The Semantics of Article Acquisition

Emily G. Renie
Liberty University, erenie@liberty.edu

Follow this and additional works at: https://digitalcommons.liberty.edu/montview

Part of the Applied Linguistics Commons, First and Second Language Acquisition Commons, Language and Literacy Education Commons, and the Semantics and Pragmatics Commons

Recommended Citation
Available at: https://digitalcommons.liberty.edu/montview/vol6/iss1/1

This Article is brought to you for free and open access by the Center for Research and Scholarship at Scholars Crossing. It has been accepted for inclusion in Montview Liberty University Journal of Undergraduate Research by an authorized editor of Scholars Crossing. For more information, please contact scholarlycommunication@liberty.edu.
The Semantics of Article Acquisition

Emily Renie

Liberty University
Abstract

Accurately using articles has consistently been a difficult task for English language learners as articles are often treated as solely grammatical forms rather than also recognizing as representatives of complex semantic properties. This paper aims to synthesize individual research on semantic factors which influence article acquisition and explore how they interact with each other. This paper especially focuses on how native and second language speakers of English acquire and understand the concepts of definiteness and specificity and explores these features within the framework of Chomsky’s theory of Universal Grammar. This paper examines the Fluctuating Hypothesis (FH) and its use as a theoretical framework for a variety of modern article acquisition research. The theory states that ELLs have access to Universal Grammar when discovering the parameters for the semantic categories of definiteness and specificity. This paper then explains the interaction between the FH and transfer in language learners from both article-based and articleless language backgrounds, concluding that transfer does not override the effects of the FH. Additional semantic factors such as countability, plurality, and idiomatic phrase structures are also discussed in this paper, emphasizing the many complex layers ELLs must learn to navigate. This paper examines recent attempts to create linguistically informed article instruction, some of which incorporate concepts from the FH. Finally, the paper provides guidelines for English language instructors, stressing the importance of understanding features of their students’ native language, building students’ awareness of the complexities associated with article use, and correcting their misconceptions of specificity and definiteness.

Keywords: articles, acquisition, ELL, language, specificity, definiteness, Universal Grammar, Fluctuating Hypothesis, transfer, semantics, complexities
The Semantics of Article Acquisition

Acquiring the English article system is a challenging task for both beginner and advanced English language learners alike. Although ‘a’ and ‘the’ are such little words, they are difficult to master as they can be used in a variety of very specific contexts; developing an awareness for such subtle nuances of usage requires native-like skill on the part of the speaker. This predicament not only poses a challenge for those learning English but also teachers of English; in this grammatical issue especially, English language instructors know that what is taught in the classroom is not necessarily what is learned. What many English language instructors fail to recognize is that English articles are not primarily grammatical constructions but rather carriers of a range of precise semantic information. As a result, article instruction has become little more than encouraging students to use ‘a’ in a general context and ‘the’ in a specific setting followed by feelings of confusion at their students’ continual misuse of these grammatical forms. Thus, this paper aims to review current research on how semantic factors influence ELLs perceptions, acquisition, and use of articles and to explore how these semantic layers interact. Current forms of linguistically informed article instruction will also be reviewed and assessed in order to equip instructors of English with the knowledge to aid their students in navigating the complex layers of semantic meaning encoded within articles.

The Role of Universal Grammar

Like much of modern second language acquisition (SLA) research, this discussion of article semantics finds its roots Noam Chomsky’s theory of Universal Grammar (UG). UG claims that while great amounts of diversity exist within the world’s languages, each share fundamental similarities and properties (VanPatten & Williams, 2015). UG determines that these shared characteristics exist because within the mind of each person is an innate, language
producing “machine” (VanPatten and Williams, 2015). Thus, certain grammatical and semantic information also exists within the mind of every person; however, the specific language of a user encodes that information variantly. Within the context of English article acquisition, definiteness is one such property.

Further evidence for definiteness as a facet within Universal Grammar is found in recent research which reveals infants’ sensitivity to this semantic feature. A 2018 study observed the reactions of English monolingual infants in order to assess their “emergent perspective-taking and language comprehension abilities to make sense of interactions between two human agents” (Choi, Song, & Luo, 2018, p. 69). The concept of definiteness, which is a sense of shared knowledge between the speaker and the hearer, seems to develop within infants at some point between the ages of 14 and 19 months (Choi, Song, & Luo, 2018). During the experiment, agent 1’s view was obstructed so that she could only view one of two identical balls while both agent 2 and the infant were able to view both balls. When agent 1 told agent 2 “give me the ball”, the 19-month-old infants anticipated that agent 2 would select the ball visible to agent 1 (Choi, Song, & Luo, 2018). If agent 2 selected the hidden ball when responding to the same prompt by agent 1, the infants demonstrated surprise, indicating that they expected agent 2 to select the visible ball (Choi, Song, & Luo, 2018). However, the infants reacted neutrally to agent 2’s choice when agent 1 said “give me a ball” (Choi, Song, & Luo, 2018). This experiment reveals that infants seem to understand that specific linguistic units are associated with the referent of an individual’s speech and are sensitive to the fact that the definite article is used in contexts where the speaker and hearer both confirm the existence of whatever the speaker is referencing (Choi, Song, & Luo, 2018). Ultimately, these infants were reacting to the uses of the definite article which both
followed and went against their hypotheses of the grammatical form and were thus discovering the linguistic parameters for this semantic concept.

This experiment also poses a blurred line as to whether this semantic concept is developed either within the domain of psychology or linguistics. Language may serve as the external signal that the brain is ready to interpret and use this internal concept. Whether an understanding of the concept of definiteness remains as an aspect of human development or as a feature within UG is difficult to determine and needs further research. However, especially when considering semantics, it is advisable to view the domains not as distinct options for the cause of the phenomena but rather as routes which require further exploration to understand how both may interact with each other.

**What is Definiteness and Specificity?**

Tania Ionin, a linguistics professor at the University of Illinois at Urbana-Champaign, establishes much of her research on article acquisition on the assumption that the semantic concept of definiteness is learned via UG. Ionin and her colleagues Ko and Wexler (2004) define a definite context as when “the speaker and hearer presuppose the existence of a unique individual in the set denoted by the NP” (p. 5). Definiteness conveys a sense of shared knowledge between the speaker and the hearer while specific contexts depend solely on the speaker’s referent: “the speaker intends to refer a unique individual in the set denoted by the NP” (p. 5). This is true regardless whether the hearer recognizes or is familiar with that referent. The English article system uses definiteness as the parameter measure for article usage; however, ELLs (and even English language teachers when giving definitions for the definite and indefinite article) tend to map the definition of specificity onto the semantic property of definiteness. “We see that errors in L2 English article choice are not random but actually reflect L2 learners' access
to the universal semantic distinctions of definiteness and specificity” (Ionin, Ko, & Wexler, 2004, p.50).

There are languages which use specificity as the parameter for article choice. In Samoan, for example, “definiteness does not play a role in article choice: All that matters is that the narrator intends to refer to a particular individual” (Ionin, Ko, & Wexler, 2004, p. 10). The world’s languages utilize different means to convey particular semantic concepts, yet those same means also can represent different semantic information. “There is parametric variation in the lexical specifications of articles: We propose that articles cross-linguistically can encode the feature [+definite] or the feature [+specific]” (Ionin, Ko, & Wexler, 2004, p. 3). Definiteness and specificity are measured within language-dependent parameters, and both concepts are accessible to learners through Universal Grammar.

The Fluctuating Hypothesis

Ionin, Ko, and Wexler (2004) developed the Fluctuation Hypothesis (FH), which has two premises: “L2 learners have full access to UG principles and parameter-settings and L2 learners fluctuate between different parameter-settings until the input leads them to set the parameter to the appropriate value” (p. 16). These carry two implications. First, the acquisition of these semantic concepts in an L2 grammar is constrained by UG, and second, the fluctuation between parameter settings indicates that L2 learner usage and error patterns are nonrandom and, in some ways, predictable. Ionin, Ko, and Wexler (2004) determined four semantic environments for article usage: [+definite, +specific], [-definite, +specific], [+definite, -specific], and [-definite, -specific]. The Fluctuating Hypothesis predicts that ELLs will struggle primarily when specificity and definiteness are in opposition to each other while environments where both semantic concepts are entirely positive or negative are easier to acquire (Ionin, Ko, Wexler, 2004). Because L2 English
learners follow the patterns predicted by the FH, the authors hypothesize that ELLs are accessing UG as they discover the appropriate semantic environment for the definite and indefinite article.

**Evidence for the Fluctuating Hypothesis**

A 2018 study examined the article usage patterns of Malaysian L1 Tamil L2 English speakers to discover if the participants followed the FH. The participants were given a list of questions, each consisting of a short dialogue which contained a single sentence that had a space which required an article to fill it (Jacob & Tan, 2018). These 40 questions exemplified the four semantic categories that Ionin proposes (Jacob & Tan, 2018). The results demonstrated that the native speakers of Tamil had access to UG when learning the correct parameters for the definite and indefinite article as the participants primarily struggled in the semantic environments where definiteness and specificity were in opposition to each other (Jacob & Tan, 2018). The authors of the article claim that because Tamil is an articleless language, transfer of article semantics is not available to them; therefore, “their source of knowledge for second language acquisition of English articles is mainly L2 input and UG” (Jacob & Tan, 2018, p. 152). The article also confirms Ionin’s hypothesis that learners of English map the definition of specificity onto the semantic property definiteness, attributing this semantic cross-over as one of the sources for the participants’ errors (Jacob & Tan, 2018).

**Interaction Between UG and Transfer**

**Speakers from Article-based Language Backgrounds**

Both transfer and UG can influence the speaker simultaneously. A SLA study which demonstrates this interaction examined over 50 participants of L1 Arabic-L2 French-L3 English language backgrounds, each of which are article-based (Hermas, 2018). The authors of this study confirm that Universal Grammar and one’s native language can act as semantic sources for the
language learner, and they explain that these influences work collectively in language acquisition (Hermas, 2018). The results confirmed the influence of L1 transfer: “their performance shows non-facilitative L1 Arabic transfer affecting the morpho-phonological realization of indefiniteness in the form of article omission in L3 English” (Hermas, 2018, p. 139). Arabic does not use an article in indefinite contexts; therefore, the participants mistakenly omitted the indefinite article in obligatory contexts (Hermas, 2018). The article also recognizes that “UG options can override facilitative transfer in these contexts” (p. 139) despite that the participants’ L1 and L2 also have an article system with definiteness as the parametric determiner (Hermas, 2018). Specifically, the intermediate speakers of English followed the Fluctuating Hypothesis, overusing ‘the’ in [-definite, +specific] contexts and ‘a’ in [+definite, -specific] contexts and thus confirming access to UG (Hermas, 2018). The authors comment that the participants, like many ELLs, mapped the definition of specificity onto definite contexts; however, the participants’ errors in [-definite, +specific] semantic environments demonstrated a merging of UG and L1 transfer, “taking the to encode specificity while indefiniteness is dually encoded in the null article and the article a” (Hermas, 2018, p. 155). Ultimately, this study demonstrates that when acquiring the linguistic form for specificity and definiteness, learners can access UG to discover the parameters while also producing errors which reflect the grammatical system of their L1.

Speakers from Articleless Language Backgrounds

Comparing linguistic equivalents. Language learners from articleless language backgrounds are also prone to transfer; however, instead of transferring an article system, they attribute features of their L1 grammar onto grammatical forms in the L2 which are similar in nature. A 2017 study demonstrates the complex nature of the acquisition of grammatical forms and semantic information without necessarily overriding the FH. Intermediate and advanced L1
Korean L2 English speakers were tested to explore the effects of transference of similar grammatical constructs (Cho, 2017). Korean encodes definiteness using demonstratives and context rather than articles, which can sometimes act like demonstratives (Cho, 2017). The nearest equivalent to ‘the’ in Korean is the demonstrative ‘ku’, which is solely used in anaphoric contexts; however, ‘the’ can be used both in anaphoric and non-anaphoric contexts (Cho, 2017). The study found that the participants’ article usage patterns revealed evidence of transfer as they only used ‘the’ in anaphoric contexts and incorrectly inserted the indefinite article in definite, non-anaphoric semantic contexts (Cho, 2017). This study does not disprove the Fluctuating Hypothesis; it only demonstrates the complex layers involved in the acquisition of grammatical forms.

Another possible explanation or co-explanation for the participants inaccurate usage of ‘the’ in nonanaphoric contexts, definite contexts could be the Korean participants’ misunderstanding of definiteness. An example of a nonanaphoric, definite context are the sentences, “Brad just proposed. His fiancée accepted the ring happily.” (Cho, 2017, p. 374). Cho (2017) describes such a context as having “situational uniqueness” (p. 374), meaning that specific instances require certain, implied referents, such as an engagement ring offered during a proposal. By Ionin’s definition of definiteness, the speaker and hearer share knowledge about a referent, primarily that it exists. Thus, it is understandable for the native English speaker to use ‘the’ in this context as he or she will assume that the hearer will expect such an object to be associated with an engagement. But for the non-native English speaker, who is drilled to use ‘a’ when a referent is first introduced and ‘the’ during its second appearance, accurately navigating such unique contexts is difficult; it requires both cultural awareness (not all cultures use rings as
A lack of a linguistic equivalent. Similarly, learners without similar linguistic forms between the L1 and L2 also follow nonrandom article usage patterns. A recent study focused on the acquisition of the Hebrew definite article provides evidence for the FH and information on how it interacts with transfer (Schwartz & Rovner, 2015). This longitudinal study followed nine bilingual L1 Russian L2 Hebrew speaking children between the ages of three and four years old. Russian is not only an articleless language, but it also has “no linguistic representation of definiteness” (p. 563) as Russian lacks such a category in its determiner system (Schwartz & Rovner, 2015). Therefore, the study aimed to discover if any quantitative or qualitative patterns existed between the bilingual children and the monolingual Hebrew children as both groups acquired the definite article. The study found that both groups made more omission errors than overuse or syntactic errors (Schwartz & Rovner, 2015). Interestingly, the article attributes transfer as the reason for the bilingual children’s tendency to omit the definite article in obligatory contexts (Schwartz & Rovner, 2015). This is noteworthy because even a lack of a linguistic equivalent between the L1 and L2 can influence the patterns of a language learner. Continually, the bilingual children included the definite article more commonly in morpho-syntactic rather than semantic-pragmatic contexts—a similar pattern followed by the monolingual children before the age of five (Schwartz & Rovner, 2015). This attests to the difficult nature of semantics; building an awareness of semantics and pragmatics requires time—for both the native speaker and the second language learner—because the choice to include or omit a certain article is based primarily on conversational context and not just surrounding morphological or syntactic structures. The bilingual children also overused ‘the’ in indefinite
contexts, a pattern predicted by the FH (Schwartz & Rovner, 2015). However, the authors note that the overuse of “the” in comparison to omission in obligatory contexts is considerably less frequent (Schwartz & Rovner, 2015). Despite this, they speculate that as the bilingual children become more exposed to Hebrew, the effects of fluctuation should increase while omission errors should decrease (Schwartz & Rovner, 2015). This is “due to the assumption that for the young bilingual children, access to Universal Grammar is more efficient than it is for the older L2 learners, who rely more on the grammatical rules of their L1” (Schwartz & Rovner, 2015, p. 566). These conclusions, while not entirely proven true, help to increase linguists understanding of the interaction between L1 transfer and UG. Finally, Schwartz and Rovner (2015) encourage readers to view how the two hypotheses—one being transfer and the other fluctuation—“compliment rather than contradict each other” (p. 566) as both seek to offer possible explanations for the process of acquiring definiteness.

**Other Semantic Factors**

Recognizing Ionin’s four semantic environments could aid English language learners in using articles more accurately; however, there are still additional semantic complexities that interact within the framework of the Fluctuating Hypothesis. In a corpora analysis of two groups of L1 Chinese speakers of English, researchers stressed the importance of understanding the “broad range of factors that affect article production” (Leroux & Kendall, 2018, p. 23). Above navigating definiteness and specificity, ELLs must master additional layers of plurality and countability. The analysis found that ELLs had the most difficulty using the indefinite article as it “requires a fine-grained distinction between singular and non-count nouns, the knowledge of the hearer, and the idiomatic status of the utterance” (p.23) while the definite and zero article
were used more frequently and accurately by the L1 speakers of Mandarin as those forms can be used across more contexts (Leroux & Kendall, 2018).

Countability is an especially ambiguous topic, thus making article use even more difficult for ELLs. In a separate study, L1 Cantonese speakers were tested on their understanding of how context affects the sense that a word carries; this is an important concept for ELLs to be aware of as nouns which are typically uncountable can become countable depending on context and vice-versa (Chan, 2017). The research concluded that even if learners are aware that context can change the sense of a word and the linguistic structures associated with it, “they may not possess the ability to identify the correct sense of a target noun in a certain context so as to determine the countability of the noun and/or its associated article use” (Chan, 2017, p. 200). For example, although the noun ‘awareness’ is considered an uncountable, abstract noun, in this context, it requires an article: “an awareness of the importance of eating a healthy diet (Chan, 2017, p. 200).” Culture is an additional factor which makes this facet of article usage particularly daunting for ELLs as certain nouns in one culture are considered countable while in another it is uncountable. For example, ‘homework’ is an uncountable noun in American English, but for many Asian cultures, it is a countable noun. Thus, determining how a word is being used in a sentence can be difficult for ELLs, which creates additional barriers for them to overcome when using articles.

**Pedagogical Applications**

**Linguistically Informed Instruction**

Just as acquiring the English article system requires navigating complex layers, teaching students how to use this grammatical form is not a straightforward process. Inspired by Ionin’s work, Elaine Lopez (2017) attempted to merge classroom instruction with accurate linguistic
information. The study tested three groups of low-intermediate L1 Chinese speakers of English, which either received no grammar instruction, traditional grammar instruction on articles, or linguistically informed instruction, and assessed their performance during a gap-fill test (Lopez, 2017). The linguistically informed material incorporated concepts of definiteness and specificity from Ionin’s work and attempted to build student’s awareness of the four semantic layers (Lopez, 2017). The results showed that participants who received the linguistically accurate instruction did not perform significantly better on the tasks in comparison with the other two groups (Lopez, 2017). The article rationalizes that “the low proficiency of the learners and short intervention period likely contributed to their difficulty understanding the complexities of article meaning” (Lopez, 2017, p. 200). This indicates that while students should have knowledge of these complex semantic concepts, their English language proficiency influences their readiness for it.

Using the L1 as a Foundation

Others have explored different venues for developing linguistically informed instruction. Jelena Vujic (2015) explains that ELLs would benefit from comparing L1 constructional equivalents with those in the L2, claiming that doing so will help students to develop and internalize schemas of article constructions for a variety of contexts. She continues saying, “finding the right subschema on the map can help them build more proficient article selection strategies and operate along the form-function-meaning continuum instead of memorizing rules governing the use of articles in English” (Vujic, 2015, p. 79). This encourages article teaching strategies to move from solely relying on grammatical rules to treating articles as forms associated with certain contexts. The article then admits that “to adopt a constructional approach in language teaching and learning would mean ‘to undertake a commitment in principle to
account for the entirety of each language’ (Kay and Fillmore, 1999, p. 1)” (Vujic, 2015, p. 71).

For this method to be truly successful, content which describes how article-specific semantic categories are encoded grammatically would need to be developed for each of the world’s major languages, a massive undertaking to say the least. Yet, such a project may be beneficial as such a direct comparison of forms could greatly aid ELLs in making form-meaning connections and improve the instruction of English language teachers.

**Mnemonic Devices and Diagnostic Tests**

Because English articles are not meaning-salient and their patterns of use are quite idiosyncratic, ELLs can have difficulty remembering and recalling each of the appropriate contexts and grammatical rules associated with articles. Thus, Douglas Wulf (2016), an English professor at George Mason University, aimed to create a tool that ELLs could rapidly access to help them “summarize and recall various typical usage patterns” (p. 317). He created “The Bicycle Poem” (see *The Bicycle Poem*) which exemplifies various article usage rules, encouraging his students to remember both the individual poem lines and their corresponding article usage rule:

<table>
<thead>
<tr>
<th>L0</th>
<th><em>The Bicycle Poem</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td><em>I bought a bicycle</em></td>
</tr>
<tr>
<td>L2</td>
<td><em>I named it “Bicycle”</em></td>
</tr>
<tr>
<td>L3</td>
<td><em>I took the bicycle apart</em></td>
</tr>
<tr>
<td>L4</td>
<td><em>There’s bicycle now all over the floor</em></td>
</tr>
<tr>
<td>L5</td>
<td><em>By bicycle now I’ll travel no more</em></td>
</tr>
<tr>
<td>L6</td>
<td><em>Yes, fixing bicycles is an art</em></td>
</tr>
</tbody>
</table>

(*The Bicycle Poem, 2015*)

L1 represents introducing a new referent with a/an (Wulf, 2017). L2 represents how atypical nouns being used as proper nouns are preceded by a null article (Wulf, 2017). L3 represents using ‘the’ when a referent is mentioned for the second time within a discourse (Wulf,
2017). L4 represents how countable nouns can become uncountable depending on context (Wulf, 2017). L4 also contains “the floor” which exemplifies that an anaphoric noun being mentioned for the first time does not take the indefinite article (Wulf, 2017). L5 represents the pattern of a preposition followed by a bare noun (Wulf, 2017). L6 represents a gerund phrase, which are typically not preceded by an article (Wulf, 2017). L6 also demonstrates “type reference rather than token reference” (p. 324) with the null article inserted before the noun ‘bicycles’ (Wulf, 2017). Finally, L6 shows the usage difference between ‘a’ and ‘an’ (Wulf, 2017).

Wulf (2017) also introduced his students to a diagnostics test based on English etymology; it taught the students to insert ‘one’ for ‘a’, ‘that’ or ‘those’ for ‘the’, and ‘some’ or ‘a lot of’ for the null article when they were unsure about the correct article choice. To test the benefits of these teaching strategies, the students were asked to make article corrections to papers previously written by their classmates. The results showed that overall students made better, more accurate corrections after being exposed to the mnemonic device system and the diagnostic test (Wulf, 2017). Those in the high intermediate English proficiency group were able to correct 46% of their errors upon implementing these strategies whereas previously they had only been able to correct 3.8% (Wulf, 2017). The article concludes saying that these mnemonic devices may also “serve as frameworks for teachers and students to discuss errors and usage patterns” (p. 327), allowing students to build an understanding of this grammatical form within a discourse-level context rather than as an abstract grammatical construct (Wulf, 2016).

**Pedagogical Implications**

Upon reflecting on the research, English language teachers can derive several useful pedagogical principles for article instruction based upon this information.

**Knowledge of Language Background**
Understanding the language background of an English language learner can greatly aid teachers in building useful and tangible bridges that learners can use to better grasp the contexts and idiosyncrasies that accompany this abstract grammatical form. Cho (2017), the author of the article on L1 Korean speakers who transferred demonstrative-like properties onto the English definite article, stresses that “feature-reassembly is a necessary process in the L2 acquisition of articles” (p. 380). Thus, teachers who are knowledgeable of their students’ native language features will help them avoid and understand their usage errors.

**Building Awareness of Complexities**

Articles carry multiple semantic layers within them, and while native English speakers can process these layers unconsciously and almost instantaneously, ELLs need to be made aware of the complexities which influence accurate article usage. Leroux and Kendall (2018) encourage English language teachers to “bear in mind the tendency toward simplification when teaching the English article system” (p.23), to incorporate the difficult grammatical concepts of hearer knowledge, plurality, and countability into classroom instruction, and to treat these multiple layers as complexities rather than exceptions to the rules. Context and the fluidity of countability in making grammatical form judgements are especially important concepts for students to be aware of. Yet, these many layers should be taught with the readiness of the learner in mind as defined structures and simplified rules for article usage is helpful for beginner English language learners but can impede the progress of advanced learners.

**Definiteness and Specificity**

Perhaps the most important implication of this research is the necessity for more accurate and less confusing classroom definitions. Keeping the results of Lopez’s (2017) study in mind, English language instructors should creatively incorporate the distinction between definite and
specific contexts into classroom instruction in a way that is comprehensible to lower-level English language learners and can further refine and develop advanced speakers of English. The tendency to map specificity onto the definition of definiteness is pervasive within English language classrooms and, therefore, the minds of English learners as well; however, using precise definitions of these semantic categories could help promote more accurate article use.

Conclusion

The aim of language is to convey meaning; it is not just a representation of combined grammatical constructs. And in the context of article acquisition, this is no exception. As is language, the mind of a learner is complex; therefore, accurate use of English articles must include an understanding of various semantic factors. Both English language instructors and learners need to be aware of these semantic concepts which influence article usage. English language teachers especially should be excellent in this domain, having knowledge of their students’ language background, readiness, and usage patterns. This is because language learning is not primarily a process of memorizing and repeating information that is taught to the learner; it is a complex, cognitive process which includes the background of a learner, how they are perceiving specific contexts, and, ultimately, universal parameters which shape the direction of their acquisition process.
References


