

# **LANGUAGE LEARNING THEORIES**

## **Language Development at an Early Age**

### **Learning Objectives**

After completion of this unit students will be able to:

- Develop knowledge about acquisition of language.
- Develop understanding about the Stages of language development.
- Develop understanding about Jean Piaget's Theory on language development.
- Develop understanding about Chomsky's Theory of language development
- Develop understanding about Vygotsky's Theory on language development

### **Language Acquisition-An Overview**

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. However, learning a first language is something that every normal child does successfully without much need for formal lessons. Language development is a complex and unique human quality but yet children seem to acquire language at a very rapid rate with most children's speech being relatively grammatical by age three (Crain & Lillo-Martin, 1999). Grammar, which is a set of mental rules that characterizes all of the sentences of a language, must be mastered in order to learn a language. Most children in a linguistic community seem to succeed in converging on a grammatical system equivalent to everyone else in the community with few wrong turns, which is quite remarkable considering the pitfalls and complexity with few wrong turns, which is quite remarkable considering the pitfalls and complexity of the system. By the time a child utters a first word, according to the Linguistic Society of America, he or she has already spend many months playing around with the sounds and intonations of language in stages and different children reach various stages at different times, although will follow an almost identical pattern in the sequence of stages they go through. The stages usually consist of

### **Learning Mechanisms and Outcomes from Birth to Five Years**

Stages of language development:-

- Crying 0-6 months-use phonemes from every language
- Babbling-9 months-selectively use phonemes from their native language
- One word utterances- 12 months- start using single words
- Telegraphic speech- 2 years- multi-word utterances that lack in function

The acquisition of language is one of the more remarkable achievements of early childhood. By age 5, children essentially master the sound system and grammar of their language and acquire a vocabulary of thousands of words. This report describes the major milestones of language development that typically-developing, monolingual children achieve in their first 5 year of life and the mechanisms that have been proposed to explain these achievements.

**Phonological development:** Newborns have the ability to hear and discriminate speech sounds. During the first year, they become better at hearing the contrasts their language uses, and they become insensitive to acoustic differences that are not relevant to their language. This tuning of speech perception to the ambient language is the result of a learning process in which infants form mental speech sound categories around clusters of frequently-occurring acoustic signals.

These categories then guide perception such that within category variation is ignored and between categories variation is attended to.

The first sounds infant produce are cries and noises that are not speech-like. The major milestones of pre-speech vocal development are the production of canonical syllables (well-formed consonant + vowel combinations), which appear between 6 and 10 months, followed shortly by reduplicated babbling (repetitions of syllables). When appear, they make use of the same sounds, and they contain the same numbers of sounds and syllables, as the preceding babbling sequences. One process that contributes to early phonological development appears to be infants active efforts to reproduce the sounds they hear. In babbling, infants may be discovering the correspondence between what they do with their vocal apparatus and the sounds that come out. The important role of feedback is suggested by findings that children with hearing impairment are delayed in achieving canonical babbling. At approximately 18 months, children appear to have achieved a mental system for representing the sounds of their language production of speech sounds becomes consistent across different words- in contrast to the earlier period when the sound form for each word was a separate mental entity. The processes underlying this development are not well understood.

***Lexical development.*** Infants understand their first word as young as 5 months, produce their first words between 10 and 15 months of age, reach the 50 word milestone in productive vocabularies around 18 months of age, and the 100- word milestone between 20 and 21 months. After that, vocabulary development proceeds so rapidly that tracking the how many words children know becomes unwieldy. The vocabulary size of an average 6-year-old has been estimated at 14,000 words. The task of word learning has multiple components and recruits multiple mechanisms. Infants make use of statistical learning procedures, tracking the probability that sounds appear together, and thereby segmenting the continuous stream of speech into separate words. The capacity to store those speech sound sequences, known as phonological memory, comes into play as entries in the mental lexicon are created. In the task of mapping a newly- encountered word onto its intended referent, children are guided by their abilities to make use of socially-based inference mechanisms (i.e., speakers are likely to

be talking about the things they are looking at), by their cognitive understandings of the world (some word learning involved mapping new words onto pre-existing concepts), and by their prior linguistic knowledge (i.e., the structure of the sentence in which a new word appears provides clues to word meaning). Full mastery of the meanings of words may require new conceptual developments as well.

***Morpho-syntactic development.*** Children begin to put two, then three and more words together into short sentences at approximately 24 months of age. Children's first sentences are combinations of content words and are often missing grammatical function words (e.g., articles and prepositions) and word endings (e.g., plural and tense markers). As children gradually master the grammar of their language, they become able to produce increasingly long and grammatically complete utterances. The development of complex (i.e., multi-clause) sentences usually begins some time before the child's second birthday and is largely complete by age 4. In general, comprehension precedes production.

## **Language and cognition**

### Theories of Language Acquisition

Learning cannot account for the rapid rate at which children acquire language.

- There can be an infinite number of sentences in a language. All these sentences cannot be learned by imitation.
- Children make errors, such as over regularizing verbs. For example, a child may say Billy *hitted* me, incorrectly adding the usual past tense suffix -ed to hit. Errors like these can't result from imitation, since adults generally use correct verb forms.
- Children acquire language skills even though adults do not consistently correct their syntax.

## **Jean Piaget's Theory on Language Development**

According to Piaget, language develops in clear cognitive stages.

Jean Piaget was a Swiss psychologist who studied the development of cognitive processes from infancy through adulthood. Piaget often spoke about the relationship between cognitive development and language skills, but he was never exclusively focused on childhood language development. Piaget's theories have been extremely influential on psychologists studying early childhood.

### **The Sensorimotor Stage**

According to Piaget's theory, all children develop cognitive abilities such as language in four stages. In the sensorimotor stage, which lasts until the child is around 2 year old, the emphasis is on bodies, so much of their play is initially based in figuring out how to perform basic motor activities like opening the fingers or waving the legs followed by more complex tasks like crawling and finally walking. At this early stage in cognitive development, Piaget saw language skills as basically physical. The baby experiments with what her mouth can do

just as she experiments with what her hands can do. In the process she learns how to imitate some of the sounds she hears her parents making and in what context those sounds should be made.

### **The Preoperational Stage**

The preoperational stage begins at around 2 years and lasts until the child is 6 or 7. The defining feature of this stage, in Piaget's view, is egocentricity. The child seems to talk constantly, but much of what he says does not need to be said out loud. For instance, the child might describe what he is doing even though others can easily see what he is doing. He shows no awareness of the possibility that others have a viewpoint of their own. Piaget sees little distinction at this stage of development between talking with others and thinking aloud.

### **The Concrete Operational Stage**

The concrete operational stage begins around age 7 and lasts until at least age 11 or 12. At this stage, the child is capable of using logic and of solving problems in the form of stories as long as the story deals only with facts rather than abstract ideas. Language at this stage is used to refer to specific and concrete facts, not mental concepts. Piaget believed that some people remain in this stage for the remainder of their lives, even though a child in this stage has not yet reached full cognitive maturity.

### **The Formal Operational Stage**

The formal operational stage begins at age 11 or 12 at the earliest. At this stage, the child can start to use abstract reason and to make a mental distinction between her self and an idea she is considering. Children who have reached this stage can use language to express and debate abstract theoretical concepts such as those found in mathematics, philosophy or logic, Piaget believed that these four stages of cognitive and linguistic development were universal and that no children ever skipped over one of the four steps.

The mechanism responsible for grammatical development is one of the mostly hotly-debated topics in the study of child language. It is argued that children come to the language-learning task equipped with innate knowledge of language structure and that language could not be achieved otherwise. It is also clear, however, that children have the ability, even in infancy, to detect abstract patterns in the speech and who hear more speech and who hear structurally more complex speech acquire grammar more rapidly than do children with less experience – which suggests that language experience plays a substantial role in language development.

## **Innateness Theory by Chomsky**

Noam Chomsky's innateness or nativist theory proposes that children have an inborn or innate faculty for language acquisition that is biologically determined. According to Goodluck(1991), nativists view language as a fundamental part of the human genome, as a trait that makes humans human, and its acquisition is a natural part of maturation. It seems that the human species has evolved a brain whose neural circuits contain linguistic information at birth and this natural predisposition to learn language is triggered by hearing speech. The child's brain is then able to interpret what she or he hears according to the underlying principles or structures it already contains (Linden, 2007). Chomsky has determined that being biologically prepared to acquire language regardless of setting is due to the child's language acquisition device (LAD), which is used as a mechanism for working out- rules of language. Chomsky believed that all human languages share common principles, such as all languages have verbs and nouns, and it was the child's task to establish how the specific language she or he hears expresses these underlying principles. For example, the LAD already contains the concept of verb tense and so by listening to word forms such as "worked" or "played". The child will then form a hypothesis that the past tense of verbs are formed by adding the sound /d//t/ or /id/ to the base form. Yang (2006) also believes that children also initially possess, then subsequently develop, an innate understanding or hypothesis about grammar regardless of where they are raised. According to Chomsky, infants acquire grammar because it is a universal property of language, an inborn development, and has coined these fundamental grammatical ideas that all humans have as universal grammar (UG). Children under the age of three usually don't speak in full sentences and instead say things like "want cookie" but yet you would still not hear them say things like "want my" or "I cookie" because statements like this would break the syntactic structure of the phrase, a component of universal grammar. Another argument of the nativist or innate theory is that there is a critical period for language acquisition, which is a time frame during which environmental exposure is needed to stimulate an innate trait. Linguist Eric Lenneberg in 1964 postulated that the critical period of language acquisition ends around the age of 12 years. He believed that if no language was learned before then, it could never be learned in a normal and functional sense. It was termed the critical period hypothesis and since then there has been a few case examples of individuals being subject to such circumstances such as the girl known as Genie who was imposed to an abusive environment, which didn't allow her to develop language skills

## **How it Works**

Chomsky proposed that every child was born with a LAD that holds the fundamental rules for language. In other words, children are born with an understanding of the rules of language; they simply need to acquire the vocabulary.

Chomsky offered a number of pieces of evidence to support his theory. He posed that language is fundamentally similar across all of humanity. For instance, every language has something that is like a noun and a verb, and every language has the ability to make things positive or negative.

Chomsky also discovered that when children are learning to speak, they don't make the errors you would expect. For instance, children seem to understand that all sentences should have the 'subject-verb-object, even before they are able to speak in full sentences. Weird, huh ?

From his experiments, Dr. Chomsky also noted that young children, well before reaching language fluency, would notice if adults around them spoke in a grammatically incorrect manner. He also found that children attempt to apply grammatical rules to words for which their language makes an exception. For example, in following the English rules of grammar, a child might pluralize the word 'fish' as 'fishes' and 'deer' as 'deers', even though our language makes exceptions for those words.

The Language Acquisition Device (LAD) is the innate biological ability of humans to acquire and develop language. He theorized that all humans share a mechanism which allows us to comprehend, develop, and use language like no other animal. Animals raised around humans don't develop the ability to speak but humans do. He called this biological language mechanism the Language Acquisition Device.

## **Biological Influences on Language Acquisition**

According to this view, all children are born with a universal grammar, which makes them receptive to the common features of all languages. Because of this hard-wired background in grammar, children easily pick up a language when they are exposed to its particular grammar.

## **What is the Language Acquisition Device?**

Anybody who has had or known a child knows that children take to learning language at a remarkable rate. In fact, it seemed a little too remarkable for one linguistics researcher.

Noam Chomsky, a pioneering linguist and a professor at MIT, put forth an idea called the language acquisition device or LAD, for short. The LAD is a hypothetical tool hardwired into the brain that helps children rapidly learn and understand language. Chomsky used it to explain just how amazingly children are able to acquire language abilities as well as accounting for the innate understanding of grammar and syntax all children possess.

Keep in mind that the LAD is a theoretical concept. There isn't a section of the brain with 'language acquisition device' printed on it and a big switch to turn on and learn a new language. Rather, the LAD is used to explain what are most likely hundreds or thousands of underlying processes that humans have in their brains that have evolved to make us particularly exceptional at learning and understanding language.

Chomsky developed the LAD in the 1950s and since then, has moved on to a greater theory called universal grammar (or UG) to account for the rapid language development in humans.

The rudimentary form of language is stored in human brain. This enables child to make use of that and acquire knowledge cognized information and also speaker and learner can construct innumerable sentences.

## **Social Interaction Theory**

Vygotsky's social interaction theory incorporates nurture arguments in that children can be influenced by their environment as well as the language input children receive from their care givers. Although the theories of Skinner, Chomsky and Piaget are all very different and very important in their own contexts, they don't necessarily take into account the fact that children don't encounter language in isolation. The child is a little linguist analyzing language from randomly encountered adult utterances. The interaction theory proposes that language exists for the purpose of communication and can only be learned in the context of interaction with adults and older children. It stresses the importance of the environment and culture in which the language is being learned during early childhood development because this social interaction is what first provides the child with the means of making sense of their own behaviour and how they think about the surrounding world. According to Williamson (2008), children can eventually use their own internal speech to direct their own behaviour in much the same way that their parents' speech once directed their behaviour. Speech to infants is marked by a slower rate, exaggerated intonation, high frequency, repetition, simple syntax and concrete vocabulary. This tailored articulation used by care-givers to young children to maximize phonemic contrasts and pronunciation of correct forms is known as child-directed speech (CDS). Vygotsky also developed the concepts of private speech which is when children must speak to themselves in a self guiding and directing way- initially out loud and later internally and the zone of proximal development which refers to the tasks a child is unable to complete alone but is able to complete with the assistance of an adult. The attention and time that a mother spends talking about topics that the child is already focused on highly correlates with early vocabulary size. In the early stages of a child's life this is usually done through mothers or 'baby talk' which may allow children to "bootstrap their progress in language acquisition (Williamson, 2008). The mother and father also provide ritualized scenarios, such as having a bath or getting dressed, in the phases of interaction are rapidly recognized and predicted by the infant. The utterances of the mother and father during the activities are ritualized and predictable so that the child is gradually moved to an active position where they take over the movements of the care-taker and eventually the ritualized language as well. Basically the care-giver is providing comprehensible contexts in which the child can acquire language (Mason, 2002). Another influential researcher of the interaction theory is Jerome Bruner who elaborated and revised the details of the theory over a number of years and also introduced the term Language Acquisition Support System (LASS), which refers to the child's immediate adult entourage but in the fuller sense points to the child's

culture as a whole in which they are born. Adults adapt their behaviour towards children to construct a protected world in which the child is gradually inclined to take part in a growing number of scenarios and scripts and in this way the child is lead gradually further and further into language. However, one must remember that although our social context provides support for language acquisition, it does not directly provide the knowledge that is necessary to acquire language and this perhaps where a child's innate abilities come into play.

### Check your understanding

1. What is acquisition of language?
2. What are the stages of language development?
3. Write a note on Jean Piaget's theory on child development.
4. What is LAD?
5. Discuss the innate theory of language development by Chomsky.
6. What is private speech?