

Theoretical Controversies of Child Language Acquisition- A Psycholinguistic Perspective

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Abstract- The present paper presents a detailed account of the theories associated with child language acquisition from a psycholinguistic perspective and the issues associated with acquisition process of language in language development of child in different language context; In characterizing language, the theories of language development differ in the weight that they ascribe to various dimensions It further explore the Connectionist theories thus model language acquisition at the neuronal level: its outcomes in language; describing how particular grammatical structures such as the inflectional system may be acquired in particular. Finally it discusses and evaluates the theories and models to be taken into account in research by the researchers in child language acquisition.

Index Terms- Acquisition, learned behavior, Innate, universal grammar, learning theory, social learning, language input, cognitive development,connectionist model

I. CHILD LANGUAGE ACQUISITION

Acquisition as a technical term in linguistics means the natural imbibing of language in its cultural setting the language acquisition faculty is a typically human capacity, unique to human being. It is species specific. Acquisition of language takes place automatically, children imbibing the language of the community in which they group up without any conscious effort. Parents eager to hear their child speak, often try to teach them but, even without any such coaching, a normal child (i.e., a child without any speech defect) will acquire the language of the environment to which she / he is exposed.

Language is not genetically transmitted, but acquired from the environment. Therefore, an English child growing up in Japan will acquire Japanese and a Japanese child growing up in England will acquire English with equal easiness. No language is more or less difficult than any other language for such acquisition i.e., first language in its natural setting. It is an absolutely unconscious process like breathing and a natural part of the process of growing up. Just as the child learns to sit, stand or walk the child also learns to comprehend and produce utterances, i.e. to use language.

In spite of the fact that language is a highly complex and structured system comprising several systems, children acquire it fairly swiftly and with amazing easiness. This naturally captured the attention of researchers. Linguists and Psychologists became equally interested in this area and in the 1950's the discipline **psycholinguistics** emerged out of their collaborative work. The study of "**language acquisition**" is the most important area and

the principal concern of psycholinguistics. It forms a separate field of psycholinguistics known as "**Development Psycholinguistics**" which studies how language is acquired during the development of a child.

First language or mother tongue acquisition is also called "**Child language acquisition**" (Crystal 1985:5) or simply "**Child Language**" (Ingram 1975:220) or **Child's language** (Clark & Clark 1977)

Sometimes, a distinction is made between "**Language acquisition**" and "**Language Development**". According to Crystal (1985:5) language acquisition refers to the "**Learning a linguistic rule**" i.e., the rule of grammar, Phonology or semantics, and language development implies the "**Further use of this rule in an increasingly wide range of linguistic and social situations.**"

II. GENERAL FEATURES OF THEORIES

Developmental psycholinguistics is filled with various lively theoretical controversy account for language development. At one extreme scholars claim that language is a **learned behaviour** that parents teach to children. At the other end of the theoretical spectrum equally dedicated researchers claim that the principles that underlie language are **innate**, or present at birth as part of the child's biological heritage.

2.1. Major dimensions of Language Development Theories

In characterizing language, the theories of language development differ in the weight that they ascribe to various dimensions. Each of the following questions asks which end of the continuum is more important.

i. Nature or Nurture

This question is the most important controversial thought which divides psycholinguistics. Its focus is on the answers to the question that does the language is imbibed / hardwired in the human brain? (nature) or does the language learnt through interaction with the environment? (nurture)

ii. Continuity or Discontinuity?

Do the stages of language development overlap? (or) Does one stage cease at a point of time, followed by another stage.

iii. Universal competence or individual variation?

Do all children acquire language in the same way? i.e. Is their linguistic competence basically invariant? (or) does individual knowledge vary greatly?

iv. Structure or Function?

Do the children acquire the structure i.e. grammar of the language (or) Do they use language according to various situations i.e. function.

v. Autonomy or Dependency?

Do the human have a separate language faculty (or) is the language development dependent on other kinds of development.

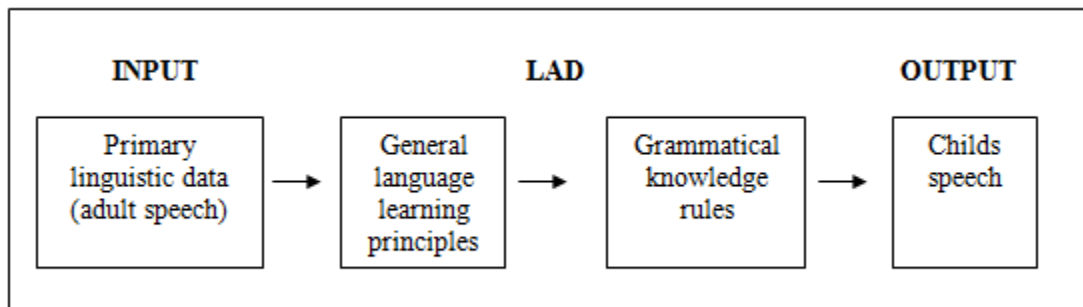
vi. Rules or Association?

Is the child internalizing set of abstract cognitive principles while acquiring language (or) is the child acquiring language without recourse to rules but merely a set of connections.

These are just some of the kinds of questions that have led to research, theory and heated controversy in the field of developmental psycholinguistics.

III. LINGUISTIC / INNATIST THEORY

Innatist theorists believe there is an innate capacity for acquiring language and children are born with this capacity. Innatist theorists rely heavily on theories of mind and on special abstract mental mechanisms such as a postulated **language acquisition device (LAD)** (Chomsky, 1965, 1972, 1982) to describe this capacity. The language acquisition device according to Chomsky makes it possible for children to *attend* to the language that the adults around them speak, *make hypothesis* about how it works and *derive an appropriate grammar*.



Chomsky believes that “Without postulating such a device it is impossible to understand how children master their native language in such a short time in spite of the highly abstract nature of the rules” (Clark 1975) It is presumed that the human nervous system is equipped with the language acquisition device “neurological system pre-wired in such a way that the person is able to process and receive language”. It may be pointed out that the language acquisition Device “is not actually a structure in the brain but the innate capacity to learn grammar” (Janda and Hamel 1982)

Chomsky himself eschews the term “innateness” when discussing the theory of language acquisition. As he points out, all theories of learning presume some innate capacities that probably are unique to the human experience. Thus, a linguist finds it non controversial to assume that the human mind possesses certain inherent properties, tendencies and initial assumptions. Innatist theory claims that many aspects of language development are preprogrammed in the individual and a child does not require explicit teaching or experience in order to acquire language.

The language that infants hear provides data for their grammatical hypothesis, but the LAD does not require *specialized input* to do its job- any reasonable sample of language will do, according to the theory. Thus, nativists view language as a hardwired **bio program** that develops when the infant is exposed to language.

The most elaborated version of the LAD account- **the principles and parameters approach**- suggests that children are born with a **Universal Grammar (UG)** which mean they are (unconsciously) anticipating those features that are common to all languages (the principles), as well as limited options for those things that differ among languages (the parameters). Upon

exposure to actual input from a given language, children are able to ‘decide’ which sort of language they have uncounted.

Linguists point out that child everywhere learns to talk- in fact is it just about impossible to suppress the development of language. (Lenneberg, 1967) Because children are reared around a world in which thousands of different languages are spoken and different child care practices prevail, and because children come with obvious individual difference in intelligence, temperament, motivation, personality, and so forth, universal patterns of language development provide strong evidence that the mechanisms underlying language development are inborn or innate. Thus, acquiring language is rather like learning to walk – it happens in just about every intact individual, with or without explicit training.

Of course, every child learns a particular language and proceeds from the initial stage to competence in the language spoken in their community. According to the linguistic view, infants may be innately endowed with linguistic switches or **parameters** that they set once they hear the adult language around them. For instance, children may note that English is a subject verb object or S-V-O language, or that it has articles before its nouns (Hymes, 1986) and set their parameters accordingly.

In the nativist view, language is an autonomous faculty, separate from intelligence, that infants are innately driven to acquire. The various sub systems of language are internalized as sets of algorithms or rules that allow the child to produce new utterances that he / she has never heard before.

Innatist theory suggests the possibility of a **critical or sensitive period** during which the language acquisition device and parameter setting can optimally function. When the critical period has passed (Usually when the individual reaches puberty)

acquiring a first language may become difficult or even impossible.

IV. LEARNING THEORY

Behaviorists, or learning theorists (for example, Skinner, 1957, 1969, White Hurst, 1982) claim that language is acquired according to the general laws of learning and is similar to any other learned behaviour. According to this theory, language acquisition is a process of imitation and reinforcement. Children learn to speak by copying the utterances heard around them, and by having their responses strengthened by the repetitions, corrections and other reactions that adults provide.

Learning theory includes three kinds of learning i.e. **classical conditioning operant conditioning, and social learning**. Each of these kinds of learning explains some part of language development.

4.1 Classical Conditioning

The famous conditioning experiments conducted by Pavlov (1927) dogs learned (were conditioned) to react to a bell as if it were meat powder. Initially, the dogs were presented with meat powder – the **unconditioned stimulus (UCS)** and their **unconditioned response (UCR)** was to salivate. The experimenter then rang a bell (**the conditioned stimulus**) just before giving the dogs meat powder. Eventually, ringing alone caused the dogs to salivate (**the conditioned response**). In a sense, the dogs reacted to the bell as if it were the meat. In the beginning, the meat powder was the *stimulus*, and salivation was the *response*. Soon, through *association* with the meat powder, the bell alone became sufficient to evoke the salivation response.

Learning the meaning of a word is thought to be a similar process i.e. an infant may learn the meaning of a word through **classical conditioning**. An infant fed with a bottle, for instance, has many reactions to the bottle, such as anticipation of drinking. If every time she is fed, her mother holds up the bottle and says “bottle”, the child begins to *associate* the word bottle with the object. Ultimately when someone says “bottle”, the child responds to the word in some sense as if it were the thing- by expecting to see a bottle, becoming physiologically prepared to drink and so on, the word evokes the same response as the bottle, and in this sense she knows the meaning of the word.

4.2 Operant Conditioning

The basic principle of **operant conditioning** or **instrumental learning** is that behaviour that is *rewarded* or *reinforced* will be *strengthened*. This kind of learning is called “operant” because the subject “operates” on the environment in order to get a reward, or **reinforcement**. Behaviour that is not reinforced will become **extinguished**. In the behavioural view, parents and others teach children language through operant conditioning by *rewarding* their early attempts at language. The *selective reinforcement* gradually *shapes* the child’s linguistic behaviour.

V. SOCIAL LEARNING

Social learning takes place when the child *observes* and *imitates* others. The basic principle involved is that children need not be rewarded themselves in order to acquire a behaviour – They also learn to behave like appropriate models.

According to the learning theory, through a combination of classical and operant conditioning, as well as imitation and social learning the child moves from babbling infant to speaking adult. Because observable and measurable behaviour provide the data for learning theorists, they are not concerned with abstractions such as whether children or adults at any stage have concepts underlying their language.

5.1 Social Interactionst Theory

This theory recognizes the importance of environmental factor along with biological or innate determinants in the acquisition of language. It is assumed that certain biological factors help the acquisition of language. At the same time environment also contributes to this effects. (Bloom, Rocissane, and Hood 1979) The interactionist theory of language thus attempts “to combine biological heritage with a number of different environmental determinants”.

5.1.1. The language learning environment

The language used to address babies is different in many ways from the language shared between adult speakers. The work in Fernald (1985) has shown that mother use typical intonation patterns in speaking to infants; the prosodic envelope carries information about such things as approval or disapproval in the early weeks. Mothers seem capable of adapting their language to give the child maximum opportunity to interact and learn. Speech to infants in our society is marked by slow rate, exaggerated intonation, high fundamental frequency, many repetitions, simple syntax and a simple and concrete vocabulary (Snow & Ferguson 1977)

Child – directed speech (CDS) or **baby talk (BT) care taker speech** or most commonly **motherese** exist in one form or another in all societies studied. It is not uniform for societies rather, it is culturally determined. Thus baby talk registers are pervasive, though their individual forms vary. According to Gleitman, Gleitmanlandau, and Wanner (1988), “There is a natural co-adaptation at work here, in which mothers are inclined to provide a particular database, and the babies are inclined to attend particularly to this”.

The fact that some form of BT is universal in all cultures strongly suggest that it can influence language learning, or may enable it. Experimental evidence does suggest that infants would rather listen to CDS than to adult- directed speech. (Fernald & Kuhl; 1987). It is possible that some of the prosodic and syntactic characteristics of B.T. may allow children to “bootstrap” their progress in language acquisition. The relative contribution made by the B.T. register to the process of language acquisition continues to be one of the critical questions in developmental psycholinguistics. Whether BT is necessary, helpful, irrelevant to the process of language development is still a matter of spirited debate.

5.1.2 Input

Social interactionists (for example, Bruner 1985; Berko Gleason ; Hay & Cain, 1989 ; Farrar 1990 ; Snow, 1981) view language as a fact of communicative behaviour that develops through *interaction* with other human beings. Bruner (1985) offers the terms **LASS (language acquisition socialization system)** as an alternative to Chomsky's LAD.

According to this interactionist view, children acquire language in part through the *mediation* and help of others, rather than purely through their own mental activity in processing adult language. Thus *interaction* rather than **exposure** is seen necessary. Children cannot acquire language simply by observing adults in conversation with one another or by watching television or listening to the radio. Social interactionists point to special ways of talking to young children all over the world and that the special language used by adults appears *tailored* or *fine tuned* to the cognitive and communicative needs of the children. This child directed speech is believed to make the job of segmenting the speech stream and decoding the language easier for children acquiring language (Kemler Nelson, Hirsh-Pasek, Jusczyk, & Wright – Cassidy 1989 Bernstein Ratner, 1994).

In stressing the functional basis of language interactionists study

1. The interpersonal reasons that children have for speaking in the first place.
2. The ways that older speakers tailor their linguistic interactions with infants in order to facilitate language acquisition and
3. The effect of different kinds of input in children's developing language.

VI. COGNITIVE THEORY

Cognitive theorists like Piaget (1926, 1954), Macnamara (1972), Sinclair – de Zwart (1973), Bates (1979) and Bates Snyder (1985) think that language is a subordinate part of cognitive development, dependent on the attainment of various concepts. So this describes that children learn about the world first and then map the language they hear according to the previous experience they gained.

It is certainly easy to assume, however, that before a child can converse about something, she / he needs to *know* what it is. Or the existence of general *prerequisites* for language; For instance, that the ability to use the future and past tenses depends upon a prior understanding of future and past.

Cognitive theorists believe that language is just one aspect of human cognition (Piaget, 1926; Sinclair-dezwart, 1973) According to Piaget and his followers infants must learn about the world around them, which they do through active experimentation and *construction*. For example, the infant crawls around the floor, observes objects from all angles, and slowly develops a *sensorimotor* understanding of the space in which she lives. Primitive notions of *time* and *causality* develop, as well as an understanding that people and objects continue to exist even when they are out of sight (*person permanence* and *object permanence*). From Piaget's perspective, language is mapped onto an individual's set of prior cognitive structures, and the principles of language are no different from other cognitive principles.

Some studies have observed parallels between linguistic and cognitive development. For the most part, researchers have attempted to link Piagetian stage acquisition with the emergence of language skills in children. For example, Kelly and Dale (1989) suggest that late stage 4 or early stage 5 sensorimotor skills appear to signal the onset of single- word utterances by children. Stage 6 sensorimotor capacity closely precedes the emergence of combinatorial language. Bates, Bretherton, Snyder, Shore and Volterra (1980) linked symbolic play behaviour to greater progress in language development in children. Associations between cognition and language may be stronger in the domain of language understanding than language production. Bates, Dale and Thal (1995) note that "most cognitive variables correlate with what the child knows about language (indexed by comprehension) as opposed to what the child does (indexed by production)."

Cognitive theory is also being challenged when cases arise that suggest a possible *dissociation* between cognitive and linguistic development- for example, some children who were born during the 1950's to mothers, who had taken a supposedly mild tranquilizer thalidomide, during pregnancy had limbs missing and were unable to have the sensorimotor experiences thought to be prerequisite to language development. Yet these children development full, sophisticated language capacity. More recent reports document children with substantial intellectual impairment (such as an IQ of 50) who have complete and sophisticated language capacity (Curtiss 1982, Yamada, 1990).

VII. CONNECTIONIST MODELS

Connectionist or **Parallel Distributed Processing (PDP)** models explore how information may be built into a system (in this case the child's brain) through *neural connections*.

Human memory for experiences appears to be distributed widely across what may be termed process units. These units are "a little like idealized brain cells. They can perform only the same simple computation. The power of the system comes from how the units are connected" (Johnson – Laird, 1988, P.174).

A child develops such connections over time through exposure to the forms of the language associated with external events. For example, a child may hear the word 'bottle' under varying circumstances and thereby establish neural associations to the word, to the initial sound /b/ to the word milk, and so forth. Ultimately those interconnected associations become the "meaning" of the word. Information in such a neural network is conveyed through many interconnected units or nodes.

In such a model, many operations can take place simultaneously or in parallel. No manipulation of symbols or higher "cognitive" activity is required. Connectionist theories thus model language acquisition at the neuronal level. In particular they have been used to describe how particular grammatical structures such as the inflectional system may be acquired (Mc Clelland, Rumelhart & Connectionist group; 1986) Connectionist models asserts that connections, not "rules" underlie language development.

VIII. CONCLUSION

These theories offer explanations into the process of learning language. Much of the learning process is still unknown, leaving many educators asking the infamous question, "Why?" and having a few theories or more offers some slight insight into that realm so that we may better serve and educate our students.

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