

A Critique to Fundamental Differences Hypothesis

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Abstract

Chomsky's Theory of Universal Grammar was proposed in response to "the logical problem of language acquisition", that is, how children come to acquire L1 with ease and complete success despite the insufficiency of the L1 stimulus. Chomsky attributes the phenomenon to the Language Acquisition Device or UG inherited by human brain. Since "the logical problem" exists in SLA. What is the role of LAD or UG in SLA? Or, is UG accessible to L2 learners? This is a question that has attracted SLA researchers since the establishment of UG theory. This paper gives some own analysis of one of the most influential theory of UG accessibility—Fundamental Difference Hypothesis, which belongs to the no-access views and points out its weakness by discussing its theoretical explanation as well as the supporting evidence. To be more specific, this paper will discuss mainly 2 points, one is the nine fundamental characters of foreign language learning and the other is its theoretical explanation related to the Critical Period Hypothesis.

Keywords: logical problem, nine fundamental differences, the CPH, accessibility, Fundamental Differences Hypothesis

1. Introduction

In the course of research into the L1 acquisition devices, the researchers will be amazed by the phenomenon that the input of child's L1 cannot be a predeterminate factor for the ultimate attainment, which is called "the poverty of the stimulus". And it seems that child has the language knowledge which cannot be acquired by observing or imitating adults' speeches. (Baker & McCarthy, 1981; Hornstein & Lightfoot, 1981) This phenomenon was called by David Lightfoot "the logical problem of language acquisition", with its core "how can a language be acquired?" In response to the "logical problem", 1980s, Chomsky proposed the "language acquisition devices" (LAD). Chomsky claims that every normal one has the competence to acquire language, and LAD contains the fundamental knowledge of language. And he proposed another concept for explaining L1 acquisition is Universal Grammar (UG), which is a system of human beings language and an innate procedure of language processing.

The same as child L1 acquisition, the adults L2 acquisition has also attracted much interest but in the meantime, there is much more controversial. Normal children inevitably achieve perfect mastery of the language; adult foreign language learners do not, and the variation of success does exist. Lenneberg's Critical Period Hypothesis (1967) was once explainable for the general failure for adult foreign language learning. Long (1990) claimed that the most effective way to provide false evidence for the CPH is to find a subject who can achieve native or native-like language level. Birdsong (1992)'s experiment showed that after puberty, the language learner has the ability to acquire the target language. And the problem about why L2 acquisition is a general failure leaves much to be desired. Most of the theories, such as inter-language (Selinker, 1972), Krashen's five Hypothesis (1985) etc. cannot explain the procedure and the success-failure circumstances of language acquisition, UG provides a new prospective for researching into this field, the core of which is whether the L2 learners also make use of UG's principles and parameters in L2 learning. Many researchers made abundant of experiment, such as Cook, 1985; Flynn & O'Neil, 1988; Flynn & Manuel, 1991; Birdsong, 1992; Thomas, 1991; Yuan, 1994). From the previous studies, most of the researchers held the same view.

"Accessibility of UG grammar Hypothesis" is usually taken as an explanation for the "logical problem of L2 learning". Many linguists are divided into three groups which hold three different views, i.e., full accessibility of UG grammar, indirect accessibility of UG grammar and no accessibility of UG grammar. Many researchers hold

that UG still functions in L2 learning, and grammar of L2 doesn't violate the principles of UG, and the learners won't make any "impossible" errors. (White, 1988) Those who hold the full accessibility hypothesis claim that the grammar of L2 is completely fixed by UG (Thomas, 1991), and Thomas (1991) survey gave positive evidence for the hypothesis. Some other linguists such as Finer & Broselow (1986), Hirakawa (1990), etc. also stand in the same side. For the indirect accessibility hypothesis, the researchers hold that UG grammar functions indirectly in L2 learning, mainly through L1. Felix, Lust, & Haegeman, etc. all think that the parameters in L1 and L2 influence each other in a complex way, and the transfer of L1 upon L2 is constrained by UG. L2 cannot be acquired only by making use of the universal cognitive strategy. This point is totally different from the "no accessibility hypothesis", which denies the function of UG and attributes the L2 acquisition to the cognitive ability. (Flynn & O'Neil, 1988) In all, the indirect accessibility hypothesis holds that the adults can only make use of the concrete UG grammar in L1. Then the no accessibility hypothesis was proved to be true by the experiment by Schachter (1989), which used the subadjacency principle test and grammaticality judgment task for English as L2. Schachter thought L2 learners did not use UG grammar directly. And some other linguists, such as Clahsen & Muysken (1986), etc. also made some experiment to try to provide evidence for "no accessibility hypothesis". Bley-Vroman points out nine fundamental differences between L1 and L2, and proposed "Fundamental Differences Hypothesis". He totally denies UG's function upon adults' foreign language learning. His hypothesis will be what the author analyzes and discusses.

2. Fundamental Differences Hypothesis

In 1989, Bley-Vroman proposed "Fundamental Differences Hypothesis" based on the nine fundamental differences between L1 and L2 learning in an article *What is the Logical Problem of Foreign Language Learning*. He denies UG's accessibility to L2 learning and the full-accessibility hypothesis. He listed 9 different fundamental characters of foreign language learning, i.e., lack of success, general failure, variation in success, course, and strategy, variation in goals, fossilization, indeterminate intuitions, importance of instruction, negative evidence, role of affective factors. He claims that these nine are relatively apparent, large-scale characteristics, and few are controversial. And it will be useful to compare in each case foreign language learning with child language development on the one hand and with general adult skill acquisition and problem solving on the other. And he thinks that adult foreign language learning is much more like general adult learning than it is like child language development. He thinks that the nine characters form the "internal", "linguistic", and "qualitative" nature of foreign language learning.

Internal: It is caused by differences in the internal cognitive state of adults versus children, not by some external factor or factors. (Insufficient input, for example)

Linguistic: It is caused by a change in the language faculty specifically, not by some general change in learning ability.

Qualitative, not quantitative: The difference is not merely quantitative; the domain-specific acquisition system is not just attenuated, it is unavailable.

He says that the child learner possesses a language acquisition system that contains 2 sub-components.

- A. A definition of possible grammar: a Universal Grammar
- B. A way of arriving at a grammar based on available data: a learning procedure (or set of procedures)

Compared with child L1 acquisition, adult foreign language learning also has a framework with these components.

Child language development	Adult foreign language learning
A. Universal Grammar	A. Native language knowledge
B. Domain-specific learning procedures	B. General problem-solving system

3. The weakness of "Fundamental Differences Hypothesis"

3.1 The Evidence Is Not Powerful Enough

"Fundamental Differences Hypothesis" is constructed on the basis of the internal differences between L1 acquisition and L2 learning. Bley-Vroman does list nine differences to prove it. It is undeniable there does exist many differences between child language development and adult foreign language learning, but it does not mean they are internally different. Even some linguists who advocate "full-accessibility hypothesis" also admit the existence of such differences, but they mostly attribute these differences to the linguistic performance. White

(1985) pointed that the differences between L1 and L2 users are not definitely because of the lack of UG or the lack of competence, and many L2 learners can also make use of the principles of UG. L. White (1985) ever takes such an example to illustrate her point:

1a. The car which is advertised in the paper is expensive.

1b. Is the car which is advertised in the paper expensive?

1c. Is the car which advertised in the paper is expensive?

She observed that L2 learners seldom make such errors as 1c, though no one tells them the principles or provides them the negative evidences, they can judge that 1c is wrong just by intuition. This point was supported by Cook (1989), who claimed that is relevant to language competence but not linguistic performance, and many L2 learners though master the linguistic knowledge, not always obey its principles. Then, L2 learners' all kinds of performance only can be explained in the level of language use, which cannot be explainable for their language competence, therefore, the differences are have nothing to do with UG. Cook (19889) held that UG had complex and abstract principles and parameters, so, to judge whether UG is accessible to L2 learning is determined by whether the grammar of L2 learners is binded by those principles of UG. We need to make a research into the L2 learners' inter-language to see whether wild grammar will emerge. Bley-Vroman insists the differences between L1 and L2 learners are the prerequisite of his theory, but the evidence is seemingly rare. Conversely, the more powerful evidences are those which closely related to UG.

3.2 *The Theory Cannot Hold Water*

The theoretical explanation of Fundamental Differences Hypothesis for the "logical problem" of foreign language learning cannot hold water, or even is improved to be false. Just as the same as other hypothesis which support the "no-accessibility of UG", some points of Fundamental differences Hypothesis are also based on the Critical Period Hypothesis (Lenneberg, 1967). Fundamental Differences Hypothesis proposes that after the critical period or the sensitive period, the L2 learner's Language Acquisition Device is diminished, and the language-specific learning procedure is replaced by the general problem-solving system. However, the Critical Period Hypothesis (CPH) is doubted and challenged theoretically and empirically. The basis is doubted, how can the Fundamental Differences Hypothesis be tenable?

The idea of a critical period was firstly introduced by Penfield & Roberts (1959). Their argument is that language acquisition is most efficient before the age of 9. Lenneberg (1967) proposed the critical period hypothesis (CPH), who postulated that the end of the critical period was marked by "termination of a state of organizational plasticity linked with lateralization of function" (p. 176). "He directed most of his argumentation to primary language acquisition. However, he made a brief foray into L2A pointed to learners' progress as well as their shortcomings." (Birdsong, 1999) Lamendella (1977) introduced the term "sensitive period", in which language acquisition might be more efficient during early childhood but was not impossible at later ages. The two terms are used interchangeably by many researchers. Although there are many who support the CPH (Newport, 1990, 1991; Hurford, Kirby, Elman, & Penfield, etc.), the anti-voice is fairly loud. Flege shows that L2 pronunciation accuracy declines linearly with age, and does not display a trademark discontinuity that Patkowski (1990) and others associate with the passing of a critical period. Flege et al. (1999) carried out an experiment. The participants were 240 native speakers of Korean who differed according to age of arrival (AOA) in the United States (1 to 23 years). Their pronunciation of English was evaluated by having listeners rate their sentences for overall degree of foreign accent; knowledge of English morphosyntax was evaluated using a 144-item grammaticality judgment test. The result showed that as AOA increased, the foreign accents grew stronger, and the grammaticality judgment test scores decreased steadily. However, unlike the case for the foreign accent ratings, the effect of AOA in the grammaticality judgment test scores become nonsignificant when variables confounded with AOA were controlled, which suggested that the observed decrease in morphosyntax scores was not the result of passing a maturationally critical period. Bongaerts also tackles the area of L2 pronunciation. He conducted first two studies involved Dutch native speakers learning English as adults. Native English controls and two groups of Dutch participants were asked to read aloud a set of English sentences containing sounds both similar to and different from Dutch sounds. Under a variety of different analysis and by stringent criteria for comparison, a significant proportion of late learners in both studies were judged to have native English pronunciation. The result showed a negative evidence for the CPH, which proposed, after the critical period, nonnative speaker can hardly get native like attainment. Bialystok & Hakuta grant that for L2A, earlier is better, but stake out the position that it is misguided to infer a causal relation between age and attainment. Bialystok questioned the findings of Johnson & Newport (1989; 1991) by reexamining their data. They challenged their studies in three aspects: subjects involved; tasks used; and structures examined. Bialystok

(1997) argued strongly against the critical period hypothesis.

Admittedly, Bley-Vroman also noticed this phenomena, he claimed that the diminishing of LAD is an independent process, which doesn't take place around puberty. The attenuated LAD coexists with general problem-solving system, and they can accelerate the acquisition of L2 (1986, p. 61). However, Bley-Vroman doesn't give any explanation about how the two systems compete and compensate for each other in the process of L2 acquisition.

3.3 *The Explanation of the Role of Native Language Is Confusing*

From Bley-Vroman's (1989, p. 51) point of view, the adult's knowledge of a language, doesn't simply mean the set of well-formed sentences, but also the full range of subtle institutions native speakers possesses. A great deal of information about the general character of language—about language universals—is implicit in a single language precisely because universals are universal. The learners will have reason to expect that the language to be learned will be capable of generating an infinite number of sentences; a language of finite cardinality will not be expected. Obviously, Bley-Vroman thinks that in the process of language learning, the learners should know the nature and the latent principles of the language to achieve perfect mastery of a language. In L2 learning, this kind of "knowing" comes from the native language of the L2 learner. "Universals of this sort are available to the foreign language learner merely by observing, (not necessarily consciously) the most obvious large-scale characteristics of the native language—not deep analysis are necessary—and by making the very conservative assumption that the foreign language is not utterly different sort of thing from the native language." (Bley-Vroman, 1989, p. 51)

We can see obviously, the learner's observation of L1 is beneficial to the acquisition of L2. However, the "observed but not consciously existed" L1 principles are formed from Universal Grammar, and if the learners acquired an L2 by observing L1, why can't we claim that the UG is still accessible to L2 learning? It is utterly opposed to Bley-Vroman's "No-accessibility" view. Upon this point, he doesn't give any further explanation.

4. Conclusion

From the tentative analysis and discussion above, we can see some theoretical and empirical demerits of Bley-Vroman (1989)'s Fundamental Differences Hypothesis. Bley-Vroman explains the logical problem in foreign language learning in the framework of the Fundamental Differences Hypothesis, which is a worthwhile try in the field of solving the logical problem in foreign language learning, and the differences between L1 and L2 learning shouldn't be ignored. However, the Fundamental Differences Hypothesis cannot explain the logical problem perfectly and the theory itself also has some weak points. For the solving of logical problem in foreign language learning, UG and the accessibility hypothesis are still prevail, for the other theories cannot explain the phenomena well enough. Nevertheless, we shouldn't only be restricted to UG, but to find some new perspectives and ways to out.

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