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Revisiting the Theory of Piaget's Constructivism

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Abstract

Genetic Epistemology describes how far the knowledge is possible and how far it is valid. In this paper I restricted the term 'genetic epistemology' only for the developmental theory of knowledge where it explains the process of how children develop cognitively from birth to throughout his lives. The aim of this paper is to address the issue of the development of language learning strategies within the socio cultural process. Piaget's primary interest in genetic epistemology is to explore children's cognitive development. According to Piaget our cognitive structure depended on the development of our thoughts and experiences. Interaction with the physical world is the key ingredient to cognitive development. Piaget's theory of constructivism argues that children produce knowledge and form meaning that is based upon their experiences. . Schema is one of the most important words in Piaget's dictionary. Schemas are like the categories of cognitive structures which have certain pre-conceived notions in them and explain the world in their own way. The other two key components of the construction of new knowledge are accommodation and assimilation. Equilibrium of these two is the symbol of cognitive development. Complex cognitive development occurs only through the series of universals. Piaget holds that the learner construct their language which is consider to be a rationalist approach for explaining how to acquire knowledge Piaget holds that learning can be separated from its social context which can be questioned. An alternative theory can give a better exposition to this theory.

Key words: Genetic, Socio-cultural, Cognitive, Development, Language.

Introduction: Genetic epistemology deals with the relation between validity of knowledge and with the model of its constructions. Let us explain the literal meaning of the phrase 'genetic epistemology'. 'Genetic' – the term can be coined for development. The term 'epistemology' refers to the study of knowledge". It describes how far the knowledge is possible and how far it is valid. In this paper I restricted the term 'genetic epistemology' only for the developmental theory of knowledge where it explains the process of how children develop cognitively from birth to throughout his lives. The aim of this paper is to address the issue of the development of language learning strategies within the socio

cultural framework. Development of language learning strategies is mainly a by-product of mediation and socialization into a language learning community. Socio-cultural theory maintains that emergence of strategies is a process directly connected to the practices of cultural groups through which a child becomes a competent member of the community. According to the socio cultural perspective theory, learning is a social activity and we learn through a meaningful exchange of ideas, concepts and actions. This learning process is continuously under development.

Piaget's theory of cognitive development: Piaget's work was famous because he did studying cognitive development and his learning theories are encompassing in his view of genetic epistemology. Piaget primary interest in genetic epistemology is to explore children's cognitive development. According to Piaget our cognitive structure depended on the development of our thoughts and experiences. Interaction with the physical world is the key ingredient to cognitive development. Children are the active learner who builds knowledge from the interaction with their environment. Through these gradual and orderly changing processes, our mental faculty become more complex.

Piaget's theory of constructivism argues that children produce knowledge and form meaning that is based upon their experiences. There are some key words which are very important to explain his theory. Schema is one of the most important words in Piaget's dictionary. Schema helps a child to understand the world. Schemas are like the categories of cognitive structures which have certain pre-conceived notions in them and explain the world in their own way. We can explain it with an example. Let the child 'x' has a schema of 'school' in his mind. The concept of school includes board, books, pen, pencil etc. whereas the schema of the 'y' child may be different. It may include playground, lunchbox, friends etc... The other two key components of the construction of new knowledge are accommodation and assimilation. Assimilation helps an individual to incorporate new experiences into the old one. It deals with a new object or situation with the existing schema. This helps one to develop new ideas based on the old one, repair the wrong experiences, evaluate the situation under new dimension..Through assimilation one revisits his perceptions. The process of assimilation cannot change the schema rather it can only modify the schema. On the other hand accommodation is reframing the world and new experiences into the mental capacity that are already present. Accommodation occurs when the existing schema (our prior knowledge) does not work properly and requires to be reconstructed to deal with new situation. In this process the schema need to be changed or developed. . Assimilation and accommodation are both the process of the ways of cognitive development. Equilibrium of the two is the symbol of cognitive development. Through the assimilation and accommodation the child can reconstruct his schema which is better fit to the world. Equilibrium occurs when a child's schema can deal with the new information through assimilation. It helps us to explain how children can able to move from one stage to another stage. They learn through assimilation and accommodation, and complex cognitive development occurs only through the series of universal stages.

Stages of cognitive development: Cognitive development stage serves as a vehicle for the representation of some ideas about the way how cognitive development proceeds. Piaget believes that children play an active role in the learning process. They always interact with the world, continuously they elevating their knowledge and accommodating new ideas with the older one .Learning is something that grows and develops through a series of stages. Children move through four stages of acquiring knowledge.

Sensorimotor—(birth to age2) During this earliest/initial stage of cognitive development infants acquire knowledge through their sensory experience. In this stage a child's experience occurs through basic reflexes, senses and motor responses. During this phase children utilize their skills and abilities with which they were born to learn more about the environments. In this sensorimotor stage children go through a huge development. They can not only learn how to walk or crawl but also learn how to speak or interact with others from the persons around him. In sensorimotor stage a child's mental and cognitive attributes develop from birth to age two. In this stage the child becomes able to find the objects that they have been displaced or someone hides it from him. They can link numbers to objects. Such as one pen, two pencils or three books etc.

This sensorimotor can be divided into six separate sub stage. These are Reflexes, Primary Circular Reactions, Secondary Circular Reactions, Coordination of Reactions, Tertiary Circular Reactions, and Early Representational Thoughts.

Preoperational Stage--- (early childhood --age2-7): Though the language formation and thinking ability emerges in this stage yet they cannot form an object in concrete manner. In this phase the children can think symbolically and they can use names, pictures for corresponding objects. As they cannot view the others perceptive regarding objects, they explain it in their own way.

Concrete operational stage—(early adolescence--7-11): In this stage the children begin to understand the concept of conversation. Their thinking becomes more logical and concrete. They can generalize the principle from the specific information through induction. But in this phase they cannot form any abstract or hypothetical concepts.

Formal operational stage—(adolescence and adulthood—age 12 and above): This is the final stage of the cognitive development. In this stage child can form abstract ideas and develop inductive reasoning. Besides inductive reasoning child can construct deductive reasoning that is using reasoning they can form specific information from the general principle. They can shape, form and judge different moral, philosophical, ethical, social political issues as well as they can reconstruct it.

Three types of knowledge: So what we have discussed, we have seen cognitive development is not a quantitative change, rather it is qualitative change in the whole process. Children just do not add any new information to the existing one, but the thinking pattern of the knowledge has been changed. In earlier stages children use trial and error method to solve the problem, but in this stage they are capable to think about logically and

methodically which help them to solve the problem in more organized manner. Apart from problem solving, they can form hypothetical deductive reasoning. They can sassily form the hypothetical deductive reasoning which helps them to solve the If-Then situation accordingly.

Piaget distinguishes knowledge on the basis of their sources. He believes that children acquire three types of knowledge: Physical, Logical- mathematical and social.

Physical knowledge or empirical knowledge-- it is knowledge about objects in the world which can be gained through their perceptual property. Physical knowledge activities are those in which children act on objects physically and mentally to produce their desire effect. e.g. Pouring water from one glass to another. In this period children can identify the physical property of the object or event. Here they acquire empirical knowledge i.e the shape, size and weight of the object by using their motor organs (senses).

Logical–Mathematical knowledge—this type of knowledge is based on relationship between two ideas, so it always depends on our exercising of those ideas. In this period they can construct the concept like arrangement, order etc. which cannot be acquired only through reading or listening. Abstract thinking is possible in this period.

Social arbitrary knowledge—the specific knowledge that one acquire such as cultural inheritance from people within own culture group. Children can construct their knowledge either from their peer groups or from the social interaction with other people. Eg. Children know what to do or what not to do from others people of the community. Social knowledge is arbitrary and knowable only by being told or demonstrated by other people.

Debate between Piaget and Vygotsky: According to Piaget all fundamental cognitive activities take shape in a matrix of social cultural background. Learning or knowledge is actively constructed by the learner in response to the environmental stimuli. Child's cognitive skill and patterns are not primarily determined by innate factors; rather it is a product of the activities which is practised in the social institutions of the culture in which he grows up. Both Piaget and Vygotsky believed that as children develop language, they actively build a symbol system, which helps them to understand the world. But they differ in the way in which they viewed how language and thought interact with each other. Lev Vygotsky rejected the assumption made by Piaget that learning can be separated from its social context.

Vygotsky's social constructive theory of language is differing from Piaget's theory of language acquisition. They disagree on the functional significance of private speech as well as in the course of development of private speech.

In the case of development of private speech Piaget holds that private speech represents an inability to take the perspective of another and therefore engage them always in relational and reciprocal communication. But Vygotsky holds that private speech always represents externalized thought. The function of the private speech is to communicate with

the self for the purpose of self guidance and self direction. Vygotsky laid more emphasis on social factors contributing to cognitive development whereas Piaget underestimates it.

In the case of course of development of language Vygotsky holds cognitive development stems from social interactions with the guided learning within the zone of proximal development during the time of co-constructing knowledge with the experienced persons. In contrast Piaget maintains that cognitive development stems largely from independent explorations in which children construct knowledge of their own.

According to Piaget language for its development always depends on thought i.e. thought comes before language. For Vygotsky in initial stage of life thoughts and language are two different systems but at the age of three languages merge with thoughts. As we see that Vygotsky emphasises more on language than of thoughts. At the same time he believes that cognitive development results from an internalisation of language.

In the development process of language adults and peer groups play an important role. According to Vygotsky role of adults is more crucial because all the social cultural tools of intellectual adaption are transmitted to the children by them whereas Piaget emphasises the importance of peers because he believes that peer interactions are much more powerful than any other options.

Alternative Theory: Lev Vygotsky believes that language is a social concept. According to him language is developed through interactions and a community plays a crucial role in this process. We cannot explain any language development of an individual without reference to any social and cultural context. According to him higher mental process of an individual has their origin in social matrix. Vygotsky's theory of learning is based on constructive learning theory which assumes that acquiring knowledge is the result of engaging oneself in social experiences. Cognitive development is driven by social interaction. So in this situation community plays an important role in developing language. Thus his approach emphasise the inter dependence of social and individual processes in the construction of knowledge. He states that language acquisition involves not only a child's exposure to words but helps to make the interdependent process of growth between thoughts and language. According to him no single principle (as Piaget) can account for development. Individual development cannot be understood without reference to the social and cultural context within which it embedded. So he believes that cognitive development varies across cultures. It differs across time. At the same time Vygotsky believed development can be possible only through scaffolding in the sphere of zone of proximal development. Unlike Piaget he believes that cognitive skills and patterns of thinking are not primarily determined by innate factors, but are the products of the activities practised in the social institution of the culture in which the individual grows up. Consequently, the history of the society in which a child is grown up and the child's family and personal history are the crucial determinants of the way in which that individual think.

Findings: Piaget holds that the learner construct their language which is consider to be a rationalist approach for explaining how to acquire knowledge Piaget holds that cognitive

development is driven by a child's inbuilt tendency to adapt to new experience. Learning can be separated from its social context and he takes it for granted that a child learns through their different activities of life. According to Piaget learning or knowledge is actively constructed by the learner in response to the environmental stimuli. But according to Lev Vygotsky, Piaget ignores the essential collaborative nature of learning. All fundamental cognitive activities take shape in a matrix of social cultural background. He rejected this model of learning because it is dependent upon some unexplained assumptions of development psychology. Child's cognitive skill and patterns are not primarily determined by innate factors; rather it is a product of the activities which is practised in the social institutions of the culture in which he grows up. Vygotsky believes that language is a social concept that can be developed only through social interactions. . Culture, heritage, power of discourse all play different roles in learning. So here I want to present a preliminary thought of socio-cultural theory of Vygotsky who address this problem intensely. Child brings his own culture and perspective to construct knowledge. Communicative skill, representational power of the learner helps to construct knowledge. This theory involves change in learning. This theory allows the mentor to find the zone of proximal development (ZPD) where the child can perform successfully with the right assistance. Regarding the two cognitive theory I would prefer Vygotskian theory because it is more positive and constructive theory. Scaffolding, co- constructed knowledge, dialogues and cultural tools are all important components for language development. In today's world mentor should be more sensitive about the background, culture and language of a student for the construction of knowledge.

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