UNIT : 17 LANGUAGE ACQUISITION / LEARNING THEORIES - Slobin & Piaget

:: STRUCTURE ::

17.0 OBJECTIVES

With the study of this unit, you will be able to:

- Define the concept of Language and Cognition;
- Understand the concept of language acquisition;
- Explain various theories of Language Acquisition;
- Describe Slobin's theory of Language Acquisition;
- Describe Piaget's theory of Language Acquisition.

17.1 INTRODUCTION TO LANGUAGE ACQUISITION

Language acquisition is the process by which humans learn to understand and produce language. It is a complex and fascinating phenomenon that has intrigued linguists, psychologists, and educators for centuries. From the moment we are born, we are exposed to language, and by the age of 5, most children have already acquired a mastery of their native language that rivals that of adult speakers. This ability to learn language is unique to our species and is what sets us apart from other animals.

The study of language acquisition has a long history and has been approached from a number of different perspectives. Some of the earliest theories were behaviorist in nature, proposing that language is learned through operant conditioning and reinforcement. These theories were later challenged by Noam Chomsky, who argued that the ability to acquire language is innate and that children are born with a universal grammar that allows them to learn any language to which they are exposed. Chomsky's theory of generative grammar was a major turning point in the study of language acquisition, and it continues to influence research in this field today.

In recent years, the study of language acquisition has become increasingly interdisciplinary, drawing on insights from a wide range of fields including linguistics, psychology, neuroscience, and anthropology. One of the key insights from this research is that language acquisition is not just a matter of acquiring a set of rules for producing sentences, but also involves the development of social and cultural competence. This means that children must not only learn the grammar of their language, but also learn how to use language in context, how to interpret the communicative intentions of others, and how to navigate the social and cultural norms of their speech community.

Another important insight from research in language acquisition is that the process of learning a language is not a uniform, linear one. Different aspects of language are acquired at different rates and through different mechanisms. For example, research has shown that children develop a mastery of the phonology (the sound system) of their language before they develop a mastery of the syntax (the rules for combining words into sentences). Similarly, research has shown that children learn to understand and produce simple words and sentences long before they are able to engage in complex discourse.

The study of language acquisition has important implications for a wide range of fields, including linguistics, psychology, education, and cognitive science. For linguists, the study of language acquisition provides a window into the nature of language itself, helping to answer questions about the structure and organization of language, and the ways in which languages differ from one another. For psychologists, the study of language acquisition provides important insights into the nature of human cognitive development, and the ways in which different cognitive processes interact to support language acquisition. For educators, the study of language acquisition is important because it provides a foundation for the development of effective language teaching methods, and it highlights the importance of providing young children with rich and varied language experiences.

Finally, the study of language acquisition is important because it has practical implications for society as a whole. For example, it is estimated that there are over 7,000 languages spoken in the world today, and many of these languages are in danger of disappearing as older speakers die and

young people adopt more dominant languages. Understanding the process of language acquisition can help to preserve these endangered languages by providing insight into the best ways to teach them to new generations of speakers. Similarly, understanding the process of language acquisition can help to support the development of multilingual societies, by providing insight into the best ways to teach young people to learn multiple languages.

Many questions about language and language acquisition have arisen in the last 50 years. Anthropologists, linguists, and psychologists have been debating a variety of issues, including the evolution of language, the relationship between language and mind, and the inherent nature of language. In the next section of this unit, we'll look at some of the associated ideas.

17.2 LANGUAGE ACQUISITION: STAGES

Humans generally learn at least one language system. However, you must have also observed children learning more than one language system calling that phenomenon as Bilingualism. Child does not start speaking a language one fine morning rather one has to undergo a series of learning stages as part of language acquisition process. They utter just sounds without any meaning, then words from the first language. This phase is popularly known as pre-linguistic comprising of two stages: Cooing and Babbling. The second phase is the linguistic development in children wherein a child would produce language though without using the accurate syntactic devices attached with it. In this second phase they would produce one word expressions, then two word expression and finally Telegraphic speech. All these stages as part of language acquisition process are as follows:

1. Cooing stage: In the very beginning weeks of birth the child would produce the first recognizable speech sounds. This is common among all the children no matter where they live or their native language is. Researchers have observed that children produce velar sounds /k/ and /g/ among consonants and the high vowels /i/ and /u/ among all the vowel sounds. The stage sustains roughly between three to six months of age.

2. Babbling stage: The stage tentatively begins at six months of age. At this stage, sounds of native language take on the coos and they are on their way to begin to speak their specific native language. They combine vowels and consonants using CV structure and repeat them in strings such as /ma-ma-ma/ or /da-da-da/. This stage continues roughly till Nine months.

3. One word utterance stage: At the age between twelve and eighteen months, children produce recognizable single unit utterances of words of their mother tongues. These one words are generally Nouns referring to the day-to-day objects from the environment they live in.

4. Two word utterance stage: This stage roughly begins at Eighteen months and continues till Twenty months. In this stage, children start

producing Two-word utterances combining Noun and verbs. This stage generally begins when a child has learnt more than 50 words.

5. Telegraphic speech stage: By the age at two and years, children develop an advance skill in their first language acquisition. As part of this stage children would produce long utterances using adjectives and adverbs. Children can identify features of word forms and use nouns and verbs properly.

- **Check Your Progress 1**

1. Write a brief note on Language Acquisition.

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2. Major stages of Language Acquisition.

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17.3 LANGUAGE AND COGNITION SCIENCE

Language and cognition are two closely related aspects of human experience that have been the subject of much study and inquiry in the fields of linguistics, psychology, and cognitive science. Language is a system of symbols, signs, and sounds used for communication, while cognition refers to the mental processes involved in acquiring, processing, and using information.

Research in language and cognition has shown that the two are deeply interconnected, with language playing a crucial role in shaping and guiding cognitive processes. For example, studies have shown that the language people use can influence the way they think about the world, with different languages having different grammatical structures and vocabulary that can shape how people categorize and process information.

One of the key insights from research in language and cognition is that language is not just a tool for communication, but is also an integral part of thought. This idea is known as the linguistic relativity hypothesis, which suggests that the language we use can influence the way we think and reason. For example, research has shown that people who speak languages that have different number systems (such as languages that have specific words for different numbers) think about numbers in different ways.

Another important aspect of the relationship between language and cognition is the role that language plays in the development of social and cultural competence. Research has shown that children use language not only to communicate information, but also to establish social relationships and negotiate social norms. For example, studies have shown that children use different language strategies, such as tone of voice, intonation, and gestures, to convey meaning and communicate their intentions in social situations.

The relationship between language and cognition has important implications for a wide range of fields, including linguistics, psychology, education, and cognitive science. For linguists, the study of language and cognition provides a window into the nature of language itself, and the ways in which language and thought are intertwined. For psychologists, the study of language and cognition provides important insights into the mental processes involved in acquiring, processing, and using information. For educators, the study of language and cognition is important because it highlights the importance of providing young children with rich and varied language experiences, and the ways in which language can shape and guide cognitive development.

Finally, the study of language and cognition has important implications for society as a whole. For example, research has shown that bilingualism can have a positive impact on cognitive abilities, such as executive function, problem-solving, and working memory. This highlights the importance of supporting and promoting bilingualism, especially in children, as a means of enhancing cognitive development and preparing individuals for a rapidly changing global landscape.

In conclusion, language and cognition are two closely related aspects of human experience that are deeply interconnected. Research in this field has shown that language is not just a tool for communication, but is also an integral part of thought, and that the language we use can influence the way we think about the world. The study of language and cognition has important implications for a wide range of fields, including linguistics, psychology, education, and cognitive science, and highlights the importance of providing young children with rich and varied language experiences.

17.4 THEORIES OF LANGUAGE ACQUISITION

Over the past fifty years, numerous theories have been proposed to explain the process of language acquisition in young children. They are as follows:

Theory	Central Idea	Individual with theory
Behaviourist	Children imitate adults. Their correct utterances are reinforced when they get what they want	Skinner

	or are praised	
Innateness	A child's brain contains special language-learning mechanisms at birth.	Chomsky
Cognitive	Language is just one aspect of a child's overall intellectual development.	Piaget
Interaction	This theory emphasises the interaction between children and their care-givers.	Bruner

1. Behaviourism

The views of behaviourist psychologists were created through a series of animal studies. They discovered that by stimulating habit formation, rats or birds may be taught to do a variety of tasks. The researchers praised good behaviour. Positive reinforcement was the term for this. Negative reinforcement was used to punish or simply not reward undesirable behaviour.

In Verbal Behaviour (1957), Skinner stated:

"The basic processes and relations which give verbal behaviour its special characteristics are now fairly well understood. Much of the experimental work responsible for this advance has been carried out on other species, but the results have proved to be surprisingly free of species restrictions. Recent work has shown that the methods can be extended to human behaviour without serious modifications." (cited in Lowe and Graham, 1998, p68)

According to Skinner, a child tries to imitate the language of its parents or guardians. Successful attempts are rewarded because an adult who recognises a child's word will praise the youngster and/or give it what it wants. As a result, effective utterances are reinforced while bad ones fade away.

2. Innateness

In 1957, Noam Chomsky published a critique of the behaviourist hypothesis. He emphasised on the poor verbal input that children receive, in addition to some of the issues given above. Adults, on the whole, do not communicate in grammatically complete sentences. Furthermore, the child only hears a limited portion of the language.

Chomsky came to the conclusion that children must be born with the ability to learn languages. The process is physiologically defined, according to this idea, because the human species has evolved a brain with neural circuits that hold language information at birth. Hearing speech triggers a child's innate inclination to learn language, and the child's brain can comprehend what s/he hears based on the underlying

principles or structures it already has. The Language Acquisition Device is the name given to this inherent ability (LAD).

Chomsky's groundbreaking idea is still at the heart of the language acquisition debate. It has, however, been amended, both by Chomsky and others. Chomsky's original position was that the LAD had specialised linguistic knowledge. According to Dan Isaac Slobin, it could be more like a process for figuring out linguistic rules:

"It seems to me that the child is born not with a set of linguistic categories but with some sort of process mechanism - a set of procedures and inference rules, if you will - that he uses to process linguistic data. These mechanisms are such that, applying them to the input data, the child ends up with something which is a member of the class of human languages. The linguistic universals, then, are the result of an innate cognitive competence rather than the content of such a competence." (cited in Russell, 2001)

3. The Cognitive Theory

Jean Piaget, a Swiss psychologist, placed language acquisition in the context of a child's mental or cognitive development. He claimed that a child must first comprehend a notion before learning the specific language form that communicates that concept.

Seriation is a nice illustration of this. A child's cerebral growth will reach a point when he or she will be able to compare objects in terms of size. This means that if you give a child a bunch of sticks, he or she may arrange them in size order. A youngster who had not yet reached this stage, according to Piaget, would be unable to acquire and employ comparison adjectives such as "larger" or "smaller."

Another feature frequently mentioned in relation to the cognitive framework is object permanence. Children appear to be unconscious of the presence of objects they cannot see during their first year of life. When an object moves out of sight, it vanishes. Children have realised that objects exist independently of their perception by the time they reach the age of 18 months. The cognitive theory points to a significant increase in children's vocabulary around this age, implying a relationship between object persistence and the acquisition of object labels.

4. Input or Interactionist Theories

More modern theories, in contrast to Chomsky's work, have emphasised the importance of the language input children receive from their guardians. Language exists to facilitate communication, and it can only be learned through interactions with individuals who wish to speak with you. According to interactionists like Jerome Bruner, adults' language behaviour when speaking to children (known by a variety of labels but most commonly referred to as child-directed speech or CDS) is uniquely designed to aid in the acquisition process. This type of assistance is sometimes referred to as scaffolding for a child's language learning.

These views provide a good counterpoint to Chomsky's early perspective, and it appears that a youngster will learn more quickly if he or she interacts with others frequently. However, it has already been shown that children from all cultures go through the same stages of language acquisition. We've also seen that there are cultures where adults don't speak to children in particular ways, thus CDS may be valuable but not necessary.

- **Check Your Progress 2**

1. Brief note on Language and Cognition Science.

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2. Discuss some of the major Language Acquisition Theories in brief.

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3. Discuss Behaviourism and Innateness.

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4. Discuss Cognitive Theory and Input theory.

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17.5 SLOBIN'S THEORY OF LANGUAGE ACQUISITION

Bloom's work, as well as that of Jean Piaget, Dan Slobin, and others, cleared the way for a new era of child language research, this time focusing on the relationship between cognitive development and first language acquisition. Overall development, according to Piaget (1955; Piaget & tnhelder, 1969), is the consequence of children's interactions with their environment, with a connection between their developing perceptual cognitive skills and their verbal experience. Piaget believed that a child's prior knowledge about the world influences their language

learning, but this viewpoint has been challenged by others, such as Vygotsky (1978), who argued that it is unidirectional. In their overview of the state of the art in child language research, Gleitman and Wanner (1982, p. 13) stated,

"children appear to approach language learning equipped with conceptual interpretive abilities for categorizing the world. . . , Learners are biased to map each semantic idea on the linguistic unit word"

Dan Slobin hypothesised that language, specifically language processing, is an inherent human trait that can be grouped with other tasks like walking, grasping objects, and recognising faces after analysing the ease, rapidity, and uniformity of a complex, rule-governed native language acquisition by mere infants on the basis of database. He went on to expand on his theory, pointing significant commonalities in native language learning among children from various speech communities. This idea is based on four assumptions. To begin with, the base for gaining an initial rule governing sound system, as well as a variety of elementary cognitive capacities, is embedded in the human species.

Second, this skill is broad enough to include children learning any natural human language. Third, regardless of socio-cultural mix, newborns will successfully acquire the sound utterances of their speech group. Fourth, regardless of individual cognitive ability or chosen forms of interacting with surrounding inputs, this learning will occur automatically. Unfortunately, the ease and speed with which first language acquisition (FLA) is achieved does not immediately translate to second language learning (SLL). Learning a second language is still a cognitive skill, but it has evolved into a complex cognitive skill as a result of several factors such as the subject's already developed cognitive organisational structures, socio-cultural constituents, psychological and affective composition, and diversity in individual learning styles mingling and interplaying with a changed input.

17.6 Piaget’s theory of Language Acquisition

The relationship between cognitive development and language acquisition is one of the most important and extensively studied areas of psychology and cognitive science. Both cognitive development and language acquisition are critical aspects of human development, and they interact and influence each other in complex and dynamic ways.

Cognitive development refers to the process by which children's thinking, problem-solving, and reasoning abilities develop and mature over time. Language acquisition, on the other hand, refers to the process by which children learn to understand and use language. Both cognitive development and language acquisition are critical for children's overall development, as they are important for shaping children's abilities to think, learn, communicate, and interact with others.

Research has shown that the relationship between cognitive development and language acquisition is bidirectional, meaning that both influence and

shape each other. For example, language provides a powerful tool for children to make sense of the world and to express their thoughts, feelings, and ideas. At the same time, language also provides a foundation for cognitive development, as children use language to categorize and understand new information, to think and reason, and to communicate with others.

One of the key insights from research on the relationship between cognitive development and language acquisition is that language provides a framework for children to organize their thoughts and experiences. Children's early language experiences help them to categorize and make sense of their surroundings, which in turn helps them to develop more advanced cognitive abilities, such as problem-solving, reasoning, and abstract thinking.

Another important aspect of the relationship between cognitive development and language acquisition is the role of social interaction. Research has shown that social interaction is an important context for both cognitive and language development. Children's early language experiences are shaped by the social and linguistic interactions they have with others, and these interactions provide a rich and supportive environment for children to learn and grow. For example, through social interactions, children learn to understand the perspectives and intentions of others, which is critical for their social and emotional development.

The relationship between cognitive development and language acquisition also has important implications for education and early childhood development. For example, research has shown that providing young children with rich and varied language experiences can enhance their cognitive development, and that providing children with opportunities for social interaction and language-rich experiences is critical for their overall development.

In conclusion, the relationship between cognitive development and language acquisition is complex and dynamic, and it is shaped by a variety of factors, including social interaction, language experiences, and individual differences. Research in this area highlights the importance of providing young children with rich and varied language experiences, and the ways in which language and social interaction can shape and support children's cognitive and emotional development.

According to Jean Piaget's theory of cognitive development, children go through four stages of learning. His thesis is concerned with not only how children gain knowledge, but also with the nature of intelligence. The stages of Piaget's development theory are as follows:

- Sensorimotor stage: Birth to 2 years
- Preoperational stage: Ages 2 to 7
- Concrete operational stage: Ages 7 to 11
- Formal operational stage: Ages 12 and up

Piaget argued that children participate actively in the learning process, acting as scientists conducting experiments, making observations, and learning about the environment. Children constantly add new knowledge, build on current knowledge, and change previously held concepts to accommodate new information as they interact with the world around them.

a. The Sensorimotor Stage

Infants and toddlers learn through sensory encounters and handling items at this early stage of cognitive development. At the beginning of this stage, a child's whole experience is based on basic reflexes, perceptions, and motor responses.

Children go through a period of rapid growth and learning during the sensorimotor stage. As children engage with their surroundings, they continue to learn new things about how the world works.

The cognitive development that happens throughout this time span occurs over a relatively short length of time and entails a significant amount of progress. Children not only learn physical skills like crawling and walking, but they also pick up a lot about language from the adults they contact with. This stage was also divided into substages by Piaget. During the final step of the sensorimotor stage, early representational cognition emerges.

b. The Preoperational Stage

Although the roots for language development were built during the previous stage, language emergence is one of the key aspect of the preoperational stage.

At this age, children learn through role playing, but they still struggle with logic and understanding other people's perspectives. They also have a hard time grasping the concept of consistency.

For instance, a researcher would divide a lump of clay into two equal portions and then give a child the option of playing with one of the two pieces of clay. One piece of clay is rolled into a tight ball, while the other is smashed into a pancake-like shape. Even if the two pieces are the same size, the preoperative child will most likely choose the flat shape since it appears larger.

c. The Concrete Operational Stage

While children's thinking is still quite concrete and literal at this stage in development, they become much better at employing logic. As children get better at thinking about how other people might see a situation, the egocentrism of the preceding stage fades away.

While the concrete operational condition makes reasoning lot more reasonable, it can also make it highly inflexible. At this age, children have a hard time grasping abstract and hypothetical notions.

Children grow less egocentric at this age and begin to consider what other people might think and feel. In the concrete operational stage, children begin to recognise that their thoughts are unique to them, and that not everyone shares their feelings, thoughts, or opinions.

d. The Formal Operational Stage

The Formal Operational Stage is the fourth and final stage of cognitive development according to Piaget's theory of cognitive development. This stage typically begins around age 11 or 12 and continues into adulthood. During this stage, individuals develop the ability to think logically and systematically about abstract concepts and ideas.

In the Formal Operational Stage, individuals develop the ability to think logically and systematically about abstract concepts and ideas. They become capable of using systematic and hypothetical-deductive reasoning, which allows them to think logically and systematically about cause-and-effect relationships, and to test and refine their ideas through systematic experimentation.

At this stage, individuals become capable of solving complex problems and making abstract connections. They are also capable of considering multiple possibilities and perspectives, and they are better able to understand and appreciate abstract reasoning.

In addition to these cognitive abilities, individuals in the Formal Operational Stage also become more independent in their thinking, as they are able to think and reason for themselves, rather than relying on the opinions and perspectives of others. This independence allows them to be more critical and reflective in their thinking, and it allows them to make more informed decisions and judgments.

Overall, the Formal Operational Stage is an important stage of cognitive development, as it represents a major turning point in individuals' ability to think abstractly and systematically about complex concepts and ideas. By the end of this stage, individuals have developed the cognitive skills necessary to engage in more advanced and abstract thinking, and they are better equipped to understand and engage with the world around them.

17.7 LET US SUM UP

- In this unit we have gone through the following points:
- A brief overview of Language Acquisition
- Stages of Language Acquisition
- Concept of Language and Cognition Science
- Language Acquisition Theories
- Slobin’s theory of Language Acquisition

- Piaget's theory of sanguage acquisition and stages of cognition Development

17.8 BOOKS SUGGESTED

- Piaget, J. (2000). Piaget's theory of cognitive development. Childhood cognitive development: The essential readings, 2, 33-47.
- Slobin, D. I. (1985). Crosslinguistic evidence for the language-making capacity. The crosslinguistic study of language acquisition, 2, 1157-249.
- Slobin, Dan I. "Form/function relations: how do children find out what they are?." (2001).
- http://angol.uni-miskolc.hu/wp-content/media/2016/10/Principles_of_language_learning.pdf

- **Check Your Progress 3**

1. Write a detailed note on Slobin's theory of Language acquisition

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2. Discuss Piaget 's theory of Language Development and stages of language acquisition

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