

Revisiting the Concept of ‘Language and Cognition’

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Abstract

Language is a means by which communication is possible. Cognitive processes are necessary in perceiving and interpreting utterances and signs termed ‘language’ as to give them meanings. Without cognition, communication is indeed next to impossibility. Different individuals could not be guessing meanings of utterances and signs all the times. In this respect, many scholars picked interest in answering different questions as they attempt to achieve the objective of explaining the relationship between language and cognition. This paper reviews the scholarly debates as to why and how language and cognition are related. It also looks into the phenomenon of inter-relationship between language and cognition. Finally, the paper presents some implications of the study to language educators. It contends that further studies aiming to investigate into whether language variations lead to differences in the way and manner of thoughts, should treat language and environment as different variables

Key words: Language, Cognition, thought, theory of mind

Introduction

Language is inevitable in human folk and makes human beings unique from other creatures on earth. The specialty and inevitableness of a language could be determined from the point of view that, no activity could be effectively carried out without the use of a language. This is being it scientific, technological or social. Perhaps, even human thoughts and plans are possible by the use of language. Therefore, language could be considered as important machinery useful not only in communication purposes but all developmental processes of human kind. The fact that scholars over the years and across the globe carried out studies investigating different phenomena regarding languages could not be overemphasized.

Cognitive scientists have long debated on whether language and cognition are separate mental faculties or whether language emerges from general cognitive abilities (Catherine, 2009). The relation between language and cognition in child development is in fact, one of the oldest and most debated questions, which has recently come back to the forefront of several disciplines in the social sciences (Maya, 2001). Therefore, there is the need to clarify the existing questions as thus:

- i. Whether there is a relationship between language and cognition?
- ii. Whether the people who speak different languages think differently?
- iii. Whether there is certain level of cognitive development required for language acquisition?

This paper is therefore geared towards reviewing such scholarly debates regarding language and cognition. It is an attempt to find out if the above raised questions are so far unarguably answered during the long-time debate on the relationship between language and cognition.

Conceptualization of Terms

This segment presents conceptualization of the central terms of the paper's arguments thus:

Language Acquisition

Language acquisition is the process by which humans acquire the capacity to perceive, produce and use words to understand and communicate. It involves the picking up of diverse capacities including syntax, phonetics and an extensive vocabulary (Stephen & Diane, 1999; Wikiversity, 2017).

Cognition

As a word, cognition originates from Latin. Latin philosophers used the word *cognitio* as a translation of the Greek *gnosis*, which the Western philosophical tradition translates as 'knowledge'. The word is equivalent to *connaissance* in French, *conoscenza* in Italian and *erkenntniss* in German. It refers to the mental process of knowing, including aspects such as awareness, perception, reasoning, and judgment (Maria, Nicola & Simona, 2006). It is therefore the psychological processes involved in acquiring knowledge and understanding which is guided by experience, and the senses.

Theory of Mind

Theory of mind refers to the ability to represent, conceptualize, and reason about mental phenomena. It is a domain-specific conceptual structure that treats certain perceptual input as an agent, an intentional action and belief among others (Malle, 2002). Indisputably, humans are not born with a fully mature theory of mind. The developmental pioneers of this theory are revealing components of the cognitive system that is at issue here. In particular, the conceptual framework of organization, intentionality and mind most likely grows out of perceptual discrimination in infancy between birth and about 18 months. All we see at birth is a capacity to imitate for instance (Meltzoff & Moore, 1989).

Language and Cognition/Theory of Mind: Which affects which and how?

Modern language is typically described upon several distinct levels thus; phonology, morphology, syntax, and semantics. To define language, the phonological level is less important. Hence, even though phonetic advances may have played an important role in the evolution of human speech as indicated by scholars such as Studdert-Kennedy (2000), it does not emphasize its importance. This is because, if phonetics had been the leading level in language development, very early forms of languages may not have been spoken but signed (Donald, 1998; Corballis, in Malle, 2002). However, the next two levels, morphology and syntax, can vary extensively within systems that should count as language. Furthermore, language involves central cognitive distinctions, such as perspective, modality, static and temporal specifications, causality as well as intentionality among others. If a representational system contains none of these distinctions, which is indeed a photography-like purely depictive system, it should not be considered a language (Malle, 2002).

However, there have been divergent perspectives concerning the relationship between language and cognition. The views vary along many dimensions of which some are the following:

- i. The innateness of knowledge versus their general and connected nature
- ii. The existence of domain-specificity of knowledge representation versus their general and connected nature
- iii. The existence of perceptual or cognitive prerequisites and determinants of language acquisition versus the structuring role of language and of language-specific properties in cognition
- iv. The relative importance, which is attributed to structure versus function in language in different views of child language development (Bloom, 1996; Hickman, 1998; Maya, 2000).

For the fact that, among others however, language is learnt by children within early age with little cognitive understanding of the meanings of the words, Chomsky suggested that language is separable from cognition (Berwick in Perlovsky & Sakai, 2014). He affirmed that, children are born with 'Language Acquisition Device' (LAD) and with specific linguistic knowledge, which involved word classes and structures that confine possible grammatical rules. Instances of linguistic overgeneralization by children are evident to the fact that children extract rules from the language they hear and not imitate. Thus, they make utterances, which they must not have heard from adults, such as *goed* as in English (Catherine, 2009). Relevant examples are traceable in many other languages. An example is the overgeneralization of the second and third person pronouns in *Sakkwatanci* (a dialect of Hausa) thus, *kuya*, *suya*.

On the contrary, behaviorists have the assumption that all animal behavior could be explained in terms of conditioned responses to stimuli. The same form of explanation could ultimately be extended to explain most if not all human behavior as well. Moreover, Piaget's theory shows the relationship between language and cognition. It considers language to follow the normal cognitive development process of *sensori-moto* period, *pre-operational* stage, *concrete operational* stage and the *formal operational* stage. Child's language is interpreted as egocentric at earlier stage before transforming to social (Piaget 1923; Maya, 2000). Nevertheless, scholars that are of the view that language precedes theory of mind emphasize on how behavior explanation fundamental to making sense to other minds are to some significant extent embedded in conversation (Malle, Knobe, Laughlin, Pearce, & Nelson, 2000; Malle, 2002). Meta-representation itself may be dependent on language. For example, the child's well-known transition from appreciating desires to appreciating both desires and beliefs comes with engagement in conversation (Harris, 1996).

Conversely, the most prominent evidence against the notion that language precedes theory of mind (at least in development) is that language acquisition itself appears to rely on theory of mind skills. Researches demonstrate that the capacity to engage in joint attention – registering that self and other are both attending to the same object - is critical in early word learning and referential communication (Baldwin, 1993). Similarly, Abry & Labossiere (2000) claim that vocalizations in communication require a monitoring system to distinguish own thought, own vocalization, other's vocalization, and others' thought. Another evidence in support of this view is that in principle, once an organism uses a *symbol*, a convention is involved requiring that the symbol user assume that others interpret the symbol the same way as the symbol user does (Hobson, 2000). If one defines *symbol* in this way, and if language uses such symbols, then it follows that theory of mind precedes language.

To end with, neither the position that language precedes theory of mind nor the position that

theory of mind precedes language is convincing especially according to the current development. Therefore, the claim that the two faculties co-evolved becomes progressively more reasonable. Nevertheless, claims of co-development and co-evolution are easily made. Hence, the challenge lies upon digging out the details of such a claim and say exactly how and why the two faculties co-emerged (Malle, 2002).

Language and Thought: Which Does What to Which?

Language psychologists such as Eleanor Rosch had been interested in finding out whether there is a link between way of thought and language (Christie, & Gentner, 2012). Whorf, an anthropologist was impressed by the immense variety displayed by human cultures. At the same time, Whorf was – as a linguist – impressed by the variety of grammatical forms and modes of conceptualization displayed by the world natural languages. For instance, language such as Arabic, English and Hausa have multiple color terms, whereas some, such as Dani¹, have just two terms meaning roughly light and dark. Whorf proposed that these differences have significant effects on the cognitive process of the people in question leading to apprehend the world quite differently (Whorf, 1956). Gumperz & Levison (1996: 25) presented the below Whorfian syllogism which affirms that, individual thinking differ across linguistic communities partially because of their native language:

- i. Different languages utilize different semantic representation systems which are informationally non-equivalent (at least in the sense that they employ different lexical concepts);
- ii. Semantic representations determine aspects of conceptual representations;
therefore
- iii. Users of different language utilize different conceptual representations.

A similar opinion held by Vygotsky, (1962) postulates language as a tool, which allows and determine the emergence of rational thought and of complex social interactions. However, many scholars conducted research on the relationship between understanding of content statements and theory of mind. See: Villiers & Villiers, (2000); Tager-Flusberg (2000); Guajar-flusberg & Watson, (2002); Lohmann & Tomasello, (2003); Carol (2006). Some studies are of the conclusion that, understanding of sentence structure is necessary for the differentiation between false and true beliefs (Carol, 2006). An example of sentence structure is: “Musa thinks the rains are tears of crying elephant.” Here, the sentence as a whole might be true though the sentence embedded in it (rains are tears of crying elephant) is wrong. The truth of the entire sentence is therefore independent of the truth of the embedded sentence (Villiers & Villiers, 2000; Carol, 2006).

Position of the Study

From the foregoing discussion it can be seen that there is a relationship between language and cognition. This is in line with the arguments of scholars such as Whorf, (1956), whose findings brought the phenomenon of the Whorfian syllogism, which affirms that, the difference in thinking across linguistic communities has result from language variations. Similarly, views of scholars such as Carol, (2006) thus, understanding of sentence structure is necessary for the differentiation between false and true beliefs shows the relationship between language and cognition. The argument of Chomsky as noted by Perlovsky & Sakai,

¹ The [Dani languages](#) differentiate only two basic colors, *mili* for cool/dark shades such as blue, green, and black, and *mola* for warm/light colors such as red, yellow, and white.

(2014) that children learn to speak in early ages with little understanding of the individual words notwithstanding. This is because, the understanding of the meaning of the individual words develop simultaneously with cognitive development.

Moreover, the difference in thinking by people who speak differently might not have been caused by the languages differences. Rather, other factors such as environmental could have significant effect on the way people think and act. For instance, Whorf, (1956) has not made any effort as to treat language and environmental differences as separate variables. Therefore, the study is not free of confusion thus language and environment as separate independent variables.

However, whether there is certain level of cognitive development required for language acquisition or not, language and cognitive development are simultaneous processes. This is in line with the argument put forward by Abry & Labossiere (2000) thus, vocalizations in communication require a monitoring system to distinguish own thought, own vocalization as well as other's vocalization, and others' thought. Therefore, the interdependence between cognitive development on one hand and language development on the other is never ignorable.

Language and Cognition: Implications to Language Educators

Language influences the socio-political, educational, intellectual and personal lives of individuals. That is to the extent that their thoughts, beliefs and actions are shaped by language (Sani, Mansur & Tsaure, 2016; Tsaure & Sani, 2016). Therefore, language educators are to be conscious of the mutual inter-connection between language and cognition. During instructions, the teachers' linguistic level should not be above the understanding of the learners. The teachers it to, therefore consider the learners' age as well as other factors relevant to their learning abilities.

Conclusion

The question as to whether language precedes theory of mind and/or vise versa has drawn the attention of many scholars. This paper has reviewed such scholarly debate on the relationship between language and cognition. The paper further revisits the impact of language on thoughts. Lastly, the paper presents some implications of the study to language educators.

Suggestions

- i. As a challenge, there should be further studies explaining how and why language and cognition co-exist or are interwoven.
- ii. Further studies aiming to investigate into whether language variations lead to differences in the way and manner of thoughts, should treat language and environment as different variables.

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