

Universal Grammar and Universal Grammar's Influence and Related Theories Concerning Second Language Acquisition

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Abstract

Universal Grammar, represented by Chomsky, believes that the human brain is born with a Language Acquisition Device. Under the stimulation of the language environment, the language function of the human brain dedicated to language learning will be activated and begin to acquire a language. Universal grammar is the core idea of Chomsky's generative linguistics theory, which is composed of a limited number of syntactic principles representing the common features of human language. It is precisely because the human brain naturally generates this universal grammar that human beings can acquire their own mother tongue when language input is poor or even lacks "negative corpus" (that is, the indication of language errors or faults). Chomsky once proposed a simple language acquisition model, namely "language input — Language Acquisition Device — language acquisition", which means that language input generates grammar through Language Acquisition Device, thus acquiring language. It is worth noting that Chomsky's theory is not specifically designed for the study of Second Language Acquisition, and he himself has not given any guidance in this field, but it provides theoretical support for the theory of Second Language Acquisition (Yang Chunyuan, 2020). Hence, learning the whole semester's course of Second Language Acquisition, having seen universal grammar as an important content in my textbook, this paper tries to integrate these related theories and make a conclusion and comment or paraphrasing (not all the bibliographies are quoted directly in this paper, paraphrased or arranged instead) based on various bibliographies.

Keywords: Universal Grammar, Language Acquisition Device, Chomsky.

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INTRODUCTION

Above all, we need to summarize and define explicitly the fundamental conception and views of universal grammar and its derivatives and superordinate, exploring their respective relationships and connections, based on which we can do further study.

When it comes to the background and history of universal grammar, it is necessary to mention its founder, Chomsky, and his initial idea among this field. At first, Avram Noam Chomsky's language education in the university was structuralist linguistics. Later, he felt more and more that neither traditional grammar nor structuralist grammar was descriptive, but what was the nature of language? Why do people talk? How do people talk? What about human language competence and language knowledge? There is no definite answer. In his language research, he found that children really know so much that they can acquire their mother tongue in a short time when their intelligence is very underdeveloped (Li

Qiuchen, 2017). This phenomenon can not be explained by structuralist grammar and behaviorist psychology. Children can speak out from sentences that have not been said can also be understood. Children can learn a complete set of grammar knowledge from limited words and express unlimited thoughts by limited means. He believes that this creativity of language can never be explained by "stimulus-response". Children must have a language learning ability in their brains, that is, the Language Acquisition Device (LAD). Chomsky deduced universal grammar.

Concerning the main body part and core conception of universal grammar, having referring a number of bibliographies, this paper comprehensively summarize them into the following words. The so-called word "universal" as its literal meaning, means that this kind of characteristic exists in all people's mind, everyone is born with a Language Acquisition Device(LAD), based on which the kids can effectively master and develop his mother language. Despite the

difference among environment and context everyone situated in, all kids can reach a moderately proficient level, which signifies that almost everyone can master their mother tongue in limited time and exposed to definite linguistic input. Chomsky's conclusion is derived from authentic observations: children always manage the knowledge of grammar by experiencing finite sentences or utterances, producing infinite linguistic units, both microscopic level (phrases or clauses) and macroscopic level (sentences and discourses). Universal Grammar (UG) refers to a grammar which is genetically endowed to all human beings and which all languages have in common (Ali Akabar, 2014). Chomsky's "universal grammar" originates from the so-called "Plato problem": how human beings acquire such rich knowledge about the world within the limited cognitive scope. Chomsky quotes this passage of British philosopher Bertrand Russell for this reason: "The contact between man and the world is short, personal, and limited, so how does man know so much about the world?" Chomsky has played Descartes' thought on the inherent structure of the human brain and Humboldt's view on language ability. He believes that human language knowledge is expressed in the human mind in a certain way, and finally in our brain. All grammatical rules and all psychological operations are finally expressed in the corresponding physical mechanism of the human brain. Chomsky's "Universal Grammar" hypothesis is a kind of innate thought (Chao Jiang, 2022). The reason why children can acquire their mother tongue in such a short period of time and under such poor stimulus conditions is that children's minds have a set of "Language Acquisition Devices" at work. The reason why children can master a grammar in a short time is that children have a special device to learn grammar, which helps children master grammar rules. This is Universal grammar. The core of Chomsky's theory is that everyone has an innate "language organ" and "universal grammar". Chomsky's "universal grammar" hypothesis is based on the analogy with mathematical logic, which is regarded as a kind of "formal syntax", whose linguistic theory is called "formal linguistics"

Then in the following part we will discuss the influence and related theories that Universal Grammar has about Second Language Acquisition. After reading and referring various studies, this paper mainly categorized those views and information into 6 parts, as listed below. We also have to mention that, Chomsky inherited the tradition of spiritualism of Descartes and others, and put forward the hypothesis of "universal grammar". He believed that the human brain has a "language acquisition mechanism". After absorbing certain foreign phonetic materials, it will automatically form the grammar rules of the language, so as to achieve the purpose of using the language creatively. Because we have a grammar (internal language) in our brain, we can understand and speak an unlimited number of sentences, and language can be related to other parts of the brain, so

we have a language sense. Under the influence of Chomsky's "universal grammar" hypothesis, the following symbolic views have emerged in the linguistic academia:

1. Critical Period Hypothesis

Critical period hypothesis's influences on native language acquisition lead linguists to pay more attention on the connections between the critical periods with second language acquisition (Liu Yuan 2020). Linguists all believe that age is a very important factor in the process of language learning. From the perspective of mother tongue acquisition, children have a critical period of language acquisition. After this critical period, even if the language environment exists, it is difficult to acquire a language. The experience of Indian wolf children is a good proof. Lenneberg (1967) found that the left brain injury in children generally has no effect on language function, but the left brain injury in adults often means the loss of the entire language function. He believes that the key period for acquiring any language through exposure is from the age of 2 to the development period, and the impact of this hypothesis on Second Language Acquisition is obvious. From the current research, the impact of age on foreign language acquisition can be summarized as follows: (1) The critical period of language learning generally occurs before puberty. (2) The starting age of foreign language learning does not affect the acquisition process to a large extent. Learning a foreign language at any age has the possibility to be successful. (3) The starting age of foreign language learning significantly affects the speed and efficiency of foreign language acquisition. In terms of grammar, word meaning and vocabulary, teenagers perform better than children and adults. (4) The length of learning time affects the success extent of learning. From all the points mentioned above about foreign language acquisition, we can know that this theory, consecutively related to UG, certainly has great impact on SCL.

2. Linguistic competence and communicative competence

Chomsky put forward the concept of language competence in the "Universal Grammar" hypothesis. He believes that language ability is a kind of knowledge state that is more abstract than language itself. It is a system of principles, a system of knowledge, and even a talent. Language ability is reflected in that human infants can automatically develop into the language rules of a specific language after receiving certain language materials, so as to use the language creatively. For Chomsky, language ability is a kind of grammatical ability, a kind of universal grammar.

Aimed at Chomsky's language ability, American sociolinguist Hymes put forward the concept of communicative competence, which is the ability to use potential knowledge and abilities and language. Helms' communicative competence focuses on practicality and communication, while Chomsky's linguistic competence

is highly abstract, a language mechanism that grows in the human brain and is inspired by Chomsky's linguistic competence. The influential British functional linguistics theory is more free, profound and detailed in its elaboration of communicative competence, including: (1) language knowledge, (2) cognitive ability, (3) cultural knowledge, (4) communicative knowledge, (5) affective factors, and (6) other knowledge (Leung Yan-Kit, 2009). In any case, modern English teaching was inspired by Chomsky's "universal grammar" hypothesis, which led to the emergence of "communicative competence", then the communicative approach of modern foreign language teaching has come into being. Ways of children's acquiring L1 and adults' acquiring L2 are different, and there are too many obstructions for adults in acquiring their L2. Furthermore, the interference to their L2 acquisition is mainly negative (Zhou Datian, 2021). To a starter of a language, the younger the better, and adult starters are certainly not in the best period. Correspondingly, communicative competence and linguistic competence's enhancing period is also children time, namely when the UG, the Language Acquisition Device exert their specific role in that definite time, adapting us to grow comprehensively in language, let alone the Linguistic competence and communicative competence.

3. Interlanguage study

Interlanguage, often used by foreign language users, is a language system of middle state lying between target language and mother tongue (Wang Yun, 2020). Interlanguage offers us a brand new perspective to study the second language acquisition, indicates the rules for second language acquisition. In 1967, Cod first put forward the concept of "interlanguage". In 1971, Nash put forward the concept of "similar system". In 1972, Salinger published the paper *Interlanguage*, which established the position of interlanguage in the study of Second Language Acquisition. The goal of interlanguage research is to find out the laws of the natural acquisition process of foreign languages, provide theoretical basis for selecting materials, organizing and arranging materials for classroom teaching.

Inter language studies generally focus on the following aspects: (1) comparative analysis of mother tongue and target language. (2) Analysis of language knowledge transfer. (3) Analysis of learners' foreign language errors. Influenced by structuralist linguistics, comparative analysis and research are influenced by the "stimulus response" association theory in behaviorist psychology (Sun Ailiang, 2010). They believe that the mistakes made in learning a foreign language are the result of the negative transfer of learners' mother tongue habits, that is, the result of mother tongue interference. By comparing mother tongue and target language, they find the differences between them and can predict possible mistakes. Later, this phenomenon was questioned. Experimental research shows that learners are more likely to make mistakes when their mother

tongue is similar to their purpose. Because of people's dissatisfaction with comparative analysis, people began to pay attention to systematic research on errors. Error analysis studies believe that there is a special mechanism for processing language knowledge in the human brain, and "universal grammar" exists. Its research purpose is to reveal that "universal grammar" affects the process of Second Language Acquisition to a large extent. Error analysis has become an important part of the study of foreign language acquisition. However, in any case, comparative analysis is too mechanical and rigid, while error analysis is too tolerant and yielding.

Many research theories acknowledge "universal grammar" as omnipotent. It seems that foreign language learning depends on the predetermined procedure of "universal grammar". In fact, the process of foreign language acquisition is a very complex psychological process. Some scholars regard it as a reorganization of the original knowledge structure, while others regard it as a reconstruction process of the knowledge structure. This dispute is still not over.

4. Learners' individual differences

With the further understanding, absorption and criticism of the "Universal Grammar" hypothesis, people are increasingly aware that it is the learners themselves who play a decisive role in foreign language learning and that there are differences between learners. The study of mother tongue acquisition confirms that learners have differences in the process of language learning, and thus infers that there are individual differences in foreign language acquisition. Its research contents mainly include age, language potential, motivation, cognitive style, personality, etc. Some experiments show that the physiological structure of the brain of a person who learns two languages at the same time in childhood is different from that of a person who learns another language after mastering the mother tongue. The mother tongue is a process in a socialized environment. While learning the mother tongue, children are also learning a way to see the world and adapt to the surrounding social environment. Foreign language learning is carried out after mastering the mother tongue. Its knowledge base is very different. The nature of foreign language learning is different from mother tongue acquisition. Despite the L1 learning, learners' individual differences should either be paid attention to in foreign language acquisition or foreign language teaching (Zhao Xiaoxue, 2014).

With the further development of psychological experimental science, people also pay close attention to the research of emotional factors, including motivation, attitude and so on, and the results are also emerging. This is represented by Canadian psychologists Lambert and Gardner, and educational psychologists Steinberg and Rogers, who focus on psychological language experience, data validation, and strive to verify and validate experience and feelings through experiments.

5. External factors of learners

The external factors of learners include social environment, family environment, school environment, classroom environment and teaching methods. The study of learners' external factors mainly lies in the discovery of the influence of external factors on internal factors. In addition, researchers focus on the influence of learners' external factors on interlanguage, and analyze the comprehensive influence of external factors on interlanguage development. They often use authentic researches to judge the effectiveness of a certain teaching method by comparing the experimental group with the control group. External factors are undoubtedly significant in SLA. One's external factors experience about mother tongue acquisition will leave remarkable and permanent influence in their later language acquisition process. Though the distinction between L1 learning (LAD and UG involved) and L2 learning is not that transparent, we can also find the relevance exists in universal grammar and foreign language acquisition.

6. Debate over the dichotomy between linguistic competence and linguistic performance

In UG approach the learners are emphasized to know the language knowledge and competence rather than performance (Irwandy, 2015). Chomsky's "universal grammar" includes linguistic competence and linguistic performance, but he emphasizes linguistic competence, that is, the inherent Language Acquisition Device in the human brain. He emphasizes linguistic competence, that is, the inherent language acquisition mechanism in the human brain. Greg believes that Second Language Acquisition theory should involve learners' differences, otherwise, it is impossible to distinguish between language competence (LC) and language performance (LP) (Zhou Datian, 2021). Some scholars have proposed that from "universal grammar" to the mother tongue and then to the second language is a natural state, which is a universal path. Some scholars believe that "universal grammar" has a lot to do with the mother tongue acquisition, while it is a partial transfer to the second language. Some scholars believe that "universal grammar" has the same effect on the mother tongue acquisition and the Second Language Acquisition, while others believe that "universal grammar" has no relationship to the Second Language Acquisition at all.

In the study of Second Language Acquisition, some scholars have distinguished between error and mistake. The former is a question of linguistic competence, and the latter is a question of linguistic performance. However, it is sometimes impossible to distinguish its boundaries. Some scholars believe that Second Language Acquisition is to cultivate learners' language ability, emphasize increasing language exposure, achieve imperceptible influence, and finally form an internal second language system. However, N·Elis denied the existence of the purpose of "universal grammar". Based on the constructivism theory, he

proposed a short-term memory model for language acquisition. He believed that children use the resources of the memory system and the general inductive reasoning ability of human beings to acquire language. Rod proposed a language acquisition process to replace Chomsky's language acquisition mechanism, in which chunking in memory plays a key role. Cognitive linguists believe that chunk is the principle that human cognition is always carried out. For instance, Ewell, a cognitive linguist, believes that chunking is the principle that human cognition has always followed. A chunking is a memory organizational unit. Memory combines a chunk into a larger unit, resulting in a hierarchical organization. Chunking is the ubiquitous feature of human memory.

From a cognitive perspective, human language performance not only depends on rules of use, but also uses language processing principles. The "dual system" describes language performance and language learning. On the one hand, it uses the principle of economy to use a rule-based system; on the other hand, it uses a memory based system to facilitate faster retrieval, which is also a system based on examples. This means that the process of children's mother tongue acquisition goes through the process of lexicalization to syntax, that is, children first start from meaning, use vocabulary, use context coding to communicate, and then enter the process of syntax. The language acquired on the basis of vocabulary is reorganized into a syntactic basis. At this time, the system based on rules can be displayed. After syntax, children are lexicalized again, and appear in different language environments. Be engaged in independent application of language functions.

It is worthy and interesting to mention that, the language acquisition model "language input —Language Acquisition Device —language acquisition" presented by Chomsky can appropriately be applied to contemporary language teaching and learning. Zeng Ying have just done a research on this language acquisition model's initial part, namely language input, to summarize that language input is the cornerstone of language acquisition and the crucial part of mastering a foreign language (Zeng Ying, 2011), to draw the conclusion that we language teachers should try various ways to broaden students' language input approaches, only by which the students can be better cultivated under these "versatile" information that spontaneously permeate into their permanent memorizing part.

CONCLUSION

In general, although Chomsky's "Universal Grammar" hypothesis is used to examine language acquisition from the perspective of the mother tongue, it has had a profound impact on Second Language Acquisition. Many theories have been born, which have affected the study of Second Language Acquisition. When we absorb its reasonable part, we should also rationally recognize its limitations. "Universal Grammar" has had a positive impact on Second

Language Acquisition research, promoting the development of language psychology. It is under the influence of universal grammar that many schools of thought have emerged and many theoretical achievements have been born. In particular, with the rapid development of cognitive psychology, people have explored language learning and language acquisition from the human mental path, which has greatly enriched people's understanding of the nature of language. Various theories have also emerged, which can be said that universal grammar is indispensable.

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