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“GIVE ME THE RULES, I’LL UNDERSTAND GRAMMAR BETTER”: EXPLORING THE
EFFECTIVENESS OF USAGE-BASED GRAMMAR APPROACH THROUGH EXPLICIT
INSTRUCTION OF ADVERBIALS

POUYA VAKILI

165 Pages

The main purpose of this dissertation is to examine the (in)effectiveness of the Usage-based grammar approach through explicit instruction of adverbials in the US educational context. One area that can complicate the question of native speakers’ grammar knowledge is their awareness of grammatical terms and their functions. Along with exploring psychological and linguistic domains of language learning and instructional theories and methodologies, and also investigating grammar teaching in US schools, this dissertation intends to examine native speakers’ knowledge of grammar focusing on adverbs and adverbials as its pedagogical concern. Using a limited pool of students to examine the effectiveness of explicit instruction of adverbials following the parameters introduced in Usage-based linguistics theory, this dissertation looks at American native speakers’ knowledge of adverbs and adverbials, their grammar teaching method preference, and the contribution of grammar knowledge (of adverbials) to the students’ writing.

Using a limited number of students enrolled in ENG-145- Writing in the Academic Disciplines, the researcher, in the pre-test, learned that the students didn’t have any familiarity with the grammatical functions of words in sentences. However, the results of the post-test showed that not only did the majority of students provide the correct answers for the definitions, but also their examples were more sophisticated. In fact, simply explicit instruction per se doesn’t necessarily lead to using the knowledge that is why the researcher developed a Usage-based inspired explicit instruction.

In order to investigate the students’ grammar teaching method preference, the researcher provided the definitions of explicit and implicit grammar instruction indicating that the researcher would follow an explicit approach to the teaching of adverbials in the class. A quick look at students’ responses revealed that only 6 students (11.76%) out of 51 students preferred

the implicit teaching method and 88.24% of students preferred the explicit approach. Out of the reasons the students indicated to support explicit instruction, “to know the rules, to learn better and to make more sense” stood out with the frequency of 39, 34, and 32 respectively.

The researcher ran a Readability Test to qualitatively examine the contribution of adverbials in pre and post-grammar instructional classes. After examining the number of space, time, process, and adjunct adverbials in students’ memoir and autobiography in the pre-grammar instruction classes, the researcher found that students used 1136 space adverbials, 1184 time adverbials, 925 process adverbials, and 1096 adjunct adverbials in their papers in the pre-grammar classes. However, the results of the post-grammar classes showed a decline in the number of adverbials as space adverbials (743 times), time adverbials (961 times), process adverbials (462 times), and adjunct adverbials (505 times). It can be hypothesized that because students’ awareness of adverbials was increased through explicit instructions and they gained more knowledge of adverbials, they tended to use adverbials more cautiously and carefully in their papers. Therefore, the number of adverbials in the students’ papers decreased compared to pre-grammar instructional sessions. Qualitatively, the majority of the students’ papers had the quality of 7th graders (26 out of 51) which might be due to the unfamiliarity with the topic of memoir papers. Additionally, 12 students wrote as 8th and 9th graders, 11 students wrote at the level of 6th graders, one student wrote as 10th to 12th graders and only one student wrote their paper at the college level. However, the post-grammar papers showed significant growth in the quality of students’ papers in that 27 out of 51 students wrote their letters at the level of 10th to 12th grades, 19 students wrote at the college level, and only 5 students wrote at the 8th and 9th grades.

Based on these findings, the researcher believes that writing instructors should follow the parameters introduced in the Usage-based linguistic theory and incorporate explicit grammar instruction in their classes, so learners better understand grammatical terminology and learn about their own language which ultimately results in students functionally using what they understand about their language in their writing practices.

KEYWORDS: Usage-based linguistics, Explicit grammar, Implicit grammar, Adverbials, Writing, Grammar teaching approaches

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A Dissertation Submitted in Partial
Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

Department of English

ILLINOIS STATE UNIVERSITY

2022

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ACKNOWLEDGMENTS

I am very glad to have the opportunity to express my deepest gratitude to all those people who have directly and indirectly contributed to this dissertation.

First of all, I would like to give my deepest thanks to Dr. K. Aaron Smith who is my dissertation chair and my academic role model. I have been constantly impressed by his superb intellect, keen insight, marvelous preciseness, and vast knowledge in his major and other related fields. He is living proof that you can be a top-rate researcher, an excellent teacher, have a life, and earn tenure, while still making time to give students highly constructive advice on their own projects. There were times when we had our disagreements, but later I realized that he was right, and I am sincerely sorry that I sometimes gave him a hard time. He has been my best professor, brilliant advisor, and an excellent friend.

I also would like to thank my committee members, Dr. Susan Kim and Dr. Dawn Nordquist, for their very constructive feedback on my dissertation. When first attending Dr. Kim's class, I found her very intelligent, knowledgeable, passionate, and hardworking, and these qualities motivated me to invite her on my committee team for my English Studies exam, Specialization exam, and finally Dissertation. Her feedback on my dissertation showed me how meticulously she read my dissertation to provide very valuable guidance for my dissertation. Dr. Nordquist introduced me to an entirely new body of relevant literature which helped me develop more insights for this dissertation. Her brilliant feedback and smart questions made me think more about my topic and opened new avenues for my further research. I wish I had the chance to work with her or attend her classes to learn more.

I owe much to other faculty members at ISU. I thank Dr. Angela Haas for giving me valuable advice, and she was always there to help students. Also, many thanks go to Dr. Joyce Walker whose

knowledge, smartness, energy, creativity and constant support are undeniable. She was always full of brilliant ideas in every class I had with her. Moreover, I can't thank Dr. Katherine Ellison enough for her ultimate support during the pandemic, her follow-ups, and her advice.

I owe special thanks to Dr. Mohsen Pahlavan, my friend and therapist, who helped me a lot during my hard time by giving me guidelines and advice. Moreover, I can't deny the role of Reda Mohammed- my colleague, classmate, and great friend- who helped me develop academically by encouraging me to present at different conferences.

My wholehearted thanks and love go to my wife, Parisa Hadisadegh, for her constant support and love. Despite all challenges and separations during these five years of my Ph.D., Parisa has always been there to support me emotionally. I can never thank her enough for all sacrifices she's made in our life. My biggest asset in life is Parisa who is my best friend, best counselor, and wife. She has been the strongest woman I have ever seen. Thank you for believing in me, my capabilities and never giving up on me. Words can never describe how lucky I am to have you. To me, she is second to none. My deepest gratitude goes to my parents and family-in-law who have always kept me in their prayers and supported me in life and education in every way.

P.V.

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CHAPTER I: INTRODUCTION

He who does not know a single foreign language does not know his own completely.

-Johann Wolfgang Goethe, *Maxims and Reflections*, 1821

The quote at the beginning of this dissertation is one of the very inspiring sentences I have read by Goethe. This sentence prompts a number of questions: Why should one learn a foreign language to learn their own native language better? Is it due to educational systems, teaching philosophy, teachers' instructions or my own (un)willingness to learn the grammar of my native language? When pondering about learning grammar, one can realize that all these factors contribute to their inclination to learn the grammar of their own language. Additionally, the questions of whether and how to teach grammar have become a major focus of attention in the American education system. This is a topic that Locke (2010:1) states "has arguably generated more acrimonious debate than any other" among English teachers and politicians. Therefore, for discursive purposes, the researcher will treat teaching methods, linguistic theories and learning experiences as dichotomies in this dissertation.

The last four decades of the US education system have witnessed a disregard of teaching grammar at US schools due to the decision of the National Council of Teachers of English (NCTE) that attempting to learn grammar according to the officially selected model does not directly lead to improvement in writing skills (Wyse 2001; Clark, 2010; Pullum, 2012). This decision was basically based on the results of a traditional, prescriptive model of grammar which took accuracy and correctness into account. However, this model of grammar teaching has been discredited in the second half of the 20th century because it played no roles in improving students' writing skills (Hudson & Walmsley 2005:593).

Additionally, as Crystal (2008:217) states many people (including teachers and students) are unaware of the existence of more than one “grammar” which is a descriptive, contextually based, functional grammar that has proven to make positive impact on students’ grammar knowledge in general and improvements in their writing in particular (Myhill et al. 2012). Moreover, while philosophers, psychologists, applied linguists and educationalists have stepped in with their theories and approaches to facilitate and accommodate grammar teaching in both second and/or foreign language and first language instruction, no ubiquitous grammar instruction has ever been agreed upon, and teachers and learners are surrounded by an ocean of options from which they need to select a theory and approach that works for them. This labyrinth has resulted in teachers’ reluctance and unwillingness to teach grammar (Gartland & Smolkin 2016) especially in first language instruction. Research by Myhill (2000) and Cajkler and Hislam (2010) showed that most teachers did not know ‘parts of speech’ and they carried a lot of misconceptions about teaching grammar. They also found that both teachers and students have the sketchiest knowledge of grammar which was acquired in a piecemeal fashion (Myhill 2000; Cajkler and Hislam 2010).

In the meantime, language and grammar instructors encounter a plethora of methods and techniques of teaching among which “explicit and implicit” approaches to instruction are the most general that teachers might adopt for their classes. While explicit teaching is characterized by direct explanation of grammatical features with emphasis on accuracy and conscious learning (R. Ellis 2010; Norris & Ortega 2000; Krashen 2003), implicit teaching emphasizes natural and informal communicative settings focusing on fluency and intuitive learning (Chastain 1988; R. Ellis 2009 & 2010, Dekeyser 2008). In addition to these teaching schemes, grammar instructors need to apply one theory of linguistics out of many (e.g., generativist, usage-based,

functionalism, structuralism, etc.) to deliver and develop their grammar teaching materials. This choice heavily depends on how they define language learning in terms of knowledge (competence) and use (performance). These two terms can be examined from the two perspectives of generative theory linguists and usage-based grammar approach advocates in which case we find that they are quite differently defined and thus carry different imports for language learning acquisition.

In addition, a speaker of English comes to be able to use the language either through naturalistic acquisition or classroom exposure. The latter case is more typical of non-native speakers (which particularly happens in academic settings), and the former is usually the situation for so-called “native speakers”¹. Thus, non-native speakers have likely had explicit exposure to grammar instruction, while most native speakers may have very little. Therefore, native speakers judge grammaticality due to their experience with and exposure to the actual usage of language.

Furthermore, one area that can complicate the question of native speakers’ grammar knowledge is their awareness of grammatical terms and their functions. Along with exploring psychological and linguistic domains of language learning and instructional theories and methodologies, and also investigating grammar teaching in the US schools, this dissertation intended to examine native speakers’ knowledge of grammar focusing on adverbs and adverbials as its pedagogical concern. The researcher has decided to focus on adverbials because they are often the focus of pedagogical concerns in writing classes (Hinkel 2004) and as such may be one area in which native speakers have received some explicit instruction in English. Additionally,

¹ Native speaker is a complex concept which may mean different things to different people. For cognitive linguists, a native English speaker is often synonymous with a person who has undisputable language competence in English and who possesses internalized knowledge of English grammar (Paikeday 1985:392).

adverbs and adverbials are among the “least studied and most maligned part of speech” (Jackendoff 1972), but they are the most abundant word classes of all (Quirk et al. 1985). Further, Schmitt (2010) claims that the correct use of adverbs and adverbials will result in increasing communicative competence because their varying semantic functions adds to the meaning of sentences, and they can perform a variety of functions in written discourse (Hinkel 2004).

In addition, most grammar teaching studies have targeted second and/or foreign language learners and limited empirical studies have been conducted on grammar teaching to English native speakers. This dissertation is also designed to fill this gap to some extent. For this purpose, this dissertation initially examines students’ knowledge of adverbs and adverbials, then it seeks students’ teaching method preferences (i.e., whether they preferred an implicit instruction or explicit one), and finally the dissertation studies the contribution and use of adverbials in the students’ papers.

The structure of this dissertation is as follows. Chapter 2 discusses language learning theories by surveying more modern theorists who have developed Dewey’s, Piaget’s, and Vygotsky’s ideas. In this chapter, usage-based and generativist approaches to language will also be elaborated on in more detail in addition to explicit and implicit grammar instructions. In the meantime, the history and current state of grammar instruction in the US schools will also be discussed in this chapter. Chapter 3 presents the grammar of the adverbials in general and the adverbials under this study in particular. The main categories in this study include adverbials of time, space, process, and adjuncts. In this section, these adverbials are discussed syntactically and semantically. Chapter 4 discusses research design, research questions and instruments along with the data collection procedure and participants. Additionally, this chapter answers the

research questions both qualitatively and quantitatively. Chapter 5 presents the conclusion of this study and discussion of the question of whether or not having explicit knowledge of and awareness about adverbials contributes to improvement in students' writing. Additionally, the pedagogical implications of this study will be presented in this chapter.

CHAPTER II: LITERATURE REVIEW

This chapter examines two main theories of Universal Grammar and Usage-based linguistics. Although both theories emphasize the role of cognition in language development, they perceive cognitive development differently. Therefore, initially, language acquisition will be introduced through the eyes of three cognitive psychologists namely Piaget, Vygotsky, and Dewey. Then, the theory of Universal Grammar will be presented. This theory assumes that children are born equipped with a linguistic box in their mind which will be activated when exposed to a language in their environment. This theory also holds that grammar precedes language. After that, the theory of Usage-based linguistics will be introduced. This theory rose in reaction to the Universal Grammar theory in that it looks at language as a system of behavior. In other words, Usage-based linguistics believes language acquisition happens through experience and usage. From this theory outlook, language precedes grammar. Next, implicit and explicit grammar teaching approaches will be discussed and finally, this chapter ends with a brief history of grammar instruction in the schools in the United States.

2-1 Psychological perspectives of language acquisition

2-1-1 Piaget's cognitive theory on language acquisition

Piaget believed that the main purpose of education should focus on teaching children how to learn. He argued that education should “form not furnish” children’s minds (Piaget 1969:70) and that is why he had been more interested in studying children’s thinking and learning rather than directing and instructing teachers. He stated that studying children’s thinking and learning could help us devise our teaching methods that fit their learning styles (Hinde & Perry 2007). In the meantime, he argued that developing higher mental functions of children should be the primary goal of education (Piaget 1959). In fact, he accentuated that teachers and education

policy makers should attempt to foster the cognitive development of children to prepare them for real-life situations.

Piaget emphasized social transmission or learning from others as one of the most influential methods for learning (Piaget 1969). In other words, if we don't learn from each other, it seems like reinventing already-existing knowledge from scratch. However, for Piaget, this knowledge transmission needs to happen between peers because they can challenge their own thinking. Piaget (1965) asserted that children and adults had two different types of thinking patterns which might contradict each other in some cases. For example, children's senses of time and place are different from adults, and they think they will catch up to a sibling in age sometime. That is why, although encouraging social interactions and social transmissions, he believed that they should happen in peer circles and these challenges and negotiations of knowledge could result in children's cognitive development.

Piaget argued that children were active learners and used their environments and social interactions to shape their language (Piaget 1959). As children grow physically and mentally, they add more schemata to their intellectual system which is referred to as the process of adaptation to the world. Adaptation assumes that the building of knowledge is a continuous activity of self-construction in that knowledge is invented and transferred to cognition when the individual interacts with the environment. Piaget suggested two processes of adaptation including assimilation and accommodation (Gillani 2003). In assimilation, existing knowledge is integrated with new information. Tudge and Winterhoff (1993) believe that assimilation doesn't lead to a change in schemata; it does stimulate the schemata to grow and develop more. They state that learners transfer the new information into an understandable form so that they can use it in the future. On the other hand, accommodation refers to the creation of new schemata or the

modification of the old one in response to a new situation (Fosnot 1996). Piaget believed that this adaptation process was the same manner that children developed their language. They learn new knowledge and shape and reshape it as a means of mastering that knowledge.

2-1-2 Vygotsky's cognitive theory on language acquisition

Vygotsky viewed language as a vehicle to transfer abstract concepts to logical reasoning and to establish communication through social interaction which was regarded as the principal feature of child language development (Vygotsky 1986). In this respect, language acquisition was considered the most important foundation of his theories in that he believed any attempt to discuss any form of learning would be pointless without a comprehensive understanding of the process of language learning. For Vygotsky, language acquisition “can provide a paradigm for the entire problem of the relation between learning and development” (Vygotsky 1978: 89).

The interaction between language and thought forms the basics of Vygotsky's theory. He viewed language and thought as two independent developmental entities which might intersect or combine with each other. However, the early childhood period witnesses an integration of language and thought since thought is non-verbal, based on mental images, and language is prerational, thought independent (Vygotsky 1986). In other words, child language is viewed to carry a social role, but with no sign of intellectual development. This stage continues up to the age of two when language and thought begin their intersection leading to the emergence of a new behavior; using speech to display thoughts. Viewing language and thought interconnected although having independent and different origins, Vygotsky believed that the mutual relationship between language and thought was greatly developed between the age of two until seven (Vygotsky 1986). He observed that children's language could develop enormously at this phase which depended on available social context and linguistic resources. Between these two

ages, children are able to verbalize their ideas and thoughts, and they develop inner speech skills which are essential for social-communicative purposes of language. From Vygotsky's perspective, social interaction was the key to language development which was accompanied by the development of thought resulting in children's higher cognitive developments. In other words, higher mental processes are, initially, co-constructed when children interact with their caregivers. Then, these co-constructed processes are internalized by the child and become a part of his/her cognitive development. Therefore, Vygotsky believed social interactions did not just impact language development rather they enhanced cognitive development and higher mental processes.

Additionally, Vygotsky believed that social interaction required the exchange of meaning rather than just words. He asserted that each word had various references and it couldn't be limited to one single object, rather a word referred to a group or class of objects, hence, each word was already a generalization (Vygotsky 1986:6). In this respect, meaning finds paramount importance since the main purpose of language is to convey meaning. In fact, when thought is formed in an individual's mind, in order to take that thought to the verbal level, that individual needs to find the appropriate word to carry the exact meaning s/he intends to transfer. His research shows that language principally defines the way a child learns "how" to think since a child uses words to organize complex concepts (Vygotsky 1997). These concepts "involve some type of external experience being transferred into internal processes through the use of language" (Feden & Vogel 2003). This use of language, internally and externally, leads to the formation of knowledge and development of language and cognition in children. To clarify, "a word without meaning is an empty sound, no longer a part of human speech" (Vygotsky 1986:6) since word meaning is considered to be both thought and speech. Signs (the words or sounds) used to be

thought of as the chief means of communication; however, closer studies of communication and understanding development confirm that “real communication requires meaning as much as signs” (Vygotsky 1986:7). Similarly, Sapir and Whorf (1971: 12) considered a word meaning as a symbol of a concept rather than a singular sensation. For example, if an individual feels hungry, s/he can use some gestures to show his/her feeling but using meaningful verbal signs can help achieve the intended concept better and more understandably. That is why certain thoughts can't be communicated to children even if they are familiar with the necessary words (Vygotsky 1986:8). In fact, children might have the words, but the concept is still immature in their minds. Therefore, not only does a word meaning form thought and speech, but it also shapes thought and communication.

2-1-3 Dewey's perspective of language acquisition

Dewey was a pragmatist, educator, philosopher, and social reformer who supported peaceful group activities, especially problem solving and decision making. He strongly believed that education was the key to make the world a better place to live in and he viewed education as “a crucial ingredient in social and moral development” (Schiro 2013: 174).

Dewey viewed learning as an active process that occurred at school when children were given the opportunity to share their experiences with others. In addition, he thought of schools as a community that prepared students for real-life situations and experiences which should be learned by practice. In fact, schools are considered as some social institutions in which effective social interactions are practiced rigorously so that education becomes a “process of living and not a preparation for future living” (Flinders & Thornton 2013). In this way, students can gradually develop their cognition since their school life and social life are interrelated (Dewey & Small 1897). Additionally, Dewey emphasized “learning by doing” in which students learned

and experienced new tasks by taking steps to discover new things and connect them to their prior knowledge and experiences (Dewey 1916). In fact, Dewey encouraged schools to provide opportunities for students to experience real-life situations and discover the connections between school life and social life by their own curiosity.

Moreover, Dewey opposed rote learning which was based on repetition and memorization because he believed that the teaching method should develop students' analytical and creative thinking along with their problem-solving abilities (Dewey 1910). Through this method, students would not only improve their skills and experiences in different situations but also gain new knowledge which could help them further in their social life to be more participatory members of society. He preferred learner-centered classes to teacher-imposed ones because he believed that students were able to construct their own meaning and knowledge if they were given the chance and that these hands-on approaches could develop students' learning and discoveries (Schiro 2013). Therefore, Dewey insisted on a type of learning which expanded real-life experiences and developed students' discovery abilities while they were working to problem-solve their assigned tasks at school.

In general, these three educational theorists have proposed valuable recommendations for pedagogical purposes in classes. They all agree that social and individual interactions are the keys to improve cognitive development. Unlike traditional schools, they believed that students should be the center of attention and teachers should play the role of a director. Teachers were seen as facilitators who provided relevant experiences and encouraged teacher-student and student-student collaborations. While both Vygotsky and Piaget looked at learning and development as two independent but interrelated entities, Dewey believed that learning led to development, so teachers needed to create essential experiences for their students to build

secondary experiences leading to gain knowledge. Therefore, from Piaget, Vygotsky, and Dewey's perspective, cognitive development should be the primary focus of schools.

2-2 Linguistic perspective of language and language learning

2-2-1 Theoretical frameworks of Universal Grammar

Behaviorism was the dominant language learning theory in the first half of the twentieth century. This theory, attributed to Skinner, held the idea that language acquisition was based on the process of stimulus and response in which positive reinforcements could lead to learning. Behaviorists made no distinction between learning a language or other types of learning. In the behavioristic scheme, learning was a response from the environment. In this respect, Skinner (1957: 5) viewed language as “a question about human behavior and hence a question to be answered with the concepts and techniques of psychology as an experimental science of behavior”, and he perceived language learning as a process of trial and error or stimulus and response which was governed by positive and negative reinforcements. Therefore, learning was a permanent change in behavior that didn't require any “representation” or “mind”. Instead, it was a simple mechanical process of association and analogy with no reference to innate predispositions (Skinner 1957). While the stimulus-response model apparently seemed a reliable description of language learning because of its success in explaining what most people experience in learning a language, the flaws of this model called for an alternative model.

Chomsky found Skinner's model unsatisfying because he believed this model couldn't support the infinity and novelty of utterances by individuals; he argued that it doesn't show how language actually works and stated, “the brain must contain a recipe or program that can build an unlimited set of sentences out of a finite list of words” (cited in Pinker 1994:22). In his review on Skinner's theory-*Verbal Behavior Analysis*- in 1959, Chomsky challenged Skinner's idea of the

impossibility of learning a language without having an innate ability to acquire language on the ground that language is genetically given (Chomsky 1965:47-59); therefore, he proposed the Innateness Hypothesis which explains the inborn potential of children's language (Jackendoff 1994:35). This claim attracted child language researchers to turn their attention to psychological aspects of language learning and development instead of social influences of language.

2-2-1-1 Innateness Hypothesis

As stated above, the earlier theory of language acquisition emphasized “habit formation and imitation” in which language learning was viewed as a process of analogy. However, this perspective of language learning was rejected due to the richness, creativity, and complexity of language compared to the input children receive. Due to such a non-evaluative characterization, Chomsky hypothesized that children were born with a hard-wire to acquire any language. This cognitive mechanism is activated once children are involved in a linguistic environment (Chomsky 1968). In his view, humans are born with basic structures of underlying language in their brain and when they start interacting with their environment, the language specific to that environment becomes activated. In fact, he believes that children have the abstract knowledge of structure that all human languages have, and they just need to figure out how that particular language (the language of communication in that environment) functions. As the child is exposed to language, they can rely on this knowledge to help with the acquisition process and identify areas to fine tune for their language-specific grammar. While Chomsky gives the environment a secondary role in language acquisition, Pinker (1994:18), agreeing with Chomsky on refuting language as a product of habit formation, views language as “a distinct piece of the biological makeup of our brain” to lessen the role of cultural learning in language acquisition as well. He also uses the word “instinct” to describe the process of language acquisition unconscious and

natural. In other words, Chomsky believes that children are born with some kind of mental grammar called Universal Grammar (hereafter UG) which contains the grammar of any language in the world and happens before any linguistic experience of children (Chomsky 2004:17).

Universal Grammar involves general principles and parameters that reflect possible structures of all languages in the world. For example, these parameters include whether adjectives follow or precede nouns, or whether the language is pro-drop (like Farsi), or the subject position should be filled (as in English). Consequently, Universal Grammar enables children to make grammatical generalizations, to distinguish grammatical and ungrammatical utterances, to develop the ability to understand different structures, and to create an infinite number of expressions. To Chomsky (1977: 98) all children share the same innateness: “all children share the same internal constraints which characterize narrowly the grammar they are going to construct”.

Therefore, Chomsky believes that grammar preceded language and people are born with some kind of grammar in the brain which will be adjusted to the language they hear in their surroundings. However, before Chomsky, the order was reversed, and language was thought to happen first. The notion that these generalizations can best be explained by innate knowledge is known as the Poverty of Stimulus Argument (hereafter POS-Argument) which is considered a central issue in cognitive psychology and linguistics.

2-2-1-2 Poverty of Stimulus Argument

The logic of the POS-Argument is to show that a piece of linguistic knowledge is not sufficiently triggered by the environment and hence involves some amount of innate structure in the learner. Any POS-Argument requires four parts. To illustrate these parts, the terminology of Pullum and Scholz (2002) has been followed. First, the acquirendum identifies a particular piece

of syntactic knowledge. Second, the indispensability piece identifies what kind of input would be necessary for the learner to acquire the acquirendum. Third, the inaccessibility piece demonstrates that the indispensable evidence is unavailable to the learner. Fourth and finally, the acquisition piece of a POS-Argument shows that nonetheless, syntactic knowledge is present at the earliest possible age. Together, these pieces support the conclusion that learners have succeeded in acquiring a piece of syntactic knowledge that could not have been extracted from the environment without some inherent constraints on the hypothesis space. Pullum and Scholz (2002) demonstrate the following stages for learning a grammatical representation: Children acquire some aspect of grammatical representations; the children are consistently exposed to multiple representations of the same structure; they can now distinguish the true representations from other alternatives; therefore, they decide the grammaticality of a structure through some internal properties not their experience with the language. For example, when a child hears

a) John is going.

b) Is John going?

The child learns that questions are formed by fronting the copula-*be*. Now, when the child hears the following sentence

c) The man who is here is tall.

There are two possible question forms

1) *Is the man who here is tall?

2) Is the man who is here tall?

However, the child produces only the second alternative because they internally know that forming a question is structure-dependent and the copula-*be* in the main clause can be moved to form questions.

The POS-Argument assumes that the information in the environment is not rich enough to allow a human learner to attain adult competence. This assumption has been previously questioned in that it is based on premature conclusions about the information present on primary linguistic input (Pullum & Scholz 2002). Nativists have tended to dismiss a priori the idea that distributional information could play an important role in syntactic language acquisition. Nevertheless, recent studies show that distributional evidence is a potentially important source of information for word segmentation and syntactic bootstrapping (Christiansen et al. 1998; Lewis & Elman 2001). Moreover, infants are very sensitive to the statistical structure of the input (Saffran, et al. 1996), suggesting that they are able to pick up on distributional cues with a high level of accuracy. This growing body of work has provided support for the hypothesis that distributional properties of linguistic input could have a significant role in the acquisition of syntactic structure. The validity of the POS-Argument strongly relies on the premise of the absence of sufficient information in the primary linguistic input for learning grammar.

2-2-1-3 Language Acquisition Device

Chomsky proposes that all human beings are born with an inherent ability to learn any human language, and he believes that input from the environment (including parents, caregivers) is not sufficient on its own, so he introduced Language Acquisition Device (hereafter LAD) in 1957. This device is present in every child's brain, and it is responsible for encoding the major principles and grammars of the dominant language in the environment into the child's brain. Pinker (1994) also believes that LAD is a set of language learning tools intuitive at birth that has a set of principles and adjustable parameters common to all human languages.

Undeniably, language is a complex and infinite system with subtle distinctions that even native speakers are not aware of; however, children, regardless of their intellectual ability, are

capable to master basic rules of the dominant language(s) in their surrounding by the age of four (Chomsky 1957). Later, they only need to develop their vocabulary and form sentences using their LAD. This hypothesis claims that children don't need to learn a language from scratch since they already have the basic principles in their brain, so they only need to learn how that language functions.

The faith in LAD was prominent for a long time and it was believed that LAD stayed in the brain until children reach their critical age (around puberty) when it disappears and no longer functions (Lightbrown & Spada 2013: 198). However, Krashen and Terrell (1983:26) argue that this ability is never lost in children and can continue into adulthood. They believe that as children can acquire a language sub-consciously without explicit instructions on vocabulary and grammar, adults can also become competent in the second language (L2) without having formal instructions.

To support the claim that LAD is never lost, Cook (2003) conducted a study to test the presence of structure dependency principle on adult second language (L2) learners. His study examined questions with structure-dependency violations on two groups of English L2 learners and English native speakers. While one group of L2 learners had syntactic movement in their native language (L1), the other L1 group lacked syntactic movement. The assumption was that if a critical age does exist, this first group would be expected to reflect the structure dependency principle while the second group would be expected not to reflect the structure dependency principle. However, the results showed that both sets of students did extraordinarily well. Only nine individuals got fewer than five-sixths correct. Cook (2003) concluded that even the L2 learners of English, who had not learned the structure dependency principle, seemed to possess

this knowledge (201-221). Therefore, at least one interpretation of this finding is that this part of the LAD is not lost at puberty but continues on into adulthood.

2-2-1-4 Competence vs performance

The notions of “competence and performance” were introduced by Chomsky in 1965. He explains that the main goal of linguistics is to describe the mental reality underlying actual behavior (Chomsky 1965:4). Chomsky defines competence as "speaker-hearer's knowledge of his language" (1965:4). In other words, competence is the tacit knowledge of language which can be found in hearer/speaker's brain. This knowledge encompasses grammar and linguistic information which “is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community” (Chomsky 1965:4). On the other hand, performance deals with “the actual use of language in concrete situations” (Chomsky 1965:4). In fact, performance is an individual's linguistic behavior that can reveal the linguistic competence of that individual.

Linguistic competence is considered to home all the grammatical knowledge an individual might have, and performance is the means to bring that knowledge into practice. Therefore, linguistic competence always precedes linguistic performance, and it includes the knowledge necessary to generate the infinity and creativity of language. In addition to linguistic competence, Chomsky introduced “pragmatic competence” that "underlies the ability to use [grammatical competence] along with the conceptual system to achieve certain ends" (Chomsky 1980:59). In other words, Chomsky tried to differentiate grammatical correctness and semantics. In fact, one statement might sound completely grammatical, but it makes no sense semantically. For instance, the sentence below is adopted from Chomsky (1980:59):

Colorless green ideas sleep furiously

This statement is grammatically correct, but it is semantically incongruent. On the other hand, some statements might not be grammatically correct, while they make sense to the native speakers due to their competence.

In general, Chomsky has revolutionized language acquisition theories and he has made many attempts to explain the nature of language and the relationship between language and the mind. Although his theories have been well-received, many flaws and shortcomings have been suggested for UG, innateness theory, and even the competence and performance distinction. These criticisms will be elaborated on in the following section.

2-2-1-5 I-language vs E-language

Chomsky introduced a dichotomy of Internalized language (I-language) as opposed to Externalized language (E-language). In his description, I-language is defined as “what a speaker knows” which deals with mental and psychological aspects of the language (Chomsky 1995). He further elaborated that I-language should carry the meanings of “Individual”, “internal” and “intensional”. The term “individual” deals with the properties of language which can only be possible to individuals and some parameters such as geographical, social, political states, and family all contribute to an individual’s language. Therefore, I-language is a psychological property of language which is available to an individual. Additionally, “internal” refers to the state of mind of an individual and the “individualistic approach to language” (Chomsky 1995:13). In terms of “intensional”, Chomsky adds the meanings of logic and semantics. In this perspective, two individuals may have the same I-language who want to communicate the same meaning, but they may use two different structures for the same purpose (Chomsky 1986:23). E-language, on the other hand, discusses the non-mental and external properties of language. In Chomsky’s view, the notions of language which are independent of mind fall in the E-language

category i.e., “the actual and potential speech event” (Chomsky 1986:20). In general, it can be observed that Chomsky perceives language as a property of mind which has little to do with social and educational aspects of language acquisition.

2-2-1-6 Arguments refuting Chomsky’s Hypotheses

Ever since Chomsky introduced his UG theory, it has been challenged significantly over time. One of the recent criticisms has been put forward by Halpern (2016) who introduced the theory of “the empty mind”. He asks that if we accept children are born with such a capability to acquire language at birth, why this capability disappears later in life (Halpern 2016). He alternatively claims that a child’s brain is plastic in that it “does not acquire language but is formed by the language it hears” (Halpern 2016:1175). In other words, he rejects Chomsky’s hypothesis of the pre-structured and pre-programmed brain, believing that the brain has no structure at birth, so no language learning can occur; instead, the brain is shaped by the language that the child is exposed to. He states that “It is language that turns the brain into a mind, and it would be more accurate to say not that the child acquires language, but that the language acquires the child” (Halpern 2016:1175). Halpern suggests that when children interact with their caregivers, they encounter new words which are all unique to them. Children store these new words in their “huge, originally empty and unstructured memory”. The memory doesn’t have grammar inside to help the child form syntactically correct statements, rather the child attempts to use those words in similar situations with analogous syntax. When the child receives repeated positive reinforcements from the environment, the child learns to use that word in a correct syntactic form (Halpern 2016:1175-6).

Moreover, the essence of the Innateness Hypothesis has also been questioned harshly. One of the first critics was Skinner who considered Chomsky’s review on his Verbal Behavior

article emotional and claimed that this review lacked knowledge of behaviorist studies (discussed in Virues 2006). This criticism was never responded to.

One of the basic controversies has been observed in the Principles and Parameters of the Universal Grammar theory. Parameters haven't been identified and/or distinguished comprehensively by UG scholars and proponents. In two rare cases, Baker (2001) provided a list of 10 parameters, and Fodor and Sakas (2004) gave a list of 13 items. Although both scholars stressed the completeness of their lists, only three parameters were shared on both lists (Tomasello 2005). In fact, even an approximate number of parameters is a matter of question and debate among UG scholars. For example, Pinker (1994:112), without giving an estimate, claims to be "only a few", Fodor (2003: 734) proposes the list to be "perhaps 20", Roberts and Holmberg (2005:541) offer an estimate of "50-100". However, Kayne (2005) believes that since each parameter should be associated with every functional element, the number of parameters should be extremely large.

While Piaget and Chomsky both are considered nativists and believe in inherited genetics as the language ability source, they had their disagreement over the specific aspects of children's cognition that is responsible for language acquisition--called *nucleus*-- in their debate (Piaget & Chomsky 2004). Chomsky founding his theory of Universal Grammar on a fixed nucleus claims that children are born with language knowledge which will be activated by language experience and the input from the environment. However, Piaget considered the genetic nucleus as the basic foundation of language development (Piaget & Chomsky 2004:65-66). He believed that this genetic nucleus was in constant mutation, and it was directly connected to children's knowledge construction due to their experience with their surrounding environment. Piaget added that

language knowledge developed alongside children's logical and reasoning thinking (Piaget & Chomsky 2004).

Tomasello (2000a) is another opponent of Chomsky's Innateness Hypothesis. He believes that children imitatively learn language in that they hear the language spoken in their environment, categorize it using their social skills, put them in schemas, and finally combine the individually learned expressions. In fact, he believes that children use language to acquire the knowledge of language (Tomasello 2000a:156). In his scheme, language use is the main source of developing language skills in children. In this approach, language consists of fluid structures that are shaped by communication, memory, and processing. Tomasello (2000a) rejects the idea that language is built from a predefined set of innate linguistic concepts, rather he conceives of language as a dynamic network in which language users' linguistic knowledge is continuously restructured and reorganized under constant pressure of performance.

Developing Tomasello's theory, Bybee (2010) suggests that language acquisition follows a bottom-up tradition in which children first develop their language performance and later construct their language competence. From her perspective, language use is the key factor in developing language knowledge and skills. Bybee (2010:18) believes that social interactions, exposure to language, and repeated routines of listening and speaking facilitate language processing so that children regularly update their language competence accordingly.

Moreover, Chomsky's notions of competence and performance have been criticized from different dimensions. Hymes attacked Chomsky's theory from the sociological aspect and called competence a "Garden of Eden view" in which "the controlling image is of an abstract, isolated mechanism, not, except incidentally, a person in a social world" (1971:272). Additionally, Hymes (1971) and Halliday (1978) criticize Chomsky's quotation of linguistic theory "Linguistic

theory is concerned primarily with an ideal speaker-hearer, in a completely homogeneous speech community” (Chomsky 1965:3). They believe that Chomsky’s theory is very limited in scope and a new linguistic theory with a more comprehensive concept should be brought up. The functional dimension is the second criticism of Chomsky’s view of competence. It is believed that the notion of competence doesn’t discuss the functional nature of language (Halliday 1978; Austin 1962; Searle 1969). While Chomsky viewed a sentence as the primary unit of linguistic analysis, Halliday postulated that “Language does not consist of sentences; it consists of text or discourse– the exchange of meanings in interpersonal contexts of one kind or another” (1978: 2).

In general, this debate is still going on and each theory has its proponents on its side. This dissertation doesn’t intend to judge whether Universal Grammar provides the best explanation for language acquisition, but it shows that there are still unanswered questions from the UG perspective. The UG theory, despite having some strong arguments, proves that humans still don’t know much about how individuals acquire and use language they speak.

Most scholars agree with the idea of some unique capabilities of humans to acquire language; however, scholars are gradually leaving the generativist camp since they don’t find it defensible anymore. Education and linguistics scholars are increasingly leaning towards constructivist stance (Piaget 1954; Bates and MacWhinney 1979; MacWhinney 1999, 2005; Goldberg 2006, 2013; Croft 2007; O’Grady 2008, 2010; Traugott & Trousdale 2013) which considers innate capacities and environmental factors as the most interesting properties of human to construct human languages.

2-2-2 Theoretical framework of Usage-based linguistics

Usage-based (hereafter UB) linguistics is an almost recently rising approach to linguistic theory. This approach to linguistics was introduced as a reaction to Chomsky’s UG. The term

was first used by Langacker to describe the assumption that a speaker's linguistic system is founded on concrete usage events or utterances (Langacker 1987). This means that any individual's linguistic system is built up from their experience with language i.e., the more the experience they get from language, the more abstract linguistic patterns may evolve. Later, Tomasello (2003), applying Langacker's assumptions, enriched and developed usage-based linguistics. In order to perceive the frameworks of usage-based theory better, it is essential to review the building blocks of this approach initially, and then elaborate more on this approach to linguistics. Theoretically, usage-based linguistics follows constructivist, cognitive linguistics, and emergentist approaches to linguistics.

2-2-2-1 Constructivism approach to linguistics

Constructivism is a difficult term to have an absolute definition for because no single person appears responsible for developing this theory and also it is primarily a synthesis of concepts from philosophy, sociology, psychology, and education. Constructivism is chiefly the theory of meaning-making that emerged from the works of cognitive psychologists such as Piaget, Vygotsky, and Bruner, and later Dewey who added to the seeds of this psychology. Although these key figures never called themselves "constructivist", their works and theories shaped and formed constructivism. This theory regards meaning and understanding constructions as the main pillars which occur only when individuals interact with their environment and construct new knowledge and experience based on their existing knowledge and beliefs (Richardson 1997, 2003; Schunk 2004).

Constructivism also discusses the theories of knowing and learning. In terms of "knowing", it is believed that knowledge does not exist in an objective world, outside the

“knower”, rather it is constructed by individuals based on experiences (Crotty 1998 42; Fosnot 1996). In regard to “learning”, individual (cognitive) constructivism and social constructivism were developed in which the former focuses on the construction of meaning inside a person, and the latter looks at the construction of meaning among people. Individual constructivism, developed by Piaget, was a reaction to behaviorism and information-processing theories, and it conceives learning as the result of constructing meaning based on an individual’s experience and prior knowledge (Fosnot 1996). Additionally, Vygotsky developed the theory of social constructivism emphasizing the importance of social interaction within cultures and through language which can lead to learning (Fosnot 1996).

As stated earlier, constructivism is the synthesis of different sciences, and it is not a single theory. In terms of education, constructivism introduces some implications for pedagogical theory and research which emerged in the 1980s. It is argued that constructivism is not a theory of teaching, rather it emphasizes the role of learning and learner. Constructivist pedagogy, established in the field of cognitive psychology, is built upon the ideas of Piaget, Vygotsky, and Dewey to name a few (Fosnot 1996; Kivinen and Ristele 2003). Richardson (2003) views constructivist pedagogy as “the creation of classroom environments, activities, and methods that are grounded in a constructivist theory of learning, with goals that focus on individual students developing deep understanding in the subject matter of interest and habits of mind that aid in future learning” (Richardson 2003:1627). The constructivist theory follows a descriptive approach instead of a prescriptive one to learning (Wasson 1996) which views learning active, adaptive, contextual, personal, social, and meaningful (Boethel and Dimock 2000; Fox 2001).

2-2-2-2 Cognitive Linguistics

Cognitive Linguistics (hereafter CL)- an interdisciplinary field of general linguistics studies the relation between language and mind. Its origin goes back to the early 1970s and late 1980s and it appeared specifically in the works by Lakoff (1987) and Langacker (1987). Since then, CL has been defined differently by various linguists: however, the central aspect of CL circles around the importance of meaning in linguistics.

Evans and Green propose “movement and enterprise” as the two key terms of CL (Evans & Green 2006: 3). In their perspective, CL is a movement since it arose due to dissatisfaction with previous theories mainly a reaction to the formalist approaches to linguistics because they considered form to dominate the meaning. Additionally, following Lakoff (1990), Evans and Green (2006) look at CL as an enterprise that consists of a Generative Commitment and a Cognitive Commitment. The former is defined as “a commitment to the characterization of general principles that are responsible for all aspect of human language”, and the latter commitment is concerned with “developing a characterization of general principles for language that accords with what is known about the mind and brain from other disciplines” (discussed in Even and Green 2006: 27-28). In fact, CL believes that language is a mental representation that can be developed through social interactions. On the same line, Langacker developed the theory of Cognitive Grammar in which he argued that language does not constitute a separate innate faculty of mind (Langacker 1987:13); rather, language is a systematic development of experiential factors and cognitive abilities. Langacker, then, used Cognitive Grammar to define the properties of the usage-based model as a leading post-Chomskyan linguistic theory (Kemmer & Barlow 2000). This model is basically grounded in “usage events” i.e., it argues the instances that a speaker produces and comprehends. Langacker (1991) explains that a usage-based model

holds three main features which can be clarified through the theory of Cognitive Grammar: maximalist, non-reductive, and bottom-up (discussed in Kemmer & Barlow 2000: 3). The first two consider grammar as massive and highly redundant instead of stripped down and economical. The bottom-up property indicates that specific and distinctive elements of the system have advantages over the general features in language acquisition. In other words, language acquisition occurs directly from the specific experiences that individuals gain from their environment and then they generalize these specific features to transfer them to their cognition.

2-2-2-3 Emergentist approach to linguistics

The emergentist theory of language-first introduced by McClelland and Rumelhart in 1986- has been chiefly motivated by studies on methods investigating brain functions while performing cognitive activities (e.g., MRI or ERP). These developments have led to a number of theoretical models that emphasize the similarity between the structure/operation of these models and the human brain. In fact, studies on the cognitive activity of the brain have resulted in accomplishing a robust neurophysiological image of the mental structures responsible for language use and language acquisition. In addition, the emergentist theory proposes that language learning is achieved through interaction between input properties, sophisticated but largely domain-general perceptual and cognitive learning mechanisms, and social-pragmatic context, without innately predisposed language knowledge being a component of the language learning process (O'Grady 2008).

While previous conceptions of cognition (such as the one offered by Generative Linguistics) assumed linguistic knowledge as being “stored” in the mind, McClelland and

Rumelhart (1986: 267) contradicted this belief and asserted that knowledge is generated “on-line” in the brain during language processing. To support this claim, Kemmer and Barlow (2000: xii) introduced linguistic units as “recurrent patterns of mental (ultimately neural) activation”.

They state that

During linguistic processing, linguistic units are part and parcel of the system’s processing activity: they exist as activation patterns. When no processing is occurring, the information represented by such units simply resides in patterns of connectivity (including differential connection strengths) resulting from previous activations (Barlow, Kemmer 2000: xii-xiii).

In this way, the perspective of emergentist to traditional cognitive proposing the separation of the mind and the brain is replaced with the classical cognitive “mental representation of knowledge” which gives new insights to linguistic cognitive processing. This perspective emphasizes the mental representations of language which enable people to produce and comprehend language. Additionally, these mental representations change over time due to more experience people gain from interactions with their environment. Bybee (2006:711) writes that “while all linguists are likely to agree that grammar is the cognitive organization of language, a usage-based theorist would make the more specific proposal that grammar is the cognitive organization of one’s experience with the language.”

Furthermore, the emergentist theory views linguistic structure as an emergent property of language use and it emphasizes that linguistic structures are the results of nonlinguistic cognitive processing (Bates & Goodman 1999). Along the same lines, O’Grady adds that “children’s capacity for language can be traced to the interaction of non-linguistic forces and propensities, including those relating to processing, pattern recognition, and pragmatics” (O’Grady 2013:1-2).

This perspective rejects the UG theory of innateness and believes that language acquisition is a “very complex and special human accomplishment” (Marchman & Thal 2005: 144). From an emergentist perspective, children are very special because “they construct an impressive system of grammar using dominant-general skills” (Marchman & Thal 2005: 144). One of the basic tenets of emergentism is that smaller quantitative units can lead to the production of a new quality like the difference which can be found between the human communication system and other species (Elman et al. 1996; Tomasello & Rakoczy 2003). For example, human beings are able to put different sounds together in order to produce a new word, or they can combine different words to refer to a totally different object or entity (e.g., blackboard, sunglasses). However, other species don’t have such an ability.

In general, cognitive linguistics considers constructions as the basic linguistic units which are defined as form-function pairings of any size such as morphemes, words, clauses, or sentences. Language acquisition researchers interested in the interrelationship between form and function have found pragmatics and semantics as powerful clues in the language acquisition process (Tomasello 1998a, 1998b; Tomasello 2000b; Diessel 2004). In addition, the emergentist theories unanimously view language acquisition as a product of numerous perceptual, cognitive, social, and pragmatic factors that interact with input properties.

2-3 Usage-based approach to linguistics

The term “Usage-based” goes back to the works by Langacker (1987) and this theory was later developed by other researchers such as Hopper and Thompson (1980, 1984), Tomasello (1999, 2003), Bybee (1985, 1995), and Croft (2000) among others.

Tomasello views language, not as a specific biological adaptation, but rather as a form of cognition that is developed through interactions between children and their caretakers. This perspective asserts that children are born with certain cognitive capacities which motivate children's linguistic development (Tomasello 2003: 290). Unlike Chomsky, Tomasello believes that language is not an inherently human endowment, and he reasons that chimpanzees can't develop linguistic skills because they don't possess the cognitive and interpersonal capacities as language prerequisites. He also adds that although chimpanzees and other apes raised in human-like environments were exposed to a human-like form of communication, they didn't learn the language because of their lack of cognitive abilities (Tomasello 2003:290).

Considering cognitive capabilities and aspects of mankind, Tomasello defines language as "cognition packaged for purposes of interpersonal communication" (Tomasello 2008: 150). He maintains that language is species-specific, and it is linked to general cognitive and interpersonal abilities rather than a proposed theoretical Language Acquisition Device. Tomasello exemplifies learning to play chess to language acquisition. Chess players learn the rules as they interact, and they develop better skills when they play (interact) with other mature players. This situation doesn't imply that chess playing is an innate ability but we as human beings have the right cognitive capacities to learn this game (Tomasello 1999:207). Therefore, for Tomasello, language is the result "of both historical and ontogenetic developments working with a variety of pre-existing human cognitive skills, some of which are shared with other primates and some of which are uniquely human" (Tomasello 1999: 208).

Moreover, Bybee (2001) believes that usage-based linguistics takes a dynamic approach to look at language acquisition. She maintains that "what we seek to explain are the patterns of language change, and we take the true universals of language to be the cognitive and the social

mechanisms responsible for language change” (Bybee 2001:189). This dynamic system gradually emerges from learners’ experiences with (non)linguistic input (Bybee & McClelland 2005). Therefore, domain-general cognitive factors such as abstraction and entrenchment build the bases of language acquisition (Dąbrowska 2004; R. Ellis 2006a; Goldberg 2006).

Unlike Generative Grammar proponents and structuralist linguists who view language acquisition as an innate capability, usage-based linguists follow construction grammar (Goldberg 1995, 2006; Tomasello 2000a, 2003; Lieven & Tomasello 2008). Construction grammar believes that language is an inventory of constructions, and each piece plays a specific function in communication. Constructionists propose that syntactic schemas, idioms, morphology, word classes, and lexical items are all treated as constructions that vary along a continuum of specificity (Langacker 1987; Fillmore et al. 1988). Following this hypothesis, usage-based linguists assert that learning these constructions and meaning does not require any innate knowledge of linguistic rules or principles; rather, it is the result of general cognitive and social interaction.

Additionally, usage-based linguistics holds the view that language emerges from communicative use (Mac Whinney 1999: ix). In other words, it implies that new and complex structures are built on simpler forms of language. It is the usage event that can help develop language skills and it is not the result of some instinct and innate capabilities of individuals i.e., the interaction between cognition and use. R. Ellis argues that “previously experienced utterances” can lead to fluent use of language. In fact, he views language learning as “the gradual strengthening of associations between co-occurring elements of the language (R. Ellis 2002: 173).

In Piagetian theory, the first stage of children's cognitive development happens from birth to the age of two when they go through the sensory-motor process. At this stage, children use their senses and motor abilities to comprehend their surrounding world (Hughes 2001). Some linguistic researchers including Brown (1973), Slobin (1970), Schlesinger (1971) believe that children also develop a semantic-syntactic basis at this stage which follows the characteristics of Piagetian theory. Tomasello (2007) adds that at this age, infants also develop some nonlinguistic abilities to figure out the causal relationship among agents, actions, and objects. This ability can lead to the formation of their linguistic schema. Tomasello states that "children mostly talk about a fairly delimited set of events, relations, and objects that correspond in some ways to Piagetian sensory-motor categories" (Tomasello 2007:4). Piaget believes that infants' process of schematization starts at the age of two when they begin to develop some primary "action schemata" to communicate their needs using the language they hear from their environment and their caretakers (Piaget 1952). This interaction with the environment helps them develop their linguistic cognition and they move from using symbols, gestures, and signals to using one and two-word phrases which can eventually lead them to produce one or two-word sentences such as *mommy milk* or *doggie go*. Likewise, from a usage-based perspective, children construct word combinations and item-based constructions using general cognitive and social-cognitive skills (Tomasello 2007). Supporting Piaget's claim, Bauer (1996) finds children at this age to be skillful learners who imitate 2-3 step action sequences from adults and these imitations develop their linguistic abilities.

Vygotsky finds using linguistic symbols as a kind of social act that children perform when communicating with their caregivers. He indicates that when these acts are internalized, it is a unique product of cognitive representation which is both intersubjective and perspectival

(Tomasello 1999). In terms of intersubjective, the communication is internalized for the children, and they speak to themselves and others. These communications form the basis of children's cognitive development, and they are the products of their interactions with their environment and their caregivers. In other words, Vygotsky emphasizes the role of the social act as a facilitator to develop cognition. This social act can be in any form such as how to behave, how to eat, and even how to use language. When children are exposed to such actions, they begin imitating these behaviors which lead to building up their cognition. Likewise, in usage-based linguistics, the environment, and the experiences that children gain from their surroundings are considered the most important parameters. When children interact with their caregivers, they receive some feedback in the form of a stimulus that increases their experience. Moreover, regarding perspectival (physical and psychological distance from the speaker), Tomasello (1999) claims that the child can understand that the speaker had the option to prefer one form to another to refer to the same entity.

Like Vygotsky, Piaget, and Dewey who consider social interaction and cognitive development as the focal points of learning, Tomasello highlights the importance of social interaction and cognitive development in language acquisition. Accordingly, he proposes "meaning is use and structure emerges from use" as two main principles of usage-based linguistics approach (Tomasello 2003). The first focuses on the functional and semantic aspect of language while the second discusses the use of language to perform social acts. Tomasello (2007:8) characterizes children's language construction using general cognitive processes into two broad categories of intention-reading (functional dimension) and pattern finding (grammar dimension). He believes that children use intention-reading to comprehend the communicative

purpose of an utterance and pattern-finding helps them construct more abstract dimensions of linguistic competence.

2-3-1 Intention-reading

Social-pragmatic theory discusses that children use complicated socio-pragmatic skills such as intention-reading (including joint attention, understanding communicative attention, and cultural learning) to comprehend what speakers intend to say. Tomasello (2009:70) finds intention-reading as the central cognitive construct in the social pragmatic approach. He believes “Intention-reading” is what children must do to discern the goals or intentions of mature speakers when they use linguistic conventions to achieve social ends, and thereby to learn these conventions from them culturally” (Tomasello 2009:69-70). Ambridge and Lieven (2011) consider the intention behind speech as a clue for meaning. They believe that when infants hear a sound pattern paired with an object or a person constantly, they think of it as a word, so they pair that sound with the object or person to convey their own meaning when necessary. Tomasello (2003) believes children’s vocabulary learning increases when their socio-cognitive skills such as intention reading appear. In a study, Baldwin (1993a) found that children learn novel words when that word is the speaker’s focus of attention, not their attention. Tomasello and Barton (1994) believe that children are “actively monitoring the adults’ intention in the experimental situation to discover the intended referent of the new word” (Tomasello & Barton 1994: 640). In other words, children pay attention to the referent based on the speaker’s intention. This situation helps them pair up the word and the object/person relying on the adult’s utterance. When such association makings happen repeatedly, children learn the new word and they can use that in similar circumstances.

In addition, intention-reading involves chiefly the learning of verbs. Since verbs usually indicate an action rather than an object, they are considered to be particularly difficult to learn. Tomasello and Akhtar (1995) studied whether children can learn the meaning of verbs in this way. For this purpose, they created two objects and action highlighted conditions to perform their experiment. They observed that when the experimenter focused on the object, the children later could recognize the object. However, when the experimenter turned their attention to the action, they learned the verb for doing that action. They concluded that the latter group of children had used their socio-pragmatic cues to identify the action performed by the experimenter. In other words, children are able to follow and perceive the intention of the speaker to learn the word referring to the object or the verb referring to the action.

2-3-1-1 The concept of joint attention

Joint attention refers to the object or activity which is the focus of both the child and the adult (Tomasello 2003:22). Tomasello asserts that joint attentional frames are goal-directed activities, and they correspond to the activities, or the objects engaged in the activities of “what we are doing”. When the child and caregiver are both engaged in a common activity, the child focuses his/her attention on what the adult does and how the adult refers to the objects in that activity, then starts imitating the adults’ behaviors either linguistically or non-linguistically. Imagine an American tourist in France walking on the street. A French native speaker approaches this American and starts speaking to him. There is no common ground in this communication and the American can’t understand anything. However, if the same communication happens when the American tourist intends to buy a subway ticket, the French speaker can understand the intention of this conversation because the goal is to purchase some tickets. Baldwin (1993b) found that children could name the toy because it was at the

experimenter's attention, and they were playing with that toy together. Tomasello states "these joint attentional frames create a common intersubjective ground within which children and adults may understand one another's communicative attempts and their current relevance" (Tomasello 2003:25). He believes that there is a high correlation between linguistic skills and joint attentional frame since one purpose of language use is to influence and/or manipulate another person's attention (Tomasello 2000b:406).

2-3-1-2 Defining communicative intention

Tomasello defines communicative intention as "one person expressing an intention that another person shares attention with her to some third entity" (Tomasello 2000c:63). Wittgenstein (1953) added that these communicative intentions could only be comprehended if they were experienced within the context of some already "form of life that serves as their functional grounding" (discussed in Tomasello 2000c: 64). This ability alone can't lead to the emergence of language since primates and autistic children also have this potential but do not always develop language. Therefore, Tomasello suggests that this ability of communicative intention needs to be paired up with joint intention to result in the emergence of language (Tomasello et al. 2007: 718), and also it is regarded as fundamental to learn novel words (Bruner 1978, 1985; Clark 1993; Nelson 1985; Tomasello 2000c; Tomasello 2003). For example, when an adult refers to a car toy as *Jumbo*, the child will learn the label for that toy for two reasons. First, both the adult and child are attending to that toy (which is their joint attention), and secondly, the child knows that the caregiver intends to label the car toy (communicative intention). In this way, the child learns that the toy car he always plays with has a label and it is *Jumbo*. However, Booth and Waxman (2003) argue that both (joint attention and communicative intention) are unnecessary for children to learn words. They believe that children can learn words

simply by paying attention to what objects, events, or states tend to co-occur with particular words across different situations They can also rely on fast-mapping, a general cognitive skill: A new item in the environment goes with a new linguistic form in the discourse.

2-3-1-3 The concept of cultural learning

Finally, cultural learning is a general cognitive ability that is not limited only to language acquisition, and it can be used for other learning skills as well. Cultural learning is in reference to transmitting some knowledge or information from one generation to the next in culture, community, or society (Tomasello 2003). In cultural learning as Tomasello defines it, “the learner understands the purpose or function of the behavior she is reproducing (Tomasello 2000c: 70). He adds that this learning can happen through explicit teaching, social interaction, or observational learning (Tomasello 2003). In other words, cultural learning refers to children’s imitation of adults’ behavior for the same intentional purpose. Role reversal imitation is another term for this learning since children behave as exactly as others behave toward them (Tomasello 2008:103). In terms of information and knowledge (including language), Tomasello and Rakoczy (2003) state that this cultural transmission to the next generation is a unique capability of humans and it hasn’t been observed in animals yet. Tomasello (2003: 31) believes that the desire to communicate with others and to be like others are the main two reasons for cultural learning.

2-3-2 Pattern-finding

Pattern-finding or recognition skills belong to general cognitive abilities which humans share with animals (Tomasello 2003). These skills, in forms of either linguistic or non-linguistic behaviors, help us draw meaningful patterns from the input and connect together words that

share form or meaning (Goldberg 1995, 2006; Tomasello 2000a, 2003). Tomasello (2003) believes that pattern-finding is the most essential skill for children because it enables them to “go productively beyond the individual utterances they hear people using around them to create abstract linguistic schemas or constructions” (Tomasello 2003:70-71). He considers pattern-finding as an important requisite for acquiring language because children can detect the patterns used in adults’ utterances, so they will be able to “construct the grammatical (abstract) dimensions of human linguistic competence” (Tomasello 2003: 4). These skills include categorization, distributional analysis, analogy, frequency, and chunking.

2-3-2-1 The concept of categorization

Categorization is in reference to finding a pattern in a group of referents, ideas, or propositions based on their common features (e.g., meaning). From Tomasello’s perspective, categorization is "the ability to create analogies (structure mappings) across two or more complex wholes, based on the similar functional roles of some elements in these different wholes" (Tomasello 2003: 4). Bybee (2010) views categorization as detecting tokens as instances of a particular type. As stated earlier, pattern-finding discusses both linguistic and non-linguistic behaviors, and a study by Ibbotson et al. (2012) shows that abstract linguistic categories behave in similar ways to non-linguistic categories like showing graded membership of a category.

Tomasello (2003) believes that when children hear adults’ utterances, they start memorizing and then categorizing them in their minds to use the same utterance in the future. This categorization enables them to “begin moving down the road of grammatical development” (Tomasello 2003:42). Additionally, Nelson (1974) has shown that categorization is initially formed on the basis of function (cited in Tomasello 2003: 124). For example, when children hear

a word, they initially learn its function and develop a grammatical category (such as nouns, verbs, adjectives, etc.) in their mind as that word is repeated over time.

2-3-2-2 Defining distributional analysis

Tomasello (2000c) asserts that distributional analysis is the key to children's creativity and productivity with language. The distributional analysis discusses how referents, ideas, or propositions are distributed in an utterance and uses this information to extract the patterns with the same behavior such as learning the position of the subject and verb in the language. This same behavior, from Tomasello's (2003:145) perspective, indicates that children group the linguistic items which co-occur sequentially with similar items. Croft (2000) also adds that children use their distributional analysis skills to experiment the actual use of the language they are exposed to. Diessel (2007) and R. Ellis (2002) believe that distributional analysis can be found on many levels of linguistic analysis from word to phrase and even to the sentence level. It is also stated that children develop abstractions that will later develop into more coherent categories like nouns and verbs via such skills (Tomasello 2003:162). In addition, Saffran et al. (1996) consider children as small statisticians who pay careful attention to distributions of linguistic items and then determine the syntactic characteristics of those items.

2-3-2-3 The concept of analogy

Various scholars have defined analogy in linguistics in different ways. From the perspectives of historical linguistics, analogy is seen as a type of structural change, specifically morphological change (Trask 1996: 105-115). However, for usage-based linguists, analogy is a domain-general cognitive feature of language (Bybee 2007:8; Diessel 2017:17) which leads to the productive use of language (Bybee & Moder 1983), language change resulting in the loss of

an alternation in a paradigm (Bybee 2010: 4) and also language acquisition (Diessel 2013). Bybee (2010, 2002) and R. Ellis (2002) define analogy as the mapping of an existing structural pattern onto novel instances. Bybee (2010:25) adds that analogy begins when children encounter some patterns more frequently than others. Tomasello (2007: 45) believes that children begin to form abstract syntactic rules by creating analogies among the utterances they hear in their environment. From a usage-based perspective, analogy is the key to linguistic productivity as children create their novel constructions via generalization (Bybee 1995; Langacker 2000). For example, the regular English past tense (*verb-ed*) is a morphological schema, and the construction of *NP-be-Adjective* constitutes a syntactic schema.

Additionally, the cognitive and construction grammar approaches don't constrain grammar to an inventory of constructions. Instead, they view the productivity of language as the result of analogies between form, function, and meaning (Goldberg 2003; Goldberg et al. 2007). For example, consider the following utterances from a two-year-old girl (data from Bowerman 1982 cited in Diessel 2017: 17):

Kedall fall that toy.

Who deaded my kitty cat?

Although *fall* and *dead* are both intransitive verbs, the child has used them instead of two transitive verbs of *drop* and *kill* since they are semantically similar.

In another study, Boas (2008) found that this semantic analogy can also be traced in adult language performance as well. In this regard, some novel verbs are created such as “*to google* or *Facebook*”, or intransitive verbs change their quality to be transitive like the famous example by Goldberg “*She sneezed the napkin off the table*”. In this example, *sneeze* and *blow* are

semantically similar and while the first is an intransitive and the second is a transitive verb, *sneeze* has been used instead of *blow* (Diessel 2017).

2-3-2-4 The role of frequency

While Universal Grammar linguists assert that linguistic behavior is the result of frequency effects (Eubank & Gregg 2002), they do not consider frequency as a causal variable in language acquisition mainly due to abstract linguistic knowledge. However, as stated earlier, one area of focus in usage-based linguistics is to study how languages evolve in terms of history and acquisition. In this regard, frequency of occurrence plays an essential role. Usage-based linguistics looks at frequency as a key feature to explain the “rules” of language which are “structural regularities that emerge from learners’ lifetime analysis of the distributional characteristics of the language input” (N. Ellis 2002: 144). Moreover, Tomasello (2003) confirms that frequency has an essential role in language acquisition process and maintains that “only relatively frequently used expressions will become highly predictable” (Tomasello 2003:15). This claim follows the principle known as Zipf’s law- that the more frequently the speakers use a form, the more they tend to abbreviate it (N. Ellis 2017:74). For example, the expression “*I don’t know*” changes to “*dunno*” as it is frequently repeated by the speakers.

The more frequently constructions and linguistic elements are experienced, the more they are preserved in memory storage which can result in better development of language acquisition. When we encounter a construction for the first time, it is regarded as an isolated event which “can result in a unitary representation in memory that binds all its properties (i.e., phonological make-up, spelling, etc.) together’ (Wulff & N. Ellis, 2018:40). However, frequent experiences/encounters with that construction activate our pattern-finding mechanisms and

strengthen our form-function mappings which make us attend to the frequency and distribution of that construction in the input. In this way, the more frequently experienced constructions become more accessible because we have stronger memories of these constructions.

In addition, two kinds of frequency as type and token frequency are distinguished which are believed to provide the basis for generalization (Bybee 1985; Behrens 2009: 399). Tomasello (2003:173-175) defines type frequency in reference to the different forms and functions in which an expression is used. He believes that type frequency leads to the abstraction of linguistic items (Tomasello 2003:107) and this definition is in line with distributional analysis which emphasizes the functionality of language use in language acquisition. Bybee (1995, 2013) and Bybee & Hopper (2001) assert that linguistic productivity (of phonological, morphological, and syntactic patterns) is the function of type frequency. Bybee and Beckner (2010) look at type frequency as a property of patterns which refers “to the number of distinct items that can occur in the open slot of a construction or the number of items that exemplify a pattern” (Bybee & Beckner 2010:841). They maintain when the type frequency of construction is higher, it creates stronger representations in mind which leads to more accessibility and availability of that pattern for novel uses (Bybee & Beckner 2010: 842). Smith (2001) adds that type frequency generates “dynamic patterns of syntactic ordering” (Smith 2001:379). Bybee (2006) states that type frequency also results in the recognition of analogies between constructions. For example, the English regular past tense *-ed* is more frequent because thousands of verbs can get *-ed* and change to the past tense. However, the irregular vowel changes in verbs such as *came* and *swam* is very limited. That is why due to this high frequency and analogy, children add *-ed* when they want to refer to a verb in that past (N. Ellis 2002; Croft 2007). In general, the type frequency of

an expression determines the creative possibilities, or productivity, of the construction (Bybee 1985, 1995).

Token frequency is the kind of frequent use that helps an expression become entrenched. This leads to fluency in using such an expression (Tomasello 2003). From Tomasello's (2003: 107) perspective, token frequency is the frequency of a concrete expression which "in the language learner's experience tends to entrench that expression in terms of the concrete words and morphemes involved". N. Ellis (2009) defines token frequency as how many times a particular word or phrase appears in the input. This token frequency can range from syllable to the whole sentence (e.g., syllable [ka], the word *book*, the phrase *in fact*, and the sentence *I'm fine*). He continues that the linguistic items which have higher token frequency are "remembered better, recognized faster, produced more readily and processed with greater facility" (N. Ellis 2009: 10). Additionally, Smith (2001) believes that token frequency "directly affects levels of syntactic representation with specific verbs" (Smith 2001:379).

Bybee and Beckner (2010) propose three principles of Reducing Effect, Conserving Effect, and Autonomy as the long-term effects of token frequency on language. Reducing Effect shows that extreme high-frequency words and phrases undergo phonetic reduction at a faster rate (Bybee & Beckner 2010; Bybee 2006, 2007, 2008). For example, the *not* reduction in the phrase *I don't know* is of the highest frequency (Bybee & Scheibman 1999; Bybee 2006: 714). The Conserving Effect discusses that high-frequency sequences become more entrenched in their morphosyntactic structure so that they resist linguistic changes. For example, thousands of verbs get *-ed* inflection to form regular past verbs in English while a very small number of the verbs undergo vowel sound changes. The third effect is autonomy which indicates that morphologically complex forms with high frequency lose their internal structure over time and

as a result, they are stored as independent wholes within the lexicon (Bybee 2006). For example, the phrase *to be going to* has moved away from motion meanings and therefore is autonomous with respect to lexical *go* and it is used to indicate the future as *gonna*. In general, Tomasello (2007) asserts that children's linguistic representations are strengthened based on both type and token frequencies which help them accomplish "tasks requiring more active behavioral decision making or even language production" (Tomasello 2007:71).

2-3-2-5 The concept of entrenchment

Entrenchment refers to the establishment of a linguistic unit as a cognitive behavior (i.e., cognitive routinization) in the mind of the speaker (Langacker 1987) which enables the speaker to easily access and fluently use the expression as a whole (Langacker 1988; Bybee and Schiebman 1999). This means that the more a linguistic item is repeated, rehearsed, and experienced, the more entrenched it is, and it is retrieved effortlessly and protected from change (Langacker 1987; Bybee 1999). Tomasello (2007) looks at entrenchment as a habitual behavior established through doing something successfully enough times, so finding another way to do the same thing seems difficult. N. Ellis & Ferreira-Junior (2009) believe that the degree of entrenchment is proportional to the frequency of usage. They find a direct relationship between learning and language experience. In addition, the entrenchment of a linguistic unit can range from simple words to "prepackaged" phrases and sentences resulting in automaticity and prefabrication of linguistic units which are retrieved without paying attention to details (Behrens 2009:386). For example, the linguistic item *gimme* is so entrenched in the mind, due to its high frequency, that native speakers don't pay attention that this linguistic unit is composed of *give+me*. N. Ellis (2009:12) asserts that entrenched representations require multiple repetitions

resulting in “ready accessibility, automatized processing, idiomatic autonomy, and fast, fluent, and phonetically reduced production”.

In addition, Bybee (1985, 1995) proposes that entrenchment of a single item of use happens with its coherent function i.e., use and function happen at the same time for any linguistic units. In fact, when children learn to use a linguistic item, they simultaneously learn its function as well so that they tend to use it in similar contexts. Brooks et. al (1999) studied the role of entrenchment in the use and function of some verbs. They presented children with four pairs of verbs *come-arrive*, *take-remove*, *hit-strike*, and *disappear-vanish*. The first verb in each pair was of higher frequency (because it was used by adults more often), so it was more entrenched compared to the less entrenched second verb in each pair. The findings show that children were more likely to produce *I arrived here* than *I comed here*. The results suggest that children used the more entrenched verbs correctly in terms of function than the less entrenched ones. Another study by Diessel (2017) showed that since the regular past *-ed* inflection happens with a large number of verbs, it is deeply entrenched in memory and children tend to use the same inflection with novel verbs they hear. This suggests that because *-ed* inflection is more entrenched in children’s minds, they tend to generalize the same syntactic construction to new verbs they encounter. Additionally, entrenchment has a direct correlation with high token frequency. Tomasello (2003: 173-175) suggests that high token frequency leaves strong memory traces which makes a linguistic unit entrenched. A study by Ambridge et al. (2012) shows that when children hear a verb more often in a particular syntactic context, they tend to use it in a similar context, and they are less likely to try it in new contexts.

In general, entrenchment discusses the form-meaning pairing of linguistic units and constructions which are stored in the mental grammar as a unit especially if the contexts are the

same. Since usage-based linguistics is input-driven, following cognitive linguistics, this implicit knowledge can be cognitively more salient when frequent uses and experiences with the same linguistic unit in similar contexts occur repeatedly.

2-3-2-6 The concept of chunking

While chunks are cognitive routines concerned with motor actions (like dancing) and cognitive activities (like counting) (Langacker 2008: 16-7; Diessel 2016), chunking is a psychological process underlying language acquisition in general and construction acquisition in particular. Chunks are said to be strings of words that perform a function in the context of interaction. Bybee (2010) refers to linguistic units as chunks and she calls the process of unit formation chunking. She defines chunking as “the process by which sequences of units that are used together cohere to form more complex units” (Bybee 2010:8). In other words, chunks are in reference to the sequences of words that are frequently used together so that they are easily accessible like *I don't know*, or *It drives me crazy*. Accordingly, “Chunking underlies the attainment of automaticity and fluency in language” (N. Ellis 2001:38). In fact, when more chunks are constructed, the performance will be more automatic and fluent. In other words, when these chunks are entrenched in the memory, they turn into some ready-to-use constructions which can be used in different contexts. Along the same lines, N. Ellis (2006) believes we recycle the constructions we memorized from our previous experiences with the language and adjust them to the new context.

Chunks form an organizational unit in the memory, and these memorized chunks (including frequent phrases, collocations, or expressions) establish the majority of an individual's language knowledge (Pawley & Syder 1983) which is used in producing language.

Pawley and Syder (1983) believe that our task-as a language user- is to piece these chunks together because novel statements form a very small number of spoken clauses (Pawley and Syder 1983: 205). In addition, Bybee and Beckner (2010) assert that “words and phrases represent chunks of neuromotor behavior” and the repetition of these chunks can lead to fluency in their execution by the speakers. Accordingly, Tomasello (2003:306) states that children do not produce any utterances from scratch, but they use their prior experiences with language which are stored in their linguistic competence. This storage consists of the most frequently heard words, morphemes, and even chunks with complex internal structures. In this case, the more the children produce these chunks, the more fluent they become, and these chunks can lose their internal structure to turn into some autonomous forms (Bybee & Beckner 2010: 841).

Consequently, this automatization leads to an increase in the amount of information in the working memory (Diessel 2017). The new linguistic experiences and chunks will be integrated with the existing ones and form larger constructs of information. In this way, the number of prefabricated linguistic items increases giving the speaker more options to choose from. In fact, unlike Generative linguists’ emphasis on the innovative and creative nature of language, usage-based linguists insist on prior language experiences and prefabricated linguistic items to produce any repeated or novel utterances.

2-3-3 Usage-based linguistics and acquiring grammar

As stated at the beginning of this chapter, usage-based grammar follows a constructionist and cognitive approach to linguistics which is in sharp contrast to structuralist and generative approaches. While generativists and nativists view language as a computational and algebraic system that is biologically predetermined by a particular faculty of mind (Chomsky 1965, 1986;

Pinker 1994; Pinker and Jackendoff 2005), usage-based linguists look at language acquisition as a process of abstraction (Tomasello 2005, 2008; Lieven 2016; Diessel 2017). From this perspective, all abstract grammatical rules originate from language usage events, therefore, grammar and language use are proposed to be co-dependent. Hopper (1987) views grammar as an “emergent phenomenon” that is formed by general psychological mechanisms such as analogy and entrenchment. Bybee (2006) also believes that general cognitive capabilities of the human mind categorize, and sort linguistic events individuals encounter and then transfer these experiences to the memory, and these cognitive representations are called grammar. In fact, usage-based linguistic theory emphasizes that language is a cognitive capability that closely depends on language use and experience.

Moreover, unlike nativists who argue that children are innately equipped with some universal linguistic representations, usage-based theorists believe that linguistic structures emerge as language is used. In the same vein, Marchman and Thal (2005) assert that from nativists’ perspective, children are special because “they ‘*have*’ something”; however, from usage-based linguistics’ view, what children have “enables them *to do something*” (Marchman & Thal 2005: 144). In other words, nativists look at language and grammar as some isolated and static universals residing in the mind of language users, while usage-based theorists perceive language as a dynamic system that is restructured and reorganized constantly through social interactions and language usage events and mediated by general cognitive abilities.

Another significance of usage-based linguistics is concerned with the perception that lexical and grammar knowledge are closely connected due to abstract representations of grammatical knowledge resulting from language experience with particular words and utterances (Diessel 2017). In fact, grammar is not a limited list of constructions in the mind, it is a

continuous process of abstraction which evolves and changes through time, usage, and experience. In short, Tomasello (2007) views grammar as a derivative phenomenon because infants need to find recurring patterns in speech and link words together into categories according to these patterns (Tomasello 2007). Taking these steps, Tomasello maintains that infants understand the communicative functions of an utterance by reading the intentions of the speaker and finding the patterns in that utterance (Tomasello 2003:143).

In addition, N. Ellis et al. (2013) believe that grammar and semantics are deeply correlated, and grammatical patterns considering their corresponding events choose particular lexical terms. Citing Sinclair (2004), they state that syntax, lexis, and semantics are interdependent. In fact, N. Ellis et al. (2013) assert that the linguistic structure that we use to transfer our meaning depends on how we perceive the world around us. In other words, our perceptual experiences are expressed through some constructions for the purpose of communicative functions. N. Ellis and Larsen-Freeman (2006:577) add that our language knowledge originates from experiencing and using it “as part of a communicatively-rich human social environment”. In this respect, our cognitive system detects the frequencies of forms of language we are exposed to and use, then connects those forms to the meanings. In fact, as Tomasello (2003) affirms that cognitive mechanisms of language acquisition are the same as learning other activities. As a central tenet of usage-based linguistics, linguistic conventions are used to create meanings, and grammar and structural conventions emerge from these meanings.

In general, usage-based theory has a cognitive approach to linguistics in which language experience and use are of significant importance. In this theory, unlike universal grammar, constructions can't be defined in terms of linguistic form, semantic, or frequency alone. All these features are required together to be able to define the grammar. Usage-based theory is an input-

driven approach to linguistics and depends on exposure to meaningful form-function relations. In other words, grammar emerges as a function of the interaction between children and their caregivers as input providers.

2-4 General grammar teaching approaches

Two broad approaches to grammar instruction are implicit and explicit teaching of grammar and teachers always face a dilemma which one to choose. One of the pivotal controversies in language instruction is whether to attempt to mirror child language learning for adult learners. This hypothesis led Chomsky to suggest Innateness theory (Pinker 1994) which claims that a child's brain contains special language-learning mechanisms at birth. Chomsky theorized that children were born with a hard-wired language acquisition device (LAD) in their brains (Pinker 1994). LAD was later developed and given a wider scope of operation in language learning acquisition by Krashen (Gregg 1984). Krashen and his proponents started adopting a language teaching method in which students were instructed to learn a language without conscious awareness of the rules and principles which is known as the learning/acquisition distinction hypothesis (Krashen and Terrell 1983; Littlewood 1984; Ellis R. 1985). In their hypothesis, they define learning as a conscious process that focuses on linguistic forms (structures), and acquisition is defined as a subconscious activity that targets the message (meaning). They believe that learning can happen in both implicit and explicit instructional settings while acquisition requires more implicit teaching environments.

2-4-1 Implicit teaching approach to grammar

The term "implicit learning" was coined by Arthur Reber (1967) in his experiments on artificial grammar learning. According to him "(1993), "Implicit learning is the acquisition of knowledge that takes place largely independently of conscious attempts to learn and largely in

the absence of explicit knowledge about what was acquired” (Reber 1993:5). Reber (1993) and Dienes (2012) view implicit learning as a fundamental feature of human cognition in that many complex behaviors such as language comprehension/production, and music cognition are believed to depend on implicit learning. In implicit instruction, the instructor presents the materials to students without explicitly or overtly stating the goal of that instruction in a decontextualized manner. Students make their own conclusion and create their own conceptual structures.

Krashen’s natural language acquisition hypothesis (Krashen 1981:97-8) also emphasizes implicit and unconscious learning instruction because he believes that conscious learning functions as a monitor which checks what is uttered and thereby slows down communication and language production generally. Krashen maintains that this unconscious knowledge leads to implicit knowledge that is used for language production (Krashen 1982). In this way, although students are not aware of the grammar, they rely mainly on their intuitions in their linguistic performance (Dienes 2008, 2010; Dienes & Scott 2005). Additionally, Birsen (2012) views implicit instruction as a more interactive, natural, and dynamic learning process that focuses more on fluency instead of accuracy.

In addition, Ellis R. (2009) believes that implicit instruction is passive learning in which learners are exposed to the language and acquire knowledge simply through exposure without any overt metalinguistic explanation resulting in autonomous and independent learners. In other words, implicit instruction is a form of incidental learning (Hulstijn 2007; Leow 2015) that happens outside of awareness and the results can be inferred from changes in behavior (Ellis 2004; Loewen 2015; Reber 1993). In the meantime, De Graaff and Housen (2009) assert that when students are exposed to authentic communicative activities, they will discover construction

rules and principles in those contexts which leads to their promotion in grammatical knowledge. Therefore, they believe that implicit instruction can result in better grammar awareness. Spada and Tomita (2010:273) suggest implicit instructions include input flood/high-frequency input, interaction, and recasts. In their study, Spada and Tomita (2010) showed that students with implicit instruction outperformed in learning complex grammatical structures than the students under explicit instruction.

As stated earlier, frequency is considered one of the main features of usage-based linguistics. When infants, children, students are exposed to some language constructions/units frequently, after they find the pattern in those linguistic units, they form some cognitive representations of those constructions in their mind. Therefore, when they are engaged in communication activities, those linguistic constructions emerge from their memories and past experiences with the language. These aspects of language use are the results of implicit learning that individuals perform.

2-4-2 Explicit teaching approach to grammar

Explicit instruction emphasizes an overt explanation of grammar in that students are consciously engaged in the grammar learning process. From Krashen's (1981, 1982, 2003) perspective, explicit, and conscious knowledge of language grammar is metalinguistic knowledge which results in explicit knowledge meaning that the individual is not ready for spontaneous communication. In his idea, this knowledge only serves as a monitor for language production. Krashen believes that explicit language learning and metalinguistic awareness play little to no role in the L2 acquisition process (Krashen 1985).

As R. Ellis (2010:19) states "explicit instruction involves the direct explanation of grammatical features followed by practice activities". In this kind of instruction, a deliberate

explanation of the rules is presented, and students are provided with structural practice and corrective feedback. R. Ellis (2005) believes that explicit instruction leads to explicit knowledge which is superior to implicit knowledge since it is more operationalized and learners can generalize this knowledge for new situations. The other feature of explicit instruction in N. Ellis's idea is that "Language acquisition can be speeded by explicit instruction" (N. Ellis 2015:19). Investigating error feedback instruction, N. Ellis (2015) finds explicit instruction more effective than implicit one in that the instructions were more durable, and students could retain the information for a much longer time. Terrell (1991) also suggests that conscious knowledge of grammar may play a greater role in language acquisition and processing. He adds that explicit grammar instruction might not have some immediate results, but it has irrefutable long-term contributions (ibid).

Most of the studies on grammar tap into explicit teaching methodology since establishing methodological measurements to assess implicit knowledge has been problematic (R. Ellis 2008; Norris & Ortega 2000). In his study, Terrell (1991) learned that students who received explicit grammar instruction were much more successful in a discrete-point grammar test than the ones who had implicit instruction. In another study, Sopin (2015) conducted research on teachers and students regarding implicit and explicit grammar teaching. His study showed that 84% of the teachers favored explicit teaching, and 64% of students indicated that they couldn't learn grammar if it was taught implicitly. A study by Swain (1985) on French speakers in Canada showed that students with implicit grammar instruction were fluent language users, but their accuracy was questionable.

R. Ellis (2003) proposes that grammar classes should be conducted both explicitly and implicitly so that students will be able to test these two approaches and explore their own

learning skills. Moreover, Goldenberg (2008) suggests that learners learn best with explicit and interactive approaches after reviewing a large corpus of research on the needs of English language learners.

Teaching grammar is also divided into Focus on Forms (FoFs), Focus on Form (FoF), and Focus on Meaning (FoM) (R. Ellis 2016; Burgess & Etherington 2002). FoFs and FoF are explicit approaches and FoM is an implicit approach to teach grammar (Long and Robinson 1998). This dissertation discusses FoF and FoFs in more detail in the following section.

2-4-3 Focus on Form vs Focus on Forms

In addition to implicit and explicit teaching approaches, grammar teaching has been introduced to two different approaches namely Focus on Form (FonF) and Focus on Forms (FonFs) (Long: 1991:45-46)². The former refers to “drawing students’ attention to linguistic elements as they arise incidentally in lessons” (Long 1991:45-6), it is primarily meaning-focused interaction that is learner-centered because it aims at responding to students’ spontaneous needs (R. Ellis 2008:962; Burgess & Etherington 2002). However, the latter refers to traditional grammar teaching in which discrete grammar points are taught separately and explicitly in each lesson (Dekeyser 1998) and it is teacher-centered. In this approach, the teacher pre-selects some structures and they are taught explicitly to the students. Long (1991, 1996) states that in FonFs, the instructor follows the traditional approach to grammar to teach each component in separate sessions. It is a linear fashion that involves a series of practices and puts emphasis on form, but the meaning is not totally disregarded. However, Focus on Function emphasizes meaning over form in which the learner’s attention is drawn to the message that one particular linguistic structure or item intends to convey (Long & Crookes 1992; Norris & Ortega 2001).

² For clarity, in this dissertation, I will be using Focus on Function (instead of Focus on Form) and Focus on Forms due to terminology difficulties.

Moreover, R. Ellis (2002:420) adds that Focus on Function can be used implicitly or explicitly, and in both cases, the primary focus should be meaning instead of linguistic structure. Norris and Ortega (2000) found Focus on Function explicit teaching instruction more effective than the implicit one since students could perform better in their tests, and they could also retain the lessons longer than the students who were taught implicitly. They believe that a combination of FonFs and Focus on Function is essential in grammar teaching classes because students can learn the meaning behind the structure that they have already mastered. Additionally, Norris and Ortega (2001: 167) state that learners' needs should be analyzed in order to determine the type of instruction. R. Ellis et al (2001: 41-42), in the meantime, demonstrate that Focus on Function is meaning-centered, incidental, extensive, and observable.

Loewen (2011) argues that FonFs encourages studying isolated linguistic components. In fact, he believes that FonFs views language as an object of the study rather than the means to study (Loewen 2011:577). In this approach, linguistic units are broken down into some discrete components and they are presented to the students in different class settings. In Sheen's words, FonFs, in fact, intends to engage individuals' metacognitive capabilities, therefore, he views FonFs as a "skill-learning approach" (Sheen 2002:303).

R. Ellis (2009) has reviewed the positive effects of Focus on Function on second language acquisition. His conclusion suggests that the students in the experimental group who received functional grammar instruction outperformed the other group. He also indicated that Focus on Function results in both accuracy and fluency (R. Ellis 2002:229). In addition, it has been suggested that Focus on Function should start at later ages when students have acquired some knowledge of basic structures and vocabulary (R. Ellis 2006b; Spada & Lightbown 1999). In so doing, Doughty and Williams (1998) consider the collection of individual linguistic units as

the main principle for the course design in which different forms (e.g., verb tenses, subject-verb agreements, etc.) will be taught. (Doughty & Williams 1998:3).

Long (1991) and Long and Robinson (1998) state that although the teacher has the authority in the class, Focus on Function instruction requires both the teacher and student peers to help other students in problematic grammar lessons. They also add that the materials should reflect real-life situations in order to prepare students for authentic experiences. In fact, for them, Focus on Function is a teacher-student and student-student interaction that can result in increasing each other's experiences with language in real-life situations.

2-5 A brief review of teaching grammar at schools in the United States

While some agree that grammar can improve literacy in general and writing in particular, some others see no benefits in teaching grammar. English schools throughout the world had integrated grammar teaching into their curriculum for hundreds of years (Keith, 1990:70; Clark 2010:138; Hudson & Walmesley 2005:595). During these years, students were taught grammar lessons mostly in isolation and they had to do a lot of practice as in math classes in both public and private schools. However, this interest was lost and writing theorists started voicing skepticism about the effectiveness of grammar teaching at school. The doubts originate from Fries (1940:19) who claimed that no correlation between teaching grammar and writing could be found (Hudson & Walmesley 2005:600).

The revolution began by the National Council of Teachers of English (NCTE) by a report titled *Research in Written Comprehension* in 1963 which encouraged schools to abandon teaching grammar. More than twenty years of conferences, studies, and surveys on this topic resulted in a report known as Braddock Report which concluded that “the teaching of formal grammar has a negligible, or because it usually displaces some instruction and practice in actual

composition, even a harmful effect on the improvement of writing” (NCTE). Therefore, NTCE decided to “urge the discontinuance of testing practices that encourage the teaching of grammar rather than English language arts instruction”. To support this grammar erasure from the school curriculum, Campbell et al. (1991) stated that traditional grammar classes aimed at developing students’ metalinguistic knowledge about grammatical rules which couldn’t result in students’ improvement in writing or even grammar knowledge.

The “Braddock Report” had involved 485 studies on composition, with the acknowledged goal to create a “review [of] what is known and what is not known about the teaching of composition and the conditions under which it is taught” (Kolln & Hancock 2005:15). From all the research, the team selected five studies that examined English composition from different perspectives, among which was grammar and its relation to writing. Braddock and his colleagues deemed Harris’ (1962, in Braddock, cited in Kolln & Hancock 2005) unpublished Ph.D. dissertation as providing the most reliable evidence that grammar instruction was not beneficial to students. The conclusion drawn at the end of Harris’ research had been that “it seems safe to infer that the study of English grammar had a negligible or even harmful effect upon the correctness of children’s writing in the early part of the five secondary schools” (1962: 35). Since no opposing evidence seemed to exist in the reviewed studies, Braddock and the other researchers put forward the notice:

In view of the widespread agreement of research studies based upon many types of students and teachers, the conclusion can be stated in strong and unqualified terms: the teaching of formal grammar has a negligible, or because it usually displaces some instruction and practice in actual composition, even a harmful effect on the improvement of writing (Braddock 1962:37)

Many scholars supported Braddock's report which resulted in a diminishing desire to teach grammar in schools. Frater (2004:80) is convinced that explicit grammar instruction creates "second-order skills," that is, students who live in "a closed circuit of pointlessness". He adds that reintroduction of conventional and explicit grammar would be disadvantageous and might explain the low writing achievements on national tests. His final conclusion is that students should be "imbibed" with grammar, and not directly taught the discipline. However, Tomlinson (1994) asserted that Braddock's inferences had been based on misconstrued data, and Lyster et al. (1999) maintained that recent studies have shown improvements in students' writings after explicit grammar instructions. The critiques mainly focused on the type of grammar tests. For example, Tomlinson (1994) believed that tests on identifying parts of speech, or recognizing noun, adjective and adverbial clauses could never lead to improvements in writing. In addition, Myhill (2005:80) acknowledges that teaching grammar and writing separately might not improve students' writing skills. Rather, teaching grammar should be incorporated as a part of writing classes and the teaching includes how explicitly the grammar is taught, which parts of grammar particular to that writing style should be addressed and how much grammar knowledge the writing instructor has.

Furthermore, French (2010) suggests the incorporation of Systemic Functional Grammar (SFG) in school curricula. This grammar, as French (2010:210) describes "it is a descriptive grammar" which is not concerned with correctness or right and wrong rules. Rather, its emphasis is on making meaning, finding a relationship between "grammatical knowledge of whole texts and their structures" (French 2010:210). She maintains that this "functional grammar" leads grammar knowledge to become intrinsic to the writing process.

This abandoning grammar at primary and secondary schools resulted in generations of students who knew very little to no grammar of their own native language (Locke 2010). That is why Keith (1990:83) calls the generations of the 1960s, “the first grammarless generation”. Moreover, Mulroy’s (2004) reflection on his own students showed that they had no ideas about the subject matter which could lead them to “lack any method for analyzing meaning” which could prevent them from reproducing meaning (Mulroy 2004:53). He concluded that students’ ignorance of grammatical concepts is increasing, and they are shying away from valuing grammar (Mulroy 2004).

While Sipe (2006) emphasizes the importance of teaching grammar to increase students’ confidence and professionalism in out-of-school contexts, she condemns traditional grammar teaching approaches stating that these methods won’t have long-lasting effects. Confirming Sipe’s conclusion, Andrews et al. (2006) believe that “the teaching of syntax (as a part of a traditional...approach to teaching grammar) appears to have no influence on either the accuracy or quality of written language development for 5-16-year-olds” (Andrews 2006:51).

However, other researchers (Feng & Power 2005; Weaver, McNally & Moerman 2001) believe that the problem is not whether to teach or not to teach grammar, but rather how to teach grammar. In fact, Patterson (2001) has portrayed this dilemma by stating that “Yes, grammar has a place in the language arts classroom. In fact, the conversation should never be whether or not grammar is taught. Rather it should be about how grammar is taught” (p. 50).

CHAPTER III: A GENERAL OVERVIEW OF ADVERBIALS

3-1 A general description of adverbials

This chapter intends to situate the researcher within a theory or theories of adverbial literacy. An adverbial is a term denoting a class of grammatical functions expressing notions like time, place, concession, condition, etc. (and see below) (Crystal 2003:14). Adverbial functions may be realized by the noun phrases (1-a), prepositional phrases (1-b), finite clauses (1-c), non-finite clauses (1-d), verbless clauses (1-e) and word-class ADVERBs (1-f) (Ernst 2002).

- (1)
 - a) They go to work *every day*.
 - b) Peter works *in the garden*.
 - c) *When I realize* the problem, I can come up with good solutions.
 - d) *Thinking about the proposal*, the student was given a hard time.
 - e) *If necessary*, the administrators will bend the rules.
 - f) Peter worked *slowly* yesterday.

In the following, a brief summary of these types of adverbials has been provided, and then two general categories of adverbials namely complement, and adjunct adverbials will be introduced.

3-1-1 Noun phrases as adverbials

Nouns and noun phrases can function grammatically as adverbials. In this case, they modify the verb. Noun phrases can function as locative, temporal, manner, or quantity adverbials without any kind of morphological marking (Larson 1983, 1985), and they are very limited in English as in the following examples:

- (2)
 - a) We visited Mary *last Thursday/one day/this week/that year*.
 - b) I lived in *every place* that I could afford.
 - c) Tom worked the problem in *every possible way*.
 - d) The new student on the team could run *two miles*.

Adverbial noun phrases often occur after linking verbs of *be*, *hold* (usually passive), *stay*, *stand*, *sit*, *lie*, *hold*, *live* and *go* as a verbal complement (Eastwood, 1994).

- (3) a) The conference is *every year*. b) They went *last year*.
 c) The coat was *here*. d) The meeting is held *every Monday*.

It should be remembered that the position of the noun phrase is of great importance. For instance, a noun phrase can be an adverbial in one syntactic position, but a subject or object in another syntactic position. For example

- (4) a) *Last week* was very busy.
 b) I liked *last week* very much.
 c) I couldn't do any of my assignments *last week*.

In this example, *last week* in (4-a) is an adverbial noun phrase that functions as a subject, an object in (4-b), and a temporal adverbial in (4-c). These examples illustrate that sentence's semantic notion determines/constrains its syntactic function.

Additionally, Larson (1985:616) states that temporal, locative, and manner noun phrase adverbials can be the head of non-*wh* adverbial relatives. In this way, no preposition is required, and the connector can be *that* or with no connector. For example

- (5) a) I clearly remember *the day* we went on a fishing trip.
 b) The Johnsons stayed *at the place* I had recommended.
 c) Tom worked the problem *every possible way* he could think of.

3-1-2 Prepositional phrases as adverbials

A prepositional phrase (PP) is a preposition plus a noun phrase or a pronoun. This prepositional phrase can function as a modifier for a noun or as an adverbial. In the latter case, the adverbial can be a complement to the verb or an adjunct.

3-1-2-1 Adverbials vs modifiers

Many prepositional phrases can either function as an adverbial at the clause level, or function as a modifier at the phrase level. Look at the following examples

- (6) a) I have recently adopted the cat *in the backyard*.
 b) Whales are the largest mammals that live *on the Earth*.

In (6-a), the intended reading is to describe the situation of the cat. In fact, this phrase can be paraphrased as “*the cat who is in the backyard*”. However, in (6-b), *on the Earth* is a locative adverbial which intends to indicate the location of these largest mammals. Tottie and Lehmann (1999: 146) assert that locative prepositional phrases seem more probable to modify the nearest preceding noun phrase, and this case might be true for time prepositional phrases, too.

Furthermore, prepositional phrases might function as an adverbial in one clause, or a modifier in another.

- (7) a) Finally, Sharon could finish the assignment *in the PowerPoint*.
 b) The teacher explained everything *in the class*.

Looking at these examples, *in the PowerPoint* is the common PP in both. While it is a modifier in (7-a)-describing the assignment- and it is a locative adverbial in (7-b).

Sometimes, adverbial prepositional phrases can lead to some ambiguities like the following example

- (8) The magician followed the kid *with a wand*.

This sentence can be interpreted as either “The magician had the wand” or “The kid had had the wand”.

Following the claim by Quirk et al. (1985), a study by Biber et.al. (1999:807) showed that the prepositional phrases which have an adverbial meaning mostly occur at the end of the sentence. Prepositional phrases can function as an adverbial adjunct or complement depending on the type of the verb and its meaning.

3-1-2-2 Prepositional adverbials as adjuncts

Prepositional phrases functioning as an adjunct mostly refer to place or time and they are optional. For example

- (9) a) Susan went to work *in Washington D.C.*
 b) Nat works late *on Mondays.*
 c) The team has decided to go to the bar *after the game.*

All the italicized prepositional phrases in example (9) are optional, and therefore, an adjunct i.e., they are adding more information to the clause, and their omission doesn't harm the grammaticality of the sentence.

3-1-2-3 Prepositional phrases as complements

Prepositional phrases functioning as an adverbial complement are required to complete the meaning of the verb i.e., obligatory adverbials. Herring (2016:625) states that these adverbials frequently occur with motion verbs to indicate the location to or from. Adverbial prepositional phrases usually occur after copular verbs such as *be, hold, live, go, lie, stay,* and *stand* (Eastwood 1994).

- (10) a) The party is held *in the garden.*
 b) The boy lives *in a small town.*

When adverbial prepositional phrases specify time, place, and means, they can function as the subject of the sentence (Downing & Locke 2006). For example

- (11) a) *Will up the front* be fine with you?
b) *After school* will be a good time to go to the bar.
c) *By car* will be faster than by train.

In fact, Smith (forthcoming) and Hopper (1999) refer to such adverbials as adverbial complements because they complete the sense of the verb. I will return to a more fine-tuned taxonomy of adverbials later in this chapter.

In general, the semantics of the prepositional phrases along with the meaning of the verb are two important criteria to determine the optionality or obligatoriness of adverbial prepositional phrases. To clarify this notion, look at the following sentences

- (12) a) Jason usually sleeps *with the lights on*.
b) Jason sleeps *with his toy car*.

These two instances share the head preposition “*with*”, but in (12-a) the prepositional phrase is optional and adjunct since “sleep” means the act of “sleeping”; however, in (12-b), the prepositional phrase *with his toy car* completes the meaning of “sleep”.

3-1-3 Finite clauses as adverbials

Finite clauses are the clauses that contain a subject and finite verb (marked for tense, person, and agreement) (Smith, forthcoming). There are three main types of finite dependent clauses: relative clauses, adverbial clauses, and noun clauses. In this part, the focus will be on adverbial clauses.

Finite clauses, which function as adverbial, are dependent on the main clause, and they have their own subject and predicate. Downing and Locke (2006:209) state that adverbial finite clauses “expand the meaning of the main clause by providing a circumstantial feature: time, condition, concession, thus enhancing the message”. They are used as regular adverbs to modify

adjectives, verbs, and adverbs. Therefore, they can have a flexible position in the sentence since their initial, middle or final placement doesn't affect the structure of the main (independent) clause. However, Halliday and Hasan (1976:2) believe that their position can be important if we are concerned with the meaning that they convey since "a text does not consist of sentences, it is realized by or encoded in the sentences". The finite clauses functioning as an adverbial can indicate time, place, condition, concession, purpose, result, and manner. For example

- (13) a) *When Kenzie arrived at the party*, everyone had already left.
b) Both teams decided to cancel the game *because it was raining heavily*.
c) *Although TJ has decided to major in marketing*, his parents haven't shown any interest yet.

Adverbial finite clauses mainly answer the questions *When? How? and Why?* and they are also comparable to PPs, NPs, and Adv. Ps. The examples below can illustrate this point better.

- (14) a) *After Rachal had the accident*, she was taken to the hospital for a checkup.
b) The new arrival looked around the meeting room *as if he knew everyone*.
c) The boy couldn't turn in his paper on time *because his father had been taken to the ER*.

In these examples, (14-a) can be replaced by an NP (*yesterday*) or a PP (*on Monday*), the answers to (14-b) can be (*curiously*, or *with a surprise expression*), and (14-c) can be answered by *with confidence* or *because of an accident*.

In addition, adverbial clauses can function as adjuncts, so their presence adds more information to the sentence, and their absence can't harm the grammaticality of the sentence like

- (15) a) *As soon as Jason arrived home*, he turned on the TV.
b) Pedestrians could cross the street *after the traffic was cleared*.

In fact, the syntactic position of all adverbial expressions plays a crucial part in understanding their grammar and it is a point I will elaborate on in the following.

3-1-4 Non-finite clauses as adverbials

Quirk et al. (1972: 724) define non-finite clauses as “means of syntactic compression” in which the verb can have one of the forms of ‘*ing*’ (16-a), ‘*ed*’(16-b), or ‘*to*’ “infinitive(16-c) to function as a predicate, but the subject is omitted. However, the subject can be inferred from the context which can be in form of a noun or a pronoun in the main clause. For example,

- (16) a) *Deciding to leave the party early*, Mrs. Jones missed the birthday cake.
b) *Elected as the school president*, Jacob needs to attend district meetings.
c) *To be able to register the car in her name*, Bridget should get her driving permit.

In (16-a), by looking forward, we can infer that the subject of the non-finite clause *Deciding to leave the party early* is still “Mrs. Jones”. Accordingly, in order to find the subject of (16-b) and (16-c), we need to look forward in the sentence.

Non-finite clauses can be introduced by subordinators which are not obligatory. These non-finite clauses are mostly accompanied by prepositions such as *to*, *for*, and *with*, or they are reduced adverbial clauses. For example

- (17) a) *With Aaron being the most experienced professor*, everyone should ask for his advice.
b) *Travelling a lot during her summer break*, Ashleigh had to ask for a second shift.
c) *Because classified as top secret*, this file shouldn’t be left unattended at any time.
d) *If designed and built in less than one year*, this building will set a new record.

In all these examples, the subject can be spotted in the main clause, and the italicized clauses are all dependent ones that can be left out without harming the grammaticality of the

sentence. These adverbials can be in the initial or end position of the sentence and their position doesn't change their meaning, but it will affect the emphasis on the clause. Greenbaum and Quirk (1990: 286) call these clauses "supplementive clauses" which express temporal, conditional, casual, concessive, or circumstantial relationships. These clauses are context-based because they don't indicate any specific logical relationships.

Additionally, non-finite adverbial clauses can create confusion in meaning which requires a larger context to be able to interpret the sentence as intended. The following example from Quirk et al. (1972: 763) is relevant for the ambiguity of interpretation:

(18) I caught the boy *smoking a cigar*.

This clause can be interpreted as

- 1) "I caught the boy who was smoking a cigar" which is a reduced relative clause, or
- 2) "I caught the boy while he was smoking a cigar" which is again a temporal clause.

The fact that non-finite clauses invite ambiguity is not surprising since they convey less specific verbal information like tense or show restrictions on the kinds of aspects they might express. Also, the non-finite clauses lack a subordinator and an expressed subject alongside the fact that relative clauses follow head nouns in English.

3-1-5 Adverbials as verbless clauses

Quirk et al. (1985) state that a verbless clause is a clause-like construction in which the verb (often *to be*) is absent in the construction, but it is implied. Verbless clauses are less common than finite and non-finite clauses in English, and they are considered as a clause because they function as a finite clause like

- (19) a) He threatened the family *with a gun (that was) in his hand*.
b) The students can text me *when (it is) necessary*.

These two examples can show that verbless clauses are predicate and may be analyzed as finite clauses lacking the copular verb *be* and a subject.

3-1-6 Adverb Phrases as adverbials

Sometimes, it is very challenging to find a unified definition for adverbs due to their various forms and functions. They belong to the content lexical category which means they can be the head of a phrase. Crystal (2003, 13) provides a specific definition of adverbs as "...a heterogeneous group of items whose most frequent function is to specify the mode of action of the verb." Givón (2001, 87-88), similarly, describes the class of adverbs as "...the least homogenous, semantically, morphologically and syntactically..." also "...the least universal cross-linguistically."

ADVERBS belong to the word class group similar to NOUNS, VERBS, ADJECTIVES, etc., but they "hardly constitute a coherent group" (Smith, forthcoming). ADVERBS modify VERBS, ADJECTIVES, another ADVERB, or even the whole sentence. Likewise, adverbials can modify a VERB, ADJECTIVE, ADVERB, or a clause, but the difference is that ADVERBS show the form in the word class, and adverbials show the grammatical function.

Morphologically, ADVERBS are the only content words that don't get inflection, but they can get derivations by adding some suffixes such as *-ly*, *-ward*, *-wise*, and *-ways* (*carefully*, *eastward*, *clockwise*, *edgeways*). However, the *-ly* suffix can be tricky since many other instances lack this component and they are still considered an adverb and vice versa. As already discussed, adverbials can happen in different forms, and they can be a part of the clause or phrase. Smith

(forthcoming) asserts that adverbs can semantically provide information about “manner, direction, indefinite time, sequencing, frequency, degree, and limit”. Along with this list, Halliday (2004) adds stance, conjunction, and amount. Considering this classification, we need to add the positionality as well. For example

- (20) a) The travelers headed *home* (adopted from Smith)
 b) The *home* is located on a cliff.

In (20-a), *home* is considered as an adverb to show location, but in (20-b) *home* is the subject of the sentence. In other words, it can be said that the same phrase can show different functions depending on its position in the sentence. For instance

- (21) a) *Last year* was very enjoyable.
 b) I visited my parents *last year*.
 c) Kathrine loved *last year*.

The example shows that *last year* is the subject in (21-a), an adverbial in (21-b), and a direct object in (21-c).

Adverbs are the most flexible words in English, and they can happen in the initial, middle, and end positions. The only difference is the shift of the stress on the adverb. In a study by Biber et al. (1999:807), they found that the adverbs which have an adverbial realization mostly happen in the middle position.

In general, it can be claimed that all ADVERBs are adverbials, but the other way around is not always true since adverbials can occur in different forms.

3-1-7 Adverbials as complements revisited

Adverbial complements are adverbs or other adverbial elements in a clause that are required to complete the meaning of the verb (Herring 2016: 1378). These adverbials complete the syntactic feature of the sentence and add essential information to the sentence semantically, therefore; they must be included in the sentence. Look at the following examples:

- (22) a) Please keep *still*.
 b) I love living *in New York*.
 c) The teacher sent the students *home*.

In these instances, *still*, *in New York* and *home* are essential to the meaning. If *still* is dropped, “please keep” makes no sense which is due to the quality of the verb “keep”. If *in New York* is omitted, “I love living”, despite having a complete structure, semantically, is incomplete. By removing *home*, the sentence will make no sense. That is why adverbial complements are essential to the syntax and semantics of the sentence.

3-1-8 Adverbials as adjuncts revisited

Syntactically, optional adverbials are referred to as peripheral adverbials (Hasselgard 2010:46) since they can be removed by leaving no effects on the grammaticality of the clause. Unlike obligatory adverbials which are verb-dependent, optional adverbials can occur with any verbs and these adverbials are considered adjuncts. The example below has been adopted from Downing and Locke (2006:69):

- (23) (*If at all possible*) I’ll see you (*tomorrow*) (*after the show*) (*with Pete and Susan*) (*outside the main entrance*).

All the phrases in parentheses are optional and if they are removed, the sentence is still grammatical and it semantically makes complete sense, but these adverbials are adding more information to the sentence.

Additionally, indirect objects which are moved before the subject or further from the verb are considered optional adverbials. These adverbials are in the form of prepositional phrases and their absence harms the semantics or syntax of the sentence. For example,

- (24) a) The boy gave *Mariana* the books.
 b) The boy gave the books *to Mariana*.

In (24-a), *Mariana* is the indirect object, but when it is moved after the direct object, it changes to a prepositional phrase which functions as an adjunct adverbial to the statement.

3-2 Specific adverbials of this study

My scheme is to discuss the specific adverbials of this study deliberating more on the classifications suggested by four grammars. For this purpose, the researcher has looked at the categories recommended by Quirk et al. (1985), Biber et al. (1999), Huddleston and Pullum (2002) and Halliday (2004). As the following table shows, it is almost impossible to find two grammars that share the same classification or even terminology about adverbials.

Table 1-The classification of adverbials in four grammars (adopted from Hasselgard 2010:22)

Quirk et al (1985)	Biber et al (1999)	Huddleston and Pullum (2002)	Halliday (2004)
Adjunct Space(position, direction, distance), Time (position, duration, frequency, relationship), Process (manner, means, instrument, agentive), Respect, Contingency (cause, reason, purpose, result, condition, concession), Modality (emphasis, approximation, restriction), Degree (amplification, diminution, measure)	Circumstantial adverbials Place (distance, direction, position), Time (position, duration, frequency, relationship), Process (manner, means, instrument, agent), Contingency (reason/cause, purpose, concession, condition, result), Extent/degree (amplifier, diminisher), Addition/ restriction, Recipient, 'Other'	Adjunct Manner, Instrument, Means, Act-related, Spatial Location, Source, Goal, Path, Direction, Extent, Temporal Location, Duration, Aspectuality, Frequency, Serial Order, Degree, Purpose, Reason, Result, Concession, Condition, Domain	Circumstantial adjuncts Extent (distance, duration, frequency), Location (place, time), Manner (means, quality, comparison, degree), Cause (reason, purpose, behalf), Contingency (condition, default, concession), Accompaniment (comitative, additive), Role (guise, product), Matter, Angle (source, viewpoint)
Disjunct Style, Content (degree of truth, value judgment)	Stance adverbials Epistemic stance (doubt and certainty, actuality and reality, source of knowledge, limitation, viewpoint or perspective, imprecision), Attitude, Style	Adjunct Modality, Evaluation, Speech-act related	Modal adjuncts Mood (probability, usuality, typicality, obviousness), Comment (opinion, admission, persuasion, entreaty, presumption, desirability, reservation, validation, evaluation, prediction)
Conjunct Listing, Summative, Appositional, Resultive, Inferential, Contrastive, Transitional	Linking adverbials Enumeration and addition, Summation, Apposition, Result/inference, Contrast/ concession, Transition	Adjunct Connective	Conjunctive adjunct Appositive, Corrective, Dismissive, Summative, Verificative, Additive, Adversative, Variative, Temporal, Comparative, Causal, Conditional, Concessive, Respective
Subjunct Wide orientation (viewpoint, courtesy), Narrow orientation (item, emphasize, intensifiers, focusing)			

3-2-1 Locative adverbial adjuncts

Locative adverbials establish one of the major groups of adverbials. They can represent spatial location, motion, or distance. Space adverbials usually answer the questions of *where* (to show direction, position) (25-a) or *where to* (to indicate goal) (25-b) /*from* (to signify the source) (25-c).

- (25) a) Jacob works *in the bank*.
 b) Larry ran *to the garden*.
 c) Beth walked back home *from school*.

Locative adverbials are mainly in the form of prepositional phrases (PP) or noun phrases (NP). In terms of PP, they are mostly accompanied by prepositions such as *in*, *on*, *to*, and *from*, and as NPs, they have the internal structure of a regular NP, but the external syntax of verb

phrase modifier which functions as an adverbial. These NP locative adverbials usually have no adverbial markers, and they semantically function as an adverbial. The following examples can illustrate these locative adverbials better.

- (26) a) Maria works *in the school*.
b) Jason lives *on the cliff*.
c) Abby always walked *to school*.
d) Cody comes *from England*.
e) Kyle has decided to live in *every place he can afford*.

Additionally, *here* and *there* are two lexical items used for locative adverbials and they can be appropriately substituted for NP denoting a locative adverbial. For example, in (26-e), we can replace *here* or *there* with *every place he can afford*, and the sentence will be syntactically and semantically understandable.

Locative adverbials can be found in the form of NPs; therefore, they can function as the subject or object of the sentence. In this case, their external syntactic function will be either the subject or object; however, they function as a locative adverbial internally. Moreover, the test of *here* and *there* can also work perfectly in this situation. For example, look at the following statements:

- (27) a) *The school campus* looks beautiful.
b) Elise could see *the historic castle* on her trip to England.

In (27-a), *the school campus* is the subject of the statement structurally, but since it refers to a place semantically, it can function as a locative adverbial and if it is replaced by *here* or *there*, the sentence makes complete sense. In (27-b) also, *the historic castle* has a direct object role in the sentence, but due to its referring to a place, it functions as a locative adverbial semantically.

Maienborn (2001) has divided locative adverbials into three categories of “External modifiers (always refer to the location of an eventuality), Internal modifiers (show the expected inferential behavior), and Frame-setting (takes a base position that is configurationally higher than the subject position) adverbials”. She defends her analysis through the following examples:

- (28) a) Eva signed the contract *in Argentina*.
b) Eva signed the contract *on the last page*.
c) *In Argentina*, Eva still is very popular.

In (28-a) which includes an external modifier, the verb is related to the place in which it has happened. In other words, the “signing event occupies a region that is a part of the region Argentina occupies” (Maienborn 2001:2). In (28-b) with an internal modifier, the adverbial doesn’t provide information about the location of the event as a whole, but it gives information about one part of the event location. In English, “internal locations” almost always happen before the “external locations” in a sentence³. In (28-c) which has a frame-setting adverbial, the locative is not event-related but “sets a frame for the proposition expressed by the rest of the sentence” (Maienborn 2001:3). She concludes that these adverbials are not omissible, unlike the other two ones since one can’t decide if Eva is still very popular.

Maienborn (2011) has also observed that locative adverbials might lead to structural ambiguities like the following examples:

- (29) a) The cook prepared the chicken *in a Marijuana sauce*. (Adopted from Maienborn, 2011:4)

³ In order to ask the place of contract signing in (39-a), we can ask “where did Eva sign the contract?” In Argentina. However, in (39-b), the same question will be answered “on the last page”. If these two sentences are combined, we have “Eva signed the contract on the last page in Argentina”. The answer to “where did Eva sign the contract?” will be “In Argentina”. The answer to “where on the contract did Eva sign?” will be “on the last page. Therefore, *on the last page* is an integral part of the statement and it is an “internal location” so that it needs to be before the external location.

b) Jason and Mariana made an appointment *at the restaurant*.

Our world knowledge discards the weird meaning in the statement (29-a), but it can be interpreted that the cook was preparing the chicken while swimming in the sea of Marihuana sauce. (29-b) can be inferred either as Jason and Mariana's appointment happened in the restaurant, or when they were in the restaurant, they made an appointment to go to the concert for example.

However, it should be noted that locative adverbials can play the role of manner or instrument adverbials as well (Maienborn 2000b: 158). For instance, in (29-a), we can ask the question "How did the cook prepare the chicken?" which is an appropriate question for manner adverbials. In another example,

(30) The boys ran away *in their car*.

The question "How did the boys run away?" shows the instrument that the boys used for their actions. It is another reason why adverbials are hard to classify when their function is different.

Placing locative adverbials in the category of circumstantial adverbials, Biber et al. (1999) propose locative adverbial inversion. In their scheme, when a locative adverbial is placed at the beginning of a sentence, then an inversion should occur like

(31) *In the jungle* are some lions.

However, it should be noted that this inversion happens when the locative adverbial is an essential part of the sentence viz its elimination results in syntactic/semantic incompleteness. Compare example (42) with the following sentence

(32) *In the jungle*, I saw some lions.

The comparison indicates that in example (31), *in the jungle* is an essential part of the sentence, and its dropping can harm the structure and meaning of the sentence. However, in example (32), *in the jungle* is an adjunct that adds more information so that no inversion can occur.

In another categorization, Quirk et al. (1985) have divided locative adverbials into three groups of “position, direction, and distance”. Position refers to immobile (33-a) and mobile (33-b) statuses of the verb. For example:

(33) a) He lay *on his bed*. b) They are strolling *in the park*.

Direction can refer to the adverbials which indicate either a direction with no specific location such as “*Eastwards, Westwards*” or with a specific direction such as “*up the hill, towards the sea*”. The third locative adverbial is distance indicator in which we can recognize the “Goal” and the “Source” of the movement such as “*to the bank, to the bus stop, from the school*”. The last subcategory of locative adverbials is the “distance” indicator. These adverbials are usually questioned by “How far?” such as “She has driven this car *for 50 miles*”.

In Matthiessen’s and Halliday’s (2014) classification, locative (place) adverbials belong to the “Circumstantial adjunct” group (Matthiessen & Halliday 2014:420). In their scheme, these adjuncts need to have an adverb denoting a circumstance as head like *home, inside, upstairs*, etc. which are questioned by *where*, and their demonstratives include *here* and *there*.

Huddleston and Pullum (2005) have placed locative adverbials in the group of “Spatial location” adjuncts. In their analysis, they believe “space position adjuncts establish a spatial location for a situation or an event” (discussed in Hasselgard 2010:24). Therefore, they can

indicate movement (from a source to a goal), a general direction (path), or all three together if compatible semantically. Additionally, they address another subcategory of spatial locations as distance adjuncts which are distinguishable due to their nominal quality from other spatial adjuncts like

(34) He ran on the treadmill *for three miles*.

In general, it can be observed that Quirk et al. (1985), and Huddleston and Pullum (2005) have the same categories of an adjunct for locative adverbials, but these two grammars differ widely in their perspective about these adverbials. Quirk et al. (1985) consider locative adverbials as superordinate which include some subcategorization while Huddleston and Pullum (2005) propose spatial-location as superordinate with no subcategory. In the meantime, although Biber et al. (1999) consider location as a circumstantial adverbial, they share the same features and characteristics as Quirk et al.'s (1985). In Halliday's (2004) categorization, location is regarded as a circumstantial adjunct with two subcategories of place and time.

3-2-2 Temporal adverbial adjuncts

Temporal adverbials provide information about the time of an event, and they are compatible with any verb. These adverbials mostly happen in the form of NPs (35-a) or PPs (35-b) and they are positioned either at the beginning of a sentence or at the end. The former position brings an emphasis on the time of the event (35-c), but the latter position provides information about the time of the event (35-d). Look at the following examples:

- (35) a) Jacob went to work *yesterday*.
b) Frank has decided to do workouts *in the morning*.
c) *At 4.00 pm*, the train leaves.
d) The meeting will be held *in the afternoon*.

Additionally, when a temporal adverbial adjunct is in the form of a PP, and it is located as the focused piece of information at the beginning of a sentence, temporal inversion can occur like

(36) *In the jungle* are some lions.

In this sentence, it can be observed that an inversion has happened. The subject-*some lions*- is moved after the predicate-*are*- since *In the jungle* is counted as an integral part of this sentence, and its omission will result in ungrammaticality of the sentence.

In the meantime, like PP locative adverbials, PP temporal adverbials can be modified by adjectives such as *right* and *just* (Huddleston & Pullum 2005:141) while these adjectives make ungrammatical sentences if followed by NP temporal adverbials.

(37) a) The student arrived *right* before the presentation.
b) ? The kids were *right* home.

Downing and Locke (2006:164) state that temporal adverbials can function as a locative subject if followed by verbs such as “*find, witness and see*”. For example

(38) *The nineteenth century* witnessed a great increase in the economy.

In this example, *the nineteenth century* refers to a period of time, and it also functions as a subject.

Additionally, some temporal adverbials such as *before, after, when, while, etc.* can function as a connector to form complex sentences as in the following examples:

(39) a) *When Aura had the accident*, she called her dad to go to the scene.

b) The students couldn't finish their project *before they were given a full description*.

In these two examples, it can be seen that the internal semantics of both italicized clauses can refer to a specific time i.e., the time that the accident happened, and the time that the teacher would give a full description of the project.

Halliday (2004) regards temporal adverbials as circumstantial adjuncts and he doesn't consider "time" as a superordinate, but rather in the categories of "Extent" and "Location". Smith (1991) categorizes temporal adverbials into four classes of locating adverbials (*at noon, yesterday, before Mary left, etc.*); durative adverbials (*for an hour, from 1 to 3 PM*); completive adverbials (*in an hour, within an hour*); and frequency adverbials (*often, sometimes, every week, etc.*). She maintains that the completive adverbials and the durative adverbials have the most potential for interaction with the event structure. However, the other two adverbials can refer to a part of the event rather than the event as a whole.

Vlach (1993) classifies time adverbials into four groups: punctual, inclusive, durative, and frequency. He argues that the first three classes are prepositional phrases mainly being accompanied by "*at, in, on and for*" like *at noon, in an hour, on Sunday*, and sometimes the preposition is absent such as *yesterday*. Many expect "*for*" to be used with the durative sense, but in cases such as "Allen seeing Betsy occasionally went on *for 1989*" (adopted from Vlach 1993:251), this preposition can be used in the inclusive sense. In general, the choice of preposition depends more on the object of the preposition than on whether the meaning is inclusive or durative. In his viewpoint, frequency adverbials can show a pattern "of occurrence of some eventuality over some period of time" (Vlach 1993:251).

Quirk et al. (1985) and Biber et al. (1999) divide temporal adverbials semantically into four groups of position, duration, frequency, and relationship. Position temporal adverbials refer to fixed positions of the time and mostly, they are the answer to the question “*when*”. Like the punctual category suggested by Vlach (1993), temporal adverbials can get the prepositions of “*on, in, at, etc.*”. Also, they might be accompanied by some adjectives such as “*last, next*”. Duration adverbials indicate a linear and unidirectional span of time which can be forward (*until, up to sometime*), or backward (*since, from a specific time*). Moreover, “*for*” is an often-used preposition in this adverbial which can refer to the past or future duration of an event. The next temporal adverbial is the frequency which is the answer to the question of “*How often?*”. This adverbial is the indicator of the repetition of activity over a time span. The last adverbial in this group-Relationship- shows the connection between one time and another time such as “*still and already*”. No specific question is proposed for this adverbial.

Comparing these three views on adverbials, it can be observed that all three agree on adverbials of frequency and duration. However, they disagree on two other adverbials. The main difference is that Vlach (1993) looks at the semantics of the preposition rather than the semantics of the whole prepositional phrase, but Quirk et al. (1985) look at the semantics of the whole phrase as well as the semantics of the whole context. For instance, as Vlach mentions “*at*” and “*in*” are used for punctual and inclusive adverbials respectively. However, Quirk et al. consider the whole phrase to answer the question “*when*”, the answers can be “*at 2.30 pm or in July*”. In addition, Smith (1991) considers the completion of the event regardless of the time span. In her analysis, the act and completion of the event dominate the time adverbial so that the time adverbial can be defined in regard to the verb rather than on its own.

3-2-3 Adverbials of process

Adverbials of the process are among the most complex types of adverbials since they have been categorized and subcategorized variously by different grammars. In the following, at first, an overview of different grammars' perspectives about process adverbials will be provided, and then the subcategories of these adverbials will be discussed in more detail from different viewpoints.

Quirk et al. (1985) consider process adverbials as adjuncts and divide them into four subcategories of “manner, means, instrument, and agentive”. Like Quirk et al. (1985), Biber et al. (1999) have the same subcategories for process adverbials, but under different title-circumstantial adverbials. Huddleston and Pullum (2002) don't have a specific subordinate category, but they have placed all the subcategories introduced by Quirk et al. (1985) and Biber et al. (1999) in the adjunct group except for “agentive” adverbials which are absent in their categorizations. Halliday (2004) has defined a separate subordinate group as manner circumstantial adverbials involving means, quality, comparison, and degree adverbials. In his scheme, agentive, instrument, and means adverbials are not considered.

3-2-3-1 Manner adverbials

Different grammars offer various perspectives about manner adverbials. In general, manner adverbials speak about the manner/quality in which an event takes place. They are usually distinguished morphologically by an *-ly* suffix; however, some instances lack this morphological addition. These adverbials usually answer the questions “*How*” or “*In what way*”. Manner adverbials can occur in one word as an Adverb phrase (Adv. p) or they can take the form of a prepositional phrase (PP) like the following

- (40) a) The man was working on the machine *slowly*.
b) This project can help them *to work together*.

Adverb phrases that function as manner adverbials are gradable (41-a) while the prepositional ones can't be measured (41-b). For example

- (41) a) The couple was dancing on the floor *quite/pretty/very/just cheerfully*.
b) *The boy worked the problem *quite/pretty/very/ just in every possible way*.

Wyner (2008) believes that manner adverbials are “modifiers syntactically of verb phrases and semantically of predicates” (Wyner 2008:253). In his theory, manner adverbials should be defined at the Verb Phrase (VP) level and not in the sentence; therefore, these adverbials should happen in “close proximity” to the verb. Maienborn and Schafer (2011) believe that manner adverbials are used to specify a manner in which an eventuality or an action unfolds. For example,

- (42) Peter answered all the questions *skillfully/ intelligently*.

In this example, the adverbial can be questioned by *How?* Also, it can be paraphrased by the standard adverbial tests: in an Adj manner, or the way X verb *be* adj.

- (43) a) Peter answered all the questions *in a skillful/ intelligent manner*.
b) *The way* Peter answered all the questions *was skillful/intelligent*.

Moreover, manner adverbials can have scope over the whole sentence due to the eventuality of doing the verb:

- (44) Peter answered all the questions, and he did that *skillfully*.

Kubota (2015) and Morzycki (2016) believe that manner adverbials mainly happen in the close proximity of the verb, and Ernst (2002) states that manner adverbials, if they occur

initially, highlight the speaker's judgment on the subject, so it can be possible other speakers have other judgments. For example

(45) Michael *foolishly* accepted everything on the contract.

Michael could have refused or distrusted the contract, but we believe what he did was foolish. Michael himself might have been happy with this acceptance. Moreover, we can't decide if Michael is a stupid person, we claim the way he treated the contract was stupid.

However, Wyner (2008) disregards the initial position as a decisive factor for the adverbial type. In his argument, all the manner adverbials are close VP modifiers even in the initial position. For example

- (46) a) *Brilliantly*, the sportsman talked to the reporters.
b) The sportsman talked *brilliantly* to the reports.

Bonami et al. (2004) look at manner adverbials semantically and they believe that their position shouldn't be of any importance. For instance, "*fatally*" in "wounded *fatally*" should be considered as a "Resultative adverb" instead of a manner adverb.

Morzycki (2016) places manner adverbials in the group of Event adverbials along with certain locative and temporal ones. In addition, Hasselgaard (2010) groups manner adverbials with space and temporal ones. In her argument, adverbials should be defined at their semantic level, then, we can decide on the type of the adverbial. For instance, in the sentence "He turned *suddenly*", "*suddenly*" can be both a time and manner adverbial depending on how it is interpreted. Quirk et al. (1985) consider manner adverbials "subjective and gradable". They can be tested by "*quite or very*" such as *quite carefully*, *very politely*.

Although manner adverbials are all classified as adjuncts by Quirk et al. (1985) and Huddleston and Pullum (2002), and circumstantial adverbials and adjuncts by Biber et al. (1999) and Halliday (2004) respectively, it should be noted that all these grammars agree on the fact that manner adverbials can be either subject-oriented or object-oriented depending on their position in the sentence and how they are read.

- (47) a) Leslie greeted the stranger *casually*. (Quirk et al. 1985: 573: ‘in a casual offhand manner’ - manner adjunct)
b) *Casually*, Leslie greeted the stranger. (Quirk et al. 1985:573: ‘Leslie was casual, offhand when he greeted the stranger’ -subject-orientation)
c) Bill sent Jackie *happily* to the office. (object-oriented)

(47-c) can be interpreted as Jackie was happily sent to the office. However, if the position of the adverbial is changed in this sentence, the adverbial can refer to the subject-Bill rather than the object-Jackie.

Huddleston and Pullum differentiate ‘manner adjuncts’ from ‘act-related’ adjuncts (2002:675), which may be similar in form, but different in scope and communicative function. The act-related adjuncts are evaluative and occur among ‘value judgment disjuncts’ in Quirk et al. (1985:621). Huddleston and Pullum believe that many manner adverbials can function as act-related adjuncts when “‘judgment is passed on the wisdom or manner of what is described’ (cited in Quirk et al. 1985:621). For example

- (48) a) The boy *foolishly* accepted the job proposal. (manner adverbial)
b) *Foolishly*, the boy accepted the job proposal. (attitudinal adjunct)

In (48-a), the act the boy did was foolish, but in (48-b), we believe what the boy did was foolish. Manner adverbials can be tested by “in amanner”, while act-related adverbials should be tested by [the subject] was.....to.....(Hasselgard 2010).

3-2-3-2 Adverbials of means

Adverbials of means specify by what means something was carried out (Hasselgard 2010: 26), and they usually have an end position in the sentence. Additionally, some adverbials can have different types based on their interpretation. For example, in the following sentence, “*impressionistically*” can be a manner adverbial (in a quite impressionistic manner), or an adverbial of means (using an impression-forming technique) (adopted from Quirk et al.):

(49) The teacher assessed the student *impressionistically*.

3-2-3-3 Adverbials of instrument

An instrument adverbial talks about the instrument used to carry out an action and they are usually PPs (50-a) or gerund phrases (50-b) which can happen at the end, or the beginning of a sentence for emphasis.

- (50) a) How could you contact the guests *without a telephone*?
 b) The boy decided to mop the floor *using his own old t-shirt*.

In this example, the act of contacting requires having a telephone, and so that is the instrument to carry out that act.

Huddleston and Pullum (2002) classify manner, means, and instrument adverbials as separate categories while Quirk et al. (1985), Biber et al. (1999) consider them as subcategories

of process adverbials. In Halliday's (2004) scheme, means adverbials can be found in the manner group and he hasn't considered instrument as an adverbial.

Biber et al. (1999:783) found manner adverbials as the most common types of process adverbial group and means and instrument adverbials as the least frequent ones in all text types.

3-2-3-4 Agentive adverbials

Agentive adverbials, in Quirk et al.'s (1985) words, are mainly "by phrases". For instance,

(51) The puzzle was *cleverly* done *by Peter*.

In this example, "*by Peter*" is the agentive adverbial and "*cleverly*" describes how the act of doing the puzzle was accomplished.

Agentive adverbials usually occur in passive structures and Hasselgard (2010:29) classifies them as participant adjuncts because they refer to the participant in the process. However, Huddleston and Pullum (2002:674) regard agent adverbials as an 'internalized complement' – a kind of 'oblique subject' (2002:241).

In short, in order to distinguish manner adverbials, we need to rely more on the semantics rather than the syntax, and how the adverbial can correspond to the subject or the verb. For instance

(52) a) Peter *carefully* wrote the letter. b) *Carefully*, Peter wrote the letter.
c) Peter wrote the letter *carefully*.

In (52-a), "*carefully*" can correspond to both Peter and how he wrote the letter. In (52-b), "*carefully*" can refer to the act of letter writing, and in (52-c) likewise, we deal with the act of

writing not Peter's decision to write the letter. Peter might have been reluctant to write the letter, but due to the situation, he had to write the letter, and he was careful in the letter-writing not in deciding to write it. The difference between (52-b) and (52-c) can lie in the fact that the former intends to put more emphasis on the act of letter writing and the latter lacks that emphasis. In addition, adverbials of means and instruments can illustrate tools used to do the act of the verb. Therefore, we again need to rely on semantics rather than syntax to determine the type of the adverb.

CHAPTER IV: DATA COLLECTION PROCEDURE AND DISCUSSION OF THE FINDINGS

The purpose of this chapter is to initially introduce the research procedure for this mixed-method designed dissertation regarding the effectiveness of explicit instruction of adverbials following the Usage-based grammar approach. The second part of this chapter is devoted to presenting the data analysis and discussing the findings of this research.

4-1 Data collection procedure

This section is designed to introduce the procedure for data collection. After introducing the research questions, study participants, the context, and instruments for collecting data are presented. Then, the teaching approach and the instructional procedure for collecting data are elaborated on.

4-1-1 Research questions

Using a limited pool of students to examine the effectiveness of explicit instruction of adverbials following the parameters introduced in Usage-based linguistics theory, this dissertation seeks to answer the following research questions through a mixed-method analysis:

1. What do American English native speakers know about adverbs and adverbials?
2. Which grammar teaching method (explicit/implicit) do American English native speakers prefer? why?
3. How does grammar knowledge (of adverbials) contribute to students' writing?

The first research question aims at evaluating students' knowledge of adverbs in general and adverbials in particular. For this purpose, students were required to define adverbs and adverbials and provide examples for each. Additionally, students were given a 20-item multiple-choice

question (MCQ) to examine their knowledge of adverbials. Therefore, the first research question is answered quantitatively counting the points students received for their definitions and MCQ.

The second research question comes in two parts. The first part is statistical; hence, a quantitative approach was carried out by counting the number of students who preferred an implicit or explicit grammar instruction. In order to clarify these two grammar teaching approaches, the definitions of explicit and implicit teaching instructions were provided for the students, and the students were required to choose one of these instructions. In addition, they were asked to justify their selection which formed the second part of this research question. Students were required to provide the reasons for their preference in 2-3 short sentences. Open coding of the students' reasons happened first during which In-vivo coding was carried out in order to include all the possible categories. In-vivo coding, a term used by Corbin and Strauss (2008), indicates using the terms/words of a respondent rather than the researcher's created items. In this way, the data coding is rooted in the respondent's language. This type of coding occurs when several students used the same/almost same phrase(s) to discuss their reasons. Therefore, the second part of this research question is answered by using a qualitative approach.

The third research question investigates the students' adverbial knowledge transmission in their papers. For this purpose, two papers before and two papers after the instructional sessions were collected, and the adverbials were observed and coded. Thus, this research question is answered both quantitatively and qualitatively in order to detect the number and quality of adverbials students used in their papers. However, it needs to be pointed out that the purpose of this research question is not to track the increase or decrease in the number of adverbials, rather it seeks to examine the usage of adverbials in the students' papers and if this usage has resulted in improving the quality of their papers.

4-1-2 Study participants and context

This study uses a limited number of students for the research purpose. The participants in this study were registered in three classes of ENG 145-Writing in the Academic Disciplines- at a university in the Midwest in Fall 2020 (two classes) and Spring 2021 (one class) semesters. These writing classes are designed to introduce and/or give students writing conventions of academic disciplines in general and help them gain familiarity and fluency with specific genres and formats typical of a given discipline. Students in these classes come from different majors and the primary focus of the class is academic writing. In total, 51 university students participated in this study out of which psychology and business administration students were the majority with 14 and 12 students respectively, and other majors fell into a range of 1-4 students each. Additionally, the study population included sophomores (35 students), juniors (9 students), freshmen (5 students), and seniors (2 students). Due to the Covid-19 pandemic situation, the classes were all conducted online. The table below shows the number of students and their majors of study for the Fall 2020 and Spring 2021 semesters.

Table 2-Number of students and their major

No	Major	Participants
1	Psychology	12
2	Business Admin	10
3	Marketing	4
4	Elementary ed	4
5	Social worker	1
6	Journalism	1
7	Geology	1
8	Accountancy	1
9	Finance	1
10	Management	4
11	Biology	3
12	Theater	1
13	Environmental system	1
14	Cybersecurity	2
15	English BA	1
16	Undecided/undeclared	4
17	Total	51

Table 3-Number of students and their university level

No	University level	Number of students
1	Freshman	5
2	Sophomore	35
3	Junior	9
4	Senior	2
5	Total	51

As a general question, students were asked if they had any grammar courses in their high school or college study. A self-reporting approach was used to collect students' responses. This approach uses participants' oral or written responses to evaluate their cognition, emotion, motivation, behavior, and/or physical state relative to the research aims in question. Perkrun and Bugner (2014) have summarized the different types of self-report as structured or unstructured; retrospective or concurrent; oral or written; qualitative or quantitative; one-dimensional or multi-

dimensional; paper-and-pencil or online; and single or multiple items. For this study, a structured, retrospective, written, quantitative, online, and single-item method was used.

The main purpose of this question was to investigate students' grammar knowledge prior to this class. Collecting students' responses, 26 out of 51 (50.98%) students answered that they had no grammar classes before, eight students (15.68%) mentioned that they had passed some English courses in their high school, but the emphasis had been on literature and no grammar instruction had occurred in those classes. Only 17 students (33.33%) had some grammar classes before entering this class. In general, 66.66% of the students reported that they had no grammar instructions in their academic studies.

4-1-3 Research instruments

One of the goals of this study is to understand what students bring to class and if this knowledge changes or not throughout the course of the semester. Therefore, in order to collect data, students took one pre- and one post-test. Both tests included 20 multiple-choice questions (see the Appendix A) and four open-ended questions. The open-ended questions remained the same, but the multiple-choice questions were modified, but similar content-wise in these two tests. The modification of MCQs happened because the researcher intended to evaluate students' learning changes. MCQs were designed to evaluate students' knowledge of adverbials in the pre-test and trace their awareness of adverbials in the post-test. Additionally, the purpose of the open-ended questions was to evaluate students' knowledge of adverbs and adverbials, to collect their grammar learning perceptions, to understand students' responses in regard to the adoption to /avoidance of using adverbials in their writing, and to examine their insights about implicit and explicit grammar learning preferences. Additionally, students wrote three papers

(autobiography, memoir, and genre analysis papers) in the first three weeks of their class before the grammar instructional sessions, and the first two were chosen for the purpose of analysis. Also, they wrote three letters (two formal and one informal) as one paper and a personal statement paper after the instructional sessions. The students were expected to write all their papers following the prompts provided by the researcher and the papers had almost the same number of words. Additionally, PowerPoint presentations (PPTs) were used as the researcher's pedagogical tools since these classes were held online and asynchronous; some zoom meetings were also held to discuss the contents in more depth.

4-1-4 Teaching approach

While Usage-based theory looks into children's language learning, and studies (Tomasello 2003 & 2007; Williams 2009; N. Ellis 2015 to name a few) show that children learn their first language implicitly, this research intends to adopt the parameters suggested in Usage-based linguistics theory to examine the effectiveness of explicit grammar instruction on adult English native speakers using a limited pool of students.

Usage-based linguistics holds that language structures emerge from repeated language use (Langacker 2000; Tomasello 2003). While Chomsky's linguistics views language as a top-down system that is driven with a set of syntactic input rules, Usage-based linguistics looks at language as a bottom-up system with a large array of conventional, meaningful units in which schematic patterns have emerged through use. Therefore, in the researcher's approach, exposing the students to the whole conventional units of adverbials was the primary focus.

Since the main purpose of this study is to evaluate the effectiveness of the Usage-based grammar approach through explicit instruction, the researcher used Tomasello's (2007:8) pattern

finding (grammar dimension) classification to examine students' language construction development in this study. This dimension includes the parameters of frequency, chunking, categorization, analogy, distributional analysis, and entrenchment.

Usage-based linguistics emphasizes that children's first language acquisition strongly depends on what they hear. Diessel and Tomasello's (2001) study shows that several factors contribute to English children's relative clause learning, and the most prominent factor is the language of the environment. In other words, the more exposure the children received from the environment, the better they learned the language. Additionally, R. Ellis (2002) provides an extensive literature review supporting frequency effects in all components of language learning. However, mere frequency and exposure to linguistic items might not seem enough. The Usage-based theory believes that frequent encounters with linguistic exemplars can lead to their storage in mind by "mapping meaning onto form and function" (Tomasello 2003:30). As VanPatten & Cadierno (1993) point out, not only do students need to be exposed to linguistic forms but also those forms need to be noticed in order to establish form-meaning connections. Therefore, in order to increase students' awareness, and provide the opportunity for students to establish form-meaning connections, the adverbials were presented explicitly in chunks (e.g., words and phrases).

Chunks are indeed an important aspect of authentic language use. They are cognitive routines that involve both motor actions (like dancing) and cognitive activities (like reciting alphabets) (Langacker 2008: 16-7). As chunks are more frequently repeated, they become more autonomous (Bybee 2003). In order to increase the students' frequent encounter to the content of the instruction, the researcher presented the new teaching materials after reviewing the old

materials first. This approach helped students to be exposed to these chunks more frequently and to retrieve the linguistic items from their stored linguistic experiences.

These two methods of increasing exposure and presenting the materials in chunks helped students construct syntactic construction on the basis of exposure to many tokens of similar constructions from which they extracted commonalities of both form and meaning. This is a straightforward process of categorization (Braine 1988; Slobin & Bever 1982).

Usage-based linguistics views analogy as a domain-general cognitive phenomenon that results in the productive use of language (Bybee & Moder 1983). Along the same line, Tomasello (2006) believes that analogy is an abstract process of schematization for new constructions which happens in the memory of the language learner/acquirer. Additionally, Bybee (1995) and Pinker (1999) believe that two factors of the activation strength of a schema in memory and similarity between lexical expressions appearing in a schema are the two influential elements of analogical extension of novel expressions. To activate students' schematization and enable them to make analogous constructions, the researcher requested students to find sample adverbial expressions in their reading materials as one part of their homework assignments and they were also assigned to make new sentences using different types of adverbials under the study. This practice not only increased their exposure to adverbials but also helped them with discovery-learning as well as form-function practice.

Distributional analysis refers to grouping linguistic items that behave in the same way together. While "behave in the same way" in most theories implies the co-occurrence of linguistic items sequentially, the researcher decided to adopt Tomasello's (2005) approach called *functionally-based distributional analysis*. This approach was chosen since the researcher

intended to increase students' insights about the functions of linguistic items rather than what similar behaviors linguistic items might have. For this purpose, after students were introduced to one type of adverbials and were given examples of those adverbials, they were given some sample adverbials and were required to classify them into the introduced categories. Additionally, students were required to group the sample adverbials they found in their reading materials, and they were also assigned to write 8-10 sentences for each adverbial category. These practices helped the students increase their awareness of the functions of adverbials in a wider range.

Tomasello (2006) defines entrenchment as when an individual does something in the same way successfully and that way becomes the habit of that individual. The researcher's purpose was to make the adverbials entrenched in students' minds so that they would be able to retrieve the information successfully. The types of content presentation, practices, and homework assignments helped students be more knowledgeable of the forms and functions of adverbials on the one hand, and they were able to realize different categories of adverbials on the other.

In general, following Tomasello's scheme, the researcher introduced adverbials in chunks to the students and provided sample sentences to analyze in order to enhance their distributional analysis potential. Additionally, the homework assignments included finding patterns of adverbials in sample reading materials and writing sample sentences using different forms of adverbials (analogy). These homework assignments only aimed at practicing adverbials, and they were not used as data collection tools. The researcher believes that these practices encourage the students to use more complex structures; consequently, these adverbials will become more entrenched in students' minds particularly in the act of writing.

4-1-4-1 Content presentation

Once approval from the Institutional Review Board (IRB) was obtained, the researcher emailed the consent forms (see the Appendix B) to the students. The students were required to email their completed consent forms to the dissertation chair in the first week of the semester. The researcher had no access to the completed consent forms until after semester final grades were submitted to ensure the confidentiality of the data collection process and to mitigate risks and power-relationships between the research as the instructor of record and his students, and the process of distributing the consent forms. Then, the students took the pre-test in the second week, and they were given three hours to answer the questions and submit their papers on Reggie Net. The following three weeks included some writing activities to collect data for the pre-adverbial instruction sessions. In these three weeks, students wrote three papers (autobiography, memoir, and genre analysis), as previously mentioned, from which the two first papers were used for the purpose of mixed-method analysis.

The adverbial content presentation occurred in three weeks in all classes (weeks 6, 7, and 8). A general overview of adverbs and adverbials along with specific adverbials of space and time (including their subcategories) were presented to students in chunks in week six as stated earlier. As one part of homework, students were required to find ten samples of space and time adverbials and their subclasses in their reading materials (e.g., books, papers, etc.), and the other assignment required students to write sample sentences using these adverbials. In week seven, students were introduced to adverbials of process, and adjuncts (including locative, temporal, and process) and they were assigned to do the same homework assignments for these adverbials as well. In week eight, the researcher divided the students into small groups of five and six, and they had zoom meetings to discuss these adverbials in more depth. The zoom meetings were

aimed at reviewing the materials and answering students' questions regarding adverbials. The post-test took place on the last day of week eight and students were given three hours to answer the questions. The next following two weeks were scheduled to do some writing activities to collect students' papers for the post-adverbial sessions. Students wrote three letters (two formal and one informal following the prompts as one paper) and their personal statements (according to the prompts). In general, two papers written before grammar instructional sessions and two papers written after grammar instructional classes were analyzed to examine students' increased awareness of adverbials considering Tomasello's grammar dimension classification suggested in the Usage-based linguistics theory.

4-2 Data analysis and discussion of the findings

4-2-1 What do American English native speakers know about adverbs and adverbials?

The first research question has been answered by using a quantitative approach. Students' pre and post-tests were graded out of 26 points (three points for definition of adverbs, three points for adverbials definition, and 20 points for the MCQ).

A survey of students' definitions of adverbs in the pre-test shows that most of students who had grammar classes prior to this class could define adverbs correctly while the ones with no grammar classes had no ideas about this term. However, both groups of students could provide correct examples of adverbs in their responses. Four students wrote that an adverb is a word that ends to an -ly, and their examples show that they could recognize adverbs through their form. Additionally, 11 students had limited the function of adverbs to only verbs and stated that an adverb was responsible to describe a verb or an action. For example, some students wrote

(53) a) An adverb modifies a verb and end in “-ly”. Ex. (slowly, quickly, quietly, loudly)

- b) An adverb is a term that adds more detail to a verb. Slowly, hardly, very
- c) A word that qualifies a verb. Gently, always, above, sadly, well
- d) A word that describes how a verb is performed, i.e. quickly, softly, loudly
- e) An adverb describes an action and modifies it, but in depth. Example: cheerfully

The following example is taken from one student's response to the definition of adverbs:

- (54) An adverb is a word that describes a verb and answers how, when, and where questions.
Examples: easily, loudly, slowly, often, sometimes, early, today, near, here, there

Although the first part of this definition shows that the student is not well-equipped with the grammatical terminology of adverbs, the second part of the definition and the examples that this student has provided to show adverbs are quite interesting since they cover almost all types of adverbs of manner, time, and place.

Moreover, four students restricted the function of an adverb to the description of adjectives only. Their examples are as follows

- (55) a) A word that helps or describes an adjective. Ex: softly, quietly
b) I am not quite sure but I remember it being something about modifying an adjective.
Examples: quickly, slowly, etc.
c) A word that describes an adjective like softly.
d) A word that adds to an adjective. Thank you, thank you VERY much.

Seven students connected the function of an adverb to the description of a verb and adjective together. They believed that an adverb was in charge of adding "more detail" or "in-depth" descriptions of verbs and adjectives. Some examples are as follows:

- (56) a) Adverb is a word that describe more information about a verb, phrase and adjective. Ex) Unfortunately, the items are no longer in stock.
b) An adverb is a word that describes or modifies a verb or adjective. An example of this would be the world slowly because they usually end with the letter ly.
c) A word or phrase that modifies or qualifies an adjective, verb to give more in-depth information. he ran quickly.

Some miscellaneous responses were also provided by students as the following

- (57) a) A small phrase that helps introduce a subject.
b) Not sure, a description of a person? Her, His etc.
c) Adverbs are used to describe words better. Ex: always, sometimes, slowly
d) A word that gives more context to other words, a helper word. Ex. first, last

In general, the students' definitions support a sophisticated knowledge, but their examples share little knowledge of how to operationalize that definition e.g., "above" (example 53-c) can't merely be an adverb, it is a preposition unless the student meant "He lives above".

However, the results of the post-test regarding the definition of adverbs were more promising. A survey of the definitions shows that the students had gained some awareness of the definition, and they used more linguistic terms in their responses. For example, some students wrote

- (58) a) They are a member of words classes just like nouns, verbs, adjectives and prepositions. They modify verbs adjectives, or a whole sentence.
b) An adverb is a phrase or word that modified a verb, other adverbs, adjectives, word groups and more.
c) An Adverb is a word that modifies a verb, an adjective, or another adverb. It helps express the manner, place, time, or degree of the word being modified.
d) An adverb is something that modifies a verb, adjective, other adverbs, phrases, etc. Adverbs are usually used to describe a word's syntactic role in a sentence and usually identified by the suffix- ly. Examples: Nicely, slowly, quickly, etc.

These examples show that teaching linguistic terminology enables students to develop their abstraction abilities regarding that linguistic item and it adds to the level of their adverbial awareness. Carter (1990) also agrees with teaching grammatical terminology in native English contexts because he believes that it helps students talk more about language. In addition, Faerch (1985) stated that grammar terminology teaching would create "a meta vocabulary" ability for students to communicate with their teacher about language.

In the pre-test, the students' responses to the definition of adverbials were mostly limited to "I have no idea, it's a phrase, it's a clause and something like an adverb". These responses indicate that students were not trained in their grammar classes (if any) about the grammatical functions of words. The following includes some examples from students' responses

- (59)
- a) An adverbial is close to being an adverb. They give the motive or reason to what action is being performed.
 - b) I'm not entirely sure what an adverbial is, but I have to assume that it's similar to an adverb
 - c) An adverbial simplifies the adverb. An example is, "last week we went to the store"
 - d) I am not sure, maybe it adds emphasis in the sentence.

The results of this pre-test show that students didn't have any familiarity with the grammatical functions of words in sentences. Moreover, these results are in line with the assumptions by Clifton (2013) and Vande Berg (1999). They believe that students in the United States enter their classroom with little to no knowledge of the meaning of the linguistic terms, and this situation makes grammar explanations difficult to comprehend. In other words, learning grammatical terms will facilitate grammar learning.

However, the results of the post-test show that not only did the majority of students provide the correct answers for the definitions, but also their examples were more sophisticated. In fact, simply explicit instruction per se doesn't necessarily lead to using the knowledge that is why the researcher has developed a Usage-based inspired explicit instruction.

The following provides some examples of students' definitions of adverbials and their examples of adverbials in the post-test as well:

- (60)
- a) An adverbial is mainly used in reference to the grammatical function of a word in a sentence.

b) An adverbial refers to the grammatical function of a word in a sentence

Sample students' examples:

- (61) a) The girl went into the bathroom because she felt sick.
b) The card dealer walked to the back to get more poker chips.
c) Hopefully, she can make it to the party next weekend.
d) I walked all the way to John's house⁴.

Considering the small number of participants, this change may not seem so significant over a course of one semester, but it suggests that explicit learning does show results in terms of learning grammatical knowledge. Moreover, it can be observed that students started using linguistic terminology in their definitions. For example, consider one student's response in the pre-test to define adverbs and adverbials respectively:

- (62) a) "A word that describes an adjective like softly"
b) "A word that is like an adverb but I am not sure of any examples"

The same student wrote the following in the post-test

- (63) a) "An adverb is a word or phrase that modifies or qualifies an adjective, verb, or other adverb or a word group, expressing a relation of place, time, circumstance, manner, cause, degree, etc. Some examples would be quickly, slowly and beautifully".
b) "Refers to the grammatical functions of a word in a sentence. Some examples of an adverbial would be – David drove the car eastward. The adverbial being eastward".

In another instance, a student wrote

⁴ The student had underlined "John's house", the researcher underlined "to John's house".

- (64) a) “An adverb modifies a verb and end in -ly Ex. Slowly, quickly, quietly, loudly”
b) An adverbial modifies a verb phrase

In the post-test, that student wrote

- (65) a) “Adverbs are members of word classes just like nouns, verbs, adjectives, and prepositions. They are mainly in reference to the syntactic function of a word in a sentence. They most often are recognized by the suffix -ly, except for some specific ones like fast, hard, and good”.
- b) “Adverbials refer to the grammatical function of a word in a sentence, deals with the semantics of a word or phrase. Ex: *Frankly*, I did not understand what was going on. She *just* started making lunch”.

These examples and many others show that when students are taught explicitly through Usage-based linguistics theory grammar dimension (including frequency, chunking, categorization, analogy, distributional analysis, and entrenchment.), regardless of their disciplines, they increased their awareness of adverbs and adverbials. Additionally, the findings, despite having a limited number of students, suggest that these participants were/are capable of producing correct sentences undoubtedly, but their issue was their lack of knowledge about the terms used specifically in grammar. Berry (2008) and Carreira (2016) argue that being familiar with grammatical terminology is a quick and easy way for both teachers and students to communicate about language when the focus of attention is on language form. For example, when providing feedback about students’ papers, the researcher used grammatical terms such as “Subj, Obj, Prep” etc. to explain the grammatical issues in the students’ papers which resulted in meaningful communication about language. In addition, Haight, Herron, and Cole (2007) emphasize that when students’ attention is directed to language form, that grammar instruction will yield more successful results. Although the participants were all L1 learners/users of English, their knowledge of the examined morphosyntactic terms was at a very low level. This

course helped them learn some terms related to linguistics and use these terms in their own definitions later in the class.

4-2-1-1 Quantitative analysis of students' pre and post-tests

Identifying the most appropriate statistical analysis requires knowing the data distribution. This method helps to detect the most suitable statistical test and make proper inferences. For this purpose, Smirnov's test was used to examine the normality of the research data. His test suggests the following hypotheses for the normality of the data

H0⁵: The data have a normal distribution

H1⁶: the data don't have a normal distribution

Table 4- Smirnov' normality of data

Variable	Test data	Significance level	Result
Pre-test	0.151	0.005	Not normal
Post-test	0.123	0.052	Normal

The table suggests that the pre-test data don't have a normal distribution (level of significance less than 0.05) while the post-test data have a normal distribution (level of significance more than 0.05). Therefore, since the purpose is to compare pre- and post-test grades, and one test doesn't have a normal distribution, the Wilcoxon signed-rank test- a nonparametric paired T-test- has been used. The result of the Wilcoxon signed-rank test is as the following:

H0: There is no meaningful difference between the two groups

H1: there is a meaningful difference between the two groups

Table 5- Wilcoxon signed-rank test

Variable	No.	Mean	SD	Test statistics	Significance level
Pre-test	51	11.57	1.814	-6.232	0.000
Post-test	51	20.16	2.928		

⁵ Null hypothesis

⁶ Alternative hypothesis

Considering the significance level in Wilcoxon signed-rank test, the results of the table indicate that there is a meaningful difference between the pre- and post-tests ($p < 0.001$). This supports the analysis that teaching had the expected results.

Additionally, the results of the pre-test show that the students who had grammar classes before this class had a mean score of 6.11 while the students who had no grammar training before this class scored 5.64. However, the results of the post-test indicate that the student who didn't have grammar classes before scored better (mean score of 10.76) than the ones with grammar classes (mean score of 9.35).

In general, these findings do not contradict the ones suggested by Norris & Ortega (2001), Spada & Tomita (2010) that in short-term classes, explicit grammar instruction is more effective than an implicit one. Additionally, teaching grammar explicitly through Usage-based linguistics theory helps students perceive the structures of language more effectively. It also helps students acquire new structures and encourages them to use these structures in their speaking and writing. The instruction in this class followed the pattern-finding approach suggested by Tomasello (2007) in Usage-based linguistics. One of the components of this pattern finding is to present the information in chunks which enables learners to retrieve word sequences as a whole or as automatic chains from long-term memory (Pawley & Syder 1983; N. Ellis 2001). This method provided the opportunity for the students to consciously learn what purpose these chunks serve. For instance, the students were presented with the same adverbials in different contexts, and they were asked to demonstrate different functions that these adverbials had in those contexts. In addition, since students were exposed to the input frequently (by reviewing the materials of previous classes, giving them examples and practices of the adverbials, they have already studied and the newer ones), they gained more experience with

these chunks, and they were able to recognize them in different contexts. This was evident from the students' homework assignments which included finding samples of adverbials and also making sentences with the adverbials of the study.

4-2-2 Which grammar teaching method (explicit/implicit) do American English native speakers prefer? why?

In order to answer this research question, the definitions of explicit and implicit instructions were provided for the students, and it was indicated that the instructor would follow an explicit approach to the teaching of adverbials in the class. The students were required to choose their method of preference and state their reason in 2-3 short sentences. After collecting students' responses, an In-Vivo coding approach was practiced categorizing students' responses.

Initially, a quantitative approach was used to answer the first part of this research question. For this purpose, the researcher calculated the number of students who preferred one method over the other and then looked at their reasons for their preference to answer the second part of the research question. A quick look at students' responses regarding the preference of explicit instruction or implicit one reveals that only 6 students (11.76%) out of 51 students preferred the implicit teaching method and 88.24% of students preferred the explicit approach. The findings are in parallel with Sopin's (2015) study in which it was concluded that 64% agreed to the fact that students often find it difficult to understand grammar structure when implicit instruction was used. Additionally, in another study, Burgess and Etherington (2002) found that over 90% of the teachers under the study agree that their students expected them to teach grammar explicitly.

Moreover, a qualitative study was conducted to answer the second part of research question two. To support implicit instruction, students emphasized "hands-on" learning could help them

test their skills and find the rules on their own, therefore; the information would be retained longer. For example, two students wrote

- (66) a) because it allows me to tackle learnings on my own. By allowing class participation, my hands-on learning is increased, and my knowledge retained is increased.
- b) It gives me some hands-on experiences that I can try my own skills to learn better.

These students believe that implicit instruction encourages “hands-on” experiences which result in their conscious-raising. This theory is based on providing students with opportunities to experience the language grammar and figure out the rules on their own instead of giving them the rules (Ranalli 2001). Dekeyser (1995) also explains how implicit teaching influences students’ skills by stating that metalinguistic awareness of students will work out since students don't generally attend to a specific rule.

Moreover, one student finds implicit instruction more natural in the process of grammar learning. This student believes that since children are not taught how to use/learn grammar, this method also should work for adults:

- (67) because it is more natural for students to learn. The students learn more through hands on methods.

Additionally, another student adds that this kind of grammar instruction is like doing puzzles that keeps “me interested in the class because I need to find the patterns in the sentences”. The student wrote

- (68) It is like doing puzzle for me and it keeps me interested in the class because I need to find the patterns in the sentences

This perception of implicit instruction accords with Yip's (1994:134) statement "learners are to work out the implications of rules and apply them creatively". Furthermore, all these students agree that when they figure out the rules on their own, they can retain the knowledge better and learn "the rules that come into play". This observation is in parallel with what Allen and Reber (1980) have concluded in their study. They believed that implicit grammar instruction would result in retaining the knowledge better and for a longer period of time.

On the other hand, almost 90% of students preferred explicit grammar instruction. In order to elaborate on students' reasons to support explicit grammar instruction, the researcher chose the In-Vivo coding approach to categorize their ideas and perceptions of this teaching approach. This approach to analysis requires the researcher to extract the codes directly from the participants' notes. In addition, the researcher employed an inductive method for analyzing the responses. In this method, the researcher explores meanings and insights extracted from the responses (Strauss & Corbin 2008; Levitt et al. 2017). According to Strauss and Corbin's (1998) description "the researcher begins with an area of study and allows the theory to emerge from the data" (Strauss & Corbin 1998:12). Therefore, the main purpose is to allow research findings to emerge from the frequent, dominant, or significant themes inherent in raw data.

In this study, the researcher decided to look at the most frequent words and/or phrases used by the students who preferred the explicit grammar teaching approach. The following table shows the codes and the frequency of these codes in the students' responses. In the meantime, the researcher classified the synonymous words and/or phrases in the same coded group. For instance, the phrases "make more sense" and "understand better" are grouped under the same code of "make more sense".

Table 6- students' responses codes

No.	Codes	Frequency
1	To know the rules	39
2	To learn better	34
3	To make more sense	32
4	To remember better	23
5	To stop confusion	16
6	To prevent misinterpretations	14

One of the most repeated reasons to support explicit grammar instruction was “to know the rules”. This phrase and its synonymous phrases have been repeated 39 times in the students’ responses. These students believe that when they know the rules firsthand, they know what they are looking at in sentences, and they can learn better. For example, some students wrote

- (69)
- a) I’d like to know the rules and principles first so, I can gain a better understanding.
 - b) I pick up on grammar quickly if it is explained thoroughly to me.
 - c) It is more beneficial for me to learn this way because I am given the rules so I can better understand how to apply them.
 - d) because it is more straightforward it allows me to tackle learnings better.

These students believed that knowing the rules would drive their attention to the subject matter which results in comprehending the topic of discussion better. This belief is in parallel with Schmidt’s “noticing hypothesis” which involves students’ attention to “surface elements” (Schmidt 1995, 2001). This hypothesis claims that when students pay attention to surface elements of the content (here the grammatical structures), they develop some metalinguistic awareness that helps them with their understanding of the subject matter. Additionally, Wang

(2017) states that the metalinguistic knowledge is verbalized in the pattern of rules in explicit instructions, therefore, more processing demands are laid on working memory capacity.

The next most frequently used phrases are “To learn better” and “To remember better”. The students believe that explicit grammar instruction helps them learn grammar rules more effectively. Additionally, some students connect learning rules first to their remembrance in the future. They state that when they are taught the rules, they can learn better, they can keep the rules in their mind for a longer period of time and use the same rules in the future. For instance, some students wrote:

(70)

- a) everything will make more sense and I will have a better remembrance about what the rules meant.
- b) Explicit works better for me as I learn best when I can get the most information.
- c) it is easier to grasp a better understanding of the grammar then use that knowledge to create your own examples.
- d) I learn better when I can visually see what I am being taught and then apply what I saw to my learning to help me understand the material.
- e) it helps me better understand and learn the material, rather than leaving the content up to my interpretation.
- f) This is because it is easier to grasp the information when you are given an introduction before learning the lesson in depth.

These students pay attention to the output of explicit instruction, and they find out that when they are taught explicitly, they can learn the subject matter better, and they can remember it in the future. These assumptions are in line with the studies in second language learning context by R. Ellis (2005) and Bowles (2001) in which they found that the students who were taught explicitly scored better in their tests. This finding indicates that explicit instruction results in

more effective output which is evident in students' test scores. Moreover, R. Ellis (2015:19) states that explicit types of instruction are more effective because they help learners build linguistic outputs which result in the development of producing correct outputs.

The other advantage that the students found was that they believed explicit instruction "Makes more sense" to them and they could understand the content more effectively. The students believe that this instruction keeps them "engaged", helps them "apply" the rules in the future in "their writing", and helps them "remember" the rules better. For example:

(71)

- a) when a teacher specifically emphasizes rules on how things should be done it helps me better understand. It also helps me to stay in routine when learning grammar rules. For me routine for everything is important it keeps me engaged and helps me to better remember the things I am learning.
- b) because it just makes more sense to me. I find that learning a set of rules and then applying that knowledge to examples is the best way to further understanding.
- c) I like to have the rules and principles provided to me so that I can see how they're applied in the teacher's examples and so that I can see if I understand the concepts by incorporating and applying them into my writing.
- d) for the reason that having the structure of seeing what it is supposed to look like and then having examples to practice will help me understand and remember way better
- e) When the teacher explains the concept thoroughly, it is easier to practice the examples because I have somewhat of a clue to what I am doing.

Norris and Ortega (2001) also state that explicit interventions produce a larger effect size than implicit instruction in that the learners can use the structures they have learned explicitly in larger contexts. This means that when learners are taught explicitly, they can generalize the rules they have learned and apply the same rules in other situations as well. Additionally, R. Ellis

(2005, 2006a) shows that the students who are trained explicitly can apply the rules they have learned quickly and more efficiently.

The last two most frequent perceptions regarding explicit grammar instruction include “To stop confusion” and “To prevent misinterpretations”. The students indicated that since explicit grammar instruction is “easier to grasp”, it prevents future confusion. Also, they believed that if they were to discover the rules on their own, they might misinterpret the rules and principles. These students maintained that they would form some patterns/rules in their mind (be it right or wrong), and then, if wrong, the instructor needed to correct that wrong rule for them. This situation is like “learning backward through guessing”, and it creates confusion for learners which might lead to “stress for learners”. For instance, some students wrote:

(72)

- a) because being told the rules stops misinterpretations more early on and gives a basis for examples to be shown
- b) I see implicit grammar teaching as learning backwards through guessing, while I see explicit grammar teaching as learning forward with examples to reinforce what is being taught
- c) I like knowing specifically what I am supposed to be doing because it’s nice to have a framework. That way I do not accidentally make a mistake and misunderstand the guidelines. I’m not as proficient when it comes to inferencing the rules.
- d) explicit teaching prevents some confusion within the student population. This confusion can stem from multiple interpretations of a teachers lesson, though not inherently the teachers fault, this could cause stress among students.

Interestingly, some students support explicit instruction due to some personal factors such as being a visual learner. They believe when the rules are set up with examples next to them, it helps them learn the rules and patterns to use in the future. For example, they wrote

(73)

- a) because I am a visual learner and when a teacher specifically emphasizes rules on how things should be done it helps me better understand.
- b) The reason why is because I am a strong visual learner, and seeing the grammar rules clearly laid out with examples next to them really makes that connection for me.
- c) I would consider myself a visual learner so it is no doubt easier for me to look at rules and principles and then apply what I have seen. This is just easier in my opinion.

These students' statements are supported by the findings by Eisenstein (1980 discussed in R. Ellis 2008), in L2 context, in which she indicates that learners' preferred learning style can be a determining factor in increasing students' interests in classes. These visual learners indicate that giving rules beforehand creates a routine for them which means understanding the pattern. Moreover, two students state that although implicit instruction might be more of a "challenge to the brain" to improve memory and creativity of the mind, it may not result in deepening "the comprehension process that lasts longer". This perception of explicit instruction is supported by N. Ellis (2015) emphasizing the durability and effectiveness of this instruction.

In general, the results of this study, although using a small number of participants, confirm Bley-Vroman (1990), Burgess & Etherington (2002), Paradis (2004), and R. Ellis's (2005) findings which show adult L1 and L2 learners prefer explicit grammar instruction, and they have better grammatical performance after the language knowledge is explicitly presented to them.

4-2-3 How does grammar knowledge (of adverbials) contribute to students' writing?

The last research question is in regard to the contribution of adverbials in students' writing pieces. The main purpose of the third research question is not to determine whether the usage of adverbials increased or decreased after the instructional sessions, but to track the

contribution of adverbials in students' papers. However, a quantitative approach was also taken to trace the number of adverbials in pre-and post-grammar classes. Therefore, this research question has been answered both quantitatively and qualitatively.

To collect the data to answer this question, the researcher compared students' two papers before and two papers after the grammar sessions. In pre-grammar instructional classes, students wrote three papers out of which the two first papers (Autobiography and Memoir) were selected for analysis, and two papers (Letter Writings and Personal Statements) were selected for the analysis of the post-grammar classes. Additionally, each piece of writing followed the prompts provided by the researcher (see Appendix C & D), and the students were given a word limit number to keep the length of the papers almost the same on average. Moreover, in order to locate the adverbials in the students' papers, the researcher used color-coding in that red, blue, brown, and green represented the adverbials of space, time, process, and adjuncts on the papers respectively.

Readability Tests are of two greatest advantages. The main advantage of this test is its user-friendly features (Burns 2006). Additionally, this test has been highly validated through different studies (Fry 2002:291). However, one of the limitations of this test is the fact that it works on the surface level of a text, and it ignores the cognitive processes of producing a text (Zakaluk & Samuels 1988: 122). That is why some researchers (e.g., DuBay 2006; Gunning 2003 among others) believe that the readability of a text depends on the reader rather than a formula. The following provides a short overview of the two most commonly used Readability Tests known as Flesch Reading Ease and Flesch-Kincaid grade level. Both tests were used to determine the difficulty level of the students' written texts.

Flesch's (2006) Reading Ease test uses only two variables: average sentence length in words and average word length in the syllabus. While the first variable measures sentence complexity indirectly, the second one indirectly measures word complexity. The correlation between these two variables is 0.87 which makes it reliable and validated. Additionally, other studies have also shown that Flesch's Readability Test is one of the most "tested and reliable ones" (DuBay 2006:97).

Using the same variables of the Flesch Readability Test, the main function of the Flesch-Kincaid formula is to determine the grade level of a reading passage. A study by Klare (1988) shows that these two formulas have a high agreement in that they do not vary more than two grades and usually agree within one grade. Additionally, Fry (2002:290) states that this formula is "widely used in the Education industry". Therefore, the researcher used these two formulas in order to determine the difficulty level of students' written pieces by focusing on adverbials in the papers in pre and post-grammar classes.

4-2-3-1- A quantitative examination of students' usage of adverbials

This section is devoted to examining the distribution of adverbials in students' papers. The two papers which were used for the purpose of analysis at this stage were autobiography (A) and memoir (M) and the students were given the prompts and word number limits for each of these papers (see Appendix C). In order to count the number and type of adverbials, the researcher used different colors (i.e., red, blue, brown, and green representing the adverbials of space, time, process, and adjuncts on the papers respectively) to locate the adverbials. The table below shows the total number of adverbials used by the students in their pre-grammar session papers.

Table 7- Number of adverbials in pre-grammar classes (Autobiography & Memoir)

No	Student	Space		Time		Process		Adjunct	
		A	M	A	M	A	M	A	M
1	S-1	13	18	11	19	4	17	12	13
2	S-2	12	14	5	13	6	14	4	13
3	S-3	5	23	10	11	4	13	13	12
4	S-4	9	17	6	16	5	14	10	16
5	S-5	6	12	6	11	6	9	10	12
6	S-6	10	18	5	13	5	16	8	14
7	S-7	5	18	4	19	4	14	9	11
8	S-8	7	16	7	12	7	19	11	10
9	S-9	9	21	6	11	8	8	6	9
10	S-10	11	19	5	13	5	11	8	12
11	S-11	5	17	6	16	5	7	9	8
12	S-12	8	12	4	17	5	11	4	11
13	S-13	6	9	6	12	4	13	8	11
14	S-14	7	15	8	13	7	9	9	8
15	S-15	6	12	9	14	5	13	10	11
16	S-16	8	18	5	15	6	11	9	12
17	S-17	7	14	7	13	7	10	8	11
18	S-18	4	14	9	8	6	9	4	8
19	S-19	11	9	6	11	8	9	4	8
20	S-20	8	13	6	18	5	17	9	19
21	S-21	8	14	9	19	6	12	5	14
22	S-22	12	19	11	22	9	14	11	11
23	S-23	7	17	8	21	7	16	3	17
24	S-24	11	21	12	17	8	13	12	12
25	S-25	11	17	9	22	8	12	11	9
26	S-26	12	16	11	19	10	17	8	21
27	S-27	14	18	12	23	11	19	13	18
28	S-28	9	13	11	16	8	11	6	14
29	S-29	13	12	15	18	12	11	13	13
30	S-30	12	8	9	12	8	9	8	11
31	S-31	8	16	6	23	9	13	5	8
32	S-32	6	17	8	22	6	16	4	14
33	S-33	9	18	11	21	8	18	11	21
34	S-34	8	13	11	19	7	13	10	14
35	S-35	11	17	9	21	7	17	9	11
36	S-36	1	9	4	16	2	7	2	11
37	S-37	5	11	6	10	3	8	4	13
38	S-38	4	8	6	16	5	9	7	10
39	S-39	4	14	7	22	3	12	9	18
40	S-40	3	9	5	11	5	13	8	15
41	S-41	4	15	6	17	3	11	7	12
42	S-42	7	11	9	12	7	8	11	10
43	S-43	4	9	8	12	5	7	4	6
44	S-44	6	21	7	15	3	11	11	12
45	S-45	3	19	6	17	7	13	9	15
46	S-46	3	11	4	9	4	7	7	18
47	S-47	5	16	7	11	5	12	11	16
48	S-48	6	12	9	14	4	8	8	9
49	S-49	4	13	7	11	5	9	9	12
50	S-50	5	22	11	19	6	13	12	15
51	S-51	7	12	9	8	8	11	11	16
Total	51 students	1136		1184		925		1069	

As seen in table 7, students used 1136 space adverbials, 1184 time adverbials, 925 process adverbials, and 1096 adjunct adverbials in their papers in the pre-grammar classes.

The two papers which were examined for the purpose of collecting data in the post-grammar sessions included letter writing (LW) and personal statements (PS). Students were again given the prompts and word number limits (see Appendix D), and they were required to write their papers accordingly. The following table shows the number of adverbials in the students' post-grammar sessions.

Table 8- Number of adverbials in post-grammar classes (Letter Writing & Personal Statement)

No.	Student	Space		Time		Process		Adjunct	
		LW	PS	LW	PS	LW	PS	LW	PS
1	S-1	6	8	4	9	3	6	4	6
2	S-2	12	10	8	12	6	7	5	5
3	S-3	11	9	7	8	5	4	8	5
4	S-4	8	9	9	10	5	5	6	6
5	S-5	7	10	11	12	6	4	4	8
6	S-6	12	8	10	13	4	7	3	6
7	S-7	9	6	8	9	3	5	5	7
8	S-8	6	6	11	8	6	4	4	5
9	S-9	9	7	8	11	4	4	5	6
10	S-10	6	8	12	13	5	6	7	4
11	S-11	3	5	6	10	3	4	5	4
12	S-12	8	6	11	8	6	3	5	6
13	S-13	9	8	7	11	4	6	6	4
14	S-14	6	8	7	9	3	4	4	5
15	S-15	8	6	6	10	4	5	5	4
16	S-16	4	7	9	11	3	7	5	8
17	S-17	5	8	13	12	9	5	4	6
18	S-18	7	7	9	10	5	4	6	5
19	S-19	8	9	12	11	4	5	5	6
20	S-20	9	8	9	12	3	4	5	7
21	S-21	5	8	7	8	5	4	4	5
22	S-22	6	11	8	11	4	3	3	4
23	S-23	7	9	10	13	6	5	5	6
24	S-24	4	5	7	9	5	5	4	5
25	S-25	4	8	9	10	4	4	6	4
26	S-26	5	7	8	11	3	5	4	4
27	S-27	8	9	11	8	5	3	4	4
28	S-28	8	9	10	12	5	4	5	3
29	S-29	9	7	12	9	4	4	3	3
30	S-30	5	8	6	10	4	6	5	5
31	S-31	8	6	7	7	3	5	4	4
32	S-32	4	5	9	8	3	4	6	5
33	S-33	10	11	8	11	4	5	5	7
34	S-34	7	4	10	8	6	4	5	3

35	S-35	6	6	8	9	4	4	6	5
36	S-36	7	8	10	9	4	6	6	4
37	S-37	7	6	9	11	3	5	4	6
38	S-38	5	6	9	7	5	3	4	6
39	S-39	9	9	11	12	4	7	5	4
40	S-40	6	8	8	7	5	5	6	5
41	S-41	6	5	9	8	5	3	5	5
42	S-42	7	8	12	10	6	4	3	4
43	S-43	9	6	14	9	3	3	4	6
44	S-44	8	7	10	5	4	3	5	5
45	S-45	6	5	8	9	4	5	5	4
46	S-46	10	9	11	12	6	4	5	4
47	S-47	8	6	9	11	3	4	4	3
48	S-48	9	5	12	7	5	6	4	5
49	S-49	8	5	7	8	4	6	5	6
50	S-50	11	9	13	10	6	4	7	7
51	S-51	6	4	8	6	3	4	4	5
Total	51 students	743		961		462		505	

As table-8 shows the highest number of adverbials belongs to time adverbials (961 times), then space adverbials (743 times) stand second, adjunct adverbials (505 times) come next, and the least number of adverbials belongs to process ones (462 times). The table below shows the average number of these adverbials in both pre and post-grammar sessions.

Table 9- Average number of adverbials in pre-and post-grammar classes

Session	Space	Time	Process	Adjunct	Total
Pre-grammar	22.27	23.21	18.13	20.96	84.57
Post-grammar	14.56	18.84	9.05	9.09	51.51

The table shows that the average number of adverbials has decreased in the post-grammar sessions. In other words, the students tended to use fewer adverbials in their papers. It can be hypothesized that because students' awareness of adverbials was increased through explicit instructions and they gained more knowledge of adverbials, they tended to use adverbials more cautiously and carefully in their papers. Therefore, the number of adverbials in the students' papers decreased compared to pre-grammar instructional sessions. Also, a study by Pérez-Paredes and Sánchez-Tornel, (2014) shows that the use of adverbials decreases as the students get more instructions in adverbials, but they use more sophisticated adverbials in their written

texts, and it increased the complexity level of their papers. However, it should be noted that the purpose of this study was not to increase or decrease the number of adverbials in students' paper, rather, it was to look at the contribution of adverbials when the students are taught explicitly through Usage-based inspired pedagogy. The following section looks at the qualitative nature of adverbials in the students' papers.

4-2-3-2- A qualitative examination of students' usage of adverbials

Using Flesch Readability Test and Flesch-Kincaid Grade Level, the researcher used the table below to interpret the students' readability scores and determine the grade level of students' papers in pre-and post-grammar instruction classes.

Table 10-Flesch grade level interpretation

Score	School level (US)	Notes
100.00–90.00	5th grade	Very easy to read. Easily understood by an average 11-year-old student.
90.0–80.0	6th grade	Easy to read. Conversational English for consumers.
80.0–70.0	7th grade	Fairly easy to read.
70.0–60.0	8th & 9th grade	Plain English. Easily understood by 13- to 15-year-old students.
60.0–50.0	10th to 12th grade	Fairly difficult to read.
50.0–30.0	College	Difficult to read.
30.0–10.0	College graduate	Very difficult to read. Best understood by university graduates.
10.0–0.0	Professional	Extremely difficult to read. Best understood by university graduates.

(Adapted from Flesch, cited in Klare 1988:21)

As shown in the table, the Readability Test ranges from 0 to 100, and the higher the score, the easier the text. For instance, if a text scores 100, it means that this text is easily understood by 5th graders in the US school system. Since the purpose of this research question is to find out the contribution of adverbials in students' texts, the researcher used the Flesch-Kincaid calculator to examine the changes in students' papers. The following table shows the quality of students' papers in pre-grammar sessions.

Table 11-Quality of students' Autobiography papers (pre-grammar)

Row Labels	Count of Flesch-Kincaid Grade
8th & 9th Grade	28
7th Grade	12
10th to 12th Grade	9
College	2

As the table shows while all students are at the college level and 35 students are at the sophomore level, only two students were able to write their papers at the college level. The majority of the students (28 out of 51) wrote at the level of 8th and 9th graders despite the fact that the topic of this paper was to write their autobiography which is a very common topic with almost similar prompts.

Table 12- Quality of students' Memoir papers (pre-grammar)

Row Labels	Count of Flesch-Kincaid Grade
7th Grade	26
8th & 9th Grade	12
6th Grade	11
10th to 12th Grade	1
College	1

The table shows that the majority of the students' papers had the quality of 7th graders (26 out of 51) which might be due to the unfamiliarity with the topic of memoir papers. Additionally, 12 students wrote as 8th and 9th graders, 11 students wrote at the level of 6th graders, one student wrote as 10th to 12th graders and only one student wrote their paper at the college level.

In general, the writings in pre-grammar sessions show that majority of the students' papers were not at the college level while all the students were college students. Out of 51 participants, only 5 students were freshman students, and they might not have been accustomed to college-level writing structure/quality and they still transferred their high school writing format to the college level. However, 35 students were sophomores, and they were expected to

write at a higher level while most of the papers were written at 7th, 8th and 9th, and 6th grade levels.

The post-grammar papers show significant growth in the quality of students’ papers. The table below illustrates that 27 out of 51 students wrote their letters at the level of 10th to 12th grades. Additionally, as can be seen, 19 students wrote at the college level while only 5 students wrote at 8th and 9th grades.

Table 13- Quality of students’ Letter papers (post-grammar)

Row Labels	Count of Flesch-Kincaid Grade
10th to 12th Grade	27
College	19
8th & 9th Grade	5

Moreover, as the following table shows 27 out of 51 students wrote at the college level, 22 students wrote at 10th to 12th grades and only two students wrote at 8th and 9th grades.

Table 14- Quality of students’ Personal Statement papers (post-grammar)

Row Labels	Count of Flesch-Kincaid Grade
College	27
10th to 12th Grade	22
8th & 9th Grade	2

The results of the post-grammar papers show a significant increase in the quality of students’ papers in that the majority of the students write at the college level now. In fact, when students’ awareness of language functions and usage is increased, they will be more willing to practice those rules in their papers to improve the quality of their works. For example, a student who had used the adverb “really” in their pre-grammar instruction writing 12 times in one paper, in the post-grammar instruction sample, they used different words for the same purpose such as “truly, in actual fact, in reality, certainly”. In another instance, it could be observed that “mainly” was substituted by “to a great degree, to a large extent, and principally” by some other students.

In general, it was found that the students showed more interest to use more complex words/phrases in their papers after learning adverbials. As indicated above, the number of adverbials had decreased in the post-grammar sessions, however, the quality of the students' works increased significantly in that the students increased the level of complexity of their papers.

On the whole, the results indicate that knowledge is the treatment. This knowledge was transferred to students explicitly following the grammar dimension suggested in Usage-based linguistics theory by Tomasello (2007). When students gain the knowledge of grammar, they will use that knowledge in their writing and improve the level of the complexity of their papers. In these classes, this knowledge was achieved through explicit instruction, discovery learning, and an abundance of practice. As noted earlier, the purpose of the study was not to increase the number of adverbials in the students' papers; instead, the main focus was to equip students with grammatical knowledge and then trace the contribution of this knowledge in their writings.

CHAPTER V: CONCLUSION

The main aim of this study was to investigate the effectiveness of instruction of adverbials following the parameters introduced in Usage-based linguistics theory. For this purpose, using a limited pool of students, the researcher, at first, examined what American English native speakers knew about adverbs and adverbials, then surveyed the students' grammar teaching preference, and finally, the researcher traced how the instruction of adverbials affected the students' papers.

The researcher had conducted a general survey about students' prior grammar instruction before students took the pre-test. The results of this survey showed that only 17 out of 51 students had some grammar classes in the past, and 66.66% of the students had no grammar instruction before. Then, the students took a pre-test to examine their knowledge of adverbs and adverbials. The results of the pre-test showed that the students with some prior grammar instruction provided a better definition of adverbs, and their examples supported their definitions. Although the students with no or limited prior grammar instructions failed to define adverbs, their examples showed their knowledge of adverbs, but they didn't know how to operationalize that knowledge. However, the results of the post-test showed that students had gained awareness of adverbs and adverbials and it could be easily detected that they started using linguistics terms in their responses. The results of these pre-and post-tests are in line with the studies by Berry (2008) and Carreira (2016) who argue that students' knowledge of grammatical terminology eases the communication between the teacher and the students which leads students to direct their attention to form and function of language. Additionally, the results of this study prove Haight, Herron, and Cole's (2007) claim in that they believe that this knowledge of grammatical terminology leads to more successful results in students' tests.

Moreover, seeking to answer the second research question, the students were asked if they preferred implicit grammar instruction or the explicit one. The results indicated that almost 90% of the students were in favor of explicit teaching because they found it more straightforward, understandable and it helped them retain the information for a longer period of time. These reasons are in parallel with the findings by R. Ellis (2005, 2006a, 2015), Norris and Ortega (2001) and N. Ellis (2015) who emphasize the effectiveness and durability of explicit grammar instruction, and they believe that the outcome can be seen in the test results. Given that the researcher followed an explicit teaching approach in his study, the pre-test and post-test results show a significant increase in the mean score of the students' tests i.e., reaching 20.16 from 11.57 on average. Moreover, reviewing the students' responses shows that when they are equipped with the knowledge of grammar, they feel more confident. Unlike prescriptive grammar which gives a set of rules to follow, this usage-based inspired pedagogy provides more options to students which increase their confidence to use different structures.

Additionally, the researcher intended to study the contribution of adverbials in the students' papers after these explicit grammar sessions. The survey of the number of adverbials shows a significant decrease in the number of adverbials in the students' papers after the grammar sessions. Hypothetically, this decrease can be due to an increase in students' awareness of the adverbials in that they began using adverbials more carefully and cautiously. Using Flesch Readability Test and Flesch-Kincaid Grade Level, the researcher evaluated students' papers before and after the grammar sessions. The results showed that while the majority of the students' papers were at 7th, 8th and 9th grades prior to the grammar sessions, the level of students' papers increased to college and 10th and 12th grades. In fact, an increase in the students' awareness of language function, maturity over time, use of online sources, familiarity with the

researcher's expectations among other uncontrolled variables are possible explanatory factors that led to an increase in the quality of their papers. Although Flesch-Kincaid Grade level doesn't provide a direct operationalization of effective adverb/adverbial use in students' papers, it presents the complexity level of students' use of adverbs and adverbials.

Pedagogically, the results of this study showed that, despite having a small number of participants for a course of only one semester, grammar instruction led to significant growth in the quality of the students' papers. While the outcomes in student work are consistent with predictions, the researcher believes that more work in the area should be undertaken. For this reason, the researcher firmly believes it is the responsibility of schools to secure a good grammar culture in their schools so that a place should be specified for grammar teaching in schools, colleges, and universities because the study of grammar for its own sake is a humane study and students should be encouraged to experience how their language works. This knowledge of forms and functions of language could positively affect students' writing performance. The reason is pretty simple. Rarely can anyone find a mathematician with no knowledge of multiplication tables, or the knowledge of the multiplication tables doesn't make anyone a mathematician. The knowledge and the practice should work hand in hand to be a mathematician. The knowledge of grammar is no exception in this regard. The researcher believes that anyone who writes should have some primary knowledge of their own language because grammar knowledge is the major foundation for writing performance. Not only does usage-based linguistic theory familiarizes the language users with the syntactic elements of their own language, but it also introduces the functions of those elements in that language.

As stated at the beginning of this dissertation, due to lack of exposure to explicit grammar instruction, native speakers judge grammaticality based on their experiences with and exposure

to the actual usage of language. The researcher believes that explicit grammar instruction leads to explicit knowledge of the subject matter which enhances students' grammaticality judgment. Therefore, the researcher believes that writing instructors should certainly incorporate explicit grammar instruction in their classes, so learners better understand grammatical terminology and learn about their own language which ultimately results in students functionally using what they understand about their language in their writing practices.

The limitations of this study fall into two groups: methodological limitations, and instructional limitations. Firstly, sample size, participants' years of being at the university, and lack of face-to-face in the class were the major methodological limitations. While a larger group of students would have provided a better and richer data sample, the researcher had to limit the sample size to only three classes. Additionally, almost all the participants in this study were sophomore and junior students in their majors. While if they were freshman students, the results of this research would have been a little more different. That is because in the pretest when the students were asked about the definitions and examples of ADVERBS, more than half of the students wrote that they couldn't remember the definition and the example because some years had passed. Furthermore, due to situational constraints, it is recognized that controls were not in place (e.g., a writing class without the explicit grammar instruction).

Moreover, due to the Covid-19 pandemic situation, all classes were held online, and this provided some limitations regarding communications. Although students were asked to post their questions and zoom meetings were also held to review the contents and answer questions, face-to-face instruction would have provided better results because the researcher could have provided better chances for shy students, had better observations in the class, and even the researcher could have tested different methods to yield better results. Another limitation of this

study was discarding implicit teaching. As stated earlier, the classes were held online, so the researcher decided not to examine the practicality of the implicit grammar teaching approach since implicit grammar instruction requires more interactions and communication with students. However, face-to-face classes would have given this opportunity to the research to try both explicit and implicit approaches and compare the results accordingly. The other instructional limitation was related to the students' papers. Since this research was conducted in ENG 145 classes which requires to focus on some specific genres of writings, the researcher had to limit the paper genres and couldn't repeat the same genres in the pre- and post-grammar instructional sessions.

This work is just a small step into the usage-based linguistic inspired pedagogy. The researcher believes there are two possible directions for further research. As stated in the introduction, a limited number of empirical studies have been conducted on adult native speakers' language learning. The first direction is to use different syntactic elements in L1 contexts and follow the grammar dimension (including frequency, chunking, categorization, analogy, distributional analysis, and entrenchment) suggested by Tomasello. These future studies can enrich the results of usage-based linguistic theory on the one hand and these results can also pave the path for further studies. The second possible direction could be examining the usage-based linguistic theory for the purpose of second and/or foreign language learning. Following the usage-based linguistic hypothesis (the more experience with a language, the better the language is learnt), the researcher recommends some studies be conducted in L2 contexts where students have little exposure to the target language. Therefore, researchers need to, initially, find a way to increase the exposure and then study the effectiveness of usage-based linguistic theory. Moreover, the researcher believes that Flesch-Kincaid, despite its reliability and validity to show

complexity of words, phrases and sentences, it doesn't provide a direct qualitative index for adverbials. Therefore, the researcher believes that more true qualitative studies on adverbs and adverbials need to be conducted in order to find a true qualitative calculator for this purpose.

Language is a quintessential human behavior; therefore, knowledge of language as a means of understanding is a worthy and important goal. Language is not solely composed of words and sounds, but it is the grammar that can make these words together meaningful, that enables us to utter our perceptions of our lives, to express our experiences, emotions and feelings as well as to affect people around us. Knowledge of grammar leads us to discover the true nature of language, and to make more intelligible choices for what we say, read, hear, and write.

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APPENDIX A: PRE-TEST AND POST-TEST

Pre-test

A-Answer the following questions:

1-Have you ever had any formal grammar classes?

2- What is an adverb? Bring some examples.

3-What is an adverbial and support your definition with examples?

B-What does the underlined portion of the sentence express?

1- He works in the bank.

- a. means b. position c. direction d. condition

2-Jason was coming back from his travel to Europe.

- a. position b. distance c. reason d. direction

3-Sadly, the flood destroyed the bridge connecting those two cities.

- a. judgment b. manner c. claim d. cause

4-The man was politely admitted to the meeting.

- a. respect b. manner c. emphasis d. condition

5-Kenzie drove to Chicago on Monday.

- a. duration b. frequency c. position d. relationship

6- The results of the competition were released by the journalist earlier than expected.

- a. means b. instrument c. agent d. manner

7- Frankly, he is not going to pass the test.

- a. manner b. style disjunct c. content disjunct d. process disjunct

8- Bonita is evaluating her employees by interviewing them.

- a. manner b. means c. instrument d. agent

9- Kenzie and Haley had travelled a very long way.

a. distance b. position c. duration d. cause

10- The meeting with the Jones goes for 1989.

a. duration b. position c. direction d. distance

11- Travis has been working in the company for almost 8 years.

a. duration b. position c. direction d. distance

12. John is still working on his proposal for the conference.

a. position b. relationship c. frequency d. duration

13-Arguably, Mrs. Jenkins consults with her lawyer every now and then.

a. truth b. doubt c. judgment d. reality

14- They tried to solve the issue mathematically.

a. means b. instrument c. agent d. manner

15- They have been working on this machine since 10.am.

a. duration b. position c. relationship d. frequency

16- Mr. Foster says that he neglects his children.

a. manner b. relationship d. disjunct d. adjunct

17- The boy, apparently, has forgotten to lock the door.

a. claim b. doubt c. judgment d. respect

18-Like John, Mary has applied for the senior position in the company.

a. manner b. relationship c. position d. agent

19- The Johnsons almost always go fishing once every month.

a. manner b. frequency c. position d. agent

20-Is Mary at home, by any chance?

a. claim b. doubt c. judgment d. respect

C- Answer the following question in 2-3 short sentences.

1- How do you think knowledge about adverbs and adverbials can help you in your writing?

2-How do you think knowledge of adverbs and adverbials can help you in your reading?

3-What do you think about the following statements? Explain your answer in 2-3 short sentences.

- a) It is important for learners to know grammatical terminology.
- b) Explicit discussion of grammar rules is helpful for students.
- c) Learning grammar can make a student's writing more effective.
- d) I need to be consciously aware of a structure's form and its function before I can use it proficiently.

Post-test

A-Answer the following questions (6 pts)

1- What is an adverb? Bring some examples.

2-What is an adverbial? Support your definition with examples.

B-What does the underlined portion of the sentence express? (20 pts)

1-Justine has been living in this apartment for over 10 years.

- a. Position
- b. Frequency
- c. Duration
- d. Distance

2-My family has decided to move to Chicago.

- a. Position
- b. Direction
- c. Distance
- d. Means

3-Jason has already done the tasks he was told by his teacher.

- a. Relationship-agent
- b. Frequency-agent
- c. Relationship-instrument
- d. Frequency-agent

4-Fortunately, no one was injured in that accident last night.

- a. Disjunct-frequency
- b. Adjunct-frequency
- c. Disjunct-position
- d. Adjunct-position

5-Laurel has to take the job seriously if she wants to get promotion in her office.

a. Manner b. Style disjunct c. Content disjunct d.
Illocutionary disjunct

6- Larry should be picked up **from school** because of the weather condition.

a. Relationship b. Distance c. Direction d. Instrument

7-Their first meeting goes **for 2002** when they were both hired by the company.

a. Relationship b. Position c. Distance d. Frequency

8- Mariana has been **cleverly** doing the puzzles in the competition.

a. Disjunct b. Manner c. Position d. Instrument

9-Could he **possibly** have killed his father **with this knife**?

a. Adjunct-means b-Adjunct-instrument c. Disjunct-means d. Disjunct-
Instrument

10- He speaks several European and oriental languages as well as Arabic very **fluently** indeed.

a. Manner b. Style disjunct c. Content disjunct d.
Illocutionary disjunct

11- A cure for chronic bronchitis is **yet** to be found.

a. Position b. Relationship c. Means d. Distance

12- He **immediately** stopped the machine after observing a small change in the final product.

a. Position b. Frequency c. Duration d. Direction

13-The boy broke his leg running **up the stairs**.

a. Direction b. Position c. Distance d. Instrument

14- The burglars used **an acetylene lamp** to break open the safe.

a. Position b. Means c. Instrument d. Manner

15- Jacob could see his high school classmate **on the bus** after a long time.

a. Means b. Direction c. Position d. Instrument

16-Chris was reading a book written **by Tolstoy** the other day.

a. Agentive b. Instrument c. Position d. Disjunct

17-They have planned to go cruising Europe **by train** for their summer vacation.

a. Direction b. Position c. Instrument d. Means

18-Frankly, the road had a very poor surface.

- a. Position b. Means c. Instrument d. Disjunct

19-This class has always volunteered to do the decorations for the New Year.

- a. Frequency b. Direction c. Position d. Agentive

20- You can stick the pieces together with glue.

- a. Means b. Instrument c. Direction d. Position

C- Answer the following question in 2-3 short sentences. (8 pts. Each question 2 pts)

1-Do you prefer explicit grammar teaching or implicit grammar teaching? [In explicit, the teacher presents the rules and principles, and then provides examples to practice those rules while in implicit the teacher provides examples and then the students should try to infer the rules-the teacher doesn't accommodate students with the rules.]

2- Do you think knowledge about adverbs and adverbials can help you in your writing? How?

3-Do you think knowledge of adverbs and adverbials can help you in your reading? How?

4-What do you think about the following statements? Explain your answer in 2-3 short sentences.

- a) It is important for learners to know grammatical terminology.
- b) Explicit discussion of grammar rules is helpful for students.
- c) Learning grammar can make a student's writing more effective.
- d) I need to be consciously aware of a structure's form and its function before I can use it proficiently.

APPENDIX B: STUDENT INFORMATION SHEET AND INFORMED CONSENT

Hello,

You are invited to participate in a research project associated with this section of English 145.

Your instructor, Mr. Pouya Vakili, is researching students' explicit and implicit knowledge about adverbials, and you can contribute to his research if you want.

Your participation will last through the semester but will involve no extra work on your part. In addition to other assignments, Mr. Vakili will ask everyone to respond to a questionnaire about adverbials. He will administer the questionnaire at the beginning of the semester and again at the end.

There are no particular benefits to you for participating; however, there may be benefits to Mr. Vakili and other scholars in learning whether classes like this one affect students' perceptions. You might feel nervous at being asked to contribute to your instructor's research; if you say no, will it affect your grade? The answer is no. Dr. K. Aaron Smith, Mr. Vakili's supervisor, will collect the consent forms and hold them in his office until after Mr. Vakili has posted semester grades for this course. Only after that has happened will Mr. Vakili know who has agreed to participate and who has not.

There is a risk to you in giving Mr. Vakili access to your thoughts and opinions about the questionnaire: what if he publishes what you wrote? Again, the researchers will take pains that this does not happen. Mr. Vakili will not use your name in anything that he writes or publishes, **including direct quotations he may use from your responses or written work.** He will also not publish any information about you that could lead to readers identifying who you are.

Your decision whether to participate in this project is yours alone—your participation is voluntary. If you decide not to participate, there will be no penalty or loss of benefits.

Furthermore, you may change your mind. If after deciding to participate, you decide you wish Mr. Vakili would not use your data, please send an email to kasmit3@ilstu.edu and ask Dr.

Smith to remove your name from the participant list.

If you have questions about the study, you may direct them to Mr. Vakili (STV 201 D) or to Dr. Smith (STV 420 F). If you feel that you have been put at risk, please contact:

If you have any questions about your rights as a participant, or if you feel you have been placed at risk, contact the Illinois State University Research Ethics & Compliance Office at (309) 438-5527 or IRB@ilstu.edu.

Informed Consent Document

I have read about the research project and

yes, I would like to participate. You may use my data.

no thanks, I do not want to participate. Do not use my data. NO thank you

(print name)

(Date)

APPENDIX C: AUTOBIOGRAPHY AND MEMOIR PROMPTS

Autobiography

Please tell me a little about your background. I am interested in who you are in general but also, more specifically, in what kinds of writing you do and have done. How is writing (of any kind) part of your daily life? What experiences have you had that made you feel good about writing, and what experiences have been discouraging? What kinds of academic writing have you done in college? What kinds of writing do you anticipate will be important to meeting your goals while you are in college/high school? what questions or concerns do you have about the reading and writing you will be doing for this class and beyond? How is English 145 (as described in the syllabus and [the course reader]) similar to or different from what you were expecting? What do you think a good piece of writing is? Write as formally or informally as you like until you have one double-spaced page (in 12 point, Times New Roman font, around 250 words). Don't stay up all night worrying about your grammar but do proofread so that my first experience of your writing is a positive one.

Writing a memoir prompts

- Something you have **STRONG FEELINGS** about
- Something you **KNOW A LOT** about
- Something you can **DESCRIBE IN GREAT DETAIL**.
- Something your **AUDIENCE** will be interested in (automatic if you write about something unique to you)
- Something your audience will feel was **WORTH READING** (automatic if you write about something unique to you)
- It focuses and reflects on the relationship between the writer and a particular person, place, animal, or object
- It explains the significance of the relationship.
- It is limited to a particular phase, time period, place, or recurring behavior in order to develop the focus fully.
- It makes the subject of the memoir come alive.
- Memoirs have an introduction with an attention-grabbing opening.
- They include details that set the scene.
- The word count for the memoir is 800-1000 words
- Your writing is confidential on all matters **EXCEPT**: 1) Hurting yourself; 2) Hurting others; 3) Illegal Actions

APPENDIX D: LETTER WRITING AND PERSONAL STATEMENT PROMPTS

Letter writing prompts

Choose 3/5 situations below and write a letter for each. Each letter should be between 200-250 words.

1- You have recently bought a product, but it is not as you had expected and there is a problem with this specific product. Write a letter to the manufacture and complain about the product.

2-You'd like to apply for a job or internship. Write a letter of inquiry to that company/institution and show your interests in that position.

3-You have recently visited a business or an institution, but you were not satisfied with the services in that place. Write a letter to make suggestions about that place. in your letter state why you were not satisfied and how they can improve their services.

4- Write a letter to a messy roommate, a letter explaining a request to a parent or a letter of apology to a friend. This is an informal letter, and your letter should make an impact or create ethos for the reader.

5-Imagine you are trapped on an island in the middle of nowhere. Write a message in a bottle to someone. This can be an SOS message, a message telling others how good your life is now or how bad it is. What message would you want people to find?

Personal Statement Prompts

Look at these prompts and write your personal statement. This paper should be 800-1000 words. Pay attention to details and try to present yourself in the best way you ever can

- There seem to be four distinct time periods captured in a personal statement.
- The first is the author's past: What has formed you into the person you are?
- This leads to the present: Who are you? How can you be summed up?
- A trickier time period to consider is the near future: Who will you be if you are given the opportunity you are applying for (whether a job, internship, public office, or scholarship)? How will this opportunity allow you to grow? How will you use the opportunity to help others or contribute to a common goal? How will you work with this opportunity?
- Finally, when you come out on the other end of the opportunity, in the distant future, who will you be? How will you be better? How will you have bettered the situation of others?