

CHAPTER 1

UNIVERSAL GRAMMAR (UG) and SECOND LANGUAGE ACQUISITION

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THE HISTORICAL DEVELOPMENT OF UNIVERSAL GRAMMAR (UG)

Universal grammar (UG) is defined by Hawkins (2001: 346) as “system of principles and computational procedures which define and place limits on the form that grammars for human languages can take”. According to Hinzen (2014), searching about UG is not a recent phenomenon, and it dates back to India where the reflection of human science began. However, UG has not presented linear progress since it appeared for the first time as “a scientific theory of grammar” in India (Hinzen, 2012: 635), and cites from Covington (2009) and adds that the development of UG in the West was after the thirteenth century as modistic grammarians (Covington, 2009 cited in Hinzen, 2014:97). Thomas (1995) describes modistic grammarians who had an interest in the structure of language in the 13th century, which could be supported by the well-known words of Roger Bacon in the 13th century “grammar is substantially one and the same in all language, despite its accidental variations” (trans. Gilson, 1955:781 cited in Thomas, 1995:345).

Thomas (1995) also supports that the middle ages witnessed the broad assumption of UG and the investigation of a single language in depth revealed the common principles of each language, which helped the theory (UG) to build up. In the middle age, the properties of languages were called substantive universals, while in the 20th century (modern era), they were called generative universals, which were different from the Generative grammar of Chomsky (1965) will be discussed later. According to substantive universals, there were two assumptions for a language. One of the assumptions was that there were eight categories in a language: “noun, verb, participle, pronoun, preposition, adverb, conjunction and interjection”. The other one was the hierarchical organization in a language “from letters or phonemes to syllables to words to sentences” (Thomas, 1995: 346). On the other hand, the proponents of generative universals claimed that there were

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abstract principles and parameters for all human languages grammar, such as the principle of “verb-plus-object” or the parameter of “adjacency”, which is specific to languages like French (Thomas, 1995:347).

The views of modistic grammarians related to the origin of UG in the middle ages were based on “the facts of the phenomenal world” and “the facts of cognition” (Thomas, 1995:347). On the other hand, generative linguistics explains the origin of UG in the modern era by using innate language faculty, and this is called by Chomsky as “knowledge of language” (Chomsky, 1986:3 cited in Thomas, 1995:347) and he introduced the modern UG in the twentieth century with a term ‘language acquisition device (LAD)’ (Hinzen, 2014) or “an innate grammar (termed *Universal Grammar*)” (Sanz, 2005:6). According to Sanz, “the LAD consists of an innate grammar that grows in contact with input triggering its development and that limits the otherwise infinite possibilities that a purely computational system would generate”. Consequently, the LAD explains the first language acquisition very well since the acquisition process is rapid and efficient. However, he questions whether the acquisition of a second language is due to the access to UG or not (Sanz, 2005:6). This will be discussed in this study.

To sum up, Thomas (1995:345) proposes that the relationship between UG and second language acquisition is unrelated to “a late 20th-century invention”. On the contrary, both medieval and modern years help shape the relationship between UG and second language acquisition. However, he discusses that the last twenty years have explicitly witnessed the research between generative linguistics and second language learning.

CHOMSKY’ S TERMS BASED ON THE GENERATIVE GRAMMAR

Chomsky defines generative grammar as “a system of rules that can iterate to generate an indefinitely large number of structures,” and competence of a hearer or speaker is related to the rules, and these rules are syntactic, phonological, and semantic rules of generative grammar (Chomsky, 1965:15-16). However, Chomsky’s interest was the syntax component of generative grammar, which is called the Chomskyan theory of UG (Cook & Newson, 2007). It has two levels: One is related to “innateness of language,” which is discussed in detail under the heading “Innateness and Universal Grammar (UG)” and the other one is “the description of syntax” of which development is summarized by Cook and Newson (2007:4) in Table 1 below.

Table 1: Phases in the development of Chomsky's Universal Grammar

Starting date	Model	Key terms	Key book/article
1957	Transformational generative grammar (TG)	Rewrite rules Transformation Generative Kernel sentence	Chomsky, 1957
1965	Aspects, later Standard Theory	Competence/performance Deep/surface structure	Chomsky, 1965
1970	Extended Standard Theory (EST)		Chomsky, 1970
1981	Government/Binding Theory (GB)	Principles Parameters D-and S-structure	Chomsky, 1981a
Post-1990	Minimalist Program (MP)	Computational system Interface conditions Perfection	Chomsky, 1993

Cook and Newson (2007:2) explain the first model, “Transformational Generative Grammar (TGG),” which is stated in Chomsky’s 1957 book as rewriting grammar rules; for example, S is transformed to NP VP (Chomsky, 1957 cited in Cook & Newson, 2007:2). Moreover, they also provide a famous example, “Colourless green ideas sleep furiously,” to illustrate that a sentence could be grammatically correct but does not have any meaning. For this reason, it is concluded that syntax and semantics are independent of each other (Cook & Newson, 2007:2).

Chomsky’s other book, “Aspects of Theory of Syntax,” in 1965 included Aspects Model Theory and later Standard Theory. Chomsky (1965) makes a distinction between *competence* which is “an abstract and unconscious linguistic system” (White, 2003b:1), and *performance*. This is “the difference between internalized language as opposed to externalized language”; therefore, it could be stated that internalized language refers to competence while externalized language refers to performance (Gentile, 1995: 18).

Chomsky (1965) also explains the terms “a deep structure” and “a surface structure” with the help of components of generative grammar in his book “Aspects of Theory of Syntax”. According to Chomsky, “...the syntactic component of a grammar must specify, for each sentence a deep structure that determines its semantic interpretation and a surface structure that determines its phonetic interpretation” (Chomsky, 1965:16).

The other model mentioned in Table 1 above is the Extended Standard Theory (EST) in 1970s, which was developed from the Standard Theory, and the types of rules were filtered by the model 'EST' (Cook & Newson, 2007:3).

The Government-Binding (GB) Model, which discusses the principles and parameters of languages as language universals, is introduced by Chomsky (Chomsky, 1981 cited in Cook & Newson, 2007:3). In this present study, the principles of UG and resetting parameters of UG will be summarized concerning second language acquisition.

The last product of Chomsky's work is the Minimalist Program (MP) developed in 1993 (Chomsky, 1993 cited in Cook & Newson, 2007:3) emphasizes lexicon.

The MP concentrated on the general features of the model, simplifying knowledge of language to invariant principles common to all languages, and, by attaching parameters to the vocabulary, making everything that people have to acquire in order to know a particular language part of the lexicon (Cook & Newson, 2007:3).

Furthermore, it points out the importance of a computational system that covers that "language interfaces with phonology and cognition" (Cook & Newson, 2007:3) rather than syntax.

INNATENESS AND UG

The input provided for a child is not sufficient, and it is grammatically incorrect, but a child acquires a language with its all complexities so quickly and fluently in his/her first years following the birth (Gass & Selinker, 2008). This mismatch is called *poverty of the stimulus*, or *logical problem of language acquisition or paradox of language acquisition*, which is explained well by Gold (1967 cited in Nowak et al., 2001:114) as "Children have to deduce the rules of their native language from sample sentences they receive from their parents and others. This information is insufficient for uniquely determining the underlying grammatical principles"; therefore, it could be stated that particularly innate mechanisms or inborn endowments could shed light on language acquisition (Gass & Selinker, 2008).

Furthermore, besides poverty of stimulus in language acquisition, some more arguments support the existence of an innate mechanism, and Sadeghi lists them in her MA thesis as follows "modularity, critical period hypothesis, the complexity of human language, uniform stages in language acquisition and speediness" (Sadeghi, 2006:16). Hawkins (2001:347) also mentions that first language learners could learn "uniformly, rapidly and with full success".

In Sadeghi's study, modularity is explained as a term used by Chomsky, and

Language Acquisition Device (LAD) is the result of this term since “modularity of mind” meant “an independent, automatic part of the mind is devoted to language,” but the LAD is restricted in terms of explaining language learning, and UG has appeared (Sadeghi, 2006:17). The other important argument which is stated above is the critical period hypothesis, which Lenneberg put forward (1967, cited in Johnson & Newport, 1989: 60), and this hypothesis suggests that language acquisition should be completed “from early infancy until puberty” and consequently it is helpful to explain the first language acquisition (Johnson and Newport, 1989: 60). It is believed that this is due to the loss of plasticity of the neurons in the brain (Pallier et al., 2003). There are three children ‘Victor, Oxana Malaya, and Genie’ who are known as wild children in history, and they were not capable of learning a language since they were over the critical age to acquire a first language and they did not communicate with the people (Sterbenz, 2013).

White (2003b:3) also supports the existence of an innate mechanism and states that “certain properties of language are too abstract, subtle and complex to be acquired without assuming some innate and specifically linguistic constraints on grammars and grammar acquisition”. However, it is not known “how much is innate and how much is learned in human language” (Nowak et al., 2001: 115).

Crain and Thornton pointed out in their studies that even 3-to-5 year-old children knew that “the syntax of wanna-contractors” and they uttered contradictions in a wh-questions such as “What do you want to eat---?” in the ratio 59% (Crain & Thornton, 1988 cited in Thomas, 1991: 211). This is also exemplified by White (1989 cited in Gass & Selinker, 2008: 161).

- (1-1) I want to go.
- (1-2) John wants to go but we don't want to.
- (1-3) Do you want to look at the chickens?
- (1-4) Who do you want to see?
- (1-5) Who do you want to feed the dog?
- (1-6) Who do you want to win the race?

In the examples (1-1 to 1-4) above, the verb “want to” can change with its other possibility, “wanna”. On the other hand, the sentences (1-5 to 1-6) do not have “wanna” instead of “want to”. Despite the lack of sufficient input for each sentence, English learners could produce such kinds of sentences with the help of UG principles, which is the question formation (White, 1989 cited in Gass & Selinker, 2008: 161).

Similarly, Yang (2004) mentions that “only a human baby, but not her pet

kitten, can learn a language” and discusses the existence of something which is coded in the biology of human beings and adds that it is undoubtedly “Chomsky’s Universal Grammar (UG), an innate form of knowledge specific to language, is a concrete theory of what this ability is” (Yang, 2004: 451).

Gentile (1995) summarizes in his thesis that language acquisition is much more complex than the earlier theories’ explanation since they emphasize the learners’ imitation in language learning. However, generativists believe that there should be “some kind of cognitive mechanism governing and permitting the acquisition of language, ‘language acquisition device’ (LAD) (Gentile, 1995: 24). Moreover, as explained by Gentile (1995: 24), the LAD is “a system of universal principles and parameters fixed through the available data”.

There is still an unresolved conflict between the scholars on the topic related to “the nature of the innate endowment for language” even if the opponents of the language acquired through innate mechanisms (for example, Slobin, 1985 or Tomasello, 2003 cited in O’Grady, 2008: 620) accept the existence of the innate system. It is known that solely the human brain can acquire such a complex system, language. Phonetic and semantic proponents are too difficult to gather without innate mechanisms (O’Grady, 2008: 620). Besides inborn abilities to acquire a language, Yang (2004: 451) states that language properties related to phonology, lexicon, and grammar are also learned because “universal principles and constraints” can change among languages. This is important for language learning which is different from the native language.

According to Crain et al. (2010:2668) UG “is a theory about the initial state of the human faculty for language. Universal Grammar (UG) circumscribes the kinds of hypotheses that language learners can formulate”. McLaughlin (1987) points out that the child’s formed hypotheses related to input are restricted to principles of Universal Grammar, and the child tests his/her hypotheses with the input provided by the people around him/her. According to McLaughlin, Chomskyan theory accepts the importance of input on language acquisition and furthermore the input provided in the right way facilitates language acquisition.

Moreover, Gass and Selinker (2008) state that learners test their hypotheses in two ways with the input they receive as *positive evidence* or *negative evidence*. Positive evidence is defined as the language patterns as input that the learner has heard from the environment, while negative evidence is identified as the correction of the learner’s produced utterances by someone from the environment. In other words, White (2003b:4) defines positive evidence as “the primary linguistic data include utterances that in some sense reveal properties of the underlying grammar

and negative evidence is explained by her as “information about ungrammaticality, is not (reliably) available”.

According to Gass and Selinker (2008), nativist approaches explain language learning or acquisition regarding innateness, which affects language learning to some extent. There are two types of nativism. One of them is general nativism and the other one is specific nativism. General nativism is not related to just grammatical principles of a language (O’Grady, 2003) but “there are general principles of learning that are not particular to language learning but may be employed in other types of learning” in this type of nativism (Eckman, 1996:398 cited in Gass & Selinker, 2008:160). On the other hand, grammatical nativism or “specific nativism” (O’Grady, 1997:307 cited in O’Grady, 2003: 44) is also related to innateness, particularly for language learning, and it is not generalizable for other learning domains. For this reason, the main focus of this study is grammatical nativism with its well-known notion, Universal Grammar (UG).

According to Gass and Selinker (2008), it is accepted that UG and its principles guide a child’s language acquisition but its implications on second language learning (SLA) went back two decades ago. Gass and Selinker (2008:160) state that all theories related to second language acquisition (SLA) attempt to explain the *learning problem* with these questions: “How is it that learners acquire, when they do, the complexities of a second language?”

PROPERTIES OF UG

Principles of UG

Principles are common characteristics for grammar of all human languages. The well-known and simple analogy provided by Cook (1997:250-251) is between principles and parameters and rules of the road while driving.

Overall there is a principle that drivers have to keep consistently to one side of the road, which is taken for granted by all drivers in all countries.¹ Exceptions to this principle, such as people driving down motorways on the wrong side, rate stories in the media or car chases in action movies. The principle does not, however, say, *which* side of the road people should drive on. A parameter of driving allows the side to be the left in England and Japan, and the right in the USA and France. The parameter has two values or “settings”—left and right. Once a country has opted for one side or the other, it sticks to its choice: a change of setting is a massively complex operation, whether it happens for a whole country, as in Sweden, or for the individual

travelling from England to France. So, a universal principle and a variable parameter together sum up the essence of driving. The principle states the universal requirement on driving; the parameter specifies the variation between countries.

The principles of UG are also exemplified by Lightfoot (1992:19 cited in Thomas, 1995: 347) and “V consists of a head and a complement phrase (informally, “A [verbal] head may either precede or follow its complement [i.e. its direct object]” is an example for principle of UG. It could be stated that all human languages have a principle of “verb-plus-object” parameter could allow the existence of “two word-order possibilities” (Thomas, 1995: 347).

Thomas (1995:347) points out that linguistic principles “give shape all human languages”. According to Crain et al. (2010:2668), there are “structure-dependent operations” related to linguistic principles for all languages. These principles consist of a language and “... what makes language knowledge different from other types of knowledge is the notion of structure dependency; language is not just a string of unstructured segments” (Gass & Selinker, 2008: 168). The structure-dependent question and structure-independent question are illustrated by Crain et al. (2010:2672) as follows.

- (2) Australians who are sunburned are friendly.
- (3) *Are Australians who sunburned are friendly?
- (4) Are Australians who are sunburned friendly?

In the examples (3 to 4) the sentences are in the question form. While the sentence (3) is grammatically incorrect and cannot be accepted, the sentence (4) is grammatically correct and it, thus is accepted. The reason behind it is that “the rule for question formation makes reference to the subject” In this sentence the subject is the determiner phrase (Australian) and a relative clause (who are sunburned). In sentence (3) above the rule for question formation does not work since it is the “nonstructural unit” (Gass & Selinker, 2008: 168). In other words, it is an “ill-formed question” (Crain et al., 2010:2669).

The other principle is “subjacency” of English in the question form. “Subjacency” is defined as the limited movement in a sentence, and it is exemplified in the sentence (7) below (Gass & Selinker, 2008: 169).

- (5) Speaker 1: I agree with the idea that David loves Mary Jo.

Speaker 2: I didn't hear you. *Who do you agree with the idea that David loves?

The sentence “Who do you agree with the idea that David loves?” is not grammatical since the rule of movement in this sentence is not appropriately used

and this was investigated by Schachter (1989, cited in Gass & Selinker, 2008:169) using grammaticality judgment tests with English learners having different L1. These learners' first languages were Indonesian, Chinese and Korean. Although Indonesian and Chinese have the rule of subadjacency, the language, Korean does not have a rule like subadjacency. The results showed that Chinese and Indonesian learners were good at identifying rule subadjacency, rather than Korean students. However, their learner grammar is not constrained by this rule (Gass & Selinker, 2008).

The other principle is "Projection Principle" which explains "the properties of lexical items must be preserved while generating the phrase structure of a sentence" (Çakır, 2006: 32). Therefore, it should be stated that agent, verb and goal of a sentence are common to all languages. Examples provided by Çakır (2006: 32) are illustrated below.

(6) Elif went to school.

Elif okula gitti.

Eli fiş in die Schule gegangen.

In the example sentences (6) above "Elif" is the agent, "go" is the verb and "school" is the goal in all languages.

Another principle which is mentioned in the master's thesis of Çakır (2006:32) is "the Binding Principle" and this is related to the subject and its reflexive pronoun in a sentence. For example: "Ali prepared the homework himself". In this example "himself" is bound to "Ali".

Resetting Parameters

Gass and Selinker (2008: 161) point out that "the theory underlying UG assumes that language consists of a set of abstract principles that characterize core grammar of all natural languages". They add that principles cannot change from one language to another language and are the same for all languages. However, parameters can change form one language to another language.

Similarly, McLaughlin (1987) states that the principles of UG which are common to all natural languages involve parameters that are "open" particularly for the input gathered from the environment. He provides an example setting a parameter of 'pro-drop' or 'null subject' language in which the language can delete the pronoun if it is a subject of a sentence or it allows to the inverse subject with a verb. Moreover, he explains that English is not a pro-drop language since subject is a must for each type of sentence. On the other hand, we can state that Turkish, Portuguese, Italian and Spanish are pro-drop languages since there is no need

to use a pronoun in every sentence. The following three examples show that the use of the pronoun in subject position is not provided for Portuguese, Italian and Spanish (LaFond, 2001: 10-11) and the fourth example illustrates that Turkish is also a pro-drop language (Turan, 2006:228).

(7) Pedro disse que viu o João. (Portuguese)

Pedro_i say-3sg-pst that pro_i saw-3sg-pst João
'Pedro said that he saw João.'

(8) Ø piove. (Italian)

rain-3sg-prs
'(It) is raining.'

(9) Ø Compramos unos recuerdos. (Spanish)

buy-1pl-pst some souvenirs
'We bought some souvenirs.'

(10) Dans etmek istiyorum . (Turkish)

I want to dance.

The examples above demonstrate the pro-drop parameter for each language. In the seventh sentence the pronoun "he", in the eighth sentence the pronoun "it", in the ninth sentence the pronoun "we" and the tenth sentence the pronoun "I" are deleted in languages Portuguese, Italian, Spanish and Turkish, respectively. Gass and Selinker (2008:170-171) state if the pro-drop parameter is set for a language, other properties of that language will come together such as "(a) the omission of subject pronouns, (b) the inversion of subjects and verbs in declarative sentences, and (c) that-trace effects – that is, the extraction of a subject (leaving trace) out of a clause that contains a complementizer". They compare the properties of English which is not a pro-drop language with the properties of Italian which is a pro-drop language.(11)

Italian

Omit subject pronouns

Va al cinema stasera.
goes to the movies this evening

Subject-verb inversion

È arrivata Laura.
is arrived Laura *has arrived Laura

That-trace

English

Obligatory use of subject pronouns

She is going to the movies this evening.
*is going to the movies this evening

Laura has arrived.

Chi hai detto che è venuto?

Whom did you say came?

who you said that is come? *

Whom did you say that came?

(Gass and Selinker, 2008: 171)

In addition to the existence of null pronouns as a language parameter in the pro-drop languages, which are the “referential pronouns”, there are also overt pronouns which are the “bound pronouns” and both of them are the parameters of UG (Montalbetti, 1984; Saito & Hoji, 1983 cited in Gürel, 2003: 130). The Overt Pronoun Constraint does not allow to use “a quantified expression (such as everyone, someone, no one) or a wh-phrase (who, which) as its antecedents” and Spanish and Japanese languages are the examples for The Overt Pronoun Constraint (White, 2003a:20). On the other hand, as Gürel (2003:132) stated English is not a pro-drop language and it thus allows the use of overt pronoun as *referential and quantified antecedents or disjoint reference*. They were illustrated below.

(12) a. Everyone_i thought [he_i would win]

b. Who_i thought [he_i would win]?

c. John_i thought [he_i would be late]

(White, 2003a:21)

As it is understood from the sentences above, the pronoun (*everyone*) in the example (12a) is the quantified antecedent and “he” could be any person, the wh-phrase (*who*) in the example (12b) is the antecedent and finally the pronoun (*John*) in the example (12c) is the referential antecedent. In Turkish the use of overt pronoun is different since it is a pro-dropped language and there are “two overt pronominals: O and kendisi, which can be translated as ‘s/he’ and ‘self’, respectively” (Gürel, 2003: 132) and she gave the example below.

(13) Elif_i kendi-ni_i begen-iyor

Elif self-Acc like-Prg

‘Elif_i likes herself’

(14) O / kendi-si / *pro* toplantı-ya git-ti

S/he self-3sg *pro* meeting-Dat go-Pst

‘S/he went to a meeting’

In the sentence (13) above the reflexive pronoun ‘self’ (*kendi*) is used with possessive suffix (-ni) in order to show “reflexive relations” but in the example (14) both ‘she’ (*o*) and ‘herself’ (*kendisi*) to demonstrate the use of overt pronoun in Turkish (Gürel, 2003: 132).

The other parameter that should be set while acquiring a language is the adjacency principle. It refers that the noun phrase is next to the verb or the preposition and there is no intervention. For example, it is a definite rule for English, whereas the intervention is allowed for French (McLaughlin, 1987). Thomas (1995:347) also explains this difference that “French verbs are raised and English verbs are not: French adverbs can appear between verbs and direct objects, but English adverbs cannot; the French negative *pas* is postverbal and English *not* preverbal”.

(15) Mary ate quickly her dinner. (English)

(16) Marie a mange rapidement le diner (French)

(White, in press cited in McLaughlin, 1987: 95)

The examples (15 and 16) above demonstrate the difference between two languages (English and French) whether these languages allow the intervention in a sentence or not. In the fifteenth example, this sentence in English is not acceptable whereas in the sixteenth example the sentence in French is grammatically acceptable.

The last example for parameter is “*word order*” parameter and it includes “the *wh-parameter* which determines whether *wh*-expressions can be fronted or not. Another type of word-order variation is called the *head position parameter*” (Bavali & Sadighi, 2008: 14). This is “known as ‘head parameter’, specifies the position of the ‘head’ of a phrase in relation to its complements in the phrase” and English is an example for “head-first language” and Japanese is an example for “head-last language” (Brown, 2007:42). Gass and Selinker (2008) and White (2003b) call “head-first language” as “head-initial language” and “head-last language” as “head-final language”.

(17) [The child [who is eating rice]] is crying.

(18) [The child drank the milk [after he ate the rice.]]

(19) [Go han-o tabete-iru]ko-ga] naite-imasu

‘Rice-obj, eating is child-subj, crying is’

(20) [[Kodomo-ga gohan-o tabete kara] okasan-wa sooji-shita]

‘Child-subj, rice-obj, eating after mother TOP cleaned up’

After the child ate the rice, the mother cleaned up.

(Flynn & Espinal, 1985:94-95)

In the sentences (17 and 18) above that English is a head-initial language is illustrated for relative clause and adverbial clause respectively while sentences in 19 and 20 show that Japanese is a head-final language.

ACCESS TO UG HYPOTHESIS

Hawkins (2001) states that access to UG for the adult second language learners was questioned in 1980s and 1990s. This hypothesis is totally different from the Fundamental Difference Hypothesis in that it is emphasized that UG does not change after the first language and it still works for second language learners (White, 2003:60 cited in Gass & Selinker, 2008:165). On the other hand, Thomas (1991:212) mentions a problem and states it as “Do adult learners have access to principles and parameters of UG in constructing the grammar of a second language?”. Thomas offers an answer to this question and points out Critical Period Hypothesis, which proposes that language acquisition device cannot help to acquire the first language after puberty (Lenneberg, 1967 cited in Thomas, 1991:212). However, she comes up with a result at the end of her study and according to the results, adult second language learners apply principles and parameters of universal grammar while learning a second language. Therefore, now it could be asked to what extent UG affected second language learning.

Farahani et al. (2014:299-300) state that there are four positions that emphasize the importance of UG in the second language acquisition as follows *no access position, indirect access position, partial access position and full access/full transfer position or direct access*.

Bley – Vroman (1990) mentioned that there is no access to UG in adult foreign language learning. According to him, that is totally different from child first language acquisition and based on this idea, he puts forward a fundamental difference hypothesis indicating the differences between child first language acquisition and adult foreign language learning. This hypothesis will be discussed later.

According to the hypothesis suggested by Bley-Vroman (1990), there is an indirect access to UG for second language acquisition since he believes like Chomsky the mind is modular, everything is modular and we learn everything separately. According to Cook (1988:182 cited in Thomas, 1991:213), indirect access to UG proposed that UG helps the adult learners while they are learning a foreign or second language, but the principles and parameters of native language of the learner hinders this help. Therefore, it could be stated that indirect access to UG in second language acquisition is restricted to first language.

Hawkins (2001) writes about a study examining language learners who were learning English as a second language. Their use of overt wh – phrase movement in question sentences was investigated to determine whether they would access it through the UG since their first language did not contain this movement. The

results indicated that if the learners' language had this movement, they could achieve to use it appropriately as a native while the learner whose language did not allow like this movement did not produce as a native. This study also supported the partial access to UG. Furthermore, Hawkins and Chan also mentioned about a hypothesis proposed by Smith and Tsimpli (1995 cited in Hawkins & Chan, 1997:188), which suggests "a particular subpart of UG becomes inaccessible in adult SLA: features associated with functional categories". These functional categories are listed by Hawkins and Chan (1997:188) as follows "*complementizer, agreement, determiner*" and these functions are coded in the native language and they could not be changed for the second language since the critical period has been completed.

White (2003a) defines *full access* to UG as the independent operation of UG from the L1 while learning a second language. Gass and Selinker (2008: 167-168) state the process of full access to UG and its results in terms of second language learning.

A prediction based on this position is that L1 and L2 acquisition will proceed in a similar fashion, will end up at the same point and that all L2 acquisition (regardless of L1) would proceed along the same path. Learners should be able to reach the same level of competence as native speaker. If there are differences, they are performance-related rather than competence-related.

Moreover, White (2003a) points out that *direct access* to UG and *full access* to UG are the notions which lead to confusions among the scholars and she mentions about the definition of the *direct access* to UG for some scholars and it means the access of L2 learners to UG without their L1 knowledge. Thomas (1991:213) described direct access to UG as "adult language learners have access to principles of UG independent of their status in L1".

THE FUNDAMENTAL DIFFERENCE HYPOTHESIS

According to Gass and Selinker (2008), this hypothesis is based on the differences of children and adults language learning. Furthermore, they give an example to illustrate one of these differences. Whereas children learn their native language completely, adult learners cannot learn the second language completely. That is because of "nature of the process in second language acquisition is radically different from primary language acquisition" (Gentile, 1995:100). In other words, first language learning is related to "language-specific faculty, the LAD" but adult language learning is based on "general problem-solving skill".

Bley-Vroman (1990:4) supports this idea and in his study he attempts to “explore and defend the proposition that child language development and adult foreign language learning are in fact fundamentally different”. He lists the differences as follows “lack of success, general failure, variation in success, course and strategy, variation in goals, correlation of age and proficiency, fossilization, indeterminate intuitions, the importance of instruction and finally role of affective factors” (Bley-Vroman, 1990: 6-13). According to him, first language is acquired by children with totally “perfect mastery” whereas second language or foreign language is not acquired as perfectly as native language. It could be stated that there is no complete success in second language acquisition (Bley-Vroman, 1990: 6).

Besides the success variation in adult second language learning, their aims, the course they take, the strategies they use could vary among the adults. However, there is not any such a variation in child first language learning (Bley-Vroman, 1990). Adult language learners also could come across “fossilization”, which is defined by Saville-Troike (2006) as the development of second language learners may stop somewhere in which they do not reach the complete competence. This is just due to the age of learner. She mentioned that “... with older L2 learners more likely to fossilize than younger ones” (Saville-Troike, 2006:42). According to (Bley-Vroman, 1990), the other difference between child and adult language learning is the instruction and children take instruction and learn language in informal environment while adult learners generally learn a language in a formal setting. Finally, he points out that one of the most effective factors which affects adult language learning is affective factors such as “personality, socialization, motivation or attitude” (Bley-Vroman, 1990:12).

The term “equipotentiality” stated by Schachter (1988, cited in Gass & Selinker, 2008: 164) suggests that all language could be learnt by a child if they get enough input for the language. On the other hand, she also adds that the languages could not be learnt as a second language so easily. However, if one’s native language and second language that he is trying to learn is related to each other, second language could learn more easily.

While learning a second language, motivation factor is important as well. On the other hand, there is no effect of motivation on the learning of the child’s native language (Gass & Selinker, 2008).

This hypothesis provides us that adults could not learn their second language through the UG. In contrast, they learn second language constructing language universals with the help of their first language. Furthermore, adult learners could use their problem solving skills, knowledge of what a language it is and

its components. For this reason, second language learners form their “pseudo – UG” through their native language in order to learn the second language (Gass and Selinker, 2008). Furthermore, Bley Vroman (1990:14) draws attention to the differences between child language acquisition and adult second language learning as follows.

Child Language Language Learning	Development	Adult	Foreign
A. Universal Grammar knowledge		A. Native	language
B. Domain-specific learning procedures	B.	General problem-	solving systems

THE FUNDAMENTAL IDENTITY HYPOTHESIS

Schwartz (1992) proposes Fundamental Identity Hypothesis against Bley-Vroman’s (1990) Fundamental Difference Hypothesis and states that the differences between child first language acquisition and adult foreign language learning cannot affect language learning. Similarly, Gentile (1995: 102) claims that “...same language-specific mechanism guiding L1 acquisition may be involved in L2 acquisition as well”. Therefore, it should be noted that “the LAD is available to second language learners well beyond the critical period” (Gentile, 1995: 102).

Schwartz (1992) writes about a study that L2 learners who have different first language background learn English as a second language. This study demonstrates that despite having different L1 the development of L2 has the “basic similarities among the L2ers, this is interpreted as evidence that the process underlying L2A and L1A is of the same” (Schwartz, 1992: 4). As a conclusion, “the results of the comparisons between the development sequences of adult and child L2A lend support to the hypothesis that linguistic-specific mechanisms do drive nonnative grammar construction” (Schwartz, 1992:15).

THE IMPACTS OF UG, PRINCIPLES AND PARAMETERS ON SECOND LANGUAGE ACQUISITION

As McLaughlin (1987) states, the generative grammar proposed by Chomsky deals with first language acquisition using the innate knowledge or universal grammar per se. However, he adds that recently there have been emerging researches which focus on the second language acquisition (Gass & Selinker, 2008). Similarly, Hawkins (2001) stated that access to universal grammar by the adult learners in the second language acquisition is not clear and he lists three differences between the learning of L1 and L2 (p.345).

1) In SLA another language is already present.

2) Other components of mind have already matured, whereas arguably FLA and the development of other cognitive capacities go hand in hand.

3) Input is usually encountered differently, and may involve written as well as spoken language.

Therefore, Thomas (1995:348) provides some questions related to the research between the second language acquisition and universal grammar since linguists and psychologists are very curious how universals of language could help to learn a second language and he lists the questions as follows “Do principles of UG constrain all or only certain aspects of L2 grammars? If so, how? For all learners? What is the role of the instantiation of UG already present in an L2 learner’s native language?”. Answering those questions is not so easy that second language acquisition should “explain both the nature of language and how it is acquired, that is, what is learned and how it is learned” and “universals of adult SLA” should be revealed (Sanz, 2005: 3). For this reason, many studies are conducted in order to investigate the relationship between language universals and second language learning. Here, some of them will be summarized with their context and results.

The study carried out by Schwartz (1992) examined the “developmental sequence data” of second language acquisition of L2 learners and attempted to find out which model L2 learners use: Is it UG-based model or problem-solving model? Furthermore, this study investigated the types of model used by adult L2 learners and child L2 learners who have same native language. There were two groups of learners. In one group, German was the native language and in the another group, Spanish was the native language and they were all learning English as a second language. The results indicated that both children and adults who have German and Spanish as a native language applied to language universals rather than problem-solving skills.

Flynn and Espinal (1985) conducted a research with Chinese adult students who learn English as a second language in order to find out whether head-last or head-initial parameter of language affect the second language learning (English) by Chinese learners. The use of pronoun anaphora was investigated. Chinese is a head-final language whereas English is a head-initial language. The results showed that Chinese learners reset their L1 head-final language parameter in order to learn English which is a head-initial language. In this case, Chinese students could acquire particularly English grammatical anaphora changing their L1 parameter to L2 parameter.

Another study which investigated the access to principles or parameters of

universal grammar by adult language learners was conducted by Thomas (1991). The main aim of this study was to examine the use of English reflexive pronouns such as myself, herself, themselves by native speakers of Japanese and Spanish and the use of “zibun” which is a Japanese reflexive pronoun by native speakers of English and Chinese. The results demonstrated that adult learners use principles and parameters of universal grammar in order to identify the “referential properties of anaphors in L2” (Thomas, 1991:232).

A study related to structure-dependency which is a kind of UG principle was conducted by Otsu and Naoi (n.d., cited in Gass & Selinker, 2008: 168). In this study, the use of English relative clause with a question form by Japanese students was investigated. Japanese does not have a rule in question form like English (the rule of structure dependency) and it does not need to change the word order in question form. For this reason, it could be stated that Japanese learners cannot learn English through their L1. Therefore, this study examined whether structure dependency is through direct access to UG or not. The results showed that “learners’ grammars are constrained by principles of UG, in this case the principle of structure dependency” (Otsu and Naoi, n.d., cited in Gass & Selinker, 2008: 168). Thomas (1991:213) supported this results and reported “learners are sensitive to structure-dependent properties in L2 data (e.g. ‘subject-object asymmetries’) and do not adopt structure-independent hypotheses (e.g. ‘create a question by moving the third word of a sentence into initial position’)”.

Musso (2001) carried out a study with 6 students whose first language is German and they did not know Italian language. However, they were asked to make grammatical judgment about Italian sentences which were written using simple grammar rules. In this experiment, the researcher attempted to investigate whether structure-dependent principle of universal grammar worked or not. The results indicated that there were both transfer from the native language and the effects of universal grammar in the learning of second language.

In the study conducted by Farahani et al. (2014), it is stated that two different views which discuss the role of UG on the second language acquisition. These are ‘The Fundamental Difference Hypothesis’ Bley-Veroman (1990) and ‘The Fundamental Identity Hypothesis’ (Schwartz, 1992), which were discussed above.

CONCLUSION

In this study, firstly it should be noted that the term, Universal Grammar (UG) is not new and it appears in the east at the beginning of human science as a reflection and in the 13th century it started to be studied in the west (Hinzen, 2014). In the west modistic grammarians dealt with the structure of the language and language properties are called as substantive universals at that time whereas it has been called as generative grammar in the 20th century (Thomas, 1995) and UG is explained through the innate language faculty in the 20th century (Chomsky, 1965).

Next, it is stated in this study that language universals are acquired innately. According to Hawkins (2001), there should be something which could explain the acquisition of first language since a child acquires it so rapidly and correctly without sufficient input. This is called as poverty of stimulus (White, 2003a; Gass & Selinker, 2008). Despite insufficient input, children acquire their first language with ease using innate mechanism which comes with birth.

Later, the principles and parameters of UG are mentioned. Cook (1997) points out that principles are the common features for all languages such as structure-dependent principle, subjacency, the projection principle and the binding principle while parameters vary according to languages such as parameter of 'pro-drop' or 'null subject' language, word order parameter and adjacency. Consequently, a second language learner must reset his/her first language parameters according to the second language parameters. Furthermore, hypotheses related to UG are summarized. They are as follows Access to UG Hypothesis, Fundamental Difference Hypothesis, Fundamental Identity Hypothesis.

Finally, some studies which investigated the impacts of UG on the second language acquisition and the accessibility of UG for second language learners are discussed and consequently it should be emphasized that the accessibility to UG by the adult second language learners has not been understood very well so far Çakır (2006).

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