

Multilingual Person's Brain Works

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ABSTRACT: *The first language (L1) has been acquired and maintained by multilingual speakers during childhood. The process of acquiring the first language in children is identically the same as when they acquire L2 and L3. Sometimes the first language is also referred to as the mother tongue, is acquired without formal education, but by mechanisms heavily disputed. Children acquiring two languages in this way are called simultaneous bilinguals. Even in the case of simultaneous one language usually dominates over the other. This kind of bilingualism is most likely to occur when a child is raised by bilingual parents in a predominantly monolingual environment. It can also occur when the parents are monolingual but have raised their child or children in two different countries.*

Keywords: *bilingual, multilingual, language acquisition*

INTRODUCTION

The advancement of technology as the characterization of global era development towards 21 century cannot be avoided. We have to aware of all impacts of them towards all of our aspects of life, such as, economics, culture, social, and of course the most crucial thing is language, as a tool of communication. To communicate with other nations, we need to master foreign languages, and English as an international language has been taught in almost all countries in the world.

What the bilingual brain tells us about language learning - See more at:

Definition

The term multilingual can refer to an individual speaker who uses two or more languages, a community of speakers in which two or more languages are used, or speakers of different languages. Multilingual individuals: A multilingual person, in a broad definition, is one who can communicate in more than one language, be it actively (through speaking and writing) or passively (through listening and reading). More specifically, the terms bilingual and trilingual are used to describe comparable situations in which two or three languages are involved. A generic term for multilingual persons is polyglot.

How the Brain Works in Language Acquisition

Language learning starts at a very early stage. Usually very careful and sensitive women when they are pregnant, they can feel that the future baby can communicate through smooth touch, and in modern era, when music is played, the baby moves rhythmically in the music played (Anderson, 1979: 44).

Nativist theories hold that children are born with an innate propensity for language acquisition, the babies are provided with the ability of language acquisition device (LAD concept, Chomsky, 1965), that it makes them easy to acquire the first language. The 'hidden assumption' permits children to understand quickly what is and is not possible in

the grammar of their native language, and let them to master that grammar by the age of three.

The fundamental part of human genome is language, as Nativist believe that this organ is as the bridge that makes humans human, and its acquisition as natural part of maturation. They have faith in that children leaning language as natural chicken get as dolphins learning to swim or their own food.

Noam Chomsky, the first linguist who carried out that the Language Acquisition Device (LAD) concept is a component of the Nativist theory of language which dominates contemporary formal linguistics, which asserts that humans are born the instinct or 'innate facility' for acquiring language. It is a postulated 'organ' of the brain that is assumed to operate as congenital device for learning symbolic language (i.e. language acquisition).

The Brain and Bilingual

Linguistic organization of the brain emerges from three sources, they are: 1) anatomical studies during operation and post; 2) experiments of different kinds, often with rather sophisticated equipment; 3) cerebral disorder i.e. brain damage, aphasia, etc.

There are many studies related to brain works, such as Broca's areas area for language production and Wernike's area for language reception and the angular gyrus for coupling word and referent, however, the large part of the brain is involved with linguistics functions. The following is the features of the brain works:

Diagram 1. Gyrus



A part of the brain, called left inferior frontal gyrus, probably operates to help a person vocalize words silently or aloud. At this point, the brain analyses phoneme. Later, the left parieto-temporal area of the brain functions by pulling apart words into their constituent syllables and sounds and linking them to their phonemic identities or appropriate sounds. If the first two stages operate accurately, the left occipito-temporal area helps to automate the process and the person develops into a skilled reader, accessing words quickly and effortlessly.

Order of Acquisition

Researchers have found a very consistent order in the acquisition of first language structures by children, and this has drawn a great deal of interest from school language Acquisition (SLA) scholars. Considerable effort has been devoted to testing the 'identity hypothesis', which asserts that first-language and second-language acquisition conform to

the same patterns. This has not been confirmed, probably because second-language learners' cognitive and affective states are so much more advanced. However, orders of acquisition in SLA do often resemble those found in first-language acquisition, and may have common neurological causes.

Most learners begin their acquisition process with 'silent period', in which they speak very little. For some, this is period of language shock, in which the learners actively rejects the incomprehensible input of the new language. However, research has shown that many 'silent' learners are engaging in private speech (sometimes, called 'self-talk'). While appearing silent, they are rehearsing important survival phrases and lexical chunks. These memorized phrases are then employed in the subsequent period of formulaic speech. Whether by choice or compulsory, other learners have no silent period and pass directly to formulaic speech. This speech, in which a handful of routines are used to accomplish basic purposes, often shows few departures from Second Language (L2) *morphosyntax*.

It eventually gives a way to a more experimental phase of acquisition, in which the *semantic* and *grammar* of the target language are simplified and the learners begin to construct a true language.

The nature of the transition between formulaic and simplified speech is disputed. Some theorists, including Krashen, have argued that there is no cognitive relationship between the two, and that the transition is abrupt. Thinkers influenced by recent theories of the lexicon have preferred to view even native speaker speech as heavily formulaic, and interpret the transition so as a person of gradually developing a broader repertoire of chunks and a deeper understanding of the rules which govern them. Some studies have supported both views and it is likely that the relationship depends in great on the learning styles of individual learners.

A flurry of studies took place in 1970s, examining whether a consistent order of *morpheme* acquisition could be shown. Most of these studies did show fairly consistent orders of acquisition for selected *morphemes*. For example, among learners of English, the cluster of features including the suffix '-ing', the plural, and the copula were found to consistently precede others such as the article, auxiliary, and third person singular. However, these studies were widely criticized as not paying sufficient attention to overuse of the features (idiosyncratic uses outside what the obligatory contexts in the L2), and sporadic but inconsistent use of the features. More recent scholarship prefers to view the acquisition of each linguistic feature as a gradual and complex process. For that reason most scholarship since 1980s has focused on the sequence, rather than the order, of feature acquisition.

Chomsky motivated the LSD hypothesis by what he perceived as intractable complexity of language acquisition, citing the notion of 'infinite use of finite means' proposed by Wilhelm von Humboldt. At the time it was conceived (1957-1965), the LAD concept was in strict contrast to B.F. Skinner's behavioral psychology which emphasized principles of learning theory such as classical and operant conditioning and imitation over biological predisposition. The interactionist theory of Jeromy Bruner and Jean Piaget later emphasized the of interaction between biological and social (nature and nurture) aspects of language acquisition.

Linguist Eric Lenneberg stated in a 1964 paper, that a critical period of language acquisition ends around the age of 12 years.

There are many linguists state that the younger the children, the faster they acquire second and foreign language.

1. McLaughlin and Gennese, describe that younger children acquire the second or foreign language much faster and find no obstacles than the adult people.
2. Neurologist, Lenneberg, describe that before puberty era, children's brain is still powerful, elastic, that is why this condition causes them easier to acquire the second or more languages is not successful optimumly compared with when they are older.
3. Bambang K. Purwo, Atmajaya Katholik University Jakarta, the follower of Lenneberg, describes that the age of 6-12 is the golden age for children learn a second or foreign language. He continues that there is also 'critical period' which can be obstacles the children meet in learning the other languages. For example, there is also what is called 'sensitive period' found in learning a foreign language which may happen until the children are 15 years of age. Children who learn a foreign language before 15 years of age, they can never have achieved native-like Ahmad Sofwan (one of lecturers at Postgraduate Degree of State University of Semarang, 2010), once showed his daughter to my language class. The daughter was 6 years of age when she first spoke English in Australia, joining her father taking Ph.D degree there. She seemed to have high-self motivated to be successful as a multilingual person. Her English is good but there's still a little bit difference from the native speakers. Brown (1994) confirms that successful mastery of the second or more language will be due to learners' own personal 'investment' of time, efforts and attention to the target language in the form of strategies for comprehending and producing the language in their milieu.
4. Fatman, according to his research result of around 200 children (6-15 years of age) in U.S.A., found that those who are 6-10 years of are more successful in mastering in phonology; but those who are 11-15, are more successful in mastering in morphology and syntax in English.
5. Scovel describes ring accent when that from infant to age of 10 is the factor which is influential in mastering accent when they learn English, but there is no limitation of age to mastering other aspects of foreign language.

The critical period hypotheses of brain plasticity and learning capacity have been called into question. Other factors may account for differences in adult and child language learning. Children's apparently effortless and rapid language acquisition perhaps are explained by the fact that the environment is set up to engage them in frequent and optimum learning opportunities. By contrast, adults seem to have an initial advantage in their of vocabulary and syntax, however they never achieve native-like pronunciation.

A more up-to-date view of the Critical Period Hypothesis is represented by the University of Maryland, College Park, instructor Robert DeKeyser, argues that although it is true that there is a critical period, this does not mean that adults cannot learn a second language perfectly, at least on the syntactic level. DeKeyser talks about the role of language aptitude as opposed to the critical period.

Studies on the acquisition of word order in German have shown that most learners begin with a word order based on their native language. This indicate that certain aspects of interlanguage syntax *are* influenced by the learners' first language, although others are not. Research on the sequence of acquisition of words is exhaustively reviewed by Nation (2001). Kasper and Rose (2002) have thoroughly researched the sequence of acquisition of pragmatic features. In both fields, consistent patterns have emerged and have been the object of considerable theorizing.

Chomsky (1965) set out an innate language schema which provides the basis for child's acquisition of a language. The acquisition process takes place despite the limited nature of the **Primary Linguistic Data (PLD)**, the input signal received) and the degenerate nature (frequent incorrect usage, utterances of partial sentences) of the data. Given this poverty of the stimulus, a language acquisition model requires a number of components. Firstly, the child must have a technique for representing input signals and secondly, a way of representing structural information about them. Thirdly, there must be some initial delimitation of the class of possible language structure hypotheses. Fourthly, the child requires a method for determining what each of these hypotheses implies with respect to each sentence. Finally, an additional method is needed by which the child can select which hypothesis is compatible with the PLD.

Equipped with this endowment, first language learning is explained as performed by a Language Acquisition Device progressing through the following stages:

1. The device searches the class of language structure hypotheses and selects those compatible with input signals and structural drawn from PLD.
2. The device then tests the compatibility using the knowledge of implications of each hypothesis for the sentences.
3. One hypothesis or 'grammar' selected as being compatible with the PLD.
4. This grammar provides the device with a method of interpreting sentences (by virtue of its capacity for internally representing structural information and applying the grammar to sentences).

Through this process the device constructs a theory of the language of which the PLD is a sample. Chomsky argues that in this way, the child comes to know a great deal more than he has 'learned', in acquiring of a language, which 'goes far beyond the presented primary linguistic data and is in no sense as an 'inductive generalization' from these data'. In some views of language acquisition, the LAD is thought to become unavailable after a certain age – the critical period hypothesis (i.e., is subject to maturational constraints). Chomsky has gradually abandoned the LAD in favour of a parameter-setting model of language acquisition (principles and parameters).

CONCLUSION

The process of language acquisition in children starts from what is called 'silent period'. In this period children's brain rehearsal process takes place, and it is popularly called 'self-talk'. In this period they may talk to themselves. Next, they are in 'critical period'. In this period, the process of acquiring vocabulary and pronunciation are good for children and it is called as golden age, but it is hard for adult. Language acquisition will end at age of 12.

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