Language Acquisition: The Interaction between Innate Capacity and Language Input

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Abstract

Numerous studies on how language is acquired have been conducted for years and myriad theories on language acquisition have put attempts to explain how human beings acquire language, e.g. language learning through imitation, reinforcement, association, and the innateness hypothesis. This paper shall describe the language acquisition process through the innateness hypothesis. It argues that language is acquired through an interaction between innate capacity—an innate ability to produce words and utterances—and language input, the language acquired from the human surroundings.

Keywords: *language acquisition, language input, innate capacity*

1. Introduction

Studies on how children acquire language have been conducted for years. Linguists and psychologists have put attempts to explain language acquisition process or how the knowledge of language is acquired. Four hypotheses have been proposed to explain the process (Guasti, 2002): language learning through imitation, reinforcement, association, and the innateness hypothesis. Among these four hypotheses, the innateness hypothesis seems to be more successful in answering the questions of how children acquire language (Guasti, 2002).

Language learning through imitation attempts to explain that language acquisition occurs by imitating dan repeating what adults say. Children repeat words they hear from their parents. However, this hypothesis is debatable because "they hear a finite number of sentences, but they come to be able to produce and understand inde®nitely many sentences, including vast numbers they have never heard and therefore cannot be imitating." (Guasti, 2002). Thus, these facts cannot prove that imitation plays an important rule in language acquisition.

Another hypothesis, language learning through reinforcement, is proposed by behaviourist psychologists to explain how children acquire a language. It discusses language learning process through the mechanism of reinforcing the

contingent association between stimulus and response (Skinner, 1957 as cited in Guasti, 2002). Behaviourism psychology claimed that "children learn language because they are positively reinforced when they produce correct verbal expressions, negatively reinforced when they make errors." However, this theory fails to explain where the knowledge of language comes from as the notion of reinforcement is unclear. In fact, parents and adults never give reinforcement when children produce correct or incorrect sentences. They merely pay attention on WHAT they say, not the grammaticality of the sentences or the utterances. Children even resist the correction of the errors they have made. (Guasti, 2002)

The other hypothesis used to explain language attainment is association or connectionism. According to Guasti (2002), "connectionist models mimic some aspects of the process of morphological acquisition; for example, they make the overregularization errors that children make in learning the past tense, e.g children overregularize vowel-change verbs (sing becomes singed, rather than sang)." (Marcus, 1995, as cited in Guasti, 2002).

2. Literature Review

The innateness hypothesis, proposed by Noam Chomsky, aimed to argue thetheory of B.F. Skinner (Cook & Newson, 1996). According to Skinner, language is acquired through stimulus-response-reinforcement (Cook & Newson, 1996). That means children learn language because parents or adults give positive reinforcement when they produce correct utterances and give negative reinforcement when they do not produce correct utterances (Guasti, 2002). However, this theory fails to explain where the knowledge of language comes from as the notion of reinforcement is unclear. In fact, parents and adults never give reinforcement when children produce correct or incorrect sentences. They merely pay attention on WHAT they say, not the grammaticality of the sentences or the utterances. Children even resist the correction of the errors they have made. (Guasti, 2002)

As stated previously, the innateness hypothesis appears to be most scientifically acceptable to find out the answers of a question "where does knowledge of language come from?" It explains that knowledge of language is

inborn and human beings are born with an innate capacity to acquire language (Guasti, 2002). This hypothesis also includes innate principles. They say that "languages emerge early, are universal, and appear without decisive evidence from the environment" (Crain & Thornton, 1998).

3. Discussion

So far, we probably think that knowledge of language is merely acquired through the capacity that is innately endowed since children are born. The fact is children also hear utterances or sentences, called language input, which are produced by parents or adults around them (Guasti, 2002). Snow (1994) underlines that "For those who assume that the important aspects of language acquisition are all the product of universal, innate grammar, study of the input to children offers little interest." Snow's statement implies that language input actually plays a significant role in language acquisition.

Children will not be able to say anything without language input. Without input or sentences they hear from their surroundings, they will not be able to "set the parameters appropriately for the language they are acquiring" (Cook & Newson, 1996). As the innateness hypothesis deals a lot with **Universal Grammar (UG)**, another notion proposed by Chomsky, input is very crucial to the UG model. For instance, if children never hear an example of a sentence with the verb "see", they will not comprehend that "see" is a verb. Another example is if they never hear sentences, such as "John sees Mary", they will not know that the verb "see" has to be followed by an NP (**Noun Phrase**) (Cook & Newson, 1996).

Up to this point, we have discussed the role of innate capacity and language input in language acquisition. Both of them play an important role in how knowledge of language is acquired. Let us now discuss more specifically how innate capacity and language input affect language acquisition.

According to the nativist view (a nativist is someone who believes in nativism—they believe that certain grammatical knowledge is inborn), language acquisition occurs because of the interaction between inborn factors (innateness) and the environment (language input) (Guasti, 2002; O'Grady, 2005). They

"cooperate" with each other in order to acquire language. Guasti (2002) states that "not all linguistic knowledge is innate, for children reared in different linguistic environments learn different languages." This statement implies that the innate capacity or innateness is not the only important factor affecting language acquisition. The input, the language children hear in their surroundings, plays an important role, too for their language acquisition and their language development.

The logical discussion is like this. If children only rely on the inborn factors, how do they acquire lexicon? It is impossible to have lexical entries without hearing words, phrases, or utterances from their environment. Without hearing sentences such as "John sees himself", how do the children know that English language has *anaphors*? (Cook & Newson, 1996). This example proves that the process of acquisition does not only count on the innate capacity. Children need to hear sentences from adults, parents, or their surroundings in order to be able to acquire knowledge of language (Cook & Newson, 1996).

Other evidence showing that language input affects the process of acquisition is the Echa's case (Dardjowidjojo, 2000). Echa is an Indonesian and she became the subject of research on language acquisition, conducted by her grandfather. Her grandfather says that the lexicon she acquired is determined by the language input—the language she hears (Dardjowidjojo, 2000). For instance, when she was around 2 or 3 years old, she acquired words like *kok* (shuttle cock), *ikan lele* (catfish), and fax. She acquired these words from the environment in which she lived at that time. When she turned to 3 years and 10 months old, she acquired words like *kerusuhan* (riot) and *bakar-bakaran*(fire because of the riot). She acquired these words because in May 1998, there were a lot of riots happening in Indonesia, and at that time, many buildings and stores were burned (Dardjowidjojo, 2000).

According to Dardjowidjojo (2000), external factors affect the lexicon development. What he means by external factors is the environment, or the language children hear in their environment. One of the evidence is Echa had acquired the word *komputer* (computer) while Teguh, the son of Echa's family house maid, had not acquired the lexical entry *komputer*. This occurs because

Teguh never heard the word *komputer* from his environment. It implies that the external factors, as Dardjowidjojo says, affect the lexicon acquisition process.

If language input plays a significant role in language acquisition, how about the innate capacity? How does it work regarding the acquisition process? It is as crucial as the input—that is, without the innate capacity, it is not possible for children to acquire language.

According to Chomsky (cited in Cook & Newson, 1996), human beings are born with *creativity*—they can understand and make utterances or sentences they have never heard before. Chomsky further said that human beings are also born with **Language Acquisition Device** (LAD). It is a device in human brain or mind used to acquire what Chomsky calls language competence (Cook & Newson, 1996). Thus, to my understanding, what Chomsky means by the innate capacity or innateness, explained in his Innateness Hypothesis, refers to creativity and LAD.

Knowledge of language or language competence acquired by creativity and LAD is one of the most important notions in language acquisition.

Cook and Newson (1996) say that "We can deduce what is going inside the child's LAD by careful examination and comparison of the language input that goes in – the material out of which language is constructed – and the knowledge of language that comes out – the grammar." Guasti (2002) underlines that grammar refers to the system of knowledge of language represented in human mind. Hence, without grammar, children will not be able to acquire language.

In summary, creativity and LAD are two important factors in language acquisition. Actually, creativity and LAD are not the only factors included in the innate capacity. There are some other key factors, such as constraints on form and constraints on meaning (Guasti, 2002; Crain & Thornton, 1998). Constraints on form enable children to distinguish grammatical and ungrammatical sentences while constraints of meaning enable children to distinguish ambiguous and unambiguous sentences (Guasti, 2002; Crain & Thornton, 1998).

The next discussion is "How do we prove that innate capacity plays a significant role in language acquisition?" Let us have a look at the following data.

- Although children hear finite number of sentences, they can produce infinite number of sentences. For instance, adults never produce a sentence like "What does he doesn't eat?" or "Why could he couldn't wash his hands?" (Guasti, 2002)
- They can acquire language without being explicitly taught by parents or adults. For instance, McNeill (1966, as cited in Guasti, 2002) reports the conversation between a child and his mother.

  Child : Nobody don't like me.
  Mother : No, say "nobody likes me."
  Child : Nobody don't like me.
  Mother : No, now listen cafefully; say 'nobody likes me."
  Child : Oh! Nobody don't likes me.
- Children occasionally make errors; however, they can "avoid" producing ungrammatical sentences which could be generalized from the language they hear. For example, although they hear sentences like "Who do you wanna invite?" and "Who do you wanna see?", they do not generalize from this language input to unacceptable sentences like *Who do you wanna come?" (Guasti, 2002)

The above data and examples prove that children are born with innate capacity. O'Grady (2005) underlines that there must something special in human mind used to acquire language.

4. Conclusion

To sum up, language acquisition results from the interaction between what nativists call nativism—the inborn factors and the environment or language input. They interact each other to acquire language. As O'Grady (2005) states that language acquisition occurs because of the role of adult speech, the role of feedback, the role of cognitive development, and the role of inborn knowledge. If we refer to Chomsky's notions of the UG and LAD, the process of language acquisition will be like the following schemes (Cook & Newson, 1996).

Input Language ⟹ Acquisition Device ⟹ Output

Input ⟹ Universal Grammar ⟹ Output

The first output (with LAD) covers a generative grammar and the second output (with the UG) covers a grammar which consists of principles, parameters, and lexicon (Cook & Newson, 1996). Thus, children can judge whether or not a sentence is ill-formed and acquire lexicon because of the interaction between the input and innate capacity.

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