



## RESEARCH ARTICLE

## Meaning in Wittgenstein and African Indigenous Languages

Philip Chika Omenukwa<sup>1\*</sup>, Ikechukwu Anthony Kanu<sup>2</sup>

<sup>1</sup> Department of Philosophy, Catholic Institute of West Africa, Port Harcourt, Nigeria

<sup>2</sup> Pontifical Faculty of Philosophy, Veritas University Abuja, Bwari, Nigeria

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**\*Corresponding Author:**

frphilipchika@yahoo.com

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**ABSTRACT**

This paper focuses on the issue of meaning in Wittgenstein's philosophy as it is noticeable in both the early and later Wittgensteins. In the early Wittgenstein expressed in the *Tractatus Logico Philosophicus*, the researchers observed a position influenced by the logically positivist ideology, whereby propositions are meaningful only if they picture states of affairs and with this the insistence on a logically perfect language was made. The implication being that some languages are considered nonsense and unfit for philosophical engagement. However, in his *Philosophical Investigations*, which is regarded as the later Wittgenstein, a new approach to discovering the constitutive embodiment of meaning became noticeable. Here, Wittgenstein observes that the meaning of a term, phrase or sentence drives from the context of use and thus recognizes the legitimacy of different forms of life. Thus, the "use" of a language is a game played according to rules that can be understood by the language community or individual users of the language. For the purpose of achieving the aim and objectives of this paper, the hermeneutic, analytical and critical methods of inquiry were employed. The paper argues that since meaning must be sought within the context of use in accordance with the rules that can be understood by the language community or individual users of the language, it is a win for African languages as they are scientifically equipped with their appurtenances for valid philosophical engagement.

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### INTRODUCTION

The philosophical enterprise begins with the quest for knowledge through the search for meaning. In this pursuit, people seek to improve their lives and existence through critical reflection. This search for meaning is an integral part of philosophy throughout its historical development, because human beings, by their dynamic nature, are in constant quest/search for knowledge and meaning. In ancient times, people looked for meaning in the spiritual activities deified in the polytheistic myth that characterized most of the world's early cultures. With Thales, the search for meaning turned to nature and culminated in the work of Aristotle (in his *Logic*), who emphasized reason as a tool for reaching truth effect. During the Middle Ages, the quest for meaning transformed into the quest for knowledge of God. In the search for meaning as truth, these epochal shifts continued until the advent of positivism and other related contemporary traditions, which sought to locate truth only in the meaning of the statements they convey (Jarrah et al., 2022; Tashtoush et al., 2022; Wardat et al., 2021).

August Comte divides the entire history of the development of thought into three phases – theological, metaphysical or abstract, and positivist – asserting that as the world enters the positivist phase, the theological and metaphysical phases were no longer useful. The empirical stage is the stage in which people abandon the discovery of absolute truth and turn to discover the actual laws of phenomena through reasoning and observation. At this stage, people realize that laws exist in the complex order of the universe, and the world can be rationally explained through scientific and rational thought (Comte, 1853; Jam et al., 2016; Kanval et al., 2024).

In the analytical tradition of the positivist stage, the meaning of a proposition derives from how it is verified. Thus, in this tradition, Gottlob Frege sought to analyse and interpret the concept of meaning while expressing his concern with the logic of statements and their relationship to facts. For Frege, the meaning of any term, or phrase has two dimensions – “sense” and “reference”. Therefore, every term or phrase should have a “sense” and be able to relate to something in the real world. Bertrand Russell would reject Frege’s concept of “sense” and propose the concept of propositional functions. With this idea of propositional functions, it is assumed that propositions must have concrete realities as components. With this argument, the Austrian analytical thinker and philosopher of language Ludwig Wittgenstein joined the debate. As a collaborator with Russell, Wittgenstein initially continued the same tradition of logically analysing sentences to develop a picture theory of meaning. In his picture theory of meaning, propositions are meaningful only if they picture states of affairs or matters of empirical facts. In this regard, any normative, spiritual or metaphysical statement must be non-sense, and therefore nonsense. Wittgenstein recognized the inconsistency of the language used in the *Tractatus Logico Philosophicus*, in which he used statements that did not reflect actual facts, and reconstructed his views in *Philosophical Investigations*. In this book, Wittgenstein asserts that the meaning of a term, phrase or sentence derives from the context of “use”. Thus, the “use” of a language is a game played according to rules that can be understood by the language community or individual users of the language.

Some philosophers (scholars), including Wittgenstein himself, have discovered some contradictions with the two concepts of meaning that Wittgenstein expressed in his two major works, which defined the two phases of his life and work. This implies a unity of his conception of meaning, since meaning must reflect the reality of those who use and understand language as is noticeable in his later work (*Philosophical Investigation*) and secondly, for something to be meaningful, what is said must reflect what it actually means as one can read in the *Tractatus Logico Philosophicus* (early Wittgenstein). These two aspects of meaning will occupy the discussion in this essay. The movement from the early to the later Wittgenstein is considered in this essay as a win for the indigenous languages, almost in the same sense of the Hegelian “Universal Ground in Grammar”. Because Wittgenstein’s assertion that meaning must be sought and seen within the context of use provides the basis for the insistence of the equal validity of languages for any scientific engagement whatsoever (Gningue et al., 2022; Okonkwo, 2019; Tashtoush et al., 2023). To begin the journey, a brief discussion on the person of Wittgenstein and both his engagement and severance with the logical positivists are considered necessary since the information discoverable at these moments and the synthesis therefrom will provide great assistance in coming to terms with the knowledge the entire study is designed to project. After exploring the gains Wittgenstein’s migration to his later position on meaning, the study will strongly establish the positive effects Wittgenstein offers for the indigenous languages.

### **Wittgenstein: Just a little of his Life**

Wittgenstein was born in Vienna to one of the wealthiest families in Europe. Three of his brothers committed suicide at different times, and Wittgenstein gave away all of his inherited wealth after a turbulent life. According to Huemer (2004), Wittgenstein was an outstanding philosopher of poetry and composer, playwright and novelist and his influence can also be felt in music, thus pointing out that he was versatile and greatly endowed in many fields of life. Although Wittgenstein’s father was

a Jewish convert to Protestantism, he was brought up in the faith of the mother, who was a Roman Catholic. Lawhead (2001) observes that “Wittgenstein began his university education at the University of Manchester, where he studied engineering and researched aeronautical design. His world toward a career in engineering ended when he became interested in pure mathematics and then in the philosophical foundations of mathematics. Pursuing this, he discovered the work of Bertrand Russell and enrolled in Trinity College at Cambridge in 1912 to study with Russell.” (510)

Wittgenstein read Dostoevsky, Tolstoy and quoted Augustine. His linguistic views were used by the Vienna School against religion, although Wittgenstein himself was never against religious sentiments. He often wrote in his diary about his own belief in God, religious feelings and his great despair. Of particular importance is that he came from a religious family, of which its influence on him cannot be underestimated. Wittgenstein’s personal beliefs (or lack thereof) and his early adoption of the concept of language by the Vienna School suggest that authors are often misread by those who claim to explain them.

In his work *Simply Wittgenstein*, Klagge (2016) alludes to Wittgenstein’s profile, stating that from 1906 to 1908, Wittgenstein completed his apprenticeship as an engineer at the renowned University of Applied Sciences near Berlin. His father would have liked him to study business administration, but that course was too practical to be acceptable. Then, from 1908 to 1911, with the advent of “engine-powered flights”, Wittgenstein studied aeronautical engineering at the University of Manchester in England. In November 1910, he submitted a patent application for the improvement of propellers for air machines. The patent was granted in August of the following year. The patent application was silent on what the propeller is made of; it just explained its structure. Often, engineers are interested in structures and models that can be abstracted from the specific materials that make up the system. It is with this mathematical cum scientific mind that he first encountered philosophy.

As a philosopher, Wittgenstein is known for his contributions to the field of language. his analysis of human language is critical, logical and systematic. His thinking was greatly influenced by his mentor, Bertrand Russell. He was also influenced by some German philosophers like Arthur Schopenhauer, Oswald Spengler, Johann Wolfgang von Goethe, Soren Kierkegaard, Fyodor Dostoevsky. He would further influence thinkers like Norman Malcolm, Rudolf Carnap, Alan Turing, Saul Kripke, Noam Chomsky, James Tully and Thomas Kuhn. In fact, Wittgenstein has played a huge role in analytic philosophy throughout the 21<sup>st</sup> century (Lawhead, 2001).

Russell’s exaltation or separation of language into strictly scientific, logical, or factual statements was first adopted by Wittgenstein and later abandoned, when he recognized the futility and inherent contradiction in it. The fact is, 19<sup>th</sup> century intellectual climate and 20<sup>th</sup> century Europe were condensed and permeated with anti-religious and anti-spiritual sentiments. The Industrial Revolution and the French Revolution of the 19<sup>th</sup> century, pushed European intellectuals to the extremes of secularism. Many great thinkers of the 19<sup>th</sup> and 20<sup>th</sup> centuries abandoned or even attempted to deny basic categories of intellectual discourse in order to establish an intellectual identity that was entirely opposed to medieval thought. This spirit of positivism and radical empiricism was embraced by writers such as John Locke, Julien Offray, D. L’mettrie, and Auguste Comte. It was adopted by schools such as the Analytic School and later the Vienna Circle. Wittgenstein would rightly change his position in the *Tractatus* in his *Philosophical Investigation* when confronted with the illogicality of his linguistic position.

The realm and limitations of human language certainly go beyond the material and empirical worlds. Attempts to limit human language to physical reality, as Russell did, appears to have been driven by contempt for religion and metaphysics, not necessarily by logic. Influenced by this positivist understanding of language, early Wittgenstein attempted to impose internal logic on language. This applies only to factual temporal and existential realities. However, he later came to emphasize the

fluidity of language with the passage of time. His ten years of abandoning philosophy after completing *Tractatus* confirms the fluidity of language as he grapples with the shortcomings of the *Tractatus*. Despite his failures, the period between 1929 and 1936 was very productive for him, as evidenced by his numerous publications such as *The Blue and Brown Book*, *Philosophical Investigations*, *Philosophical Remarks*, *The Blue Typescript*, etc. Ahmed (1953) points out that the first part of the early *Philosophical Investigations* was written during the period Wittgenstein spent in Norway, from the autumn of 1936 to December 1937. Its first part contains material from which *Philosophical Investigations* 1-88 is drawn. The early *Investigations* was compiled in 1942-44 and contains approximately half of what we now know as the *Philosophical Investigations* 189-421. Much of the new content in the later *Investigations* was cannibalized in typescripts compiled from earlier writings in 1945-46.

The *Tractatus* and *Philosophical Investigations* are unique texts in their own way. In arranging texts, it is perhaps important to note that, as Wittgenstein seems to have recognized, the philosophical problem of meaning is best solved not by a comprehensive theory of language representation, but by careful attention to the ways in which language is actually used. Thus, relatively speaking, one will find that the *Tractatus* is written in a highly technical style in which the reader is expected to recognize and understand the terms of Russell and Whitehead's "*Principia Mathematica*" (mathematical principles). Nevertheless, the *Philosophical Investigations* is written in clear and idiomatic prose, showing a deliberate and peculiar refusal to use technical details. This is quite interesting because "the philosophy of logic talks about propositions and words in exactly the same way we talk about them in everyday life". (Ahmed 1953, 120)

### **Wittgenstein and logical positivism**

The 20<sup>th</sup> Century School of Analytic Philosophy produced logical positivism. The analytic school of philosophy eventually produced 'ideal language analysis'. Their goal is to get rid of all the burden of ambiguous terms, concepts, and language. They wanted to put language on a solid and steadfast path to scientific, logical, and mathematical purity, so that whatever is said can be true or false, meaningful or meaningless, with nothing in between. The ideal language would purify philosophy by purifying the language used in philosophical practice. This understanding was further developed by the logical positivists of the Vienna School. In this regard, Rorty noted that due to the popularity of the linguistic turn, "nonsense" became a concept in philosophical art – just as "representation" became a concept after Kant. Philosophers began to see themselves as experts at spotting nonsense. They suggest that when all our concepts have been analysed, the work of philosophy is done. All that remains to be done will be a little common sense and some symbolic logic, and the traditional problems of philosophy will be solved. With the realization that the problem of philosophy is, to some extent, a problem of language according to them, then everything will become clear. However, the failure of "positivist" intervention in cultural policy became very evident. The idea that philosophers should use "linguistic methods" to reveal the illusory nature of philosophical problems now seems odd (Rorty, 1953).

However, this will not catch on as analysts themselves began to encounter internal double standards inherent in their views. Many concepts they think are nonsense are actually cultural categories with deep meaning. Their rejection of metaphysical and transcendental concepts came to damage their views more than they had imagined. Wittgenstein later changed this view in his *Philosophical Investigations* to include progressive linguistic ideologies that were not as rigorously analysed as logical positivists. Nonetheless, the importance of the ideal language is that it emphasizes the need for clarity in language, especially in philosophizing.

While Bertrand Russell and Gottlob Frege presented an analytical and critical theory of language, there are other authors who prefer to understand language in a literary dimension. However, Wittgenstein, together with the logical positivists, was moved by a passion for making language an exact science, a resultant fruit of his relationship with Russell and his belongingness to the logical positivists. According to Huemer (2004), when Wittgenstein developed his philosophy, most philosophers were struck by Russell's analysis of certain descriptions, and they tried to understand language in terms of concepts of truth and reference. Because the discussion on language borders on literature and not on science, one has to deal with fictional statements, not fact-based descriptions of reality.

However, in the *Tractatus*, the deficiencies of logical atomism and logical-decompositional analysis are indirectly espoused. Even in the *Investigations*, the theory of logical analysis of the *Tractatus* is completely rejected. Wittgenstein explained his criticism and admiration of Russell's position on logical positivism, arguing that all philosophy was a 'criticism of language' while acknowledging that Russell's virtue lay in proving that the apparent logical form of a proposition might not be its true form. According to him, "this 'critique of language' is necessary precisely because philosophers and others use ordinary language, our fundamental means of representing the world and ourselves without an adequate insight into its presuppositions and structures." (Robert, 2010, 12) He rather argues that the preoccupation of philosophy must move from logical atomism to linguistic analysis. The problem that seems inherent in philosophical reality and facts is actually in the linguistic structures that express these things.

Interestingly, Wittgenstein's main interest in the *Tractatus* was the development of language into an exact science, such as mathematics. This, he hoped, in line with the tenets of the logical positivists, will definitely involve removing all the gibberish and nonsense contained in the language section. Literary theory shares in this classification and is considered as one of those absurdities that must be eliminated from the world of language, because literary terms are not really statements of facts, but rather ambiguous descriptions of ideas. Wittgenstein's goal was simply to develop language into an exact science. This will be further demonstrated in the formulation of his categorical proposition. Being a member of the analytical school together with Russell, their primary concern was to identify and distinguish which human statements are factual statements and which are not. In this wise, statements that are facts are meaningful and represent the exact state of the world, while those that do not represent the world are meaningless. Thus, the tension in language is to determine which statements are factual and which are not especially as is found in the composition of the early Wittgenstein in the *Tractatus*. Huemer (2004) observes that Russell's contribution here is quite remarkable and very radical, for it simply points to the position of the analytical school of philosophy in their attempt at resolving this tension. He famously argued "that statements containing definite descriptions or proper names are true only if there exists exactly one thing to which the name or description refers." (2) With this development, people began to focus on the meaning of sentences. In fact, logical positivists seek to deprive metaphysical language its power.

Thus, logical positivists and their attempts to strip metaphysical language of its power actually ended up strengthening the metaphysical and spiritual usage of language. Consequently, having taken up this onerous task upon themselves, they endeavoured to meet up with the challenge therefrom by dismissing metaphysics and the claims related to it as unfounded and meaningless. Their beliefs are based on a perceptual dichotomy between the content and constitution of metaphysical assumptions and their correspondence with observable reality. Wittgenstein, in his *Tractatus Logico-Philosophicus*, already made the point that metaphysics should be abandoned. Of course, this position has a strong influence on the projections of logical positivists. Wittgenstein's argument was based on the perceived meaninglessness of its constitution. Just like Wittgenstein especially in his early part, logical positivists explain that the content of logically appropriate language should record observations: the factual meaning of a sentence depends only on its sensory validation (Okolo, 2007).

When the logical positivist is confronted with the epistemological fact, the above argument is discarded, namely that there are many ways to obtain true knowledge that is not strictly dependent on the senses. Second, the senses are also not a provable and reliable source of epistemological facts. Language can give meaning to art, spirituality, belief, culture, morality, and social values that are not directly perceptual or empirically verifiable, but are as real as empirical knowledge.

Wittgenstein played an important role in influencing logical positivists, although he appeared to have differed with them quite substantially on a number of things like issues bordering on religion, metaphysics and transcendental realities. His position on these phenomena will be discussed as this study progresses. For a positivist, statements about religion, ethics, morality, psychology, spirituality are neither true nor false, just meaningless. The weakness of the positivist position is that its own criteria for evaluating meaningful statements are self-defeating. A verification theory is neither a tautology nor an empirically testable statement. No wonder Wittgenstein later quickly resigned from the position.

### **From *Tractatus* to *investigations*: The early and later Wittgenstein**

These two works: *Tractatus Logico Philosophicus* and *Philosophical Investigations* address the core issues of language and meaning in the philosophical elucidations of Wittgenstein. The *Tractatus* is considered as the early Wittgenstein, while the *Philosophical Investigations* is seen as the later Wittgenstein. In these works are contained some ideological similarities and dissimilarities that impinge on the philosophy of language as a matter of fact. A somewhat form of continuity is observable in the two in the manner of a refutation or correction of ideas he previously held that he realizes are now untenable. This does not mean that there are no elements of continuity between *Tractatus* and the *Investigations*. There is no doubt that both books revolve around the same central themes of language, logic, meaning, and thought. More importantly, both understand philosophy as 'critique' in the full Kantian sense of inquiry, that is, an investigation of the limitations of possible human experience and the intelligibility of human cognition (*Erkenntnis*) and it's a priori presuppositions and underlying structure. However, one sees the transformation of the Critique of Human Cognition to the Critique of Human Language in the *Tractatus* (Robert, 2010).

Robert Hanna would argue that Wittgenstein's *Investigations* was intended as a kind of antithesis to *Tractatus*. For him, the *Tractatus* only succeeds in presenting to the solipsistic mind the essentialist a priori reduction of logic, language, meaning, and even the world itself. That is to say, "the limits of my language mean the limits of my world." (Robert, 2010, 12) In other words: "that the world is my world, shows itself in the fact that the limits of language (the language which I understand) mean the limits of my world." (Wittgenstein, 62) Thus, "the world and life are one." (Robert, 2010, 12)

Unlike his position on the *Tractatus*, Wittgenstein's *Investigations* places the concepts of logic, language, meaning and mind into the everyday life of rational humans, and in their application and use of language in a concrete world. Robert (2010) articulates the basic results of this radical step in the *Investigations* as follows:

- a. That under the slogan; what has to be accepted is the given, so to speak, forms of life (*lebensformen*). Tractarian essentialism and Tractarian Transcendental Solipsism are heavily criticized and replaced by common sense or ordinary anthropocentric metaphysics, in which the essence and structure are evident. Nothing is hidden, although we usually don't see it due to our preoccupation with everyday tasks or philosophical confusion (Wittgenstein 1961, 435).
- b. Under the slogan "meaning is use", the essence of meaning in language becomes completely grounded in human behaviour and human life (Wittgenstein, 1961, 43).
- c. Under the heading "Language-Game", the scope of meaning is fundamentally expanded to include direct and indirect speech acts (*implicature*), indexing or contextuality, emotional

expressions, metaphors, and more generally all kinds of language acts (Wittgenstein, 1961, 23).

d. Under the slogan “human mind requires human behaviour”, Cartesian and Schopenhauerian solipsistic mind of the *Tractatus* become the activating structure of embodied human comportment (Robert, 2004, 13).

Furthermore, one has to admit that there is a fundamental shift in the *Investigations* from philosophy as a logical analysis or the ‘logical clarification of thoughts’ (4-112) to the argument that *logic is grammar*, or the postulation that logical form is a mirror of the dynamics, giving from the structure to the language used. Thus, *Investigations* raises some fundamental questions about how philosophical explanations emerge. Considered in this way, it would be presumptuous to claim that “the very idea of a philosophical explanation from the context of *decompositional analysis*, to the context of *giving reasons for actions*” (Robert, 2004, 13) is rejected in the *Investigations*. The reason is that, unlike in the *Tractatus*, where the explanation of some fact or phenomenon typically took the form of a systematic decomposition to simple entities plus a systematic reconstruction of the same fact or phenomenon in terms of those simple critics, using classical logic. In the *Investigations*, logic is not essentially separate from the original phenomenon of meaningful language itself, and is essentially normative, that is, logic is fully embedded in the all-encompassing rational human constructive activity called language, which is why Wittgenstein calls this logic “grammar”. Nevertheless, unlike the *Tractatus*, the *Investigations* is emphatically not a treatise in philosophical logic.

### Meaning in early Wittgenstein

In the essay, *Simply Wittgenstein*, by Klagge (2016), the author attempts to simplify Wittgenstein’s thinking for ease of understanding. He breaks down the *Tractatus* into what he considered to be the seven main propositions of the book in the following manner:

1. The world is everything that is the case
2. What is the case (a fact) is the existence of states of affairs.
3. A logical picture of facts is a thought.
4. A thought is a proposition with a sense.
5. A proposition is a truth function of an elementary proposition (An elementary proposition is a truth function of itself).
6. The general form of a proposition is the general form of a truth function.
7. Whereof one cannot speak, thereof one must be silent.

In the paragraphs that will follow, a clearer enlightenment and elucidation will be made by looking at Wittgenstein’s understanding on the picture theory of language, state of affairs, elementary propositions and the truth tables and truth functions in very brief manner. All of these categories are employed by Wittgenstein to demonstrate in what and in which way meaning is embodied in the usage of words and in propositional sentences. First is the picture theory concept.

The concept of picture theory of language was developed in the *Tractatus*, but later refuted in the *Investigations*. It posits that statements that convey meaningful propositions are pictorial representations or atomic facts. This association of linguistic and gestural meanings not only emphasizes the origin of meaning, as it permeates human practice and context, but also “depsychologizes” meaning: that is emphasizing gestural meaning and discouraging linguistic idealism. Thus, language is no longer a mental representation of facts, but an actual representation of world facts. This is based on Wittgenstein’s view that the world is all that is the case, and therefore language is the articulation of all that is in the world. Arif Ahmed explains that such an image naturally correlates with the classical empiricist view, which states that each word represents an object of direct sensory (or introspective) perception. This for him is because, in order to understand a picture

theory of language, one must be able to decompose facts into basic, atomic, elementary or composite elements. Only in this manner would the truth content of a proposition be manifested. If, as Wittgenstein stated, “the world is all that is the case” (i.e. state of affairs), what then is this state of affairs?

In the *Tractatus*, Wittgenstein considered the state of affairs as the ideal and correct state that the world should be in until a given set of statements about the real world is true. It is the condition of the world for a particular proposition to be true. The state of affairs is correlated with the truth function, which shall be explained later on. The state of affairs makes the truth, while the proposition bears the truth. This is because the sentence is an expression of the state of affairs. If a given proposition is not true, then it is false, but if it is true, then it is true. A complex state of affairs contains an atomic state of affairs, and an atomic state of affairs is composed of a particular and a property. Therefore, the linguistic signification of the name should be indestructible. Because it must be possible the state in which everything that is destructible is destroyed. This indestructibility has to do with the meaning of the word. If it can be destroyed, its meaning is automatically lost. Certainly, one is constrained at this point to explain further what an atomic or elementary proposition means.

An elementary proposition (also known as atomic sentences or atomic propositions) are the basic units of complex languages. Clusters of basic sentences or elementary propositions come together to form a complex sentence. Wittgenstein (1961) holds the view in the *Tractatus* that “the sense of a proposition is its agreement and disagreement with possibilities of existence and non-existence of states of affairs. The simplest kind of proposition, an elementary proposition asserts the existence of state of affairs.” (43) An elementary or atomic statement is a statement about an atomic fact, it can be true or false. Because of their logical meaning, elementary propositions are important in determining the truth value of sentences. Due to the rules of logic, any elementary/atomic sentence cannot be derived from another sentence, since that sentence is already in its elementary form. No two atomic sentences are incompatible, and no set of atomic sentences is self-contradictory. Elementary propositions must always correspond to the underlying realities of the world that makes them true or false. And it is in the search for the veracity and falsity of statements that Wittgenstein further introduced the concept of the truth value function.

A truth-function is a tool in logic that involves logical analysis and representation of truth values. A truth function involves the philosophical and logical evaluation of a statement to determine whether it is true or false. According to this standard, a statement or assertion is either true or false. The truth or falsehood of a statement can only be determined by a truth function, sometimes using a truth table. A statement can then have a truth value, depending on how true the statement is, after being analysed by the truth function. However, in what could be considered a departure from Wittgenstein’s earlier views, one notices that in the search for truth, instead of focusing on abstract ideals and principles, “the results of philosophy are the uncovering of one or another piece of plain nonsense and bumps that the understanding has got by running its head up against the limits of language.” (Ahmed, 63)

The work of shelling out the language actually reveals the truth-value function in language. Essentially people determine what is true or false based on what they say, which is the language they use. Words become actions, and to speak becomes, as it were, to act. Speech or language used takes context into account, and heavily points to the fact that no action is independent of context or out of context (the notion of context-free speech is of course absurd). So agreement and truth cannot be considered to be independent of the world or even above it and so cannot be uprooted from actions and engagements and more still the human language (Hagberg, 2005).

### **Meaning in later Wittgenstein**

Having devoted time to the constitutive embodiment of meaning in the early Wittgenstein, it is proper that attention is given to his later development and to finding out how he demonstrated his



understanding of the mode and manner of the functionality of language. Specifically here, certain concepts are outstandingly noticeable; meaning as use, family resemblance theory, language-game theory, the use of concepts and the case of private language and finally, his take on the forms of life. All of these are remarkably demonstrative of his strong departure from his earlier considerations and the preceding paragraphs will give a further elucidation on each of these, but only in a very brief manner for the purposes of space.

According to Wittgenstein, the meaning of a word is based on how the word is used and understood within a language community or institution. So in it is an insistence in flexibility of meaning and a nexus between words and their usage in a particular community of language users. This is a direct departure from the platonic idealism that influenced his earlier thinking in the *Tractatus*. Wittgenstein began his *Investigations* by criticizing Augustine's concept of language in the *Confessions* by presenting various attempts to define wordplay based on Augustine's concepts of language, and shows the problems with each of these definitions. It must be noted that in the *Tractatus*, the only permitted type of meaning (statement) is the meaning of (atomic) sentences (Robert, 2004).

However, Wittgenstein in the *Investigations* wanted to defend the thesis that for a large class (though not all) of the cases, in which we use the word 'meaning', (*Bedeutung*), the meaning of a word is its use in the language (*Gebrauch in der Sprache*), and sometimes the meaning of the name is explained (*erklärt*) by pointing to the bearer. Wittgenstein's above position in the *Investigations* led to an ideological advance in defining the philosophical concept of language and establishing that it was the use of meaning and this meaning must be discovered within the context of use of the community of language users. With this thesis a pathway is created for an equal recognition of the viability and tenability of every language as scientifically equipped for philosophical engagement or even for whatever use at all.

According to Hanna Robert, one can reconstruct Wittgenstein's argument for the meaning in use thesis as a two-stage line of dialectical argument: to demonstrate sceptically the inadequacies of classical theories of meaning (deconstructive criticism) and to propose the theory that 'meaning is use' is the best overall explanation for the phenomenon of meaning (inference to the best explanation, which results to an *action-explanation*). Robert (2004) further observes that meaning as a concept of use contains two distinct but ultimately related sub-concepts: (i) semantic function and (ii) semantic application. The semantic function of a word is the fact that any meaningful part of a language is essentially a "tool" that can be used rightly or wrongly in the context of a larger linguistic device or technology, and the semantic application of a word is such a fact that the meaning of a word depends on its implementation in the actual or possible locale and language community. Of course, semantic function and application can fall apart when language is misused (producing nonsense) or applied in new contexts (producing new meaning). But usually they complement each other seamlessly.

Essentially, Wittgenstein (1961) maintains that definitions are the product of "forms of life," which are categories of cultures and societies that use them. He therefore emphasized that to understand words, one must understand the society in which they are used. The implication being that, a helicopter judgmental attitude to either foreign or strange languages of people of other nations, in whatsoever form or shape as either scientifically deficient for philosophical studies should be jettisoned, because the owners of a language are the proper linguistic arbiters of their particular language and meaning must be sought in the "forms of life" within which the particular language is harboured, spoken and lived. Nevertheless, he further pointed out that although this may not be the case in all circumstances, it must still be emphasized that what really matters in language formation is a set of standards based on generally accepted norms of knowledge acquisition and transfer, but not completely strange within the forms of life of the particular context of the community of language users. The idea of 'form of life' in the *Investigations* brought into convergence a lot of issues, such that

the nature of certainty, the limits of epistemological doubt, and the end of explanation are all included. Being a form of life, language becomes by so doing a game to be played by the community of language users.

Language game theory is one of Wittgenstein's most popular theories, which argues that language is like a game with fixed rules. To speak meaningfully is to play a game, and to play well, one must abide by the rules of the game. The language game is a philosophical idea explored by Wittgenstein to explain the use and development of language. It explains the use of words, concepts and sentences outside of official or common usage. For Wittgenstein, concepts or words are best understood in the context in which they are used. Language game theory is a peculiar kind of criticism of Frege's essentialist understanding of language.

The whole idea of language games suggests that language is an activity whose meaning can only be revealed when the rule of the game is actively implemented. It equally demonstrates the multivariant ways in which language can be used among the community of language users (Lawhead, 2001). Interestingly, Wittgenstein (1961) insists that the fundamental function of a philosopher is not to be located in the proposal of new and strange theories but rather in removing "misunderstandings concerning the use of words, caused, among other things, by certain analogies between the forms of expression in different regions of language" (90). These language games are tied together by the family resemblance theory (*Familienähnlichkeit*), and they serve as points for comparative reasons "meant to throw light on the facts of our language by way not only of similarities, but also of dissimilarities." (130) With this in mind, Wittgenstein comes very strongly against any possibility of a private language.

The idea of a private language is more of a consequence of Wittgenstein's stance on language games. For him, any understanding or speaking a language only in the mind of a particular individual is completely untenable and inconsistent with language formation, because language is a public affair. Like any game, it requires players to participate in the game. For a language to be considered private, it does not have to be understood in ordinary linguistic terms. So private language is not just a language that one person speaks and understands, but a language that only one person can speak and understand. So, the question arises whether such a language is possible. Is it possible to have an unteachable and untranslatable language? Understanding Wittgenstein's position will lead to understanding his interest in conceptual and linguistic analysis. Reasons include the following facts: First, concepts lead to philosophy, that is, the problem of 'concepts'. Second, concepts can be analysed, that is, by analysing "applications of words." Third, individual concepts reflect individual lives. They express our interests and guide our interests. Which concepts one uses depends on one's cognitive needs, and in particular, the distinctions one finds necessary or convenient. Fourth, "concept formation" is not "dictated by the putative essence of reality." Concepts are signifiers of meaning and are fundamentally for public usage since they are within the embrace of the language game characteristics. It has already been said that language game theory is directly connected to the theory of 'family resemblance' in the determination of meaning in linguistic engagement.

Wittgenstein's theory of "family resemblance" is simply a philosophical position that presents the argument that, contrary to the original idea that things are connected by one particular thing, they may actually be connected by a series of interconnected realities. The reality of these links may contain unusual features. He uses this to articulate his stance on language-game theory. Despite his language game theory, Wittgenstein's theory of family resemblance asserts that there are actually many games that can have different meanings. The basis of this concept is his assertion that a certain theory of the nature of all general concepts, first proposed by Plato, then adopted by Aristotle, and adopted by many philosophers to this day, is false. He further insists that Platonic idealism and other universalist theories created ideological hallucinations and clouds that blur the correct understanding of the problem. Thus, one example of this illusion arises when a Platonic form is

projected to conform to every universal concept. Another example is seen in the philosophers insurance that there must be an underlying essence of all propositions and all language. And with this strong deconstruction of Platonic idealism as the basis of philosophy and linguistic fantasy, he develops his own unique critical analysis, which views language structure as correlational facts whose meaning is not due to any essence or general category, but because of structural and meaningful correlation.

Some of these concepts are not adequately captured by definitions because the meaning they carry is repeated multiple times. Nevertheless, Wittgenstein made some exceptions to the family resemblance theory. Wittgenstein did not rule out that the concept might have common features. However, he was opposed to any claims that attempts to stress that having a common characteristics means that it applies to all other situations in which the concept is used. Consequently, Forster would accuse Wittgenstein of confusing the salient features of the concept of family resemblance with the irreducibility of a single common feature, and then merging intersecting or overlapping sets of features with the characteristics that a concept can be developed in such a direction in the future.

### **Meaning in Wittgenstein's philosophy: Its gains for the indigenous languages**

The Tractarian projection that follows the trajectory of the Russellian project of the purification of languages embodies legitimate fears of a possible strangulation of languages and by so doing would have as its terminus the annihilation of cultures, in what can be called "linguicide"; since language is a bearer of culture and culture is equally a bearer of language. Ordinarily an insistence on a logically perfect language sends danger signal to an average African, who, emerging from the terrible experience of colonialism will immediately think that his or her language or culture or simply his or her world is the target for possible annihilation. This fear is stronger in the recent years with the prediction of UNESCO of the possible extinction of some languages in the world especially in the African world, in the nearest future if nothing is done about their preservation. Unfortunately, the Igbo language is one of these most endangered languages. And if for any possible reason, the Igbo language goes into extinction, then with it the entire cultural value, sense, meaning and worth of the people will be completely annihilated.

Painful as it is that the Igbo language as well as most African languages are no longer engaged as official languages and spoken as they are supposed to be spoken except within the ecclesial circles is most certainly regrettable (Kanu 2014, 2017 & 2018). Igbo language as many African languages are still bearing the brunt and nursing the heavy wounds of colonialism, since these languages denigrated and considered less important both in economic world as well as in political engagement (Kanu 2010, 2012 & 2013). Formal education is conducted in Nigeria for instance not with the indigenous languages like Igbo or Yoruba or Hausa or any other but with the English language, thus presenting a picture, that indigenous languages are of little or no consequence, or even completely unfit for any scientific engagement or of no philosophical value. Okonkwo (2019) makes a case for the legitimacy of all languages as proper and viable instruments, each in its own particular way for scientific useability and engagement, concerning which he insists:

Every naturally and humanly useable language must all in all have the basic universally-grounded duty-care-ability to cushion presuppose-able universal-grammatical-commonness that is also deducible in and through inter-subjective-share-hold-able abstractions in which and through which language can be commonly defined as an 'identity-in-difference of universal, grammatical forms and particular, lexical contents. (13)

Wittgensteinian insistence on the viability of ordinary language as formidable tool for any philosophical enterprise demonstrates in unmistakable terms the equal validity of languages and with this all African languages are placed on the same par with any other language of the world. Already Okonkwo (1980) has insisted that "the case that the theory of 'equal validity in language use'

presupposes is precisely on the facts of a critical foundation that every natural human language as a social institution contends inherently the mediations of the ‘universal-intersubjective-communality-grounds.’” (47) He further locates the basis for this on the singular fact that all languages are fully equipped with all the accessories of scientific engagement and manipulations.

The case that Wittgenstein advocated for in his *Philosophical Investigations* clearly demonstrates this fact in very clearer terms. His insertion of meaning as in use and the recognition of the “forms of life” create room for a legitimate recognition of the scientificity of every naturally human language irrespective of its remoteness or metropolitan constitution in reference to its domiciliation, neither does it depend on the largeness of the numerical strength of its speakers or readers. It is first and fundamentally a language of the people and must be treated and recognized as such, for it through and only with it that the key to unlocking the entire cultural world of a people with all the endowments with which they are equipped is located. Thus Okonkwo (1980) making reference to the contributions of Kojève on this very issue avers that “the understanding of man as man in his origin implies the understanding of his formal ‘I’ revealed by speech (language) and through this facility or medium, man as man actualizes his self-consciousness and the imperative mutual recognition of other subjects that inherently also exist because of their ‘shareholdings’ that maintain the consequential, implicit and explicit grounded universality.” (3)

The gains of all indigenous languages especially in philosophical setting are predicated to some extent on the consideration of the fact that with equal validity of languages a profound enrichment to the human community is receptively inaugurated with the provision of multivariant options of many languages for the one truth, because to have one language is to have one philosophy, but many languages necessarily lead to many philosophies for which Popper (2002) declares: “Alle Menschen sind Philosophen” (23). Consequently restating the fact that philosophy is ‘language-bound and tongue-tied’ since every human language has all it takes to undertake diverse activities within the human family, Okonkwo (2019) avers:

Every human language has all the appurtenances to effectively be used for any given philosophical dealings or encounters that implicitly must balance philosophy as the science of sciences. This further implies that every language whether dominant, major or minor as it may be prejudged within its worldhood environmental, stands equal to answer the question of need as an own-ness language. (47)

Interestingly, in the 1980 UNESCO MacBride project (Many Voices One World: Communication and Society Today and Tomorrow) an emphasis on the equal validity of all natural human languages receives even firmer demonstration in very declarative terms. In this wise, “no language therefore has the absolute privilege and/or design as the sole discoverer or explorer of and for scientific indices in and for the world that is all the case.” (Okonkwo, 1980, 47)

## CONCLUSION

In the text *Introduction to Later Wittgenstein for Students*, the author Don Waterfalls supports Frege’s view that reading Wittgenstein is a very difficult task, because he is not a thinker who organizes his thoughts in traditional prose, but one who writes in numbered paragraphs (or, in some notebooks, or paragraphs later numbered by editors). Works like the *Philosophical Investigations*, which were ready for publication at the time of his death, had to wait for a very long time before its eventual publication, especially the first half. The second half appears not to be completely finished, although its pattern was clear enough. With some exceptions, one can usually identify different themes and transitions from one theme to another. Although *Philosophical Investigations* is quite complex, much more so than *Notebooks*, it can even show patterns in which a thinker’s mind seems to wander or switch suddenly from one subject to another.

Waterfall went on to explain some of the complex ideas contained in the *Philosophical Investigations*. One of them is the idea of “truth conditions”. He explained what that was when maintaining that a truth condition is a state of the world that a statement is intended to describe or represent. He argues that it is wrong to think of sentences as words/graphics. Any symbol can represent the world This simply means that the truth-value of a proposition is embodied in a sentence. The truth condition therefore lies in how the statement in question corresponds to the reality at hand. With this, one witnesses the gradual development and striking departure of Wittgensteinian thought from what it was earlier on. In any case,

The *Tractatus* had a linear, logical format, each proposition fitting neatly into its appointed place. The later book, however, has neither a beginning nor end. When you start reading it, you are thrust into the middle of a rambling album of sketches, remarks, questions, descriptions, dialogues, jokes, stories, and confessions that unfold in almost a stream-of-consciousness style. (Lawhead, 2001, 510)

In fact, one can decipher many intellectual similarities between Frege’s philosophical thoughts and Wittgenstein’s, especially in the *Tractatus Logico Philosophicus*. This is not surprising since Wittgenstein was heavily influenced by Frege in his writings. Like Wittgenstein, Soames (2010) argues that “sentences that are neither true nor false are not epistemically neutral. Since the norms governing belief and assertion require truth, asserting or believing something that isn’t true is incorrect no matter whether the thing asserted or believed is false or truth valueless.” (28) What is actually required in the particular circumstance in focus is a gentle stride into the world of the community of language users to decipher the association of meaning with the terms in use in accordance with the rules guiding their verbal and literary cognition and it is in this that this paper struggles to ground Wittgenstein’s insistence on the equal validity of all languages.

This explains the fact that one can see in Wittgenstein’s formulation of the concept of language games that the limits of syllables are not determined by the imposition of some external linguistic constraint or restriction, but by the inner range of possible collective movements within the language game and these must be respected. Thus, just as the boundaries of vision are described not by “extrinsic demarcations” from beyond, but by their “intrinsic reach” so that the boundaries that can be expressed in language games are to a certain extent self-determined or autonomous. And this autonomy is fundamentally demonstrated in the particular context within which any particular language lives and is naturally domiciled. Meaning therefore must be sought within the context and world of the community of language users and this is a win for all indigenous languages of the world.

Indeed, search for meaning is of central importance not only in Wittgenstein’s first book, but also in his later writings, especially in *Philosophical Investigations*. Certainly, despite the seeming complexity and difficulty of reading Wittgenstein, his thoughts endow the intellectual world with a deep search for linguistic clarity and meaning. And so transmuting from the logically perfect language theory to the assertion that meaning is found in its usage and his insistent recognition of autonomous forms of life as viable custodians of culture in all its legitimacy, makes ordinary language an inevitable legitimate option available to philosophy and to any other scientific engagement. So despite the ambiguity of his literary style, his goal was to bring clarity to the realm of human language and thought. A harmonization of style is consciously intended here, because of his departure from the conservative mode of expressing philosophical views and more still of his option on embarking on “new paths in philosophy”. Consistent with this idea, Hagberg points out that “a general conception of the meaning of a word and a corresponding attempt to theorize that meaning” would constitute traditional approaches that create “a fog” around the idea that Wittgenstein’s method seeks to clarify.

Conclusively, Wittgenstein’s understanding of meaning in the *Philosophical Investigations* is not an isolated one, but one that has to be located in the meaning that is demonstrated within the community of language users. The general rules of language do not have parentheses and the

expressions used do not involve other kinds of objects or other possible worlds. On the contrary, they are well anchored in the real world of humans. This understanding of linguistic engagement is not just a side effect of Wittgensteinian picture of language, but reveals the central role linguistic engagement plays in the complex system of human interaction. It is important to note that in Wittgenstein's view, meanings are not in the mind, they are anchored in words, social practices and physical environments. Summarily, it should be pointed out that the "picture of language" has many literary-theoretical implications. Notably, his embedding of language and meaning as basically public in concrete social practice brings observations of the relationships between speaker's utterances that have implications in the way one approaches literary texts. Thus, listening must take precedence over psychological reading in order to fully understand what a person is saying.

## REFERENCES

- Ahmed, A. (1953) *Wittgenstein's Philosophical Investigations: A Critical Guide*. Cambridge: Cambridge University Press.
- Barbotin, E. (1975) *The Humanity of Man*. Maryknoll: Orbis Books.
- Cassirer, E. (1944) *An Essay on Man: An Introduction to a Philosophy of Human Culture*. New Haven: Yale University Press.
- Comte, A. (1974) *The Positive Philosophy of Auguste Comte*. Trans. Harriet Martineau. New York: D. Appleton.
- Fann, K. T. (1971) *Wittgenstein's Conception of Philosophy*. Berkeley: University of California Press.
- Fanon, F. (1963) *The Wretched of the Earth*. New York: Grove Wine Field.
- Gningue, S. M., Peach, R., Jarrah, A. M., & Wardat, Y. (2022). The relationship between teacher leadership and school climate: Findings from a teacher-leadership project. *Education Sciences*, 12(11), 749. <https://doi.org/10.3390/educsci12110749>
- Goffman, E. (1981) *Forms of Talk*. Philadelphia: University of Pennsylvania Press.
- Hacker, P. M. S. (1999) Frege and the later Wittgenstein. In A. D. Hear (Ed.). *German Philosophy Since Kant*. Cambridge: Cambridge University Press
- Hacking, I. (1957) *Why Does Language Matter to Philosophy*. Cambridge: Cambridge University Press.
- Hagberg, G. L. (2005) *Meaning and Interpretation: Wittgenstein, Henry James, and Literary Knowledge*. London: Cornell University Press.
- Hamlyn, D. W. (1980) *The Theory of Knowledge*. London: Macmillan Press.
- Harris, R. (1988) *Language, Saussure and Wittgenstein: How to Play Games with Words*. London: Routledge.
- Hegel, G. W. F. (1969) *Science of Logic*. Trans. A. V. Miller. New York: Humanity.
- Hegel, G. W. F. (1970) *Eva Moldenhauer and Karl Markus*. Frankfurt: Suhrkamp.
- Huemer, W. (2004) *Wittgenstein, Language and Philosophy of Literature*. London: Routledge.
- Jam, F. A., Singh, S. K. G., Ng, B., & Aziz, N. (2016). Interactive effects of Gender and Leadership Styles on Open Service Innovation: A Study of Malaysian Doctors, *International Journal of Economics Research*, 13(3), 1287-1304
- Jarrah, A. M., Almassri, H., Johnson, J. D., & Wardat, Y. (2022a). Assessing the impact of digital games-based learning on students' performance in learning fractions using (ABACUS) software application. *Eurasia Journal of Mathematics, Science and Technology Education*, 18(10), em2159. <https://doi.org/10.29333/ejmste/12421>
- Kanu, I. A. (2010). On the Problem of Religious Language. *Professor Bassey Andah Journal of Cultural Studies*. 4. 56-66.

- Kanu, I. A. (2012). The Role of Language in the Socio-political Philosophy of John Locke. *International Journal of Humanities and Social Science*. 2(14): 126-131.
- Kanu, I. A. (2013). African Identity and the Emergence of Globalization. *American International Journal of Contemporary Research*. 3(6): 34-42.
- Kanu, I. A. (2013). The Dimensions of African Cosmology. *Filosofia Theoretica: Journal of African Philosophy, Culture and Religion*. 2(2): 533-555.
- Kanu, I. A. (2014). Igbo Proverbs as depositum of Igbo-African philosophy. *International Journal of Humanities and Social Sciences*. 4(1): 164-168.
- Kanu, I. A. (2014). The Interplay of Language, Violence, Revolution and Liberation in Franz Fanon's African Political Philosophy. *PARIPEX: Indian Journal of Research*. 3(8): 148-150.
- Kanu, I. A. (2014). The Place of Igbo Myths in Igbo-African Philosophy. *American Journal of Contemporary Research*. 4(2): 98-102.
- Kanu, I. A. (2017). Igwebuiké as an Igbo-African modality of peace and conflict resolution. *Journal of African Traditional Religion and Philosophy Scholars*. 1(1): 31-40.
- Kanu, I. A. (2017). On the Sources of Igwebuiké Philosophy: Towards a Socio-cultural Foundation. *International Journal of Religion and Human Relations*. 9(1): 1-23.
- Kanu, I. A. (2018). Igwebuiké and the Logic (Nka) of African Philosophy. *Nnadiébube Journal of Philosophy*. 2(1): 1-13.
- Kanu, I. A. (2018). Igwebuiké as the Expressive Modality of Being in Igbo Ontology. *IGWEBUIKE: An African Journal of Arts and Humanities*. 4(5): 12-21.
- Kanval, N., Ihsan, H., Irum, S., & Ambreen, I. (2024). Human Capital Formation, Foreign Direct Investment Inflows, and Economic Growth: A Way Forward to Achieve Sustainable Development. *Journal of Management Practices, Humanities and Social Sciences*, 8(3), 48-61.
- Kenny, A. (1973) Wittgenstein. Cambridge: Harvard University Press.
- Kishik, D. (2008) Wittgenstein's Form of Life. London: Continuum Studies Publishers.
- Klagge, J. (2016) Simply Wittgenstein. New York: Simply Charly Publications.
- Kripke, S. (1982) Wittgenstein on Rules and Private Language. Cambridge: Harvard University Press.
- Lawhead, W. F. (2001) The Voyage of Discovery: A Historical Introduction to Philosophy. USA: Wadsworth Group.
- Luzbetek, L. J. (1988) The Church and Cultures. New York: Orbis Books Maryknoll.
- Ogden & Richards, I. A. (1972) The Meaning of Meaning. London: Routledge & Kegan Paul Ltd.
- Okolo M. S. C. (2007) The African Literature as Political Philosophy. Dakar: Codestra Books.
- Okonkwo, J. (2014) Appropriate Language in Education: The Strategy for national Development in Nigeria. Z. Babaci-Wilhite (Ed.). Giving Space to African Voices: Rights in Local Language and Local Curriculum, Rotterdam: Sense Publishers.
- Okonkwo, J. (2019) Okwu Danahu Onu: The Basic Principle of Igbo Philosophy of Language, Inaugural Lecture Serial no. 6. Owerri: Imo State Universal Press.
- Okonkwo, J. (2019) The Universal Ground: The Critique of Equal Validity in Language Use", in *Journal of Languages and Culture*. 19(1): 43-53.
- Ozumba, G. O. (2004) Introduction to Philosophy of Language. Ibadan: Hope Publications.
- Robert, H. (2010) From Referentialism to Human Action: the Augustinian Theory of Language. Wittgenstein's Philosophical Investigations: A Critical Guide. Arif Ahmed (ed.). Cambridge: Cambridge University Press.
- Russell, B. (1971) Logic and Knowledge. R. C. Marsh (Ed.). New York: Capricorn Books.
- Semton, R. A. (1984) A Short History of Modern Philosophy. London: Routledge.
- Soames, S. (2010) Philosophy of Language. Princeton: Princeton University Press.
- Strawson, P. F. (1959) Individuals. New York: Garden City.
- Styler, S. (1987) The Unspeakable Discourse, Dialogue and Rhetoric in the Postmodern World. Wisconsin: The University Press.

- Tashtoush, M. A., Wardat, Y., & Elsayed, A. M. (2023a). Mathematics distance learning and learning loss during COVID-19 pandemic: Teachers' perspectives. *Journal of Higher Education Theory and Practice*, 23(5). <https://doi.org/10.33423/jhetp.v23i5.5933>
- Tashtoush, M. A., Wardat, Y., Aloufi, F., & Taani, O. (2022). The effect of a training program based on TIMSS to developing the levels of habits of mind and mathematical reasoning skills among pre-service mathematics teachers. *Eurasia Journal of Mathematics, Science and Technology Education*, 18(11), em2182. <https://doi.org/10.29333/ejmste/12557>
- Teichman, J. (1988) *Philosophy and the Mind*. Oxford: Basil and Blackwell Ltd.
- Wardat, Y., Jarrah, A. M., & Stoica, G. (2021). Understanding the meaning of the equal sign: A case study of middle school students in the United Arab Emirates. *European Journal of Educational Research*, 10(3), 1505-1514. <https://doi.org/10.12973/eu-jer.10.3.1505>
- Waterfall, D. (2014) *An Introduction to Later Wittgenstein for Students*, New York: Smash Words.
- Wittgenstein, L. (1953) *Philosophical Investigations*, Trans. G. E. Anscombe, London: Blackwell Publishing.
- Wittgenstein, L. (1961) *Tractatus Logico Philosophicus*. Trans. D. F. Pears and B. F. McGuinness with an introduction by Bertrand Russell, London: Routledge and Kegan Paul Ltd.
- Wittgenstein, L. (1969) *The Blue and Brown Books*. U.S: Basil Blackwell.
- Wittgenstein, L. (1984) *Culture and Value*. Trans. Peter Winch, (Ed.). G. H. Von Wright. Chicago: University of Chicago Press.
- Wohlfart, G. (1981) *Der Spekulative Satz*. Berlin: De Gruyter.