A COMPARATIVE STUDY OF VYGOTSKY'S PERSPECTIVES ON CHILD LANGUAGE DEVELOPMENT WITH NATIVISM AND BEHAVIORISM

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ABSTRACT

This study aimed at investigating the similarities and differences between Vygotsky's perspectives on child language development with nativism and behaviorism. Proposing the idea of the Zone of Proximal Development, Vygotsky emphasized the role of collaborative interaction, scaffolding, and guided participation in language learning. Nativists, on the other hand, believe in the existence of Language Acquisition Device. They maintain that language is innate and acquisition is instantaneous. They also believe that acquisition happens in spite of inadequate input. Behaviorists claim that nurture is crucial in the process of language development. They believe that language is taught through reinforcements in the environment. Children associate certain stimuli with certain behaviors and responses.

Key Words: Behaviorism, Child Language Development, Nativism, Vygotsky's Theory, Zone of Proximal Development,

1. Introduction

Children can play a significant role in the future of a society, and the development of a society is impossible unless enough attention is paid to the growth of children (Pellegrini, 1991). Research on the child language development can clarify the framework of effective educational methods and help children reach their full potential. The first most important point to consider is human beings' abilities in using a limited number of signs for talking. These abilities can form in the childhood up to five years of age and enable adults to think about different subjects and share their views with each other. What has preoccupied the mind of psychologists and experts in the field of education is the way language is developed and the relationship between language and cognition.

In the field of language acquisition, there are several approaches. Some scholars focus their attention on theoretical issues while some others study cognitive, social, or developmental factors in the process of language acquisition. What is definitely clear is that children have a prodigious ability to acquire a language. With the emergence of first signs of communication such as babbling and crying, they can convey several messages, and at the age of one, they can imitate and gradually produce first words. At about 18 months of age, they combine several words in a remarkable way so that they produce three-word sentences. At the age of three, as they mature linguistically, they can participate in conversations, ask questions, and answer questions.

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Ingram (1989) describes four stages of child language development:

- Pre-linguistic period which starts from birth to age one,
- One-word stage starting from age one to 18 months,
- Production of basic words starting from 18 months to age two, and
- Production of simple and complex sentences starting from age three to the early years of elementary school (p. 17).

Having passed the above-mentioned stages, the child acquires the social roles of language. That is, the child learns what to say and what not to say in different situations.

2. Theories of child language development

Several theories have been proposed with regard to child language development: Cognitive Theory, Imitation and Positive Reinforcement, and Innateness of Certain Linguistic Features. All three theories offer a substantial amount of proof and experiments, but none of them have been proven entirely correct. The search for how children acquire their native language in such a short period of time has been studied for many centuries. In a changing world, it is difficult to pinpoint any definite specifics of language because of the diversity and modification throughout thousands of millions of years. Among the well-known theories, some of them will be discussed below.

2.1. Behaviorism

There are several theories about child language development each of which looks at this issue from a specific perspective. One of the theories about child language development is behaviorism. Although this theory has been rejected by many researchers, some theorists, researchers, and psychologists tried to discuss its merits and demerits. Behaviorism deals with behavioral changes and the role of environment in these changes. Behaviorists believe that speaking a language is a skill and there is no difference between speaking a language and other behaviors. Behaviorism is the school of thought that "given the response the stimuli can be predicted; given the stimuli the response can be predicted" (John B. Watson, as cited in Goodwin, 2008). Watson (1924) believed that language, unlike its complications, is basically a simple behavior. Generally, behaviorists emphasize the observable linguistic behaviors and try to find a relationship between responses and stimuli which have an environmental origin. From a behaviorists' point of view, an effective linguistic behavior is a correct response to a stimulus. If a specific response is reinforced, its changes into a habit or is conditioned, and therefore children repeat those reinforced linguistic responses. One of the prominent figures in behaviorism was Skinner (1957) who introduced the concept of operant conditioning.

2.1.1. Operant Conditioning

Operant conditioning is one of few different theories based on behaviorism and conditioning. The most famous and early behaviorist is John B Watson. He is referred to many as the father of behaviorism and is known for his work on conditioning baby Albert to fear a white rat by associating it with loud noise that scared the child (McLeod, 2007). Eventually the loud noise was no longer necessary in producing a reaction of fear. Classical conditioning theory by Pavlov (1927) focused on creating associations and learnt responses. His famous experiment with the salivary reaction in dogs and conditioned stimuli were referred to as Pavlov's dog (McLeod, 2007). The difference between the two type of conditioning is that skinner focused more on the external rather than internal associations.

Along with Pavlov, Bandura was also a well-known behaviorist that coined the social learning theory, which shows the importance of observing behaviors in learning (McLeod, 2007).

Skinner believed that the study of observable behaviors was more productive than the study of internal mind (McLeod, 2007). He experimented his theory by observing the causes of actions and the consequences that were paired with them. Operant conditioning based its theory on the environmental conditions that shape behaviors by the addition or subtraction of rewards or punishment that leave either a desired or undesired effect on the subject. Through the use of rewards and punishment, good behavior can be reinforced and strengthened while bad or undesired behavior can be eliminated. Skinner used his invention the Skinner Box to demonstrate the effects of operant conditioning on rats and pigeons through the use of levers and electric currents to condition their behaviors (McLeod, 2007). Skinner's ideas were criticized by Chomsky (1959).

2.2. Nativism

Experts in the field of language acquisition believe that behaviorism cannot explain the process of language development since it does not take into account the role of cognition and thought. In other words, first language acquisition is so complicated that it cannot be interpreted by behaviorism. Another theory which has attracted researchers' attention during the last two decades is nativism whose pioneer is Chomsky (1975). He introduced the theory of *Principles and Parameters* and believed that languages are similar in terms of their principles and the difference lies in their parameters. In line with Universal Grammar, it can be explained that all languages have common basic grammatical structures. In other words, the main features of languages which are common among all languages are abstract in nature to the extent that they cannot be transferred from adults to children through imitation and communication. Therefore, Chomsky concludes that these universal features are part of a child's genetic predisposition and the child is born with an inborn knowledge of universal grammar.

Chomsky believes that this theory facilitates the process of first language acquisition and children do not acquire the principles of a language which are common among all languages but he is born with the knowledge of those principles and they are part of his genetic predisposition. The child must learn the parameters which are different across languages. (Radford, 1990). In this theory, parameters are limited. That is, parameters cannot appear in an unlimited number, rather, there are two possibilities: each feature either exists or does not exist. For instance, unlike Persian language, English language is head first. In English the subject of a sentence must come at the beginning of the sentence whereas in Persian, it can be hidden and Persian is a head last language. Therefore, when a child learns a language it is either head first or head last (Valian, 2009).

In recent years, two issues on the study of language have focused on constructivism. First of all, language is a manifestation of an individual's cognitive and emotional abilities to talk about the world, talk about others, and talk about the self. Secondly, linguistic rules which are based on nativism theory are abstract, logical and complicated, aim of which is to clarify the syntactic structure of language. However, in addition to syntax, meaning and role as the two main features of language in communication and social interaction should also be taken into account. Therefore, researchers such as Bloom, Piaget, and Slobin emphasized the role of cognition in the development of child language.

Piaget describes the overall language development as the outcome of the child's interaction with the environment and also with the interaction of cognitive-perceptual ability and language experience. What children learn about language is determined by what they learn from the environment. Piaget

(1972), unlike Chomsky believed that the complex structures of the language are not innate. However, in line with Chomsky, Piaget did not believe that they are acquired, but they are the result of continuous interaction between current cognitive functions and linguistic and non-linguistic environment (Piaget & Inhelder, 1969). This approach is called *constructivism* which is a term in contrast to *nativism*. From Piaget's point of view, language is a manifestation of human cognitive activities. The development of cognitive systems is essential for language development and therefore it should take place before that (Hickmann, 1986). Thus, identification of different stages of development and explanation of how it occurs can explain first language acquisition.

The basis of mental processes lies in the statement "thought is an internalized action" which expresses Piaget's view on the analysis of human knowledge and intelligence and indicates that analysis should begin with motor activities and problem solving in a practical way. In other words, children should play an active and constructive role in their cognitive development (Richmond, 1970). From Piaget's point of view, *action* is the basis of though and it is the prerequisite for perception (Hichmann, 1986). In this theory, cognitive development is independent from language development and it precedes language development. Language contributes to the child's intellectual development more than anything else and has a secondary role in mental actions and it is not enough for the cognitive development of the child.

Language is dependent on thought and it cannot be used for the exchange of ideas unless an individual acquires necessary concepts (Lund, 2014). Based on this theory, a child is an active learner who is interacting with the environment to create complex intellectual structures in order to solve his problems (Fisher, 2005). Slobin (1973, 1985) tried to indicate the way children acquire a language. He believed that natural approaches can help children learn induction. He indicated that in all languages, acquiring meaning depends on cognitive development. In other words, learning linguistic concepts is determined by semantic complexities rather than syntactic complexities.

3. Vygotsky's Views on Language Acquisition

From Vygotsky's (1962) perspective, language has several roles one of which is transferring abstract concepts and logical reasoning. Another role of language is the establishment of communication through social interaction which can be considered as the main contributing factor of child language development. From the time nativism has been challenged, Vygotsky's theories on language acquisition which emphasize the social origin of development gained considerable importance and in spite of the fact that he proposed his theories gradually, he highlighted the works of linguists and psychologists who consider meaning as the core of language (John-Steiner, 2007).

3.1. Language and Thought

Vygotsky's theory is based upon the interaction between language and thought. He believed that the development of thought and language is not parallel. In some cases, curves of language and thought intersect with each other, and in some cases they are apart from each other, and in some cases they might even coalesce with each other. Language and thought have different genetic origins and are independent from each other, but in a period in childhood they integrate with each other (Vygotsky, 1962). At this stage, thought is nonverbal and is based on mental images and language is pre-rational and is not related to thought. In other words, in the first year of development, child language has a social role and does not have any sign of intellectual development. At the age of two, the curves of

language and thought intersect with each other, and a new form of behavior emerges. Then, the child begins to use the language for thinking and his speech is a manifestation of his thoughts.

Unlike Piaget, Vygotsky believed that thought is not independent from language, nor does it precede language, and although they have independent and different origins, there is continuous interaction between them (Vygotsky, 1962). The interrelationship between thought and language is a process which begins gradually and is developed between the age of two until seven. The relationship between thought and a word is not a simple action but it is a process and a two-way movement from thought to language and vice versa. The development of a child's vocabulary range depends on social context and the linguistic resources available in his culture. Vygotsky assumed two roles for language, an external role for the establishment of communication with the periphery, and an internal role for controlling thoughts.

Between the age of two to seven, children talk about their ideas and thoughts. This type of speech is called egocentric speech which is caused by a lack of internalization of speech. The primary role of language is social communication. Therefore, a child's primary speech is social speech. At a specific age, the child's social speech is divided into egocentric and communicative speech, both of which are social. Egocentric speech is an interface in the transition of phonetic speech to inner speech. From Vygotsky's perspective, social interaction role has a pivotal role in determining language development. Vygotsky, like Piaget believes that thought appears before language development. Vygotsky believed that the development of thought takes place with the development of language. That is, the child's intellectual development or the internalization of knowledge and thinking tools which exist in the child's periphery play a significant role. Social-cultural experience of the child occurs through language and this leads to the development of thought.

3.2. Zone of Proximal Development (ZPD)

Vygotsky (1978, p. 86) defined Zone of Proximal Development as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." He believed that learning happens in the ZPD, and the child can achieve it with the help of others. Another important point to mention is the child's ability to solve problems. In other words, the child possesses the potential to solve problems partially independently and partially under the guidance of adults or peers (Wood, 1988).

Vygotsky (1978) described the ZPD as "a tool through which the internal course of development can be understood" and argued that "the only good kind of instruction is which marches ahead of development and leads it; it must be aimed not so much at the ripe as at the ripening functions" (Vygotsky, 1978, p. 188). Yet, as Moll (1992) pointed out, Vygotsky never "specified the forms of social assistance to learners that constitute" a ZPD beyond generalized comments about "collaboration and direction" (p. 11). Adults play an important role in children's learning and help them achieve their potential.

The interaction between a child and adults helps the child carry out complex activities, make decision about his activities, and achieve his mental potentials. Vygotsky believed that the processes of the relationship and more importantly, the processes related to language are the main factors of transferring inter-psychological actions to intra-psychological actions. Two important linguistic features play a significant role in Vygotsky's theory. One is that language is naturally social, and the

other is that language is dependent on context. That is why Vygotsky emphasized speech rather than language because in speech there are non-linguistic signs in addition to linguistic sings (Vygotsky, 1962). Based on the concept of ZPD, adults interact with the child through speech and this will play a crucial role in his cognitive development. From Vygotsky's point of view, thinking is a purposeful activity which leads to cognitive development. What contributes to the child's development is his participation in social interactions and the presence of an adult or a wise peer. Social interaction plays a significant role in the process of cognitive development.

3.3. Mediation

Mediation is an important concept which should be discussed in Vygotsky's theory because understanding the processes of higher mental development are based on this concept (Wertsch, Cole & Wertsch 2007). Mediation means the utilization of cultural signs or tools in the creation of qualitative changes in thought. Therefore, mediation is the use of communication systems in showing events, and since communication systems are the means of interacting thoughts and ideas, language is a communication system which is used by humans to express their thoughts (Smidt, 2013).

Mediation plays a critical role in the construct of an activity and generation of higher mental processes. Higher mental processes, such as logical memory, selective attention, reasoning, analysis, and the metacognitive dimension of problem solving, bear a striking similarity to categories of learning strategies reported in the literature (Bialystok, 1981). Higher mental processes include, but are not be limited to, the types of goal-directed actions commonly labeled as language learning strategies. "Vygotsky's position on the genesis of these mental processes differed significantly from the 'substantialists' who claimed that their origins could be traced to the material substance of the brain or the spiritual substance of the mind (Kozulin, 1990). Vygotsky claimed that these higher mental functions are generated in goal-directed, mediated activity. For Vygotsky, the source of mediation was either a material tool (for example, tying a string around one's finger or using a computer); a system of symbols, notably language; or the behavior of another human being in social interaction. Mediators, in the form of objects, symbols, and persons, transform natural, spontaneous impulses into higher mental processes, including strategic orientations to problem solving.

In the case of language learning, initially unfocused learning actions may become adjusted and modified based on how the learning of the language is mediated. Mediation is, thus, the instrument of cognitive change. This mediation can take the form of the textbook, visual material, classroom discourse patterns, and opportunities for second language interaction, types of direct instruction, or various kinds of teacher assistance (Donato & Adair-Hauck, 1992). All forms of mediation are embedded in some context that makes them inherently sociocultural processes. "Change is, therefore, a social process and sociocultural mediation is the central means through which change occurs" (Jacob, 1992). Classroom language learning and the learning strategies constructed there are the result of a process of mediation analogous to other forms of socio-culturally mediated development, such as initiation into a professional community, the construction of cultural beliefs and values, or ways of relating to others.

In order to establish a relationship with the environment, we need signs which can mediate between our mind and the outside world so that we have a perception of the world. This is possible through using psychological tools or signs (Wertsch et al., 2007). Signs are a combination of meaning and form such as language. But in addition to language, we can mention different systems of calculation, musical notes, traffic signs, algebraic signs, artistic works, and the design of shapes, tables and

diagrams which are all man-made or what Vygotsky calls they are "artificial" (Vygotsky, 1972). From Vygotsky's point of view, mediation plays a significant role in the formation of social identity and paves the way for the explanation of freedom of action in which mediators are tools for the continuous activity of individuals in social, cultural, and historical arenas.

Table 1. A summary of the theories of first language acquisition

Acquisition Aspects	Behaviourist Perspective	Innatist Perspective	Interactionist Perspective
Linguistic Focus	Verbal behaviors (not analyzed per se): words, utterances of child and people in social environment	Child's syntax	Conversations between child and caregiver; focus on caregiver speech
Process of acquisition	Modeling, imitation, practice, and selective reinforcement of correct form	Hypothesis testing and creative construction of syntactic rules using LAD (an innate, biological language acquisition device)	Acquisition emerges from communication; acts scaffolded by caregivers
Role of child	Secondary role; imitator and responder to environmental shaping	Primary role: equipped with biological LAD, child plays major role in acquisition	Important role in interaction, taking more control as language acquisition advances
Role of social environment	Primary role: parental modeling and reinforcement are major factors promoting language acquisition	Minor role: language used by others merely triggers LAD	Important role in interaction, especially in early years when caregivers modify input and carry much of conversational load

Table 2. Instructional implications of language acquisition theories

Instructional Components	Behaviourist	Innatist	Interactionist
Source of linguistic input	Language dialogues and drills from teacher or audiotape	Natural language from the teacher, friends, or books	Natural language from the teacher, friends, or books
Nature of input	Structured by grammatical complexity	Unstructured, but made comprehensible by teacher	Unstructured, but focused on communication between learner and others
Ideal classroom composition	All target language learners of similar second language proficiency	Target language learners of similar second language proficiency so i+1 can be achieved	Native speakers together with target language learners for social interaction aimed at communication
Student output	Structured repetitions and grammar pattern drill responses	Output is not a concern; it will occur naturally	Speaking occurs naturally in communication with others
Pressure to speak	Students repeat immediately	"Silent period" expected	No pressure to speak except natural impulse to communicate
Treatment of errors	Errors are corrected immediately	Errors are not corrected; students will correct themselves with time	Errors that impede communication will be corrected naturally as meaning is negotiated; some errors may require explicit corrective instruction

Conclusion

From Vygotsky's perspective, the concept of development is the reduction of the distance between mental structures and functions and norms (cultural mediation) in society. From a sociocultural point of view, society is not the only environment for doing actions, but every human activity is accompanied by individual, cultural, and historical aspects. Both Vygotsky and Piaget believe that social personality is essential in human development (Tudge & Rogoff, 1989). Vygotsky believed that separating thought and word is not possible and therefore considers word meaning as the unit of analysis which comprises both speech and intellect. He emphasized the necessity to focus on the dialectic relationship between thought and word and believed that dialectic is a move toward development.

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