state without equivocation that, there is something in a current research, that is comparatively distinct, meaningfully applicable, and usable in extending knowledge and solving problems⁸. A research simply becomes new when new ideas, approaches, goals, scope, method, results are introduced in the course of research different from the existing conventional research outcome⁹. Even when the researcher is working on common topics, he ought to develop distinctive approach to the common areas of knowledge in order to be able to introduce something new to knowledge. A good scientific research is expected to be original both in idea and in factuality¹⁰. It is worthy of note here that a research carried out by a mercenary and submitted by a different student or researcher is not original. The result of the research might be new minding the quality of work by the mercenary, but the research is not original.

In as much as a researcher is expected to have a good repertoire of literature, a good research must be original. The research must be original beginning with the topic¹¹, approach, presentation, and documentation. Thus originality makes a research valuable and more relevant. Despite the volume of literature reviewed in the course of research, a researcher must show mastery in handling literature to make sense of what other authors have done and take a scholarly position.

Furthermore, a good research in philosophy must show clear, unambiguous and expertise in argumentation. Much unlike other fields/disciplines of study where one may just need to present reports of finding in research such as in medical diagnostic report and other fields, philosophy has no particular answer. Thus every researcher has his own answer and approach such that the level of acceptance of individual answer is gained by the level and power of sound argumentation.

Also, communication skill is a necessary requirement for a good research, presentation and documentation. A good communication skill makes research accessible and interesting to the public. Unfortunately poor communication skills kills research work, presentation and documentation as everyone loses interest on research content. This is because the content becomes vague, ambiguous, uninteresting, e.t.c. Thus the lack of adequate power of communication makes people engage in plagiarism as an escape route. It is interesting to note that there is no hiding place for a philosopher who cannot communicate well. The process of research work, presentation and documentation must be handled in simple, polite, unabusive, and unambiguous language.

In the same vein, a good research must be objective. The good research ought not to be influenced by personal feelings or opinions that are not truth. A research is objective when it is free from bias but follows logical exposition and

analysis of facts as they are. When a research is objective, original and relevant, then it will certainly be credible. A research is credible when it is believable and convincing enough. It can only be convincing when it is objective, original and relevant.

Also, there is need for ethical considerations and caution for a good research. Caution here implies carefulness or attentiveness to avoid derailing from the purpose and defined objectives of research. A good research must be ready to follow basic principles. These principles have to include prudence in the choice of words, acknowledgement of authority, guide against plagiarism, patience and doggedness to cover the scope of the research to avoid drawing conclusions from incomplete data/bias, e.t.c.

Research may be very broadly defined as systematic gathering of data and information and its analysis for advancement of knowledge in any subject.

Objectives/Purpose of Research

We made an interesting claim at the beginning stating that, curiosity and wonder gave birth to philosophy. Thus, the human mind has the instinct of inquisitiveness and wonders which prompts the human mind towards confronting the unknown. Therefore, it is the primary purpose of research to satisfy human curiosity and wonder leading to truth/knowledge for self-empowerment and societal development.

Nevertheless, each research has particular objectives/purpose set out by the researcher. These particular objectives may include;

1. Information gathering: this connotes the act of collection of data/information, discovery and exploration, e.t.c. Research offers opportunity to gain familiarity to unknown zones or information. It brings the researcher in contact with remote facts and unknown facts. By research, explorations are made and researchers gain more insights to strange facts, discover what is unknown and clarify what is known, e.t.c.
2. Familiarity is a great achievement and target in research. Thus research aims at describing relevant phenomenon or characteristics in order to communicate the unknown zones and familiarize others with unknown facts.
3. To provide support for the theoretical base of disciplines or the application of the theoretical base of disciplines. Thus a good research provides substantive explanation to support existing theories and their application.
4. Research provides evidence and describes relevant phenomenon and their relationship.
5. To engage other researchers and share knowledge to help the researcher asses oneself and assess others. Thus research is geared towards creating methods towards scientific assessment of knowledge.

6. Very importantly, every research provides a background and materials for further researchers to build on.

Characteristics of Good Research

Aristotle's categories make it easy to measure human experience qualitatively and quantitatively. Thus there is always a yardstick of measurement, hence everything good has to tally with goodness, tall must tally with tallness, beautiful must tally with beauty, e.t.c. There are yardsticks on which every research must tally in order to be true to its kind and qualify as research exercise. These yardsticks are what we refer as characteristics of research. These characteristics are common scientific grounds or criteria for research.

1. The purpose of study or research must be properly and clearly defined.
This is compared to stating a destination of research. It is obvious that a journey without a destination is endless, hence a research without clear stated purpose is baseless, meaningless, and endless. It is of high necessity that the researcher states from the onset the purpose or objective of the research.
2. Besides the purpose of research, the procedure or method of research must be clearly defined. This is to ensure the authenticity of the research and to prove its scientific status. By defining the research process or method, the researcher is being sincere to the research and encouraging others to make adequate assessment of the research either to prove it right

or counter the research leading to the advancement of knowledge. Also, it helps others to repeat the same at different times.

3. Alongside defining the research method, there is need for consistency of research method application to avoid ambiguity in data collection, analysis and presentation.
4. The scope of the research must be well defined. Relevant data must be collected while irrelevant data needn't be gathered; hence a good researcher knows how to access necessary information to maintain the route already defined by the purpose of the research. Thus a research must have a well defined scope of study.
5.The research must show originality, creativity and team spirit. The researcher must demonstrate readiness to learn from others and evidence of originality.
6. The research must be systematic or scientific; hence it has to follow scientific principles and process minding the different steps to good research, presentation or documentation beginning from the abstract, introduction to conclusion.
7. Part of originality in research is that the researcher must demonstrate sound argumentation and logical reasoning.
8. A good research contributes to knowledge. Thus, every research ought to be stepping stone for other researchers to make more improvement, uphold or deny the conclusions drawn therein.

9. Conclusions must be drawn from the analysis of data as collected during the research to avoid fallacy. Thus, the scope, information gathered and analysis must present adequate basis to merit the research conclusion.

Chapter 2

Research Methods/Methodology in Philosophy

Etymologically, the word Method is derived from the Greek word, “metodos” which is a combination of two Greek words, “meta” meaning ‘after’ and “odos” meaning ‘road’ or ‘way’. The word ‘after’ here serves as a preposition before a

noun which implies, ‘relating to, about something, in connection to, e.t.c. In this context, the ‘way’ or road’ as referred herein means a style, manner, course of action, procedure, technique, means, plan, system, mechanism, approach, modus operandi, strategy, scheme, e.t.c.

From etymological derivation, the word method simply means the “way after”. Also, it can be said to connote the strategy, plan, or technique about something. In this context, it refers to the plan, technique, strategy, e.t.c. as applied to research. Following Dominowski’s definition of research as a fact-finding activity¹², research method can be said to mean the strategy, plan, or technique of fact-finding activity. Similarly, following John Creswell’s definition of research as collection and analysis of information to increase our understanding of a topic or issue¹³, research method can be said to mean the process, strategy, plan, or technique of data collection and analysis of information to increase our understanding of a topic or issue.

Similarly, Methodology refers to a systematic and theoretical analysis of research methods in the course of research. The methodology of research include population or scope of study, sample techniques, process of data collection, instrument used and its reliability, method of data/information analysis, e.t.c. While research methods are interested in the techniques, strategies and tools employed by a researcher to complete a particular research, methodology refers to the systematic and theoretical approach to collect and

evaluate data throughout the research process. Thus the purpose of research methodology is to give assurance of credibility, reliability and validity of research methods as used in particular research. While research method is interested in research tools or techniques used in data/information gathering/collection, research methodology is interested in the justification for the research method employed.

The major objective of research method is to provide comprehensive information of research design, process, scope, equipment, materials, variables, e.t.c. as used in the process of research. Also, the major objective of research methodology is to test and ensure that the choice of research method produces the desired effect. Also, research methodology judges the accuracy and efficiency as chosen by the researcher for research topic and experiment. research method is concerned about finding solution to research problem while methodology is to ascertain the appropriateness of method applied in view to ascertain solutions.

expected that there is a systematic explanation of the particular research method employed during the process of research and the use of such methods in relation to the topic. Also, it is important the researcher demonstrates how the research method employed will facilitate the research leading to the desired goal and conclusions minding the research topic. However, in areas where research

method involves survey of chosen sample or ethnographic study, there is need to take cognizance of the following:

- geographical location
- age
- sex
- statistical measurement/analysis where necessary
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Types of Research Methods/Methods of Research.

Just as there are different types of research, there are different types of research methods. This book has defined research as a fact-finding activity¹⁴ and research methods as the style, strategy, plan, or technique of fact-finding activity. Types of research methods herein can be said to mean the **different** approaches or **different** research plans, style, manner, procedure, technique, means, plan, system, mechanism, modus operandi, strategy, scheme, e.t.c. used in the course of research.

The choice of particular style, procedure, strategy, plan, or technique is determined by the topic of research and desire of the researcher. it ought not to be an arbitrary choice rather choice by need. The need as defined is the particular style, or technique capable of articulating the research

questions/problems, addressing the research objectives, attending the scope of research, developing the conceptual and theoretical designs of research and most importantly resolving and leading all matters as raised into a successful and logical conclusion. Logical conclusion here refers to conclusion drawn from the different arguments as presented and thoughtfully defended by the researcher. This is typical of a vulcanizer who chooses a wrong spanner size while going for work. If a tyre needs size 16 spanner and he has sizes 12 or 18, definitely he cannot succeed rather fails to carry out his work to a successful conclusion/completion. Therefore, a wrong choice of research method already is a choice to fail in research activities.

Since failure in the choice of the right research method amounts to failure in research objectives, there is a clarion call and urgent need to pay particular attention to matters of research methods. Choosing right method is a good capacity and expression of competence in handling a research topic.

The following types of research methods are considered below:

1. Expository or Descriptive Research.

This type of research can simply be said to mean fact finding. To unveil, unmask, report, record taking, make clear, ... It is a form of quantitative research which entails general collection or gathering of data without

prejudice. It seeks to expose the chosen samples of study either to create more public awareness or as a first step to make facts known before textual criticism or analysis.

2. Hermeneutical Research.

This is the method of research that is mostly used in philosophy. It has its origin from the works of the German Philosopher Martin Heidegger, Hans-George Gadamer, e.t.c. It is derived from the Greek god, *Hermes*. In Greek mythology, *Hermes* is the messenger of the gods such that adequate understanding of the oracle of the gods is to discern the messenger of *Hermes*.

Hermeneutics implies entering into a dialogue between the worldview of the self and that of others.¹⁵ It is from this perspective of entering into dialogue between the world view of the self and the text or others that Gadamer uses the word, prejudice. Here prejudice simply means prejudgment made at the beginning of a dialogue. The reason of prejudice here implies that the act of hermeneutics is subjective in character¹⁶, hence the interpreting subjects act from preconceived judgments borne from experiences and other sub-structural factors.

Hermeneutical research is interested in critical analysis and interpretation of facts already exposed or described. It can be referred as analytical research because it is analytical in nature. It seeks towards drawing

critical assessment of facts as exposed with the tools of logic and critical reasoning.

Hermeneutical research is interested in conceptual clarifications, definitions and explanations.¹⁷

3. Quantitative Research.

Just as the name implies, quantitative research is interested in measurements of quantities as regards shapes, numbers, sizes, e.t.c. This method of research is experimental in nature. It is interested developing and employing mathematical models, theories, and hypothesis. Quantitative research technique emphasizes data collection and analysis of numeric data concentrating on measuring the scale, range and frequency of phenomena.¹⁸ The process of measurement is central in quantitative research technique because it provides the fundamental connection between empirical observation and mathematical expressions while drawing a logical relationship between both.

Quantitative research identifies, measures, and evaluates any phenomena, while providing rational explanation for them.¹⁹ It is expected that the result of the quantitative research should establish a rational, causal links or relationship between the variables evaluated in the course of the research.

Thus quantitative research has the following characteristics.

- Contains measurable variables.
- Research instruments can be used for measurements.
- Can be repeated according to the discretion of the researcher.

4. Qualitative Research.

Qualitative type or technique of research is highly concerned with subjective assessment of research topics following available data or information from which the researcher draws reasonable conclusions. Research from a qualitative perspective is concerned about the author's insights and impressions while generating a non-qualitative values or non-quantitative analysis.

Quite unlike the quantitative research, qualitative research deals with subjects that are not quantifiable in sizes, shapes and numbers. These subjects cannot be measured as in the case of quantitative research and as such they are not subject to quantitative analysis.

It aims at obtaining better understanding through firsthand experience, truthful reporting from conversations. It is interested in a focus group sample,

Also, it focuses on obtaining data through conversational communication, in-depth interview, focus group discussion and observation.

5. Ethnographic Research.

This is sometimes very particular to anthropological and cultural studies. This research technique applies qualitative methods of research in the attempt to observe and interact with sample participants in their real-life habitat. It is research that is interested in being-with the sample group and not in the laboratory. Also, it is interested in the social interaction of the sample group in their natural habitat. It involves direct observation, video recording, photograph, diary studies, artifacts analysis, e.t.c. This is very special because it offers the researcher opportunity to have a firsthand information. However, unlike usability test, ethnographic study is more expensive and demanding minding the details and instruments needed.

6. Phenomenological Research Method

Kant

This is another form of qualitative research method. It is subjective, humanistic and interpretative in nature.

According to Neville,

by its nature, phenomenological method assumes that the subject (people) would always influence the object (events) and act in unpredictable ways that could upset any constructed rules or identifiable norm-they are often actors on a human stage and

shape their performance according to a wide range of variables.²⁰

7. Fundamental Research

Fundamental research just to satisfy intellectual quest for knowledge. It is not tailored towards solving applied or practical needs but just to satisfy intellectual inquisitiveness.

8. Applied Research.

Means.....Just as the name implies, applied research is the type of research which is intended that knowledge gotten from research is to be applied in problem solving and influence policy making. It is designed to answer specific questions aimed at solving practical questions.

9. Conceptual Research

This type of research is interested in concept analysis to offer more understanding of concept include its derivative, application/use. Also, it offers opportunity to researchers to be more creative in developing dynamism of meanings on particular concepts and abstract ideas. Importantly, conceptual research makes effort towards redefining concepts as applied in particular conditions or research demand. Thus it identifies, defines and informs new ways, ideas and frameworks to guide thinking and actions.

10. Empirical Research.

Empirical research is interested in either practical observation of choice (sample) facts or laboratory experimentation.

11. Clinical or diagnostic Research.

This form of research is for medical purpose.

12. Historical Research.

13. Sample Research

This is particular case study.

Types:

Research Methods in Philosophy

No doubt, we have emphasized earlier that the choice of a particular style, procedure, strategy, plan, or technique is determined by the topic of research and desire of the researcher. It has been earlier emphasized that failure in the choice of the right research method amounts to failure in research objectives, hence there is urgent to pay attention to matters of research methods. Therefore, we claimed earlier that choosing right method is a good capacity and expression of competence in handling a research topic.

Philosophy applies the above stated methods in her research

Philosophy as the queen of all scholarship, is distinguished in its objectives and styles, hence has peculiar methods or approaches to its study. these perculier

methods; styles, techniques, et.c are applied to articulate adequately the research design, questions/problems, objectives, scope of study, conceptual and theoretical frameworks and effecting leading to logical conclusions. These methods include; speculative, Socratic, hermeneutical, phenomenological, positivists, cartesian, e.t.c.

Chapter 3

Notion of Research Documentation/Computation

(Requirements, features, tools,,,...)

In chapter one, the concept of research has been defined as the art of seeking thoroughly in order to discover knowledge. While Dominowski defines research as fact-finding activity²¹, Walliman refers to research as the activity prompted by our need to satisfy our curiosity and the need to make sense of the world around us²². Thus research documentation or computation here refers to the act of writing the facts discovered or the sense we make of the world around us. This involves a systematic or skillful documentation of the different stages of research, research problems, research development of both conceptual and theoretical frameworks, critical analysis of data as collected and the conclusions as following logical connections from the data analysis.

Research documentation is unavoidable in research if a researcher must spread his ideas further than among his circle of immediate acquaintances.²³

Philosophical questions are so complex that Watson opined that they can be advanced, understood, and examined only if they are printed as “stepwise arguments for study and contemplation at length and at leisure”.²⁴ Today’s academic career is heavily anchored and obviously reliant on publishing. It is interested in building a conspicuous high-quality publication record as an essential component of improving one’s academic credentials, visibility and viability.

Implies that an academic who ceases to write has begun to die. The academic ceases to die academically, ideologically, socially, psychologically, e.t.c. One ceases to die academically because the academic is cut off from the world pull of academic oxygen across the globe and all ideas are buried in him. Unfortunately, these ideas are so personal that they are not subjected to scientific verification and logical assessment. This form of verification and assessment only comes when ideas are in print and accessible to other academics. Such academic is socially cut off from ongoing scientific and philosophical debates such that all knowledge becomes subjective idea of the academic leading to academic stagnation and strand.

Clear communication of the findings of research is essential to the growth and development of science³ and professional practice. The culmination of the

publication process provides not only satisfaction for the researcher and protection of intellectual property, but also the important function of dissemination of research results, new ideas, and alternate thought; which ultimately facilitates scholarly discourse. In short, publication of scientific papers is one way to advance evidence-based practice in many disciplines, including sports physical therapy. Failure to publish important findings significantly diminishes the potential impact that those findings may have on clinical practice¹

Accurate and clear expression of your thoughts and research information should be the primary goal of scientific writing.¹² Remember that accuracy and clarity are even more important when trying to get complicated ideas across.²

Features and Skills of Research and Writing Philosophy Papers.

Features and skills here refer to those necessary requirements capable of making a professional philosophical paper. They are herein referred as necessary because they are needed in the attempt to adequately address a research topic from data collection, interpretation, and conclusion. these are factors that must

¹ Cook CBrismee JMCourtney CHancock MMay S. Publishing a scientific manuscript on manual therapy. J Man Manip Ther. 2009;17(3):141-147

Read: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3474301/>

² Eriksson PAltermann WCatuneanu O. Editorial: Some general advice for writing a scientific paper. J African Earth Sci. 2005;41:285-288

necessarily put the research in the right perspective and aid logical documentation.

Since Philosophy is an art, these skills showcase the creativity, mastery, intelligibility or meaningfulness and proper communication of research.

The long argument on the mutuality of language and thought is rightly manifest here.

These features and skills include; logic/argumentation, clarity, coherence, language, analysis,

Logic/Argumentation:

The word logic has a Greek derivative as *logiké* {λογική} which has its root from *logos* {λόγος}. Here *logike* means which means intellectual, dialectical, argumentative, possessed of reason, e.t.c. Similarly, *logos* means word, discourse, rule, thought, idea, argument, account, reason, or principle".²⁵ From this etymological derivative, Logic can be said to mean the science of correct reasoning. Thus logic is the method whoever want to reason correctly ought to follow. The implication of this definition is that the appraisal of reasoning is the subject matter of logic. According to Hegel, Logic is the form taken by the science of thinking in general²⁶. NO doubt human life is chiefly directed by correct reasoning²⁷ such that logic is indeed needful in life and existence.²⁸

Logic is indeed needful in life and existence²⁹ and as such undoubtedly indispensable.

Logic is primarily an epistemological tool and a pattern of thought manifest in everyday discourse and existence. Like Momoh claimed, a person is logical if he is reasonable, sensible, and intelligent; if he can unemotionally and critically evaluate evidence or situation while avoiding contradictions³⁰. Logic can be either formal or informal. Informal logic is interested in correct reasoning, right thinking, analysis, interpretation, criticism, e.t.c³¹. Formal logic is concerned with specialties and specialization in logic.

It can also be referred as Aristotelian, mathematical, artificial or critical logic. This is typical of western logic. The historical roots of logic go back to the work of Aristotle (384–322 BCE), whose syllogism was the standard account of the validity of arguments. The ancient times till 19th century witnessed a wide acceptance of Aristotelian logic such that logic was championed by the Aristotelian method as contained in the *Organon*. Philosophers and commentators after Aristotle grouped Aristotle's six logical treatises into a manual they called the *Organon* which is the Greek translation for "tool". Aristotelian *Organon* developed structure/rules of arguments and syllogisms, logical structure of propositions, difference between induction and

deduction, the nature of scientific knowledge, basic fallacies, debate techniques, to mention but a few³².

The *Organon* comprises the following works of Aristotle:

1. *Categories*,
2. *On Interpretation*,
3. *Prior Analytics*,
4. *Posterior Analytics*,
5. the *Topics*,
6. *On Sophistical Refutations*.

The etymological derivations of logic put together appropriately define logic as the principles of correct reasoning. Also, following the etymological definitions, logic can be said to be a reasoned discourse, a rational science or the science of reason³³. It is the method whoever wants to reason or argue correctly ought to follow but it's not within the scope of logic to lure people into following these principles. It is the study of the processes of reason, in order that man may know the truth with order, easily and without errors³⁴. Hence Frege states that it is the task of logic to discover the laws of truth.³⁵ Uduma adds, 'these laws of

thought must be laws of correct reasoning³⁶ such that appraisal of reasoning becomes the subject matter of logic.

According to Alfred Tarski, logic is the name of a discipline which analyzes the meaning of the concepts common to all the science and establishes the general laws governing the concepts³⁷. For Hegel, logic is the form taken by the science of thinking in general³⁸. The subject matter of logic is argument such that logic is indispensable to human existence. Quoting Spencer, Uduoma maintained that while birds can fly, only human beings can argue. Hence, argument for him, is the affirmation of our being. Like Spencer, he affirmed that human life is directed by argumentation³⁹. It is the disposition to fundamental ordered action. Thus it is the necessary condition for order and intelligibility in reality. Therefore, we boldly emphasize here that, human thought process, actions and inactions are by products of human reasoned private arguments and judgements. Logic is indeed needful in life and existence.⁴⁰

Therefore, it is obvious that human life becomes wild and strange when one loses this essential and distinguishing element of being human. Even the Christians recognize that in creation, God made man different from animals just by the gift of reason. While he gave mere instinct to the lower animals, he gave reason to man. Little wonder when one acts without reason, he can be said to be inhuman. Thus in such situation, one may be said to have lost the quintessence of humanness. Uduigwomen sees logic as the science which “helps us to weigh

the merits and demerits of an action or decision before we venture into it, and hence enables us to take a balanced action or decision. Instead of engaging in endless controversies of trivial matters, it enables us to sift the evidence before us”⁴¹.

Reasoning is the final stage of the operation of the mind. Here, two judgments are compared with a view to deducting a new one which was not known before and is equally implicitly contained in them. Reasoning is the movement of thought through which, from the comparison between some judgments, a new judgment is made.

Generally logic arose from a concern with correctness of argumentation⁴². Logic was studied in very many of the cities of ancient civilization such as India, China, Persia, Greece e.t.c. Thus in the West, logic as a formal discipline in philosophy was established by Aristotle while in the east, it was developed by Buddhists⁴³. Modern logicians insist that logic studies only those arguments that arise from appropriately general forms of inference. Hence “it deals with inferences whose validity can be traced back to the formal features of the representations that are involved in that inference such as linguistic, mental or representational features”⁴⁴

In fact, logic is one of the three theoretical legs that mathematics stands on. (The other two are set theory and number theory).

Logic and mathematics, we have stressed, work so well together because they're both independent from reality and because they're tools that are used to help people make sense of the world. For example, reality may contain three oranges or four bananas, but the ideas of *three* and *four* are abstractions, even though they're abstractions that most people take for granted. Mathematics is made completely of such abstractions. When these abstractions get complicated - at the level of algebra, calculus, and beyond - logic can be called on to help bring order to their complexities.⁴⁵

Truthfulness

No doubt truthfulness is an essential feature of research and writing skill. A scientific research or documentation should be worked with open mindedness no prejudice or diversion from objectivity in expressing the truth.⁴⁶

The concept of truth is the property of being in accord with fact or reality.

it refers to verified or indisputable fact, proposition, principle, obvious or acceptable.

the property of sentences, assertions, beliefs, thoughts, or propositions that are said, in ordinary discourse, to agree with the facts or to state what is the case.

Correspondence

This class of theories holds that the truth or the falsity of a representation is determined in principle entirely by how it relates to "things" by whether it accurately describes those "things". A classic example of correspondence theory is the statement by the thirteenth century philosopher and theologian Thomas Aquinas: "Veritas est adaequatio rei et intellectus" ("Truth is the adequation of things and intellect"),⁴⁷

Coherence

It is a traditional model tracing its origins to ancient Greek philosophers such as Socrates, Plato, and Aristotle.^[15]

For coherence theories in general, truth requires a proper fit of elements within a whole system. Very often, though, coherence is taken to imply something more than simple logical consistency; often there is a demand that the propositions in a coherent system lend mutual inferential support to each other.

primarily a property of whole systems of propositions, and can be ascribed to individual propositions only according to their coherence with the whole.

refers to the quality of being logical and consistent. This is a necessary feature and skill in writing to gain interconnectedness in order to assist readers make sense from our research as documented. it is a literary technique which refers to

logical connections which listeners and readers perceive in an oral or written text.

However, professionally, coherence herein is directed to an aspect of theory of truth. This theory bases the truth of a belief on the degree to which it coheres with all the other beliefs in system of belief. In analytic philosophy, a truth of a proposition depends heavily on its agreement with some larger set of propositions. It is sometimes referred as the consistency theory. This is because a propositions coheres with truth if and only if it is consistent both with its parts and other bodies of knowledge. Thus an idea is true when it fits logically into a larger and more complex system of beliefs without contradicting anything.

A statement is meaningful if it is coherent with other bodies of meaning. The implication is that the feature of coherence bestows truth, meaning, and reasonableness on a philosophical writing⁴⁸. IT goes to saying that a work is coheren when its parts are logically and orderly consistent and related.⁴⁹

pragmatic

The three most influential forms of the *pragmatic theory of truth* were introduced around the turn of the 20th century by Charles Sanders Peirce, William James, and John Dewey. Although there are wide differences in

viewpoint among these and other proponents of pragmatic theory, they hold in common that truth is verified and confirmed by the results of putting one's concepts into practice.[27]

performative

Attributed to P. F. Strawson is the performative theory of truth which holds that to say "'Snow is white' is true" is to perform the speech act of signaling one's agreement with the claim that snow is white (much like nodding one's head in agreement). The idea that some statements are more actions than communicative statements is not as odd as it may seem. Consider, for example, that when the wedding couple say "I do" at the appropriate time in a wedding, they are performing the act of taking the other to be their lawful wedded spouse. They are not *describing* themselves as taking the other, but actually *doing* so (perhaps the most thorough analysis of such "illocutionary acts" is J. L. Austin, "How to Do Things With Words"[40]).⁵⁰

According to the redundancy theory of truth, asserting that a statement is true is completely equivalent to asserting the statement itself. For example, making the assertion that "'Snow is white' is true" is equivalent to asserting "Snow is white". Redundancy theorists infer from this premise that truth is a redundant concept; that is, it is merely a word that is traditionally used in conversation or writing, generally for emphasis, but not a word that actually equates to anything

in reality. This theory is commonly attributed to Frank P. Ramsey, who held that the use of words like *fact* and *truth* was nothing but a roundabout way of asserting a proposition, and that treating these words as separate problems in isolation from judgment was merely a "linguistic muddle".[8][42][43]⁵¹

Language.

“say nothing except what can be said....”⁵²

Language is an inescapable method and instrument of thought expression. Thus our pattern of thought process, logical analysis and argumentation are unknown if not by the tool of language. The mastery of language is therefore, an unavoidable and necessary condition for a good research and documentation process.

Language is a necessity for in the pursuit of philosophy and meaning in order to express ideas, thoughts, experiences, construct concepts, reveal connections of ideas and events, e.t.c.

A good research pays much attention to the use of language in order to express one means and mean what one expresses. Quite unfortunate is that most students have very poor power of expression which makes the art of writing very difficult as such students are unable to communicate their ideas.

Avoid vague terminology and too much prose. Use short rather than long sentences. If jargon has to be utilized keep it to a minimum and explain the terms you do use clearly.³

Write with a measure of formality, using scientific language and avoiding conjunctions, slang, and discipline or regionally specific nomenclature or terms (e.g. exercise nicknames). For example, replace the term “Monster walks” with “closed-chain hip abduction with elastic resistance around the thighs”. You may later refer to the exercise as “also known as Monster walks” if you desire.

Avoid first person language and instead write using third person language. Some journals do not ascribe to this requirement, and allow first person references, however, IJSPT prefers use of third person. For example, replace “We determined that...” with “The authors determined that....”.

For novice writers, it is really helpful to seek a reading mentor that will help you pre-read your submission. Problems such as improper use of grammar, tense, and spelling are often a cause of rejection by reviewers. Despite the content of the study these easily fixed errors suggest that the authors created the manuscript with less thought leading reviewers to think that the manuscript may also potentially have erroneous findings as well. A review from a second set of trained eyes will often catch these errors missed by the original authors. If English is not your first language, the editorial staff at IJSPT suggests that you

³ Scientific writing 101. Editorial. Nature Structural Molecular Bio. 2010;17(2):139

consult with someone with the relevant expertise to give you guidance on English writing conventions, verb tense, and grammar. Excellent writing in English is hard, even for those of us for whom it is our first language!⁴

Make your writing accessible by using clear language. Writing that is easy to read, is easier to understand too.

You may want to write for a global audience – to have your research reach the widest readership. Make sure you write in a way that will be understood by any reader regardless of their field or whether English is their first language.

Write your journal article with confidence, to give your reader certainty in your research. Make sure that you've described your methodology and approach; whilst it may seem obvious to you, it may not to your reader. And don't forget to explain acronyms when they first appear.

Manuscript language: paragraphs

- Have one paragraph for each distinct topic.
- Begin a paragraph with a topic sentence, and end in conformity with the beginning.
- Avoid a succession of loose sentences.
- Parallel structures are simpler to parse as a reader. Retain consistent tenses within each

⁴ Kallet RH. How to write the methods section of a research paper. *Respir Care*. 2004;49:1229-1232

paragraph.

- Provide a logical transition from one paragraph to another to render a clear flow, thus guiding the reader from one topic to another.

- Paragraphs are similarly constructed to sentences, bringing the reader from the "familiar" at the start to new ideas towards the end.

- Fill logical holes empathizing with a smart reader who genuinely wants to understand the flow of ideas.

Manuscript language: grammar

UUsee tthhee aaccttiivvee vvooiicce ttoo sshhoorrtteenn sseenntteenncceess..

The passive voice can be used in the Methods section of a paper but otherwise, the active

voice will usually shorten sentences and make them more dynamic and interesting for the reader.

Use the active phrase "

we found that..." freely, which is a quick signal to the reader that you are

describing one of your results. This expression is also much more concise and to the point than

writing in the passive voice, as in, for example, "

it has been found that there had been... "

Manuscript language: tenses

Take care to use the proper tenses when describing your work and findings.

Being consistent

and correct in your use of tenses makes your paper easier to understand.

PPreesseenntt tteennssee::

Use the present tense for known facts and hypotheses, for example, "

the average life of a

honey bee IS 6 weeks... "

PPaasstt tteennssee::

Use the past tense for describing experiments that have been conducted and the results of

these experiments, for example "

The average life span of bees in our contained environment

WAS 8 weeks..."

RReemmemmbbeerr::

Avoid shifting tenses within a unit of text: paragraph, sub-section or section.

Do publishers correct language?

NNoo;; iitt iiss ttthee aaautthhoorr"ss rreessppoonnssiibbiilliitty..... bbuutt
rreessoouurrceess aarree aavvaaiillaabbllee..

Often authors assume that the publisher will correct the language of their
manuscript

after it has been accepted, but this assumption is not correct. It is actually the
author's

responsibility to make sure a paper is in the best form possible.

Doing so means correcting the rudimentary issues related to grammar and
spelling, as

well as providing a clear, logical, and connected story-line.

Though publishers do not correct language, they do often provide resources for
authors who are less familiar with the conventions of international journals.

Please

check your publisher's Guide for Authors website for more information.

Some publishers may also perform technical screening prior to peer review. If
the

quality of the language of your paper does not meet a journal's minimum
standards, it

can be returned to you for improvement.

How to Write Latin Names of Species

Binomial Nomenclature

The Latin names for individual species are written using a system termed

"binomial

nomenclature" that was developed originally by Linnaeus. Quite literally, each species is

identified by a combination of "two names": its genus name and its specific epithet. A familiar

example is that of human beings, *Homo sapiens*. Usually the Latin name is followed by the last

name of the person who first gave the name to the species in non-italicized text.

Simple Rules for Writing Latin Names in Papers

Here are some simple rules to follow when writing Latin names in your paper:

- The full name (e.g., *Homo sapiens*) should be written out in the Title, the first time it is

used in the Abstract, and the first time it is used in the body of the paper.

Thereafter

the name should be abbreviated as the first letter of the genus name (capitalized)

and

the complete specific epithet (e.g., *H. sapiens*)

- The genus name is ALWAYS capitalized (e.g., *Homo*)
- The specific epithet is NEVER capitalized (e.g., *sapiens*)

- The entire name is always italicized in print (*Homo sapiens*); if italics are not possible,

the alternative is to underline both names.

- If the name of the person who named the species is available, use it.

(*Homo sapiens* Linnaeus; *Rana catesbeiana* Shaw, etc)

Use of common names for species

Most species that we encounter routinely are also given a common name which is usually

somewhat less cumbersome than the Latin name. If you need to mention the species name

many times in your paper you may find it better to use the common name. A problem with

common names is that a species which has a wide geographic range may be called by different

common names depending on where you are. Further, some species may have different

common names depending on their particular stage of life or size.

- You may use the common name in a paper so long as the Latin name is given with it

initially (e.g., in Title, Abstract, and first mention in Introduction) and you clarify which

common name you are using for that species.

- When in doubt, use the Latin name.⁵

Undeniably, language is the vehicle of thought. Language is a tool of reason. In the words of Akwanya, language creates reality⁵³ and representation of thought is the most important function of language⁵⁴. Language gives us access to the experiences and insights of our fellow men.⁵⁵ Hence to a great extent, to know and master a language implies knowledge of the rules of logic in that language. It follows then that the connection between language and thought is profound. The connection between language and thought is typical of African language and thought process. It is quite obvious that African language is the repository of African thought and logic so much so that to understand African logic, one needs to understand African language.

According to Hegel, the subject matter of logic is “thinking or more specifically conceptual thinking.”⁵⁶ This form of thought is stored in human language. Hence the primary task of logic is to articulate those intelligible “categories” presupposed by and at work in the use of language.⁵⁷ The majority of our everyday life involves the use of language. We tell our ideas to others with language; we access their responses and understand their meanings with

5

language⁵⁸. Even when we soliloquize, we process the information and make logical conclusions in particular language. Hence our rational thinking unavoidably is meaningless without certain degree of the use of language⁵⁹

Experts like Wittgenstein bemoaned the ordeal of private language thereby proving that language is a community property and a shared meaning in an environment. We emphasize here that every language belongs to a culture and every culture belongs to a people. In the words of Uduma, we claim here that ‘the cultural experiences of a people cannot be meaningful unless they are organized or co-ordinated in language, an activity which itself presupposes a logical ability, logic and language are fundamental or central to organizing reality and thus a characteristic of all human societies’⁶⁰. We affirm here that there cannot be a society without language or proper mode of communication.

The dependence between language and thought serves for better relation between logic and language. For Uduma, “thought is prior to language; but thought can make no progress without embodying itself in language.”⁶¹ By this relationship Uduma, rightly posited that there is a two-sided or reciprocal dependence between language and thought.

It should be noted at this point that logic makes language possible, language expresses culture, and since culture presupposes the existence of logic, logic is central in any culture. It is in language, we realize the true meaning of logic. The Greek etymological derivation of logic from *logos*, which means word or

reason, bears testimony to the inseparable relationship between logic and language⁶². Hence we can say that thought is prior to language; but thought can make no progress without embodying itself in language.⁶³

Commenting on this form of relationship, Ogun states;

language gives us the scheme of our ways of thinking; and thought remains the common background on which persons meet in the bid to have common and mutual understanding. Although language gives thought a cloak, that means it canalizes it, we need not conclude that without language, thoughts are not meaningful. Thoughts are meaningful in private minds, but we need language which is a social product in conveying our thoughts; and as such too logic to ensure that the meaning of our thoughts is not lost; and avoid our language being a hindrance to our getting at the real meaning of what is said as language can be the source of confusion or misunderstanding by fixing our emotions or even enrobing our tradition therein⁶⁴.

Logic considers language as a primary instrument of thinking and reason. Hence logic labours on the process of right reasoning through the help of language as environmentally created. Hence it is in language that the thinking mind does the

thinking, describes, organizes e.t.c. Man's capacity of language not only sets him apart from other animals, it also confers on him logical ability because human language makes human thought and conduct possible.⁶⁵ It is worthy of note here that the logic of a people is not only discernable but discoverable in their language; that is why it is related to their metaphysics and ontology⁶⁶. It becomes obvious claiming that logic would have no content and form without language, and that language will be a dream, quite impossible without logic.

For Mellone, language forms the logical structures of thought. Language provides even a growing mind with the outline of thinking pattern as socially or culturally inherited⁶⁷. Thus here language provides both the framework for thought and manifest means of communicating thought. In the words of Uduma, 'in logic, we are interested in words only as the visible and audible forms in which thought fixes and controls its own meaning'.⁶⁸

We have tried to show in a glance here, a symbiotic relationship between logic, language and thought. It is irrevocably proven that logic makes language possible while language is an expression of logical thought(s). Also, we state here, without equivocation that language is the vehicle of culture. Culture finds perfect expression in the language of the cultural group. Therefore, we make bold to claim at this point that if Africa has her own culture expressed in language and thought pattern, it would be fallacious denying her an African Logic.

Chapter 4

Types /Forms of Philosophy Papers

Forms or types of philosophy papers imply the different patterns of writing philosophy papers. It shows the different classes, groups or categories of philosophy papers. These categories include; journal article, review paper, summary paper, term paper, seminar paper, conference and workshop report/paper, concept, proposal and actual paper, BA long Essay, MA Dissertation, PhD thesis, text book, class notes, e.t.c.

Review Paper.

Review as the name implies means “to view again”, “to reconsider a matter/idea”, “to look again”, “to critique”, “to examine a paper”, e.t.c. Review entails a critical ability to reconsider an idea therein considering the topic, content, presentation, purposefulness and usefulness of idea or material for review. Review is interested in a good understanding of review material, strength and weaknesses of arguments as presented.

This rational enquiry can be done for particular idea, term paper, seminar paper, conference and workshop report paper, BA long Essay, MA Dissertation, PhD thesis, text book, class notes, e.t.c. Thus the documentation of review

work is referred as review paper. This means the product of review as documented by the reviewer.

A good review work and the subsequent documentation as review paper is expected to be a dispassionate presentation. It is dispassionate because it is expected to be free from sentimental bias but dispassionate reasonable approach to the review material. This implies that review work is enhanced by dispassionate, clear and honest representation of positions or ideas in a review material. Bias offers surplus meanings not implied in review materials, hence bias is a failure factor to review project.

The factor of bias is a strong enemy to review paper. It unavoidably leads a reviewer to the fallacy of straw man which is a bias presentation of an idea as a lee way for criticism. It is analogous to shifting the goal post when the opponent is about to score a goal. It defeats academic enterprise and renders one's review paper nonfactual.

Review as a form of research paper is a ground foundation towards safeguarding the quality and integrity of scientific or academic research. It is designed to assess the validity, quality and originality of articles either before or after publication. It helps to improve the quality and integrity of research, hence filters away poor research contents either for improvement on the author or exclusion from publication especially in cases where the author is not ready to make the corrections as duely required. Thorough review creates greater

visibility of journals and authors. It is a way of improving authors' research capacity.

Review can be **random** or **peer review**. It is random review when the review material is given out for review without discretion or interest in the reviewers' area of specialization. This is not the best approach to review because there is always doubt on the critical ability of the reviewer since he/she is not a professional as regards the topic for review. An example of this situation is when a philosophy paper is given to a professor of medicine to review. In as much as it is well known that such reviewer is public academic, his specialization betrays the confidence on his output.

Peer review creates opportunity for review materials to be given a critical appraisal by scholars of the same area of specialization with the authors of review material. It is referred as peer review because it is assigned to reviewers who share the **same area of specialization** with the authors or review materials are given to reviewers in the same field, profession, e.t.c. Where the reviewers are two and they are unknown to each other, it is referred as a **double blind peer review**. In cases where the reviewers are more than two persons known to one another, it is referred as multiple blind peer review.

The step by step or stages of review paper are as follows:

1. Review invitation. When there is a letter of invitation to peer review some materials, there is need for urgent reply to such invitations and indicate one's availability to such request. However, when the review is one's choice then there is need to determine or model the topic of the review minding the interest of the reviewer.
2. The response to the review invitation is accompanied by a request for review structure or format, journal specific guidelines or requirements in the interest of the applicant. This format can either be formal or informal. It is informal when the applicant leaves the reviewer to apply format at his discretion. In this case, review work is only interested in making an analysis of merits and demerits as presented in the material for review. It is formal when the review is asked to address specific questions as concern the review material/manuscript through the use of questionnaire or rating review material/manuscript through the use of scorecard⁶.
3. Skim-reading is the first read-through experience of a reviewer. This exercise helps the reviewer form an opinion or registration an impression about the review material.
4. Ethical considerations: editors should mediate all exchanges between authors and peer reviewers during the review process. There ought not to be direct interface between authors and reviewers. This is to remove bias

⁶ Wiley Publication Ethics, (2014) "Best Practice Guidelines on Research Integrity and Publishing Ethics" <https://authorservices.wiley.com/ethics-guidelines/index.html> accessed on May 20, 2022.

among reviewers in the process of review. Thus knowledge of an author will create prejudice in the reviewers. Even when the reviewer could guess the author, it is recommended that he/she does the review without reference to the person on the author but the information provided in the material. Also, in situations where there are more than one reviewer, double blind peer review is recommended to enable dispassionate assessment of review material.

- Authors are allowed the opportunity to appeal editorial decisions after the review. This creates opportunity for reconsideration of review process.
- Reviewer ought not to produce information or any part of the manuscript under review.
- Reviewer ought not to use insulting, hostile or defamatory language.

A good review paper must be very thorough in delineating the strength and merits of review material and at same time capable of pointing out the strength and weaknesses of same review material. These merits/strengths and weaknesses ought to take cognizance of the following:

1. Topic: to what extent does the topic well captioned to articulate the intended meaning to the readers/audience. Does the topic capture the objectives; does it address a philosophical problem; is it researchable; is it

relevant minding societal needs/usefulness of topic; does it contribute to learning; how original is the topic? e.t.c

The title of the review should include the book title or article title, name of author(s), e.t.c.

2. Objective of study: Does the review material address the set objectives as ought to be defined from the onset. Here is interested in the main question the research set to address.
3. Scope: Does the review material able to address the scope as defined by the topic and specified in the introductory parts of the material. Does the review material capable of remaining focused in the tracks/scope as defined or are there unnecessary digressions? Does the material capable of developing the theoretical framework as the topic defined? Similarly, while commenting, the reviewer ought to be sure that their remarks stay within the scope of the paper not veering subjects.
4. Literature: A good review ought to reconsider how *ad rem* the choice of literature is minding the topic as presented by review material. Does the literature choice focus on the topic? How robust is the literature minding available literature in the area of study? How recent is the literature to ensure usefulness of material?
5. Language: the review ought to measure the language of the material for review. Does the language and choice of words philosophical minding the

scope of material for review? Here the communication skills are measured to determine how good in language use as obvious in review material.

The review ought to determine the clarity of thought as presented and well expressive meanings are presented.

6. Arguments: a good review ought to measure the validity and soundness of arguments as presented by review material.
7. Conclusions: does the material capable of arriving at a reasonable conclusion following the arguments as presented. This raises further questions whether the material under review draws its conclusion as a logical follow up from the premises as argued in the material.

A good review paper ought to be capable of presenting the challenges or difficulties as regards the review materials' positions academically. It should be ready to offer further explanations and analysis to make matters clearer than it appears in the review materials. From these engagements, a good review ought to provide alternative points of view where this becomes necessary.

A good review plays very important role towards identifying potential questionable practices in the academic research such as plagiarism, duplicate publication, image manipulations, unethical research, bias reporting, authorship abuse, data fabrication, e.t.c.

Summary Paper

This is another form of review paper though in a lower order. Summary paper is not really regarded as academic paper in most situations. This is because a summary paper is a form of concise representation of an academic presentation, article, book, e.t.c. It can be said to mean the shortened version of an original text which focuses mainly on ‘the need to know’ information about the original text. This is regarded as academic paper and publishable when it takes the rigors and form of academic review paper.

Here the author’s primary assignment is to discover the summary material’s or text’s thesis and main ideas. These ideas or thesis are broken into sections for better understanding. One finds the connecting lines of the background of the text to the primary thesis and main ideas⁷.

A research summary is a type of paper designed to provide a brief overview of a given study - typically, an article from a peer-reviewed academic journal. It is a frequent type of task encountered in US colleges and universities, both in humanitarian and exact sciences, which is due to how important it is to teach students to properly interact with and interpret scientific literature and in particular, academic papers, which are the key way through which new ideas, theories, and evidence are presented to experts in many fields of knowledge. A research summary typically preserves the structure/sections of the article it focuses on.

⁷ Murray D. (2022) “The Writing Process: Guidelines for Writing a Summary”, (New York: Hunter College)

When you write a summary, you are demonstrating your understanding of the text and communicating it to your reader.

How do the details connect back to the thesis and main ideas? Remember, a summary

is a shortened version of the original text. You'll need to focus on the need-to-know information.

Condense the text, but beware of misrepresenting the author's ideas. Sometimes

Your analysis of the text is important, but it does not belong in a summary. Remember,

a summary is a condensed form of the author's ideas and intent. Save your opinions of the text for a discussion.

To summarize is to condense a text to its main points and to do so in your own words. To include every detail is neither necessary nor desirable. Instead, you should extract only those elements that you think are most important—the main idea (or thesis) and its essential supporting points, which in the original passage may have been interwoven with less important material.

Many students make the mistake of confusing summary with analysis. They are not the same thing. An analysis is a discussion of ideas, techniques, and/or meaning in a text. A summary, on the other hand, does not require you to critique or respond to the ideas in a text. When you analyze a piece of writing, you generally summarize the contents briefly in order to establish for the reader the ideas that your essay will then go on to analyze, but a summary is not a substitute for the analysis itself.

If you are writing a literature paper, for example, your teacher probably does not want you to simply write a plot summary. You may include some very brief summary within a literature paper, but only as much as necessary to make your own interpretation, your thesis, clear.

It is important to remember that a summary is not an outline or synopsis of the points that the author makes in the order that the author gives them. Instead, a summary is a distillation of the ideas or argument of the text. It is a reconstruction of the major point or points of development of a text, beginning with the thesis or main idea, followed by the points or details that support or elaborate on that idea.

If a text is organized in a linear fashion, you may be able to write a summary simply by paraphrasing the major points from the beginning of the text to the end. However, you should not assume that this will always be the case. Not all

writers use such a straightforward structure. They may not state the thesis or main idea immediately at the beginning, but rather build up to it slowly, and they may introduce a point of development in one place and then return to it later in the text.

However, for the sake of clarity, a summary should present the author's points in a straightforward structure. In order to write a good summary, you may have to gather minor points or components of an argument from different places in the text in order to summarize the text in an organized way. A point made in the beginning of an essay and then one made toward the end may need to be grouped together in your summary to concisely convey the argument that the author is making. In the end, you will have read, digested, and reconstructed the text in a shorter, more concise form.

WHEN AND HOW TO SUMMARIZE

There are many instances in which you will have to write a summary. You may be assigned to write a one or two page summary of an article or reading, or you may be asked to include a brief summary of a text as part of a response paper or critique. Also, you may write summaries of articles as part of the note-taking and planning process for a research paper, and you may want to include these summaries, or at least parts of them, in your paper. The writer of a research paper is especially dependent upon summary as a means of referring to source

materials. Through the use of summary in a research paper, you can condense a broad range of information, and you can present and explain the relevance of a number of sources all dealing with the same subject.

You may also summarize your own paper in an introduction in order to present a brief overview of the ideas you will discuss throughout the rest of the paper.

Depending on the length and complexity of the original text as well as your purpose in using summary, a summary can be relatively brief—a short paragraph or even a single sentence—or quite lengthy—several paragraphs or even an entire paper.

QUALITIES OF A SUMMARY

A good summary should be **comprehensive, concise, coherent,** and **independent.** These qualities are explained below:

- **A summary must be comprehensive:** You should isolate all the important points in the original passage and note them down in a list. Review all the ideas on your list, and include in your summary all the ones that are indispensable to the author's development of her/his thesis or main idea.
- **A summary must be concise:** Eliminate repetitions in your list, even if the author restates the same points. Your summary should be considerably shorter than the source. You are hoping to create an

overview; therefore, you need not include every repetition of a point or every supporting detail.

- **A summary must be coherent:** It should make sense as a piece of writing in its own right; it should not merely be taken directly from your list of notes or sound like a disjointed collection of points.
- **A summary must be independent:** You are not being asked to imitate the author of the text you are writing about. On the contrary, you are expected to maintain your own voice throughout the summary. Don't simply quote the author; instead use your own words to express your understanding of what you have read. After all, your summary is based on your interpretation of the writer's points or ideas. However, you should be careful not to create any misrepresentation or distortion by introducing comments or criticisms of your own.

TWO TECHNIQUES FOR WRITING SUMMARIES

Summarizing Shorter Texts (ten pages or fewer)

- Write a one-sentence summary of each paragraph.
- Formulate a single sentence that summarizes the whole text.
- Write a paragraph (or more): begin with the overall summary sentence and follow it with the paragraph summary sentences.

- Rearrange and rewrite the paragraph to make it clear and concise, to eliminate repetition and relatively minor points, and to provide transitions. The final version should be a complete, unified, and coherent.

Summarizing Longer Texts (more than ten pages)

- Outline the text. Break it down into its major sections—groups of paragraphs focused on a common topic—and list the main supporting points for each section.
 - Write a one or two sentence summary of each section.
 - Formulate a single sentence to summarize the whole text, looking at the author's thesis or topic sentences as a guide.
 - Write a paragraph (or more): begin with the overall summary sentence and follow it with the section summary sentences.
 - Rewrite and rearrange your paragraph(s) as needed to make your writing clear and concise, to eliminate relatively minor or repetitious points, and to provide transitions. Make sure your summary includes all the major supporting points of each idea. The final version should be a complete, unified, and coherent.
-
- Find an article needed to be summarized.
 - Note the author(s) of this article and its title.

- Read this article.
- Find the main idea of an article.
- Outline key points that support an idea of a discussed article.
- Start a summary with an introductory sentence about an article by mentioning the name and surname of the author (s), including the title.
- Write about the main message in the article made by the author(s).
- Cover supporting points found in the article.
- Include relevant details to the topic used by the author(s).
- Conclude with a final sentence that covers the main idea of an article.

Journal Article/Paper

The earlier chapter on the notion of research documentation or writing argued that today's academic career is heavily anchored and obviously reliant on publishing. No doubt, academic career today is interested in building a conspicuous high-quality publication record as an essential component of improving one's academic credentials, visibility and viability.

Among very many other forms of publications, journal articles/papers are very important that one who is interested in pursuing high quality academic career

cannot do away with journal paper publications⁸. A journal is a printed academic periodical which includes peer reviewed articles, review reports, e.t.c. This is published monthly, bi-monthly, quarterly, annually, e.t.c. It contains articles, review reports such as book review or other review materials, e.t.c.

It should be noted that authors ought to seek for reputable and high visibility/impact factor journals for publication. Unfortunately, there are predatory journals online and very many sub standard journal publications. Thus a good author ought to know which journals to publish what article. It is always preferable to publish with known journals which has high impact factor. These days many Nigerian Universities place emphasis on ranked journals for promotion in local universities. Nevertheless, some of these ranked journals such as Scimago, scopus, Thompson Reuters, Ajol, e.t.c. are foreign online journals whose academic quality some times are not much better than some of the available local peer review or professional association journals.

Thus the interest here is about journal articles/papers. Journal article refers to well researched academic paper which under goes thorough peer-review among professionals scholars and gains acceptance fit for publication⁹. A typical journal research paper has the following divisions: title, abstract, introduction, methods, conceptual and theoretical frameworks, results/findings,

⁸ Barbara J. Hoogenboom, "How to Write a Scientific Article", *International Journal of Sports and Physical Therapy*. 2012 Oct; 7(5): 512–517.

⁹ Nahata MC. Tips for writing and publishing an article. *Ann Pharmacol*. 2008;42:273-277

discussion/analysis, conclusion, e.t.c. The detailed discussion on these parts of journal article will be discussed in subsequent chapters.

Conference Paper

A conference paper is a form of research paper that takes similar format with journal papers but with some differences. A conference paper is a research document which is prepared to be presented in a conference while conference is a formal gathering of scholars aimed at robust academic engagements, discussion, argumentations, clarifications, generating innovative ideas, e.t.c. Thus a conference paper is arms participants to a conference for academic engagement during the conference. During the conference, a conference paper encounters many eminent scholars/peers who are very knowledgeable in the field of study.

At least an abstract of a conference paper and possibly a full developed paper need to be submitted much earlier before scheduled conference which will be reviewed by th panel of scholars. Such abstracts or full papers when accepted the author is qualified for conference presentation and hence invited to the conference.

The presentation of such papers is guided by a moderator within a specified time frame. Details on the method of presentation will be discussed in later

chapter for research presentations. However, the team of scholars is expected to digest, review and refine such presentations.

Being a presentation to a group of scholars on a face-to-face presentation, a conference paper ought to be highly constructive creating enough room for dialogue and discussion while the author needs to develop intellectual tolerance, listening skills and humility during the interactive session when the paper is to be analyzed by peers. The author should be ready to face criticisms and comments both constructive and destructive criticisms. Unlike conference papers, journal publications do not need face-to-face engagement like conference papers though in itself should be highly engaging.

At the end of particular sessions, conference papers are collected and published as “conference proceedings”. Such proceedings are collected and printed by the conference organizers which may be a university, research institute, Public or private organizations, e.t.c. However, the presenters of conference papers are expected to effect making sure those corrections as noted during the conference are effected adequately then included as the proceedings.

Conference papers are always collected and published as "proceedings", which are usually printed by the respective university that organised the conference, renowned publishers, scholarly associations, or even get published online.

Seminar Paper, Term Paper and Class Notes

Term Paper is an academic writing intended for credits in a class. It is assigned at the beginning of the term and due at the end of the term, hence the name term paper. It helps to assess students' information formally.

It's written by students to complete the requirement for a particular academic term.

Class Note is an academic writing produced by a lecturer intended as a guide towards studying a particular course. Thus the lecturer helps students gain more insight beyond the class presentations/lectures. This is expected to cover the course content for a particular session of study. The lecturer bears the curriculum or course content in mind while preparing a class note. To guarantee effectiveness in the use of class notes, the lecturer is expected to divide/break the course according to units and little items for better understanding and ensure adequate response from the students. The units herein referred are the different topics as defined by the course content in the session or semester under study.

BA, MA, PhD,

Project or long essay is an academic research engaged after first degree study. This gives account of one's resourcefulness academically at the point of graduation from the university, polytechnic or college of education. It is like showcasing oneself as a researcher and proving oneself in the area of study. It is

referred as long essay because it should be the longest/most voluminous official research engaged by the candidate in the course of study.

The word thesis simply means main argument. A thesis paper is a form of writing that is specific form of research paper that is done to complete a formal academic pursuit.

Dissertation refers to doctoral writing. The word dissertation simply means the body of work one submits in partial fulfillment of the requirements for PhD award.

Concept, Proposal and Actual Paper

A concept paper is the form writing which explores the idea one had for research. This include; defining methods of research, suggesting avenues for research, expectations from research, possible findings, possible implications of research, exploring limitations, e.t.c. In some cases, this form of writing is referred as the abstract. It is a fundamental requirement to attend conferences.

An author is expected to submit a concept paper to help conference organizers be sure that such papers when developed fits into the theme of the conference.

Similarly, Research proposal is an extension of concept paper. A proposal is written before starting the actual research. The main content of research proposal include; introduction, research questions where necessary, aims/objective, methods, ethical considerations, e.t.c. Usually, it is expected

that a research proposal be approved before the actual research resumes. This is to aid the following:

1. Enable rigorous but professional format and phrasing according to the field of research.
2. enable assessors be sure that the researcher maintains track and be properly guided least the author labours in vain by developing a research that is unacceptable for reasons such as; research that is off track from the expectations of the assessors,
3. Exploring professional relationship between past academic engagement as regards the area of research and how future research could be aided by the content of the research.
4. Convince the assessors or audience on the relevance of the topic of research as concerns the academic field.
5. methodology and ethical considerations
6. Structured writing and proper use of language, e.t.c.

Actual paper is the full development of academic paper either as an article for journal publication, conference paper, e.t.c.

Text Books

Text books are extensive research work carried out in different areas to give detailed analysis of concepts, theories, experiences, e.t.c. Not only giving

detailed analysis, text books offer more ample opportunity to defend ones argument and profess ones belief and area of specialization.

Text books may take the form of detailed exposition and publication of class notes, BA, MA, or PhD essays, e.t.c.

Also, it can take the form of inaugural lecture.

CHAPTER 5

STRUCTURE OF PHILOSOPHY PAPER/CHAPTERIZATION

This chapter is interested in the structures or arrangements of academic papers in their proper order from beginning to the end.

This chapter makes an attempt towards understanding the components of research and different frameworks involved in research exercise. It is intended to offer researchers ample opportunity to understand the different structures of a research in order to organize a research topic and maintain the line of thought and the set goals of particular research in order to arrive at a logical conclusion in the research exercise.

thus this chapter gives step by step procedure for a good philosophy research beginning from the method of choosing a topic, developing the topic and

arriving at desired conclusions. Here, a researcher is meant to understand both the conceptual and theoretical frameworks in research exercise.

Abstract

Sometimes written as an afterthought, the abstract is of extreme importance as in many instances this section is what is initially previewed by readership to determine if the remainder of the article is worth reading. This is the authors opportunity to draw the reader into the study and entice them to read the rest of the article. The abstract is a summary of the article or study written in 3rd person allowing the readers to get a quick glance of what the contents of the article include. Writing an abstract is rather challenging as being brief, accurate and concise are requisite. The headings and structure for an abstract are usually provided in the instructions for authors. In some instances, the abstract may

change slightly pending content revisions required during the peer review process. Therefore it often works well to complete this portion of the manuscript last. Remember the abstract should be able to stand alone and should be as succinct as possible.¹⁰

The Abstract **SHOULD NOT** contain:

- lengthy background information,
- references to other literature,
- elliptical (i.e., ending with ...) or incomplete sentences,
- abbreviations or terms that may be confusing to readers,
- any sort of illustration, figure, or table, or references to them.

Introduction and Review of Literature

An introduction is a pivotal part of the article writing process. An introduction not only introduces your topic and your stance on the topic, but it also (situates/contextualizes) your argument in the broader academic field.

What literature should you look for in your review of what we know about the problem?

¹⁰ Moreira AHaahtela T. How to write a scientific paper-and win the game scientists play! *Pneumologia*. 2011;17(3):146-149

Focus your efforts on the primary research journals - the journals that publish original

research articles. Although you may read some general background references (encyclopedias, textbooks, lab manuals, style manuals, etc.) to get yourself acquainted with

the subject area, do not cite these, because they contain information that is considered

fundamental or "common" knowledge within the discipline. Cite, instead, articles that

reported specific results relevant to your study. Learn, as soon as possible, how to find the

primary literature (research journals) and review articles rather than depending on reference

books. The articles listed in the Literature Cited of relevant papers you find are a good starting

point to move backwards in a line of inquiry. Most academic libraries support the Citation

Index - an index which is useful for tracking a line of inquiry forward in time.

Some of the

newer search engines will actually send you alerts of new papers that cite particular articles of

interest to you. Review articles are particularly useful because they summarize

all the

research done on a narrow subject area over a brief period of time (a year to a few years in most cases).

The introduction is one of the more difficult portions of the manuscript to write. Past studies are used to set the stage or provide the reader with information regarding the necessity of the represented project. For an introduction to work properly, the reader must feel that the research question is clear, concise, and worthy of study.

A competent introduction should include at least four key concepts: 1) significance of the topic, 2) the information gap in the available literature associated with the topic, 3) a literature review in support of the key questions, 4) subsequently developed purposes/objectives and hypotheses.²

When constructing a review of the literature, be attentive to “sticking” or “staying true” to your topic at hand. Don't reach or include too broad of a literature review. For example, do not include extraneous information about performance or prevention if your research does not actually address those things. The literature review of a scientific paper is not an exhaustive review of all available knowledge in a given field of study. That type of thorough review

should be left to review articles or textbook chapters. Throughout the introduction (and later in the discussion!) remind yourself that a paper, existing evidence, or results of a paper cannot draw conclusions, demonstrate, describe, or make judgments, only PEOPLE (authors) can. “The evidence demonstrates that” should be stated, “Smith and Jones, demonstrated that....”

Conclude your introduction with a solid statement of your purpose(s) and your hypothesis(es), as appropriate. The purpose and objectives should clearly relate to the information gap associated with the given manuscript topic discussed earlier in the introduction section. This may seem repetitive, but it actually is helpful to ensure the reader clearly sees the evolution, importance, and critical aspects of the study at hand See Table 1 for examples of well-stated purposes¹¹.

Methods

The methods section should clearly describe the specific design of the study and provide clear and concise description of the procedures that were performed.

The purpose of sufficient detail in the methods section is so that an appropriately trained person would be able to replicate your experiments.¹²

There should be complete transparency when describing the study. To assist in writing and manuscript preparation there are several checklists or guidelines that are available on the IJSPT website. The CONSORT guidelines can be used when developing and reporting a randomized controlled trial.¹⁶ The STARD checklist was developed for designing a diagnostic accuracy study.¹⁷ The PRISMA checklist was developed for use when performing a meta-analysis or systematic review.¹⁸ A clear methods section should contain the following information: 1) the population and equipment used in the study, 2) how the population and equipment were prepared and what was done during the study, 3) the protocol used, 4) the outcomes and how they were measured, 5) the methods used for data analysis. Initially a brief paragraph should explain the overall procedures and study design. Within this first paragraph there is generally a description of inclusion and exclusion criteria which help the reader understand the population used. Paragraphs that follow should describe in more detail the procedures followed for the study. A clear description of how data

¹² Lin PKuo Y. A guide to write a scientific paper for new writers. *Microsurgery*. 2012;32:80-85

was gathered is also helpful. For example were data gathered prospectively or retrospectively? Who if anyone was blinded, and where and when was the actual data collected?

Although it is a good idea for the authors to have justification and a rationale for their procedures, these should be saved for inclusion into the discussion section, not to be discussed in the methods section. However, occasionally studies supporting components of the methods section such as reliability of tests, or validation of outcome measures may be included in the methods section.

The final portion of the methods section will include the statistical methods used to analyze the data.¹⁹ This does not mean that the actual results should be discussed in the methods section, as they have an entire section of their own!

Most scientific journals support the need for all projects involving humans or animals to have up-to-date documentation of ethical approval.²⁰ The methods section should include a clear statement that the researchers have obtained approval from an appropriate institutional review board.

Results, Discussion, and Conclusions

In most journals the results section is separate from the discussion section. It is important that you clearly distinguish your results from your discussion. The results section should describe the results only. The discussion section should put those results into a broader context. Report your results neutrally, as you

“found them”. Again, be thoughtful about content and structure. Think carefully about where content is placed in the overall structure of your paper. It is not appropriate to bring up additional results, not discussed in the results section, in the discussion. All results must first be described/presented and then discussed. Thus, the discussion should not simply be a repeat of the results section. Carefully discuss where your information is similar or different from other published evidence and why this might be so. What was different in methods or analysis, what was similar?

As previously stated, stick to your topic at hand, and do not overstretch your discussion! One of the major pitfalls in writing the discussion section is overstating the significance of your findings⁴ or making very strong statements. For example, it is better to say: “Findings of the current study support...” or “these findings suggest...” than, “Findings of the current study prove that...” or “this means that...”. Maintain a sense of humbleness, as nothing is without question in the outcomes of any type of research, in any discipline! Use words like “possibly”, “likely” or “suggests” to soften findings.¹²

Do not discuss extraneous ideas, concepts, or information not covered by your topic/paper/commentary. Be sure to carefully address all relevant results, not just the statistically significant ones or the ones that support your hypotheses. When you must resort to speculation or opinion, be certain to state that up front using phrases such as “we therefore speculate” or “in the authors' opinion”.

Remember, just as in the introduction and literature review, evidence or results cannot draw conclusions, just as previously stated, only people, scientists, researchers, and authors can!

Finish with a concise, 3-5 sentence conclusion paragraph. This is not just a restatement of your results, rather is comprised of some final, summative statements that reflect the flow and outcomes of the entire paper. Do not include speculative statements or additional material; however, based upon your findings a statement about potential changes in clinical practice or future research opportunities can be provided here.

CONCLUSIONS

Writing for publication can be a challenging yet satisfying endeavor. The ability to examine, relate, and interlink evidence, as well as to provide a peer-reviewed, disseminated product of your research labors can be rewarding. A few suggestions have been offered in this commentary that may assist the novice or the developing writer to attempt, polish, and perfect their approach to scholarly writing.

,,,,,,,,,,,,,,,,,,,,,,,,

The title as referred here indicates the roadmap on which the research drives.

TITLE

1. Make your title specific enough to describe the contents of the paper, but not so technical that only specialists will understand. The title should be appropriate for the intended audience.
2. The title usually describes the subject matter of the article: Effect of Smoking on Academic Performance"
3. Sometimes a title that summarizes the results is more effective: Students Who Smoke Get Lower Grades"

AUTHORS

1. The person who did the work and wrote the paper is generally listed as the first author of a research paper.
2. For published articles, other people who made substantial contributions to the work are also listed as authors. Ask your mentor's permission before including his/her name as co-author.

ABSTRACT

1. An abstract, or summary, is published together with a research article, giving the reader a "preview" of what's to come. Such abstracts may also be published separately in bibliographical sources, such as Biological Abstracts. They allow other scientists to quickly scan the large scientific literature, and decide which articles they want to read in depth. The abstract should be a little less technical than the article itself; you don't want to dissuade your potential audience from reading your paper.

2. Your abstract should be one paragraph, of 100-250 words, which summarizes the purpose, methods, results and conclusions of the paper.

3. It is not easy to include all this information in just a few words. Start by writing a summary that includes whatever you think is important, and then gradually prune it down to size by removing unnecessary words, while still retaining the necessary concepts.

3. Don't use abbreviations or citations in the abstract. It should be able to stand alone without any footnotes.

INTRODUCTION

What question did you ask in your experiment? Why is it interesting? The introduction summarizes the relevant literature so that the reader will understand why you were interested in the question you asked. One to four

paragraphs should be enough. End with a sentence explaining the specific question you asked in this experiment.

MATERIALS AND METHODS

1. How did you answer this question? There should be enough information here to allow another scientist to repeat your experiment. Look at other papers that have been published in your field to get some idea of what is included in this section.

2. If you had a complicated protocol, it may helpful to include a diagram, table or flowchart to explain the methods you used.

3. Do not put results in this section. You may, however, include preliminary results that were used to design the main experiment that you are reporting on. ("In a preliminary study, I observed the owls for one week, and found that 73 % of their locomotor activity occurred during the night, and so I conducted all subsequent experiments between 11 pm and 6 am.")

4. Mention relevant ethical considerations. If you used human subjects, did they consent to participate. If you used animals, what measures did you take to minimize pain?

RESULTS

1. This is where you present the results you've gotten. Use graphs and tables if appropriate, but also summarize your main findings in the text. Do NOT discuss the results or speculate as to why something happened; that goes in the Discussion.

2. You don't necessarily have to include all the data you've gotten during the semester. This isn't a diary.

3. Use appropriate methods of showing data. Don't try to manipulate the data to make it look like you did more than you actually did.

"The drug cured 1/3 of the infected mice, another 1/3 were not affected, and the third mouse got away."

TABLES AND GRAPHS

1. If you present your data in a table or graph, include a title describing what's in the table ("Enzyme activity at various temperatures", not "My results".) For graphs, you should also label the x and y axes.

2. Don't use a table or graph just to be "fancy". If you can summarize the information in one sentence, then a table or graph is not necessary.

DISCUSSION

1. Highlight the most significant results, but don't just repeat what you've written in the Results section. How do these results relate to the original question? Do the data support your hypothesis? Are your results consistent with what other investigators have reported? If your results were unexpected, try to explain why. Is there another way to interpret your results? What further research would be necessary to answer the questions raised by your results? How do y our results fit into the big picture?
2. End with a one-sentence summary of your conclusion, emphasizing why it is relevant.

ACKNOWLEDGMENTS

This section is optional. You can thank those who either helped with the experiments, or made other important contributions, such as discussing the protocol, commenting on the manuscript, or buying you pizza.

REFERENCES (LITERATURE CITED)

There are several possible ways to organize this section. Here is one commonly used way:

1. In the text, cite the literature in the appropriate places:

Scarlet (1990) thought that the gene was present only in yeast, but it has since been identified in the platypus (Indigo and Mauve, 1994) and wombat (Magenta, et al., 1995).

2. In the References section list citations in alphabetical order.

Indigo, A. C., and Mauve, B. E. 1994. Queer place for qwerty: gene isolation from the platypus. *Science* 275, 1213-1214.

Magenta, S. T., Sepia, X., and Turquoise, U. 1995. Wombat genetics. In: *Widiculous Wombats*, Violet, Q., ed. New York: Columbia University Press. p 123-145.

Scarlet, S.L. 1990. Isolation of qwerty gene from *S. cerevisiae*. *Journal of Unusual Results* 36, 26-31.

EDIT YOUR PAPER!!!

"In my writing, I average about ten pages a day. Unfortunately, they're all the same page."

Michael Alley, *The Craft of Scientific Writing*

A major part of any writing assignment consists of re-writing.

Write accurately

1. Scientific writing must be accurate. Although writing instructors may tell you not to use the same word twice in a sentence, it's okay for scientific writing, which must be accurate. (A student who tried not to repeat the word "hamster" produced this confusing sentence: "When I put the hamster in a cage with the other animals, the little mammals began to play.")
2. Make sure you say what you mean.

Instead of: The rats were injected with the drug. (sounds like a syringe was filled with drug and ground-up rats and both were injected together)

Write: I injected the drug into the rat.

3. Be careful with commonly confused words:

Temperature has an *effect* on the reaction.

Temperature *affects* the reaction.

I used solutions in various concentrations. (The solutions were 5 mg/ml, 10 mg/ml, and 15 mg/ml)

I used solutions in varying concentrations. (The concentrations I used changed; sometimes they were 5 mg/ml, other times they were 15 mg/ml.)

Less food (can't count numbers of food)

Fewer animals (can count numbers of animals)

A large amount of food (can't count them)

A large number of animals (can count them)

The erythrocytes, which are in the blood, contain hemoglobin.

The erythrocytes that are in the blood contain hemoglobin. (Wrong. This sentence implies that there are erythrocytes elsewhere that don't contain hemoglobin.)

Write clearly

1. Write at a level that's appropriate for your audience.

"Like a pigeon, something to admire as long as it isn't over your head."

Anonymous

2. Use the active voice. It's clearer and more concise than the passive voice.

Instead of: An increased appetite was manifested by the rats and an increase in body weight was measured.

Write: The rats ate more and gained weight.

3. Use the first person.

Instead of: It is thought

Write: I think

Instead of: The samples were analyzed

Write: I analyzed the samples

4. Avoid dangling participles.

"After incubating at 30 degrees C, we examined the petri plates." (You must've been pretty warm in there.)

Write succinctly

1. Use verbs instead of abstract nouns

Instead of: take into consideration

Write: consider

2. Use strong verbs instead of "to be"

Instead of: The enzyme was found to be the active agent in catalyzing...

Write: The enzyme catalyzed...

3. Use short words.

"I would never use a long word where a short one would answer the purpose. I know there are professors in this country who 'ligate' arteries.

Other surgeons tie them, and it stops the bleeding just as well."

Oliver Wendell Holmes, Sr .

Instead of: Write:

possess have

sufficient enough

utilize use

demonstrate show

assistance help

terminate end

4. Use concise terms.

Instead of:

Write:

prior to

before

due to the fact that

because

in a considerable number of

cases

the vast majority of

most

during the time that

when

in close proximity to

near

it has long been known

I'm too lazy to look up

that

the reference

5. Use short sentences. A sentence made of more than 40 words should probably be rewritten as two sentences.

"The conjunction 'and' commonly serves to indicate that the writer's mind still functions even when no signs of the phenomenon are noticeable." Rudolf Virchow, 1928

Check your grammar, spelling and punctuation

1. Use a spellchecker, but be aware that they don't catch all mistakes.

"When we consider the animal as a hole,..." Student's paper

2. Your spellchecker may not recognize scientific terms. For the correct spelling, try Biotech's Life Science Dictionary or one of the technical dictionaries on the reference shelf in the Biology or Health Sciences libraries.

3. Don't, use, unnecessary, commas.

4. Proofread carefully to see if you any words out.

USEFUL BOOKS

Victoria E. McMillan, Writing Papers in the Biological Sciences, Bedford Books, Boston, 1997

The best. On sale for about \$18 at Labyrinth Books, 112th Street. On reserve in Biology Library

Jan A. Pechenik, A Short Guide to Writing About Biology, Boston: Little, Brown, 1987

Harrison W. Ambrose, III & Katharine Peckham Ambrose, A Handbook of Biological Investigation, 4th edition, Hunter Textbooks Inc, Winston-Salem, 1987

Particularly useful if you need to use statistics to analyze your data. Copy on Reference shelf in Biology Library.

Robert S. Day, How to Write and Publish a Scientific Paper, 4th edition, Oryx Press, Phoenix, 1994.

Earlier editions also good. A bit more advanced, intended for those writing papers for publication. Fun to read. Several copies available in Columbia libraries.

William Strunk, Jr. and E. B. White, The Elements of Style, 3rd ed. Macmillan, New York, 1987.

Several copies available in Columbia libraries. Strunk's first edition is available on-line.

CHAPTER 6

REFERENCING AND METHODS OF CITATION

No doubt that the evidence provided by a researcher to support his arguments are products of other literatures. Thus this necessity makes it highly important to consider the methods of referencing and citation in order to be familiar with the rules guiding consultation of other literatures in the course of research.

Methods of referencing and citation are very important skills in the development of healthy and credible academic research. Citation and referencing are marks of responsibility, scholarship and ethical probity. It is a way of giving credit to individuals for their creative and intellectual works that one borrows in order to support one's research. Also, it is important towards locating sources and avoid the challenges of plagiarism.

Referencing here implies to assign, impute and to attribute ideas or information to the original authors¹³. This is anchored on author acknowledgement on

¹³ Ukpokolo 81

particular works. A good referencing includes author's name, date of publication, place and publisher's names, title of work, e.t.c.

Similarly, citation in a strict sense implies to adduce or quote as a proof in support of one's claims or arguments. It is the act of borrowing ideas or intellectual works in order to support one's research. In a loose sense, citation can also refer to the act of acknowledging the original authors of an idea or intellectual work. Thus while referencing is the acknowledgement of what is borrowed to the original authors, citation is interested in the act of borrowing ideas or intellectual works (referencing) and quoting ideas or intellectual works in support of one's argument.

Referencing and citation are expected to be very relevant the area of study.

Works are relevant when they are related to the research questions. Thus a good research should relate to already existing literatures as published. Thus a good researcher should be able to show how the research relates to the body of literature in the field and what extra knowledge one brings into the field minding what was already in existence.

It is recommended that newer literatures be used more than older literatures.

This is to avoid repeating already carried out researchers. Thus it should be as current for the last ten years of existence. Literatures beyond ten years can be said to have been overtaken. This is why authors ought to be current in citations

and referencing. However, authors are not obliged to cite only works that are at least ten years old especially when some older works are highly relevant to the field of study. Such literatures should be included but researchers should go out of their comfort zones to seek for literatures that are very new in the field to improve the relevance of one's research output.

Referencing according to Webster's New World College Dictionary is the academic exercise of referring to an authority on certain topics and bodies of information.¹⁴ This exercise is an expression of academic honesty, ethical behavior, readiness/openness to learning.

Methods of Citation

There are very many methods of referring to a source in the course of research. However, we will consider just four major types here; direct quotation, paraphrasing, summary, whole document citation.

Quotation (“ ”).

¹⁴ Agnes, M., & Guralnik, D. B. (Eds.). (2010). Webster's new world college dictionary (4th ed.). Wiley Publishing. 1202.

This is a direct identical replication of small portions of an original source. It is supposed that quotations match the source word to word. It is expected that such quotation which are taken verbatim recognize the source author.

It is expected that this form of quotation recognizes the relevant pages as appeared in the source document. When the quotation has less than 40 words, such quotations should be incorporated into the text and enclosed within quotation marks such as;

“the problem with Nigeria is the problem of leadership”.

When there is a need to indicate a another quotation inside the ongoing quote, a single quotation mark is used such as;

“the ‘kpim’ of philosophy”

In the same vein, when the quotation is more than 40 words, then the quotation is indented as a block of text and the quotation marks omitted. In this instance, the citation, in full or part is represented after the final punctuation mark depending on the type of referencing as applied.

According to Ogugua (2015),

although language gives thought a cloak, that means it canalizes it... Thoughts are meaningful in private minds, but we need language which is a social product in conveying our

thoughts; and as such too logic to ensure that the meaning of our thoughts is not lost; and avoid our language being a hindrance to our getting at the real meaning of what is said.

Whole Document Citation

This is a method of citation that demands the permission of the original author. Thus whole document citation is a copious replication of an original work done by a different author. This is not really a good academic engagement except where it becomes very necessary and in such case the original author should be on the know and grant permission.

Paraphrasing.

This is the method of citation which expresses in different languages the content of an original work while recognizing the source material. Here information from source material is put into different words or domiciled or reproduced/reframed in different other dimensions but retaining the meaning as proposed by the original author. Thus the idea of the original author is rephrased in other words. However, should te researcher have reason to oppose the original author, the information must be clearly represented before the researcher begins his augment on the original work.

This is an attempt to lay more emphasis on concepts and ideas as originally expressed, hence making clearer the original presentation in the course of research. Paraphrased materials may or may not be shorter than the original work. The emphasis here is that the representation must be in different words to show the researchers understanding of the original work and to make the content better understood in the new presentation.

In this case, the researcher only needs to acknowledge the original source but does not need the permission of the original author. This acknowledgement ought to include the name of the author, book, year, place of publication, publishers and cited page (s).

Summary.

Sometimes, summary is mistaken with paraphrase. Though they seem to be the same but not exactly. Summary is another method of citation which expresses in different languages the content of an original work while recognizing the source material. The idea of the original author is here compressed while retaining the meaning as implied in the original document. The interest here is to highlight and compress the main ideas either with the use of original author's words or different other words.

Summary is a demonstration of one's understanding of source material and communication of such understanding to readers. This is a method of

condensing a text to its main points in one's own words while extracting necessary elements in the text. Summary is the distillation of the ideas and arguments contained in the text material or source. This form of distillation does not imply just outline of source but a reconstruction of the major ideas in other words.

A good summary ought to possess the following qualities: concise, coherent, comprehensive, and independent. A good summary is concise when it avoids verbosity and repetitions. A summary work is coherent when it is not disjointed in ideas. It is comprehensive because the major ideas in the text should be all incorporated. A good summary is independent when it does not just imitate the author but shows a good understanding of the source text¹⁵.

There is a great difference between summary and analysis. Analysis involves discussion of ideas and critique of ideas while summary does not require such critique. Though a critique will definitely require a summary of the idea in the text material so as to let readers understand the point for further analysis.

However, the summary is the first stage of making a good critique but the two aren't the same.

¹⁵ Dr. Murray and Anna C., (2022), The Writing Process: Guidelines for Writing a Summary. (New York: Hunters College Publication)

Summary work is significantly shorter than the original work while making the highlights of the original document more understandable. Very important that there is need to acknowledge the source to enable readers make further reference to the original work either to gain more knowledge or to assess the accuracy of the summary. This acknowledgement ought to include the name of the author, book, year, place of publication, publishers and cited page (s).

Reference Method (Style)

CHICAGO MANUAL OF STYLE

Chicago is a documentation style published by the Chicago University in America since 1906 referred as the CMOS. Over the years, this documentation style has gone through several modifications for about eighteen times, hence the most recent is the 18th edition of Chicago style of referencing. Before this popular and official publication in 1906, Chicago manual of style has an earlier history since 1891 when the University of Chicago Press began operation. This publication house was quite popular with experienced typesetters. With this high level of manpower, professors brought their handwritten manuscripts to a group referred as compositors who included brainery (editors as addressed in our time) who had the responsibility to proofread minding typographical errors and stylistic order of presentation. It was in the attempt to maintain order of

writing and avoid arbitrariness that the compositors came up with set of rules passed to the University community refer as the manual of style.

For over one hundred years, this manual of style has gone through series of editions and reviews till the latest which is the 18th edition. Thus it is an authoritative reference work for writers, editors, proofreaders, indexers, designers, copywriters, publishers, etc.

This documentation style is very similar with the Turabian style. Turabian style is a citation and referencing system based on the Chicago style rather named after Kate Turabian. Kate Turabian was a lecturer in the University of Chicago. She authored a referencing manual to assist and guide her students in research documentation method following the Chicago style referencing style. She could be said to have just adopted the Chicago style in the manual which she intended to be a guide to her students in their research documentation.

Chicago style is a common style of referencing in humanities; philosophy, literature, history, e.t.c. Chicago style has two systems of presentation; notes and bibliography and the author-date style. However, it should be noted that the most common style is the notes and bibliography style. The author-date style appears to follow the same pattern with APA method. This method is closely related with APA style of documentation as both are taken from the rules of grammar and punctuation in American. Author-date style is very uncommon

method in Chicago style of referencing but common in APA style of referencing. Thus we concentrate on the notes and bibliography style.

Notes and bibliography style is the method where immediate notes of references are made while detailed information about the referred source is made at the end of the presentation as bibliography. Notes here are used either as footnotes or end notes. Either of the two is acceptable in Chicago style of referencing. Footnotes are the arrangement of research sources as acknowledged at the end of each page. There is always in-text numbering of references which correspond to the numbering at the footer of the same page. This correspondence of numbering helps for easy identification of references as made in the research. Similarly, the endnotes refer to the arrangement of references as made in the research at the end of each section of the document especially at the end of each chapter. This is also arranged according to numbers for easy identification of references.

Pages: The front of the leaf, the side that lies to the right in an open book, is called the recto. The back of the leaf, the side that lies to the left when the leaf is turned, is the verso. Rectos are always odd numbered, versos always even numbered

The footnote or endnotes should include the following;

1. Author name beginning with the first name then surname
2. Title of book in italics
3. City of publication (much unlike APA where the city of publication is not mentioned)
4. Name of publishers.
5. Year of publication
6. Pages referred in the book.
7. For journals, the volume, issue and/or number is/are included.
8. For multiple entries of the same work, one may shorten the author's name (using only surname) and title of work (when the title is lengthy or beyond four words, one may choose three key words). 17th edition of CMOS discourages the use of *ibid*, *op cit*, *loc cit*, *etc*, see details below.
9. More professional practice is that volume and issue of journals are not written in CMOS but in APA rather they are separated with (). Where the specific number of publication is mentioned, it can be written as "no".

N/B: numbers 3,4 and 5 that is, the city of publication, name of publishers and year of publication are all put in a bracket.

Bibliography is an arrangement of resources in an alphabetical order of authors at the end of the whole book. Bibliography is not numbered as it is the case with footnotes and endnotes rather; they are arranged alphabetically beginning with the surnames of authors. Bibliography should include the following;

1. Author name beginning with the surname then other names.
2. Title of books in italics
3. City, name of publishers and year of publication (no bracket)
4. Always use “and” not the ampersand (&) for multiple authors.
5. It begins on a new page after the conclusion
6. It includes the consecutive page number in the top right corner of the header.
7. The first page of bibliography has the word, “Bibliography” centered at the top with no special formatting.
8. 17th edition of Chicago manual of style discourages the use of the 3 dash (---) for multiple works by the same author rather the name is written according to the years of publication.
9. Entries are single line spaced with extra space between entries that is, extra space between one entry and another.
10. Entries are composed in hanging indent paragraphs.
11. Entries such as Bible, Quran, unpublished interviews, Wikipedia, Oxford Dictionary, Encyclopedia Britannica/Philosophy, etc are documented in the notes but not in Bibliography.

Material Type

Documentation style

N/B: Author's name, book title in italics, Place of publication, name of publishers and date. See examples below:

1. Book with single author:

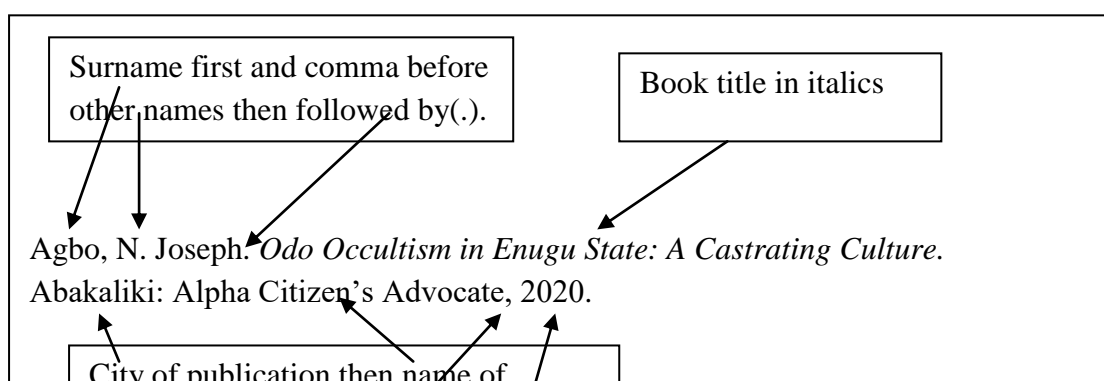
(Footnotes/Endnotes entry) Joseph N. Agbo, *Odo Occultism in Enugu State: Confronting Castrating Culture*.
(Abakaliki: Alpha Citizen's Advocate Press, 2020), 234.

(Duplicate entry of same book) Agbo, *Odo Occultism in Enugu State: Confronting A* *Castrating Culture*, 76 .

Or

Agbo, *Odo Occultism in Enugu State*, 76

(Bibliography entry) Agbo, N. Joseph. *Odo Occultism in Enugu State: A Castrating Culture*.
Abakaliki: Alpha Citizen's Advocate, 2020.
2022



2. Book with two or three authors:

N/B: 1. Like in single authorship- here are the authors' names, book title in italics, Place of publication, name of publishers and date. See examples below:

2. Always use "and" not the ampersand (&).

(Footnotes/Endnotes entry) 1. Joseph N. Agbo, Anacletus Ogbunkwu and Gideon Owo, *Odo Occultism in Enugu State: Confronting Castrating Culture*. (Abakaliki: Alpha Citizen's Advocate Press, 2020), 234.

(Duplicate entry of same book) 2. Agbo, Ogbunkwu and Owo, *Odo Occultism in Enugu State: Confronting A Castrating Culture*, 76 .

(Bibliography entry) Agbo, N. Joseph, Anacletus Ogbunkwu and Gideon Owo, *Odo Occultism in Enugu State: Castrating Culture*. Abakaliki: Alpha Citizen's Advocate, 2020. 2022

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1. It follows the format for three author, hence lists the four authors in the bibliography while inverting the name of the first author (surname first author) and separated by comma then first name. Other authors are named with their first names followed by surname.
2. Books with more than seven authors have only the first seven authors listed in the bibliography and others are represented as *et al*

3. For notes (either endnotes or footnotes), only the first author's name is written and others are represented as *et al.* The first author's first name comes first then surname.

4. Edited Books:

In notes (either endnotes or footnotes), abbreviation for editor is “ed.” and “eds.” for editors but may be written in full in bibliography, eg

(Footnotes/Endnotes entry) Anacletus Ogbunkwu, ed. *Guide to Philosophy Research.* (Abakaliki: Alpha Citizen's Advocate Press, 2019), 31.

Anacletus Ogbunkwu and Gideon Owo, eds. *Guide to Philosophy Research.* (Abakaliki: Alpha Citizen's Advocate Press, 2019), 31.

N/B: bibliography follows other methods of book documentation noting that the word “editor/s” may be written in full.

5. Books Authored by Organization/Government Agencies:

N/B when reference is made of books authored as stated above, the organization, government agency, association

or group name is written as the author while following same pattern for others.

6. Book quoted in another Source (secondary quotes):

This is highly discouraged as researchers/students are advised to read the original work to be more original to sources/information. However, when there is no possibility of accessing the original work, reference can be made as following:

Anacletus Ogbunkwu, “Hermeneutics of *Ikenga* in the Socio-Political and Economic Life of Igbo People”, quoted in Michael Echezona, *Issues of Ikenga*, (Enugu: Snap Press, 2019), 22.

7. Book Chapter:

In notes (either endnotes or footnotes), abbreviation for editor is “ed.” and “eds.” for editors but may be written in full in bibliography, eg

(Footnotes/Endnotes entry) 1. Josphe Aghaonwu, “Looting as a Business in Nigeria”, in *On Nigerian Economy and the Saga of Political Looting and Insecurity*, ed. K.M.O Amah (Ibadan: Ooniko Press, 2017), 37-60.

(Duplicate Entry)

2. Joseph Aghaonwu, “Looting as a Business in Nigeria”. 50.

(Bibliography Entry)

Aghaonwu, Jospeh. “Looting as a Business in Nigeria”, in *On Nigerian Economy and the Saga of Political Looting and Insecurity*, edited by K. M. O. Amah, Ibadan: Ooniko Press, 2017.

OR

Ogoko, Albert O. M. “The ‘Mytho-Logic’ in Nwala’s Igbo Philosophy: A Critical Hermeneutic Reflection on Myth as Explanatory Paradigm in Philosophy”, in *T. Uzodinma Nwala, The Philosopher-Statesman*, edited by Joseph C. A. Agbakoba and J. C. Chukwuokolo, Ibadan: Kraft Books Limited, 2022. 404-427.

The diagram illustrates the components of a bibliography entry. It features two boxes at the top with arrows pointing to specific parts of the entry text below.

Box 1 (Left): Surname first then (,) followed by other names then (.)

Box 2 (Right): Chapter title in (“ ”) while book title is in italics

Entry Text: Ogoko, Albert O. M. “The ‘Mytho-Logic’ in Nwala’s Igbo Philosophy: A Critical Hermeneutic Reflection on Myth as Explanatory Paradigm in Philosophy”, in *T. Uzodinma Nwala, The Philosopher-Statesman*. edited by Joseph C. A. Agbakoba and J. C. Chukwuokolo, Ibadan: Kraft Books Limited, 2022. 404-427.

Translated Book

This follows all other methods such as; author, title, trans. (in bibliography its written in full as translation), translator's name, place of publication, publishers, date and page.

Eg

(Footnotes/Endnotes entry) Anthony Omeh, *Autobiography of Grace Umezurike*, trans. Gideon Owo (Abakaliki: Apha Pub., 2019), 8.

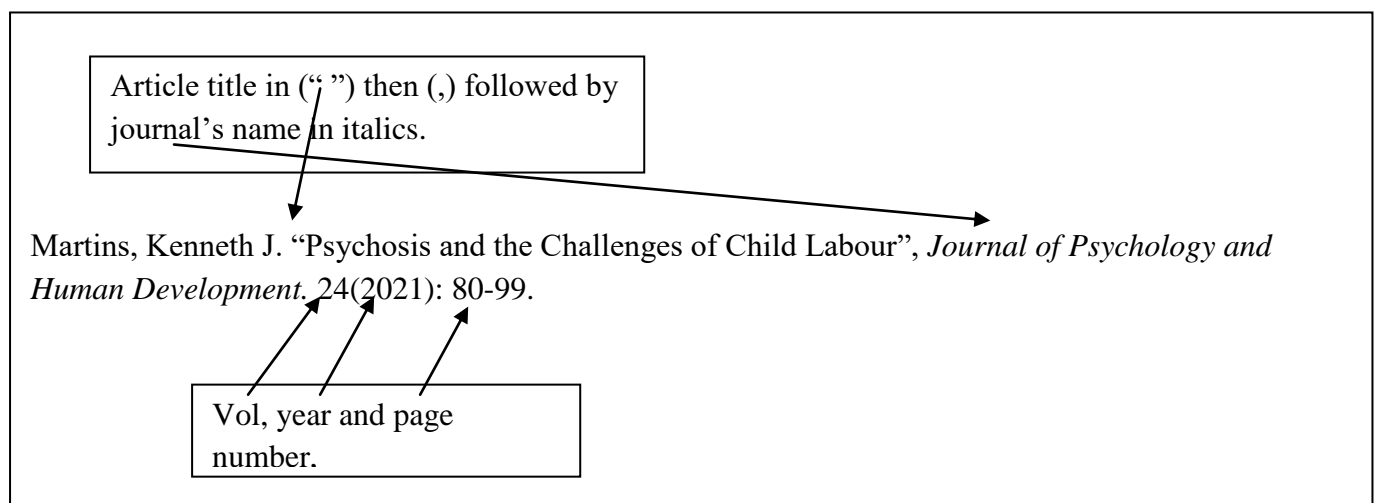
(Bibliography Entry) Anthony Omeh, *Autobiography of Grace Umezurike*, translated by Gideon Owo, Abakaliki: Apha Pub., 2019.

8. Journal Publication:

(Footnotes/Endnotes entry): 1. Kenneth J. Martins, "Psychosis and the Challenges of Child Labour", *Journal of Psychology and Human Development*. 24(2021): 87.

(Duplicate Entry): 2. Martins, "Psychosis and the Challenges of Child Labour", 97.

(Bibliography Entry): Martins, Kenneth J. “Psychosis and the Challenges of Child Labour”, *Journal of Psychology and Human Development*. 24(2021): 80-99.



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(Footnotes/Endnotes entry): Grace Umezurike, “Appraisal of the Impact of Boko-Haram Insurgency on Women and Children in Nigeria”, *International Digital Organization for Scientific Research IDOSR*

Journal of Arts and Humanities 4(5): 1-11,
2019. <https://www.idosr.org/wp-content/uploads/2019/04/IDOSR-JAH-41-1-11-2019.-Um.pdf>. accessed June 05, 2022.

(or):

Jude Orinya, “The Place of Jared Diamond’s Theory of Development on the African Predicament”, *African Journal of Philosophy*, vol. 3(1),2020:60-78.
http://www.africanjournalofphilosophy.com/jared_diamond.pdf. Accessed June 12, 2022.

(Duplicate Entry):

Umezurike, “Appraisal of the Impact of Boko-Haram Insurgency on Women and Children in Nigeria”, 11.

(or):

Jude Orinya, “The Place of Jared Diamond’s Theory of Development on the African Predicament”, 65.

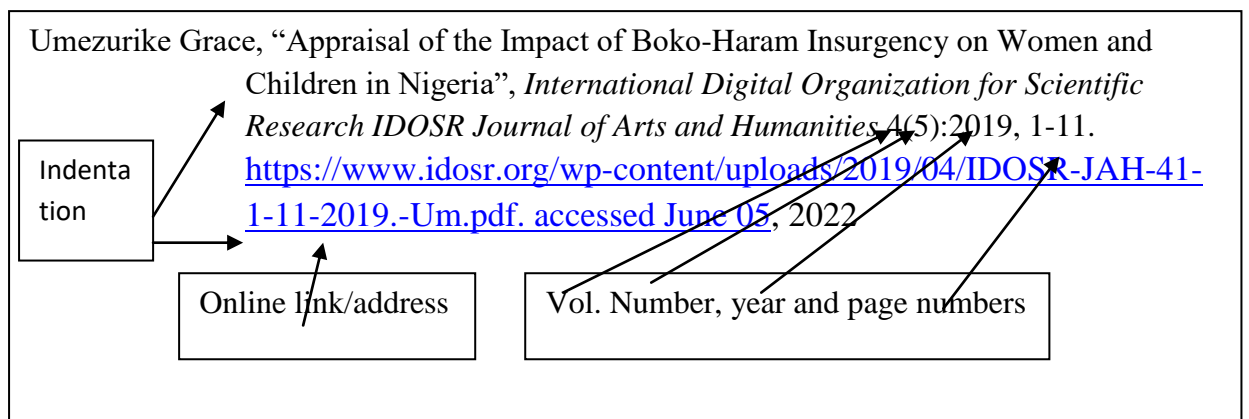
(Bibliography Entry):

Umezurike, G. “Appraisal of the Impact of Boko-Haram Insurgency on Women and Children in Nigeria”, *International Digital Organization for Scientific Research IDOSR*

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2019. <https://www.idosr.org/wp-content/uploads/2019/04/IDOSR-JAH-41-1-11-2019.-Um.pdf>. accessed June 05, 2022.

(OR):

Orinya, Jude. “The Place of Jared Diamond’s Theory of Development on the African Predicament”, *African Journal of Philosophy*, vol. 3(1),2020:60-78.
http://www.africanjournalofphilosophy.com/jared_diamond.pdf. Accessed June 12, 2022.



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Material Type

Reference Entry List.

Book Publication.

Omeregbe, Joseph. *Philosophy of Mind; An Introduction to Philosophical Pshychology*. Joja Educational Research and Publishers Ltd. 2006

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