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THE PSYCHOLINGUISTICS OF EARLY CHILDHOOD LANGUAGE ACQUISITION

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ABSTRACT

This study looked into the relationship between psychology and linguistics (psycholinguistics) and the mental processes in a child's language acquisition until he/she masters the basic linguistic structures of language, about 3 years of age. The way children learn language follows a specific pattern and is inherently systemic in nature. It is clear that children must be exposed to language and should be able to interact with others, but how that exposure and interaction occur is extremely variable. Even though young children are not formally taught language, language acquisition is part of the overall development of children physically, socially, and cognitively. This study examined the systematic patterning of language in early childhood language acquisition. It was recommended that mothers and caregivers should be aware of the phonological processes in language acquisition and be ready to go early for therapy where they persist beyond the age of five or six.

INTRODUCTION

Psycholinguistics is an integration or overlap of psychology and Linguistics. The field expanded in the 1960s as a response to the intellectual excitement generated by the works of Chomsky. As one of the emerging studies in the field of cognitive science, it studies the mind and mental processes involved in language comprehension (how we perceive and understand speech and written language), production (how we construct an utterance from ideas to completed sentences), and acquisition (how children acquire language) (Carroll 3).

It is the psychological study of language that is called psycholinguistics. It belongs to the emerging field of study called 'cognitive science.' Stillings et al defined cognitive science as "interdisciplinary venture that draws upon the insights of psychologists, linguists, computer scientists, neuroscientists and philosophers to study the mind and mental processes (qtd. in Carroll, 4). Some of the preoccupations of cognitive scientists include problem solving, memory, imagery and language. The study of these areas is inter-disciplinary as is the case with Psycholinguistics which stresses the knowledge of language and cognitive processes involved in ordinary language use, the social rules involved in language use and the brain mechanisms associated with language.

LANGUAGE PROCESSES AND LINGUISTIC KNOWLEDGE

Carroll described Psycholinguistic work as consisting of two questions:

- 1) What knowledge of language is needed for us to use language? and
- 2) What cognitive processes are involved in the ordinary use of language? (4)

In answering the first question, he distinguished between tacit and explicit knowledge. Tacit knowledge, according to him refers to "the knowledge of how to perform various acts, whereas explicit knowledge refers to the knowledge of the processes or mechanisms used in these acts" (Carroll 2004:4). This goes to say that linguistic knowledge goes beyond knowing how to use language to knowing the thinking processes involved in speech production. For many of us, our linguistic knowledge is generally tacit rather than explicit. Seeking to know how children acquire language will look at their tacit and explicit knowledge of language.

Language is inextricably entwined with our mental life – "our perceiving, our remembering, our attending, our comprehending, our thinking - in short, all of our attempts to make sense of our experience in the world..." (Lindfors 8).

Linguistic knowledge is inferred from observable behaviour and it has, according to Carroll four broad areas:

- Semantics (which deals with the meanings of sentences and words).
- Syntax (involves the grammatical arrangement of words within the sentence).
- Phonology (concerns the system of sounds in a language).
- Pragmatics (entails the social rules involved in the language use (4).

Explaining the second psycholinguistic question which is the cognitive processes involved in the ordinary use of language, Carroll explained 'ordinary use of language' to include 'understanding a lecture, reading a book, writing a letter and holding a conversation' (4); 'Cognitive processes'

mean ‘processes such as perception, memory and thinking.’ There are considerable cognitive processing underlining our every day speech and listening.

LANGUAGE ACQUISITION IN CHILDREN

There is strong evidence that children may never acquire a language if they have not been exposed to a language before they reach the age of 6 or 7. In the average child, at whatever developmental stage we observe, language is alive and well. Children’s language development is a creative process that only needs a rich environment to thrive (Lindfors, 9). One area of interest to psycholinguists is language acquisition. Inferring the linguistic knowledge in children is an onerous task. Carroll has these to say concerning child language acquisition:

- Children’s construction of language emerges from their understanding of communication prior to language. Their comprehension and production of gestures reveal a basic understanding of the communication process.
- Although children first acquire the sound system of their native language independently of meaning, they eventually merge it with communication gestures to form productive speech.
- The development of one-word speech comprises two important developments: the acquisition of the lexicon and the use of single words to express larger chunks of meaning.
- Children’s first word combination reveals a structure that is neither an imitation of adult speech nor fully grammatical by adult standards. With further development, children acquire the grammatical categories of adult speech.
- Early stages of acquisition are similar in sign and spoken languages (Carroll 241).

McGreggor admitted that the child’s language acquisition is a staged process which is similar across languages. These stages are:

- Pre-language stage of cooing, beginning at about two or three months; babbling beginning at around six months;
- One-word stage, beginning at about a year or so;
- Two word stage, beginning at 18-20 months;
- Telegraphic speech, beginning at two to three years of age;
- Basic mastery, at around four or five years;
- Elaboration and expansion especially of lexicon – also to some extent grammar- continuing throughout life (McGreggor 204).

This paper tends to look at the child’s language development in the first three years of life.

Pre-language Stage

The child’s first one year of life can be said to be that of the development of speech perception. It is often referred to as the pre-linguistic stage of life with the infants demonstrating some sophisticated speech perception abilities. Children have to learn language from scratch, although

the capability to speak is inherent in everyone. Having a child speak in the first one year depends on the efforts of mothers, caregivers and other adults in the child's environment. Their efforts that make an impression on children are referred to as 'child-directed speech' or 'baby talk' and 'motherese' (Carroll 242; McGregor 207). This kind of speech tends to be higher in pitch, more variable in pitch and more exaggerated in its intonational contours than adult-directed speech. A research carried out by Fernald and Kuhl in 1987 reported that the 4 months old child sitting on the mother's lap preferred to listen to the child-directed speech by turning his head towards the higher-pitch sound (child-directed speech) than the lower pitch (adult-directed speech) (In Carroll 243). Children of this age are only capable of *reflexive crying* (0-8weeks). This is also called the production of *vegetative sounds*. By 8-20 weeks, *cooing* and *laughter* appears in the child's vocal expression.

From speech perception the child moves to speech production.

- 20-30 weeks. The child begins with *vocal play*. This includes playing with vowels (V) and consonants (C), for example: "AAAOOOOOUUUUIIIII".
- 25-50 weeks. The child begins to *babble*. There are two kinds of babbling,
 - a) *reduplicative babbling* CVCV, e.g., "baba" (6-7 months), and
 - b) *variegated babbling*, in which syllable strings consist of varying consonants and vowels, such as, VCV "adu", "bigodabu" (11-12months). At this time, they begin to impose sentence-like intonational contours on their utterances and their vowels begin to sound similar to those in their native language (Boysson-Bardies, Halle, Sagart & Durand, in Carroll 252).
- 9-18 months. The child starts to produce *melodic utterances*. This means that stress and intonation are added to the sound chains uttered. By the age of 10 months, children engage in a lot of vocal behaviour that appears to have some communication value. They smile and cry to elicit parental behaviour.

These development stages, along with the decline of categorical perception of non-native contrast suggest that infants are beginning to acquire the phonology of their native language by late in their first year.

One-word Stage

By the end of the child's first year, he is able to use speech sounds to communicate meaning. He must have developed the use of gestures to convey meaning and the mastery of speech sounds in non-communicative situations. These achievements are possible because the child now has greater motor control (cognitive maturity) of the speech apparatus which enables infants to make sounds in a more precise way.

After this stage, the child sometimes invents his own symbols to refer to objects or events in their environment. I have once seen a child who uses his spread hands and with a big O- O-O to signify something big. These personalized words are called "idiomorphs." Reich also reported the case of a child who referred to ice cream as ABCDE; also is Hakuta's example of a child who says "Whew" to mean hello to guests who visit the house. Children at this stage usually give their parents a big task trying to figure out what they mean.

In attempt to explain the idiomorphs, Carroll sees them as either a simplification of adult speech or as been related to the sounds of the objects to which they refer. The idiomorphs also

characterize child's language development as being creative and as indicating that the child has learnt the importance of been consistent when referring to objects.

After the child's first birthday, around 12 to 18 months, he starts to produce recognizable words which occur alone, in single utterances thus referred to as one-word stage or holophrastic stage (Carroll 259; McGregor 205). Carroll defined holophrases as "single words that 'stand for' complete assertions, they represent an important sense of continuity with prelinguistic gestures, on the one hand, and more grammatically complex (less ambiguous) speech on the other." A look at the child's holophrases reveals that the first words tend to be similar both phonetically and semantically, regardless of the language. They tend to consist of CV syllables, and rarely contain consonant clusters. The first words are lexical rather than grammatical, and generally label concrete objects or individuals that the child interacts with, like *mummy*, *daddy*, *kitty*. In the words of McGregor,

This stage also contains words for negation (used in refusal, *no*), non-existence (remarking or disappearance or absence of something, for example *allgone*), recurrence (used in requesting more *more*), and attention (drawing attention to something or someone, for example *hi*) (205).

Stevenson, as cited in Barrett in describing the child's use of holophrase to express broader meanings states:

When a very young child says water, he is not using the word merely as the name of the object so designated by us, but with the value of an assertion something like I want water, or there is water (48).

This goes to show that there are lots of semantic relations in a child's one word speech as represented in the table below:

Semantic Relations in One-Word Speech

Relation	Instance
Naming	<i>Dada</i> , looking at father
Volition	<i>Mama</i> , looking at bottle of milk and whining
Agent	<i>Dada</i> , hearing someone come in
Action	<i>Down</i> , when he sits or steps down
Object	<i>Ball</i> , having just thrown it
State of object	<i>Down</i> , having just thrown something down
Associated object	<i>Cracker</i> , pointing to door of room where crackers are kept
Possessor	<i>Lauren</i> , upon seeing Lauren's empty bed
Location	<i>Box</i> , putting crayon in box

Source: Greenfield, P. M. and J. H. Smith. *The structure of Communication in Early language Development*. NY: Academic press, 1976: 70.

The Two-word Stage

By the time a child is about 18 to 20 months, he has an active vocabulary of 50 words with a dramatic increase over the next few months. Caray estimated children's vocabulary growth by age 6 to be 14,000 words (268). If we assume that children learn words from 18 months, it goes, therefore, to say that an average of eight words is learnt per day. By the time a child's vocabulary has increased to 50 words, he begins to put the words together in two-word utterances. One begins to hear things like *no bed* (negation or refusal), *more milk* (recurrence), *allgone-doggie* (non-existence), *hi daddy* (attention). Others include *mummy eat* or *eat mummy* (actor-action), *bad kitty* (quality-thing), *baby chair* (possession), *doggy table* (thing location), *go park* (action location), *eat brekky* (action-undergoer) and *mummy dinner* (actor-undergoer) (McGreggor 206).

This semantic relation in the two-word stage was also illustrated by Brown in a table

Semantic Relations in Two-Word Speech

Relation	Instance
Nomination	that ball
Recurrence	more ball
Nonexistence	allgone ball
Agent and action	daddy hit
Action and object	hit ball
Agent and object	daddy ball
Action and locative	go store
Entity and locative	book table
Possessor and possession	Daddy chair
Entity and attribute	big house
Demonstrative and entity	that box

Source: Brown R. *A First Language: The Early Stages*. Harvard University Press, 1973:189-198.

Describing the two-word utterances, Sach states that:

...the two-word utterance he [the child] says are are neither simple imitations of adult utterances nor random combinations of the words he knows. Rather, they follow from system that the child is using to express meanings at that time (156).

Children combine content words and leave out function words – more milk, push truck etc. This is a clear suggestion that the child has an understanding of the grammatical distinction as well as an intuitive appreciation that content words may be more informative than function words. The child doesn't just string together two words but he does so systematically.

Telegraphic Speech

After having passed these milestones, children are, in essence, capable of pronouncing words of the natural language. In late infancy children learn to say a few individual words and, by paying

attention to context, they can also understand some of the language used around them. At approximately 2 years of age, their ability to use language suddenly increases rapidly. Cassie Landers (n.page) calls this “telegraphic speech. He states that “Telegraphic speech refers to a child's tendency to use only the two or three most important words to express meaning.” For example, a child says; "Mommy rice," rather than "Mommy, I would like to have some rice." The average length of sentences steadily increases during the period from 2 to 6 years.

In this stage, function words and morphemes, such as prepositions and inflectional morphemes begin to appear. Telegraphic speech in different languages has many differences as well as similarities. For example in virtually all languages, children's telegraphic speech is characterized by deletions of certain kinds of words such as articles ("the, a, an), prepositions (in, on, under, through), conjunctions (and, but, because, when) and parts of nouns and verbs that indicate relatively subtle changes in meaning. Since telegraphic sentences are often ambiguous, interpretation often relies on contextual information. (<http://www.talkingpage.org/artic012.html>)

Despite the milestone achieved by children in language development, their speeches are often characterized by erroneous phonological processes. These are errors that affect entire classes of sounds rather than individual sounds. These processes are normal and natural part of language development but where it persists beyond the age of five or six, therapy may be needed. Some major noticeable phonological processes in noticeable in early language acquisition are:

- **Consonant Cluster Reduction:** Reduction occurs when children delete or eliminate sounds. A consonant cluster is two or more consonants in a sequence without any vowels between them such as /sp/ combination in speak, spot, or the /skr/ combination in scrape, scream. A child may omit one of the sounds – speak, spot become peak, pot, though they may sound more like beak, bot since /p/ sound in these words is unaspirated
- **Assimilation:** Sometimes, a sound will change to become more like a nearby sound. For example, beb for bed, coke for coat, baseball becomes bapeball
- **Reduplication:** The child repeats the first syllable twice. For example, baba for bottle, or mamam for mommy.
- **Initial Consonant deletion:** Some children omit the first sound of words that begin with consonants. For example, *rice* becomes *ice*
- **Final Consonant Deletion:** Similarly, children will leave off the last consonant of a word. For example, *boo* for book, *boe* for boat, *fee* for feet.

CONCLUSION

Understanding the psycholinguistics of early child's language acquisition is an important aspect of early childhood are and development. First language acquisition is a complex process, not fully accounted for yet. Although it seems that majority of children acquire a mother tongue without any major difficulties there are certain conditions that have to be fulfilled in order for young people to learn to speak. One such requirement is that a child cannot be deaf and exposure to language needs to occur before certain age, otherwise no oral communication will take place. Mothers and caregivers should be aware of the phonological processes in language acquisition and be ready to go early for therapy where they persist beyond the age of five or six.

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