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Extending the Morpheme Order Studies: Acquisition of Modal and Non-Modal Verbal Morphemes by ESL Learners

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EXTENDING THE MORPHEME ORDER STUDIES: ACQUISITION OF MODAL AND NON-MODAL VERBAL MORPHEMES BY ESL LEARNERS

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ABSTRACT

EXTENDING THE MORPHEME ORDER STUDIES: ACQUISITION OF MODAL AND NON-MODAL VERBAL MORPHEMES BY ESL LEARNERS

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The morpheme order studies have long prevailed in the field of second language acquisition. However, these studies are often undermined by their extent and focus on a limited number of morphemes. Thus, the present study extends the scope of morphemes to include modal verbs within other verbal morphemes and studies the order of their acquisition. Discourse Completion Tests (DCTs) were used to examine a total of twenty-seven ESL learners from a wide range of L1 backgrounds: *Japanese, Arabic, Chinese, Thai, Spanish, Turkish, Urdu,* and *Vietnamese*. The study reveals a universal pattern in ESL learners' acquisition of English verb morphology. The study also finds that the first language backgrounds of learners have influenced the accuracy results of morphemes. These findings are discussed in light of the *Full Transfer/Full Access Hypothesis*. Overall, the study highlights the early development of English modal verbs by second language learners.

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CHAPTER I

INTRODUCTION

The line of research documented as "the morpheme order studies" has played a significant role in the field of second language acquisition (SLA) since the 1970s. These studies are concerned with the acquisition of grammatical morphemes by second language learners. Though the foci of the morpheme order studies differ, the central idea of these studies is to find out whether or not second language learners acquire English grammatical morphemes in a predictable order. To explain the nature and history of these studies, we need to look back at some theories that influenced the thinking of that time.

During the 1950s and 1960s, the prominence of the Behaviorist school in Psychology largely influenced the fields of both first and second language acquisition. Those behaviorists believed that language learners acquire the L2 through repetition and positive reinforcement, and they viewed language acquisition as the process of habit formation. They also believed that L2 learners rely extensively on their native language when they acquire the second language (Gass, Behney, & Plonsky, 2013, p. 53). As a whole, this theory depends mostly on input as the basis for language acquisition. But, how does the behaviorist theory of language account for the creative errors learners make? Or how does it explain children's resistance to imitate adult corrections of their morphogrammatically wrong forms? A classic example of this idea was provided by Cazden (1972, p. 92). According to him, a child who says "She *holded* the baby rabbits and we patted them" has never heard an utterance like that, and despite the fact that his mother attempts to correct him, he repeats the same error (as cited in Gass et al., 2013, p. 109). This mental sophistication cannot be explained merely by the behaviorist approach

and, as a result, a shift was made to the cognitive approach of language acquisition. The cognitive approach emphasizes the innate principles that work, with other factors, to enable L2 learners to acquire language. In this light, researchers hold that there is a universal pattern among learners in the acquisition of a second language regardless of their L1. Besides, they believe that learners acquire their L2s in the same way as they acquire their L1s.

In reference to the cognitive approach of language acquisition, Roger Brown (1973) proposed an evolutionary idea which states that children acquire their first language in a similar and predictable order. Brown's work is one of the most influential in the field, and since then, SLA researchers have devoted much of their time studying this phenomenon. Dulay and Burt were also inspired by Brown's work on child first language acquisition, and, through multiple studies (1973, 1974b), they argued that L2 learners followed an order of acquisition similar to that in Brown's study. Since Dulay and Burt, the morpheme order studies have been growing in number, methodologies, and findings.

Looking more closely at the nature of the morpheme order studies, all of these studies examine grammatical structures or "morphemes." A morpheme is "the smallest grammatical unit of language or the smallest meaning-bearing unit of language" (Bauer, 1988, p. 247). The morpheme order studies are only concerned with grammatical morphemes, whether bound or free, and study both nominal and verbal morphemes to reveal the order of their acquisition by second language learners.

For many years, the morpheme order studies have influenced SLA research as well as SLA teaching practices. In research, scholars became interested in testing the language structures using different methods to find out the acquisition order of certain morphemes,

or to confirm previous research findings on the same topic. Moreover, learner errors were viewed as a reflection of the processes underlying their creative acquisition, and great attention shifted to what was then known as "the interlanguage" (IL, Selinker, 1972). In a larger sense, the morpheme order studies supported Chomsky's Universal Grammar Theory (since 1960s) because these studies assume that L2 learners use common strategies in their acquisition of English (Gass, Behney, & Plonsky, 2013, p. 121). As for the field of teaching, the morpheme order studies helped language teachers understand the developmental sequences learners go through, and the stages they experience when acquiring the English language. In other words, learners do not go from zero to a full understanding of the language. Instead, they go through developmental stages that display certain features which should be emphasized in the teaching curricula.

But despite the popularity and attention the morpheme order studies received, some scholars have questioned their validity. For one thing, most of the morpheme order studies followed the same methodology, i.e., using the Bilingual Syntax Measure (BSM) to test ESL learners. Another criticism was related to the type of morphemes these studies examined, and that "the group of functors is too linguistically heterogeneous" (Goldschneider & DeKeyser, 2005, p. 62). In other words, the morpheme order studies have examined the acquisition of nominal and verbal morphemes together while these morphemes do not belong to the same linguistic class. This study, as a result, resolves this issue and studies only verbal morphemes. Moreover, a neglected area in these studies is the examination of modal verbs within the verbal morphemes and whether or not they are acquired early or late, as well as earlier or later than non-modal verbal morphemes by second language learners. With this in mind, the present study follows the line of research

known as “the morpheme order studies”; however, it takes into account the problematic issues found in previous studies. More importantly, this research discusses a new area in the morpheme order studies, that is, the examination of modal verbs within other verbal morphemes.

This study was inspired by the fact that L2 learners acquire some modal verbs earlier than others when learning English. What is more important is the fact that modal verbs represent a significant class of verbs in the English language. Each modal verb also conveys a range of social, logical, and other meanings; thus, the use of these verbs exists in most examples of daily written and spoken language. Moreover, modal verbs have existed since Old English, and their historical status with both preterit and present semantic functions also constitutes a strong motive for the researcher to study the order of their acquisition as well as their acquisition order within other verbal morphemes.

As far as the body of literature on the morpheme order studies shows, there is no research, to the best of my knowledge, that has examined second language acquisition of modal verbs within verbal morphology. Due to this gap in knowledge, the present study examines the acquisition order of modal and non-modal verbal morphology that includes the following fourteen verbal morphemes: *can*, *could*, *will*, *would*, *may*, *might*, *must*, and *should* (excluding *shall*, see Chapter III for an explanation), copula *be*, auxiliary *be*, the perfect aspect marker *-en*, irregular past, regular past *-ed*, and the third person singular *-s*.

To this end, the research questions I seek to answer in the course of this study are:

(1) Is there a universal pattern in the acquisition of verbal morphology among ESL learners?

(2) If yes, what is the order of acquisition of these morphemes by ESL learners?

(3) When acquiring modal verbs, what specific meanings are acquired at each proficiency level?

(4) Do the ESL learners' first languages affect the order of acquisition?

Methodologically, the researcher of this study conducted a pseudolongitudinal study by administering a one-time Discourse-Completion Test to ESL learners at three proficiency levels. These students were studying English as a second language during fall quarter, 2018 at Central Washington University's UESL Program.

The structure of this thesis is as follows: Following this introduction, Chapter II reviews the body of literature relevant to morpheme order studies. Chapter III then details the method used for this research. Chapter IV reports the results of the study. Chapter V discusses the results and characterizes the acquisition order of the verbal morphemes.

CHAPTER II

LITERATURE REVIEW

This study is mainly concerned with the acquisition order of verbal morphology, including both modal and non-modal verbs, by language learners of English as a second language. The aim of this chapter is to provide an overview of previous research that deals with this body of knowledge. To achieve this purpose, I will begin the chapter by defining some terms relevant to this discussion, followed by a review of first and second language studies dealing with the acquisition of grammatical morphemes. Later in the chapter, I will address research on the acquisition of verbal morphology. Finally, I will tackle research on the acquisition of modal auxiliary verbs in the context of second language acquisition.

Definition of Terms

Four frequently used terms used in this study are defined below.

Morpheme Order Studies: These were studies that began in the 1970s, "inspired by Brown's work (1973) on first language acquisition" (Mitchell & Myles, 2004, p. 39). Dulay and Burt (1974) were the first researchers to replicate Brown's findings, reporting a similar order of acquisition in Spanish speaking learners of English. After Dulay and Burt's findings, more attention was given to these studies, and many researchers were interested in this area of inquiry. In the literature, the morpheme order studies are often referred to as "natural order" studies; the former term points to the studies of the early 1970s and the later to studies concerning the same issue for the period afterward. Actually, the main theme for the morpheme order studies is the examination of the acquisition order of grammatical morphemes, nominal and verbal, by language learners

of English. Although these studies were under criticism, the idea of sequential acquisition is still an accepted fact in SLA (VanPatten & Benati, 2010, p. 114).

Interlanguage (IL): According to VanPatten and Benati (2010), "Interlanguage is a term coined in 1972 by Larry Selinker and was intended to describe the competence of L2 learners and the source of that competence" (p. 100). Stated differently, interlanguage is the linguistic system of a second language learners, independent of the learners' first and second languages. More importantly, this system allows second language researchers to understand the underlying processes which reflect how English language is internalized by language learners at different proficiency levels.

Universal Grammar (UG): Universal Grammar, initiated and developed by the linguist Noam Chomsky since 1960s, is a theory of the genetic component of the language faculty. This theory argues for the existence of innate principles common to all language learners. It also assumes that human beings will always develop a language with certain characteristics, for example, any language has nouns and verbs. This means that human beings have a biologically innate endowment that enables them to develop a language. As such, UG rejects the behaviorist approach to language learning and instead advocates for a mentalist view of language learning. McGill linguist Lydia White was the first to apply the idea of UG to the field of SLA (1989, 2003), claiming that UG guides and constrains the process of second language acquisition.

Modal verbal morphemes: In this research, this term refers to the modal auxiliary verbs *can, could, will, would, may, might, shall* (not included in this study), *should,* and *must*. Historically, these verbs had been widely used in the English language and they have syntactic and semantic features distinct from other auxiliary verbs.

Non-modal verbal morphemes: These are morphemes that are not among the nine modal verbs. Specifically, non-modal verbal morphemes in this study include the copular *be*, the auxiliary *be*, the regular past tense marker *–ed*, irregular past tense verbs, perfect aspect marker *–en*, and the third person singular present tense marker *–s*.

Having defined these four morphemes, I divide the rest of the chapter into four sections: First Language Acquisition studies, Second Language acquisition Studies, Verbal Morpheme Acquisition Studies, and Modal Morpheme Acquisition Studies.

First Language Acquisition Studies

When discussing the early research of the 1970s, it is important to understand the historical background that influenced the mainstream of thinking of that time. During the 1950s and 1960s, the "behaviorism" theory of learning was prominent. According to the behaviorist approach, learning is about habit formation. A child learns a language by mimicking speech from adults, and thus language acquisition is a process of forming habits (Gass et al., 2013).

Eventually, there were major developments in other fields, including linguistics, which also had impact on the way language learning was seen. In linguistics, there was a shift from structural linguistics to generative linguistics when Chomsky published his *Syntactic Structures* in 1957. Later in 1959, he argued against Skinner's views on the behaviorist approach to language learning, claiming that language is not a set of automatic habits but rather a set of structured rules. Chomsky's criticisms of Skinner's views were revolutionary and, as a result, the behaviorist theory of language learning was losing ground in favor of Chomsky's cognitive approach.

In fact, Chomsky's ideas were a stimulus to the inquiry of the acquisition of language in young children during the 1970s. Brown (1973) carried out research, with his students, on the development of English as a first language in three children: Adam, Eve, and Sara. Specifically, Brown and his students had studied the spontaneous speech of these children, and they traced the development of 14 grammatical morphemes, as shown in Table 1. In this longitudinal study, all three children had actually followed the same stages when they acquired English, and this order of acquisition, as Brown suggested, was not related to the order of morphemes in their parents' speech (Brown, 1973, p. 399).

Table 1
Brown's Acquisition Order for the 14 Morphemes

Order	Morphemes
1	Present progressive
2-3	In, On
4	Plural
5	Past irregular
6	Possessive
7	Uncontracted copula
8	Articles
9	Past regular
10	Third person regular
11	Third person irregular
12	Uncontracted auxiliary
13	Contracted copula
14	Contracted auxiliary

To keep readers of his research on track, Brown offered a chronology of the stages that these children went through. As he puts it, "None of these grammatical morphemes is acquired suddenly and completely" (Brown, 1973, p. 398). It follows that these children achieved a constant order for the 14 morphemes. Brown's results, in fact, have actually shaped much of later research in SLA.

Of equal importance, Brown introduced the idea of suppliance in obligatory context (SOC) for scoring and analyzing the data. According to him, "[G]rammatical morphemes are *obligatory* in certain contexts, and [*sic*] so one can set an acquisition criterion not simply in terms of output but in terms of output-where-required" (1973, p. 255). When a grammatical morpheme is supplied in 90 percent of all obligatory contexts, that morpheme is then regarded as being acquired. This method has been adopted widely in later SLA research.

In the same context, Jill and Peter de Villiers replicated Brown's study of the 14 grammatical morphemes, as reported in Brown (1973). They conducted a cross-sectional study from a large range of subjects, 21 children, and they used the same morphemes that Brown studied. Moreover, Jill and Peter de Villiers used Brown's coding rules to analyze the data and obtained an exact order of acquisition to that obtained by Sara, Adam and Eve. Thus, the assumption that language is learned in a consistent and predictable order received more support.

As a matter of fact, later SLA research adopted Brown's study and his method for analyzing the data. More importantly, most research about the acquisition of grammatical morphemes traced the development of the same 14 morphemes, either all or some of them, in Brown's work. This realization has not yet been discussed in language acquisition research. Why were some morphemes studied while others were not? Brown himself asserted that some grammatical morphemes like "the perfective" and "modal auxiliaries" were not scored in his longitudinal study. One explanation he gave is the difficulty identifying obligatory contexts in the speech of the three children (Brown, 1973, p. 270). Because of the young ages of the three child participants in his study, he

believed that his data did not provide reliable contexts for scoring the excluded morphemes.

Even if Brown's data were insufficient for identifying some morphemes like modal auxiliary verbs, the question of why later researchers had traced the development of "the same grammatical morphemes" remains unclear. A potential assumption is to ensure comparability of new findings.

Second Language Acquisition Studies

As discussed earlier, scholars questioned the validity of "the habit formation" theory and followed an alternative theory that would explain the acquisition of languages. In the context of SLA research, Dulay and Burt had a great impact on SLA research, reporting multiple studies on second language acquisition. Beginning in 1972, Dulay and Burt, as mentioned in their 1974b article, examined Spanish, Japanese, Chinese, and Norwegian children second language learners. This study, for the most part, was "error analysis" aiming for providing evidence against the behaviorist approach of language learning. Dulay and Burt found that children, from various backgrounds, "reconstruct the English syntax in similar ways" (as cited in Dulay & Burt, 1974b, p. 37). These findings provided strong support against the "contrastive analysis" of language learning at that time which basically attempted to analyze two languages and compare their structural similarities and differences to identify areas of difficulty or easiness for language learners.

Dulay and Burt's 1973 study was probably the first work on morpheme order studies in the context of second language acquisition. It's important to say that Brown's 1973 study on children's first language acquisition was a significant motive for researchers to investigate the order of acquisition of grammatical morphemes by children and adult

second language learners. In 1973, Dulay and Burt examined Spanish-speaking children's acquisition of eight grammatical morphemes: plural *–s*, progressive *-ing*, copula *is*, articles, auxiliary *is*, irregular past, 3rd person singular, and the possessive. Though the subjects of Dulay and Burt's research came from different settings, California and New York, all of them followed approximately the same acquisition order. In other words, Dulay and Burt found that children L2 learners of English are similar in their acquisition of grammatical morphemes to first language children as reported by Brown (1973).

To further confirm previous findings, Dulay and Burt (1974b) made another significant investigation. They examined 55 Chinese and 60 Spanish children who were learning English as a second language. This time, Dulay and Burt studied the acquisition of 11 morphemes using an extended version of the Bilingual Syntax Measure (BSM). The BSM is a test of English consisting of seven color cartoon pictures followed by questions, or as the researchers explained, "like chatting with children" (Dulay & Burt, 1974b, p. 40). The purpose of using the BSM was to obtain natural speech from these subjects.

The findings of this study were interesting. All of the children, who spoke different L1s, followed approximately the same acquisition order when they acquired English. Dulay and Burt used three methods to analyze the data, and all of these methods reported the same results. This means that there is a universal mechanism for acquiring the target language. These findings opened an area of research in adult second language acquisition, as will be discussed later.

The findings of Dulay and Burt's research on child second language learners led them to propose the "Creative Construction Hypothesis." This hypothesis emphasizes the universal innate mechanism in the acquisition of a second language. In this view, second

language learners, regardless of their L1s, will use common strategies and processes for reconstructing second language rules. This excludes the role of transfer in second language acquisition. Consequently, the Creative Construction Hypothesis (1974b) laid the groundwork for later research on the morpheme order studies.

Soon after Dulay and Burt's study, Bailey, Madden, and Krashen (1974) examined a total of 73 L2 learners of English in two groups. The first group consisted of 33 L1 Spanish L2 English learners, and the second group of 40 learners of different first languages: Italian, Turkish, Greek, Persian, Arabic, Japanese, Chinese, Thai, Afghan, Hebrew, and Vietnamese. Bailey et al. (1974) studied the acquisition of eight grammatical morphemes, just as Dulay and Burt (1973) did, and used the same elicitation method, that is, BSM, to elicit the target structures. The results of the study reported a very similar order of acquisition to those of Dulay and Burt (1973, 1974) and, as a result, gave credit to the "natural order" of acquisition of English morphemes.

Larsen-Freeman (1975) was the first to question the effect of data collection procedures on the reported order of acquisition, and she examined the grammatical morphemes using different elicitation tasks (i.e., writing, reading, listening, speaking, and imitating). She administered these tasks to 24 ESL learners from various native language backgrounds (Japanese, Arabic, Persian, and Spanish). In fact, Larsen-Freeman studied 10 of the 11 morphemes explored by Dulay and Burt (1974b), and she used their method for analyzing the data, namely, the Group Score Method. This method of analysis was used to establish a rank for the morphemes across the group of learners. All in all, the results of Larsen-Freeman (1975) were significant. First, she acknowledged that a high level of correlation was found across language groups. Second and more importantly, she

asserted that there was variability among her individual and language group subjects. In her discussion, Larsen-Freeman claimed that the variability between language groups could be explained in terms of L1 features. In spite of that, she concluded that the native language background of her subjects "doesn't seem to radically influence the way in which learners order English morphemes" (Larsen-Freeman, 1975, p. 418).

Likewise, Hakuta (1974) conducted a longitudinal study to investigate precisely the same issue. He collected natural data from a five-year-old Japanese girl named *Uquisu*. In this study, Hakuta looked at the development of Brown's (1973) grammatical morphemes. He also traced the development of the preposition *to* when used to express directionality, and the past auxiliary, e.g., "I didn't do that" (Hakuta, 1974, p. 136). The order of acquisition that Hakuta found suggests the role of the native language in the acquisition of grammatical morphemes. In particular, an example is given of the Japanese child who acquired English articles, which she lacks in her L1, very late.

At this point, it is worth mentioning the work by Stephen Krashen on second language acquisition, which relates to and influences the findings of the morpheme order studies. During the late 1970s and early 1980s, Krashen published many distinguished articles and books that formed the basis for his "Monitor Theory." The Monitor Theory was "one of the most ambitious and influential theories in the field of SLA" (VanPatten & Williams, 2007, p. 25). In general terms, the Monitor Theory is based on a set of five interrelated hypotheses:

1- The Acquisition-Learning Hypothesis

2- The Monitor Hypothesis

3- The Natural Order Hypothesis

4- The Input Hypothesis

5- The Effective Filter Hypothesis

Relevant to this discussion, Krashen's Natural Order Hypothesis claims that forms of the language, such as the grammatical morphemes *–ed, –s* or other morphemes, are acquired in a predictable order. In addition, the order of acquisition is independent of whether instruction is involved or not. Accordingly, Krashen (1977) proposed an order of acquisition by native language learners of English as shown in Figure 1 (cited in Pica, 1983, p. 470):

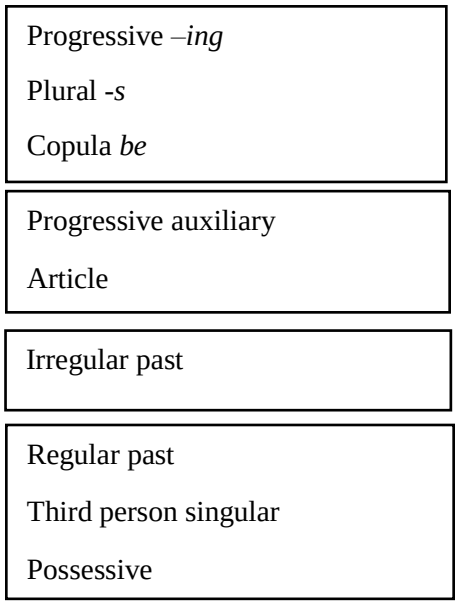

Figure 1. The order of grammatical morphemes by Krashen

According to Krashen, some grammatical morphemes were acquired with other morphemes, meaning that there is no clear-cut division in the acquisition of some grammatical morphemes like the progressive *–ing,* plural-*s,* and copula *be*. In fact, Krashen's views for the Natural Order Hypothesis, as well as for his other hypotheses, were influenced by Chomsky's theory of language. In other words, all learners follow

sequences in their acquisition because of a universal innate endowment which guides the acquisition process.

Although Krashen's theory was influential to the understanding of second language acquisition, it has received serious criticism, e.g., McLaughlin (1978) and Gregg (1984). To begin with, Krashen's Natural Order Hypothesis has been criticized as explaining a phenomenon that needs explanation (VanPatten & Benati, 2010, p. 33). That is, the morpheme order studies claimed a predictable order; however, none of these studies nor the Monitor Theory have provided an explanation for these findings. More serious criticism was proposed by Gregg (1984) in his famous article *Krashen's Monitor and Occam's Razor* where he analyzed Krashen's five Hypotheses to illustrate that the theory itself was not coherent at all. Basically, Gregg's main concern was that Krashen tried to formulate a theory while he had no linguistic theory to relate to. In other words, the Monitor theory lacks the empirical content that supports its claims. Consequently, the morpheme order studies began to take a new direction during the late 1980s and beyond. Particularly, researchers were looking to find an explanation for the order of acquisition found in early research agenda.

During the 1980s, researchers explored the acquisition of English grammatical morphemes by learners of different first languages. For example, Pica (1983) studied 18 native Spanish speakers who were learning L2 English language. Her study was cross-sectional as she examined natural speech from her learners. She reported an acquisition order similar to the natural order in previous studies, so she concluded that learners make use of their "natural ability" to acquire their L2 despite the fact that learners of her study acquired English under various conditions of exposure. In another setting, Sasaki (1987,

as cited in Luk & Shirai, 2008) studied a 9 year old Japanese girl who was living in the United States and compared her performance to Hakuta's (1974) subject. Sasaki found that the first language, in this case Japanese, has an influence on the acquisition of grammatical morphemes. However, there is also a universal sequence in the acquisition of some morphemes, e.g., *-ing*, regular and irregular past were acquired early in both studies. In addition, Pak (1987, as cited in Luk & Shirai, 2008) had studied a total of 80 Korean ESL students, 40 children and 40 adults. In this study, Pak used the Bilingual Syntax Measure to test the learners. Her results suggest the role of setting on the acquisition of English morphemes. In particular, she claimed that children who learned through instruction are different in their acquisition order from English-speaking children. Also, the role of L1 was among the main factors that influenced the acquisition of her learners.

Although the morpheme order studies investigated the acquisition by learners of different L1s using different methods, they all reported a similar order of acquisition for the English morphemes. Table 2 summarizes the order of acquisition found in the main studies (adopted from Kwon, 2005, p. 6).

Table 2

The Acquisition Order of English Morphemes in Major L2 Studies

Dulay and Burt (1974)	Bailey, Madden, and Krashen (1974)	Larsen-Freeman (1975)	Hakuta (1974)
1. Pronoun case	1. Pres. progressive	1. Pres. progressive	1. Pres. progressive
2. Articles	2. Plural	2. Copula	2. Copula
3. Copula *be*	3. Contr. copula	3. Articles	3. Aux.
4. Progressive	4. Articles	4. Aux.	4. In
5. Simple plural	5. Past irregular	5. Short plural	5. To
6. Auxiliary	6. Possessive	6. Past regular	6. Aux. past
7. Past regular	7. Contr. Aux.	7. Sing.	7. On
8. Past irregular	8. 3rd pers. sing.	8. Past irreg.	8. Possessive
9. Long plural		9. Long plural	9. Past irreg.
10. Possessive		10. Possessive	10. Plural
11. 3rd pers. sing.			11. Articles
			12. 3rd p. reg.
			13. Past reg.
			14. Gonna-aux.

As seen in Table 2, the same grammatical morphemes were acquired early in most of the studies despite the fact that these studies were conducted on learners from different language backgrounds. Copula *be* and the progressive *-ing*, for instance, are among the morphemes that were acquired early in children as well as adults L2 learners. In contrast, the third person singular *–s* was acquired later in these studies. These findings, when put together, suggest that there exists a universal pattern for the acquisition of English morphemes. At the same time, learners of the same L1s have their own patterns when they acquire the second language. In an attempt to explain the order of acquisition reviewed in previous research, Goldschneider and DeKeyser (2005) were the first to use meta-analysis to investigate the findings of over 30 years of research on the morpheme order studies. This meta-analysis used five determinants: perceptual salience, semantic complexity, morphological regularity, syntactic category, and frequency to see which one of these determinants account for the variance in the morphemes order studies. The

results of their research suggest that a combination of the five determinants can explain a large part of the differences in the sequences of grammatical morphemes. They also argued that these determinants can be considered as features of "salience." In short, it is possible to say that "salience" alone can explain the variance in the order of acquisition of grammatical morphemes by ESL learners (Goldschneider & DeKeyser, 2005, p. 61).

What is more interesting is the fact that the morpheme order studies, as reported here, have traced the same group of morphemes. These studies replicated Brown (1973), in the first place, and used either a total of 14 grammatical morphemes as (Hakuta 1974) or fewer, e.g., Sasaki (1987). Obviously, it is easy to study the same grammatical morphemes found in previous research. More importantly, for most studies, it was the purpose of comparison to Brown or Krashen's "natural order" that led researchers to study the same grammatical morphemes. Put differently, some researchers were concerned with Krashen's "natural order" and, as a result, they studied the same grammatical morphemes to see if their findings correlate or not with Krashen's order. This was clearly the case for Pica (1983), as an example, who argued that "the acquisition order of her 3 groups of subjects was correlated with the natural order" (Pica, 1983).

Verbal Morpheme Acquisition Studies

When looking at research on the morpheme order studies, a considerable literature investigating specifically the acquisition order of verbal morphemes was found. It has been suggested that Andersen (1978) was among the first to differentiate between the acquisition order of nominal morphemes and that of verbal morphemes (Hawkins, 2001, p. 46). Andersen, as he claims, followed Krashen and other researchers who analyzed grammatical morphemes according to their lexical class. In his 1978 study, Andersen

looked at the use of 13 grammatical morphemes by 89 Spanish learners of English as a second language who were in their first year at the University of Puerto Rico and had studied English for about 12 years at school. What's important in this study is that Andersen analyzed the data according to two syntactic categories: verb-related morphemes, which includes copula *be,* auxiliary *be,* v-*ing*, past irregular, past regular, and the 3rd person singular present, and noun-related morphemes including the article *the* and *a*, the plural *–s*, and the possessive *'s*. Hawkins (2001) discussed Andersen's results, claiming that some verb-related morphemes, which were acquired late, were difficult due to their underlying syntactic proprieties. As Hawkins (2001) puts it, "*Be* +V-*ing* realizes progressive aspect; for an L2 learner to use *be* +V-*ing* accurately in performance, the learner must have acquired an underlying aspectual contrast between progressive and non-progressive (*John is cooking* versus *John cooks*)" (Hawkins, 2001, p.48). The overall acquisition order for the verbal morphemes in Andersen's study was "copula → aspect (± progressive) → tense (± past) → subject-verb agreement (±3rd person singular)" (as cited in Hawkins 2001, p. 48).

Andersen's results support the "Natural Order Hypothesis" proposed by Stephen Krashen (1982) and other researchers who found that at the early stages of development, copula *be* will be acquired before other verbal morphemes such as the 3rd person singular present -*s*. At the same time, Andersen provided important information about the need to look at each individual's profile when studying a large sample of subjects. This was also suggested by many other researchers (e.g., Larsen Freeman, 1976 and Rosansky, 1976), who found individual variations when analyzing the data of their subjects.

Stauble (1984, as cited in Hawkins, 2001) was one of the few scholars to focus particularly on verbal morphemes. Stauble studied English verbal morphology by six Spanish and six Japanese learners of English as a second language. In this study, participants fell into one of three proficiency levels: low intermediate, intermediate, and advanced. Each level consists of two Spanish learners and two Japanese. Besides, these learners had studied English after their arrival to the US, and as Stauble explained, their exposure to English language was "primary naturalistic." To determine the learners' English proficiency levels, Stauble tested the subjects' knowledge of English negation. For example, at the low intermediate level, subjects used *not+verb* as in "she no saw him" (as cited in Hawkins, 2001, p. 56). In addition, the researcher collected the data using recordings of two-hour spontaneous speech and she traced the development of five verbal morphemes by the 12 subjects. These morphemes are bare verbs, *-ing* verbs, past irregular, past regular *-ed*, and 3rd person singular *–s*.

A major concept employed by Stauble in this study is measuring "target-like use" of the verbal morphemes. It involves determining the number of times a morpheme was supplied accurately and not. This was helpful in determining whether a morpheme has been acquired or not yet. To illustrate this idea, Stauble scored the performance of one of her subjects in the "bare verbs" as follows: 43% of target-like use and 48% of non-target-like use. The high proportion of non-target-like use suggests that this subject had not yet acquired the basic English syntax. On the contrary, verbs that end with *–ing* were scored as 93% of target-like use by one of the advanced subjects, and as 3% of non-target-use. In this case, the advanced learner had acquired the progressive aspect of English.

As a matter of fact, the order of acquisition obtained by the Japanese and the Spanish learners in Stauble's study is similar to Andersen's (1978) order. To illustrate this point, learners of English acquired copula *be* and aspects before acquiring verbs' tenses and 3rd person singular (as cited in Hawkins, 2001). As a whole, Stauble's results support the order of acquisition as reported in previous studies, e.g., Dulay and Burt (1974b), Larsen-Freeman (1975), among others. That is, the progressive aspect and copula *be* were acquired before past regular or irregular verbs. On the contrary, these results suggest the role of the native language of learners in the acquisition of English verbal morphemes. This was clear in the learners' accuracy scores in two verbal morphemes: copula *be* and the third person singular *-s*. Particularly, Spanish learners of English in Stauble's study performed better than the Japanese in these two morphemes which indicate some L1 influence on the acquisition.

Recently, Sermen (2017) conducted a longitudinal study to test the acquisition order of verbal morphology by Croatian learners of English as a foreign language. In this study, Sermen used a corpus of 36 recordings of these learners during classroom interactions. She traced the development of nine verbal morphemes as follows: third person singular *–s*, auxiliary verb *be*, progressive *–ing*, past regular *–ed*, past irregular, auxiliary verb *have*, past participle*–en*, present tense copula *be*, and past tense copula *be*. Also, these morphemes were analyzed using Brown's (1973) method, namely, the suppliances in obligatory contexts. At the same time, Sermen used Dulay and Burt's (1974) method for scoring the morphemes according to their correct usage. Her results indicate that the range of morphemes found in the Croatian learners depended on the type of activity in which these students were involved. Thus, Sermen asserts the influence of the type of

activity on the production of verbal morphemes. Though this study was done over a three-year period, it seems that the learners did not show any significant improvement in their acquisition of verbal morphemes. The researcher suggested that other studies should be conducted to test the acquisition of grammatical morphemes over a longer period of time to see clear development.

It seems that Sermen's data were insufficient to determine the order of acquisition for all the nine morphemes. This is partly because her recordings were made during classroom tasks; thus, the students were not always willing to use certain grammatical morphemes. In other words, it was hard to elicit some verbs due to the learners' tendency to avoid using them. It might have helped if the tasks were experimentally developed to elicit certain morphemes, so the researcher could determine the order of acquisition of these morphemes.

Modal Morpheme Acquisition Studies

A growing body of literature has examined the acquisition of modal verbs by ESL/EFL learners. Due to the scope of the present study, the discussion will be limited to the major remarks on the "acquisition/accuracy order" of modal verbs. To begin with, Moloi (1998) studied the acquisition order of modal auxiliary verbs by 30 Sesotho children learning English through partial immersion program. These children were between (3-6) years old, and were divided according to their age into three groups; beginning, intermediate, and advanced. The researcher studied their natural speech for fourteen months by recording their talks during out-of-class activities. Moloi's aim was to find out the order of acquisition of modal verbs, their use in questions and negatives and the factors that explain the observed order. According to the results of this

longitudinal study, Moloi found that second language children followed a similar order of acquisition to other English L1 children as well as other L2 adult learners when they acquired the English modal system. For example, Sesotho children used modals in "negative" forms at the early stages of acquisition. In contrast, they didn't use the modal *might* until late in their acquisition. As a whole, Moloi (1998) observed the development in English modal verbs as following this order: "auxiliaries like *BE going to* and *do/don't* (age 3:0) → *can't* and *will* (age 3:4) → *can* and *want to* (age 3:6) → *must*, *won't* (age 3:8) → *may* (age 3:10), *could* (age 4:0)" (Moloi, 1998, p. 9). In contrast, some modal verbs like *shall*, *should*, *would*, and *might* were acquired late by the children, around ages 4 and 5. In addition, Moloi (1998) claimed that English modal verbs are acquired more easily than other verb forms. This was realized by the analysis of the errors children made while they were interacting with each other.

In fact, this study found significant conclusions related to the acquisition of English modal verbs. Because L2 children's development of modal verbs is similar to that of native speakers, this phenomenon can be attributed to the "natural order" of acquisition which researchers had studied for a long time. In addition to that, the claim that modal verbs are easier than other verbal morphemes when they were acquired by second language children can be a strong call to more research on this conclusion. At this point, I review more research on this area and, later, return to explain the current gap in SLA research.

In the Arabic context, two studies were conducted to study the acquisition of English modal verbs by native Arabic learners of English as a foreign language. Saeed (2009) studied the mastery of English modal verbs by 50 college students who had studied

English for more than ten years. The researcher looked at two levels of acquisition: recognition and production, and he used a questionnaire that had two versions, one with multiple choice questions and the other with fill-in-the gap questions with appropriate answers from a list of options. The multiple choice questions were intended to test the recognition of modal verbs and the other task was to test their production. Saeed (2009) explained that these two tasks studied the acquisition of major meanings of modals. As he put it, "The 40 contextualized items in each version of the questionnaire attempted to test the major functions of modals: *possibility, ability, permission/offering, requesting,* and *suggesting/advising*" (Saeed 2009, p. 80). When analyzing the results, the researcher, in fact, did not mention the order of acquisition for modal verbs. Instead, he talked about the ranking of difficulty for modal verbs. Native Arabic speakers, in this study, were reported to follow this order of difficulty for English modal verbs (from the most difficult to the least difficult):

could → shall → may → would → will → must → should → might →can.

On one hand, this order of difficulty by Saudi Arabian students seems to correlate with Moloi's (1998) order of acquisition by Sesotho children; the modal verb *can* is acquired early by Moloi's children, and more accurately by Saeed's learners. Also, both researchers, Moloi (1998) and Saeed (2009), explained that the modal verb *shall* was the most difficult modal verb among the nine modal verbs investigated in the two studies. On the other hand, Saeed (2009) realized that English modal verbs were not fully acquired by his subjects, despite their high proficiency levels in English language. This, as a matter of fact, contradicts with Moloi's claim of the early acquisition of modal verbs as well as his claim that modal verbs are easier than other verbs in English.

In a similar setting, Al-Qudah and Yasin (2016) studied the perception of English modal verbs among Arab language learners. They examined small written corpora from 26 senior students at the University of Jordan. As with Saeed's (2009) study, Al-Qudah and Yasin (2016) found that English modal verbs was not fully perceived by Arabic learners of English and there was a gap in the use of these verbs by L1 Arabic L2 English learners. The researchers attributed this gap to the first language influence since the system of modal verbs exists in both Arabic and English, yet it differs in each language with respect to the functions and use.

To some extent, the findings in these last three studies seem to be in conflict with each other. For example, Moloi (1998) suggested that, unlike complex verbs, English modal verbs are acquired easily by second language learners. However, Saeed (2009) as well as Al-Qudah and Yasin (2016) claimed that English modal verbs were acquired with difficulty by their advanced learners of English. To understand how ESL/EFL learners acquire English verbal morphemes, a more systematic analysis on the acquisition of both kinds of verbs, modal verbs and non-modal verbs, is required. Knowledge of this particular topic is mostly ambiguous since research has little to say about the acquisition of both kinds of verbs by ESL/EFL learners.

Furthermore, the morpheme order studies, which is the core of this work, had repeatedly studied the acquisition of specific morphemes, e.g., in Dulay and Burt (1974), Bailey et al. (1974), Hakuta (1974), Larsen-Freeman (1975), and Pica (1983). This linguistic issue has been subjected to serious criticism. Maratsos (1983, as cited in Cook, 1993) argued that "the morphemes do not belong to any coherent structural group" (p. 31). Though Maratsos was concerned with the morphemes in first language acquisition

research, this claim is still accurate since most second language acquisition research had replicated first language acquisition research. Even within studies on the acquisition of verbal morphemes, there is no study, to the best of my knowledge, that takes into account modal verbs among other verbal morphemes. To fill this research gap, the present study aims to shed new light on the morpheme order studies by exploring the acquisition of verbal morphology in English: both modal verbs like *can*, *could*, *may*, *might, must, should*, *will*, and *would* as well as other non-modal verbal morphemes like *copular be, auxiliary be, regular past -ed, irregular past, third person singular -s, or perfect aspect*. More importantly, this study examines the acquisition of verb morphology by learners of English from various L1 backgrounds: *Japanese, Arabic, Thai, Spanish, Chinese, Turkish, Vietnamese,* and *Urdu*. The next chapter introduces and describes in detail the research design and the method used to answer the proposed research questions.

CHAPTER III

METHODS

As mentioned in the literature review, the morpheme order studies have never addressed English modal verbs, even though some modal verbs were acquired early by L2 learners, as suggested by Moloi (1998). This research investigates the acquisition of modal verbs among other "previously studied verbal morphemes" in order to find the acquisition order of modal as well as non-modal verbal morphemes. In this chapter, I discuss my research design and the instrument developed to study this phenomenon. Following this, I explain data collection procedures and the methods used to score the data.

The design and procedures for this study were approved by the Human Subjects Review Council at Central Washington University. The data collection took place at Central Washington University's English as a Second Language Program (UESL). The researcher ensured that all participating learners understood the purpose of the research, the instrument, and their roles before the data collection took place. Written consent forms, a copy of which is given in Appendix A, were obtained from all the subjects who took part in the study.

Research Design

This study utilizes a "one-shot" design. In second language research, this type of design is used to test L2 learners on a specific structure or behavior at a specific point in time. In general, researchers whose studies are related to "UG or processing paradigms" use this type of design when they do not need a pretest/posttest design (Mackey & Gass, 2005). This research, seek to examine the acquisition of verbal morphemes at one point in

time for three proficiency levels to find out the acquisition order of these morphemes. In this sense, what this thesis does constitutes a pseudolongitudinal study.

Participants

A total of twenty-seven learners of English as a second language participated in the study. These students were studying English in the UESL program at Central Washington University during the fall quarter, 2018. Because all the participants took a placement test upon their admission to the UESL program, their proficiency levels of English were based on their levels as assigned by the UESL program. Table 3 summarizes the number of participants at each proficiency level.

Table 3

Number of Participants at each Level

Proficiency levels	Number of Participants
Level (1) – Beginning	4 participants
Level (2) – Low Intermediate	3 participants
Level (3) – Intermediate	8 participants
Level (4) – High Intermediate	8 participants
Level (5) – Advanced	4 participants
	Total Number = 27

For the purpose of this research, I have classified the students as belonging to three main proficiency levels: Beginning, Intermediate, and Advanced levels. The Beginning level represents levels (1) and (2) from the table above. Similarly, the Intermediate level represents level (3) from the levels of the UESL program. Finally, the Advanced level includes levels (4) and (5) of the program. More importantly, the first language background of the participants ranges from *Arabic, Japanese, Spanish, Turkish, Chinese, Thai, Vietnamese,* to *Urdu.* The following chart shows the first languages of the participants and the percentage of their distributions.

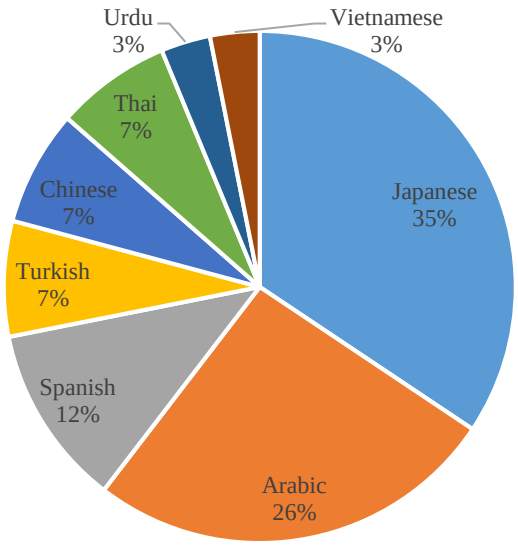

Figure 2. Participants' first languages and their distributions

As the chart indicates, the Japanese and Arabic speaking students represent the major groups of participants in this research. The overall diversity found in this study is crucial to understand the universal mechanisms of second language learning. I address this interesting topic in the Discussion chapter.

Research Instrument

The aim of this research is to examine the acquisition of verbal morphology by ESL learners. In order to design an instrument that elicits modal verbs and other non-modal verbal morphemes, I, with the help of Professor Charles Li, developed a Discourse Completion Task (DCT) to elicit all the morphemes to be tested. In second language research, DCT's "are a means of gathering contextualized data" and, in most cases, "a situation is provided and the respondent is asked what he or she would say in that particular situation" (Mackey & Gass, 2005, p. 355). In fact, this type of instrument is mostly used when studying interlanguage pragmatics, such as the learners' strategies for

apology. This type of instrument suits my purpose since this research is concerned with the acquisition of modal verbs and these verbs must be studied in contexts.

The research instrument consists of thirty dialogues representing contextualized scenarios so that learners understand and respond to them naturally as if they are interacting in everyday life communications. Because modal verbs are difficult to be elicited and can be replaced with other modals that express similar modalities, special care was taken to make sure that the task truly elicits target modal verbs. This was achieved by modifying DCT in a way similar to a multiple choice task. As a result, each dialogue has one or two blanks that need to be completed by participants from four given choices. In this way, the instrument addresses all the verbal morphemes under study. Generally speaking, the final version of the instrument was developed following these steps: (1) deciding on the verbal morphemes to be studied, (2) developing discourse contexts for the verbal morphemes, (3) checking for content validity, and (4) checking for vocabulary frequency.

Step (1): Deciding the verbal morphemes to be studied

Two categories of verbal morphemes are studied in this research: first, modal verbs *can, could, may, might, will, would, must* and *should,* and second, non-modal verbs which include most verbal morphemes that appeared in previous studies: copula *be,* auxiliary *be*, the third person singular present *–s*, the regular past verbs *–ed*, irregular past verbs, and the perfect aspect marker *–en* (or *–ed*). A total of fourteen verbal morphemes was studied.

First and foremost, the researcher decided to investigate modal verbs based on their meanings in the dictionary. The rationale behind this is because research on the meanings

of modal verbs seems controversial. Some scholars classify modal verbs as belonging to either epistemic or deontic meanings. Others, on the contrary, added other classifications, e.g., the dynamic meanings of modals. This confusion continues as to which particular meaning is acquired early or late by second language learners. To solve this issue, *The American Heritage Dictionary* (4th edition) was used as a reference for the meanings of modal verbs. More importantly, the dictionary lists the meanings of words based on their usage. In this way, all the meanings of modal verbs studied in this research were among the top three meanings found in the dictionary. Table 4 illustrates the meanings of modal verbs studied in this research with their examples as appeared in *The American Heritage Dictionary* (4th edition).

Table 4
Modal Verbs and Their Meanings

Modal Verbs & Their Meanings	Examples
Can (used to indicate capability or skill)	"I can sing."
Can (used to indicate possibility or probability)	"Such things can happen."
Can (used to indicate physical or mental ability)	"I can lift it."
Could (used to indicate ability in the past)	"I could run faster then."
Could (used with hypothetical or conditional force)	"If we could help, we would."
Could (used to indicate tentativeness or politeness)	"I could be wrong."
Will (used to indicate simple futurity)	"They will appear very soon."
Will (used to indicate likelihood or certainty)	"You will regret this."
Will (used to indicate intention)	"I will go to the movie theatre."
Would (used to make a polite request)	"Would you go?"
Would (used to express a desire or wish)	"I would like to read each one of them."
Would (used to express a hypothetical possibility or likelihood)	"If I were you, I would buy a new one."
May (used to indicate a certain measure of possibility)	"It may rain."
May (to be allowed or permitted to)	"May I go now?"
Might (used to indicate a possibility or probability that is weaker than *may*)	"We might discover gold."
Might (used to indicate possibility or permission in the past)	"She told him he might not go."
Might (used to express a higher degree of deference or politeness than *ought to,* or *should*.)	"Might I speak to her?"
Must (to be obliged or required by law)	"I must register my car."
Must (to be compelled, as by a physical necessity)	"Plants must have oxygen."
Must (used to express a command)	"You must be careful with these pills"
Should (used to express obligation or duty)	"We should call her."
Should (used to express probability or expectation)	"They should arrive soon."

Step (2): Developing discourse contexts

All the scenarios on modal verbs were initially developed based on the examples provided by the *American Heritage Dictionary*. For example, the dictionary gives the following example for the modal verb *could:*

Could: used to indicate ability in the past, as in "I could run faster at that time."

The researcher then developed a contextualized dialogue from this example. After that, the dialogues were revised to include other non-modal verbal morphemes, like the copula *be*. Thirty dialogues were developed to test the fourteen verbal morphemes. Each morpheme was tested in three obligatory contexts to ensure consistency and comparability. Because this research tests ESL learners at three proficiency levels, a maximum of two morphemes per dialogue were examined in order to make the task clear and meaningful.

Step (3): Checking for content validity

In order to ensure that the instrument elicits the exact morphemes under study by native speakers of English, and that the meanings of modal verbs are obligatory in their contexts, the instrument was pilot-tested on two Native American English speakers from the M.A. TESOL program at Central Washington University. The two speakers took the test and provided feedback on each item. Though this step required many subsequent revisions to the instrument, these revisions strengthened the researcher's confidence in the validity of this instrument. One of the decisions I made after the pilot test was not to test the modal verb *shall*. This modal verb proved difficult for both pilot testers, and they must be more difficult for ESL learners. More importantly, research on modern English supports the claim that the verb *shall* is not frequently used nowadays in every-day American English except in legal texts.

Step (4): Checking for vocabulary frequency

After I revised the instrument based on the pilot study, the instrument then was checked for vocabulary frequency. The aim was to make the task easy to read and

comprehend because this research tests ESL learners at different proficiency levels. According to Nation and Anthony, "Research on vocabulary comprehension has shown that a learner of English needs to understand around 98% of the running words in a text for unassisted comprehension" (2013, p. 5). The aim is for second language learners to be able to read the dialogues and interact with them as more of the spoken language in everyday life. In order to achieve that, I revised the vocabulary to cover the high-frequency vocabulary in English listed by Nation. This means that all the words in the task belong to the 3,000-word families from the high-frequency level. This step was fundamental in ensuring that the task is not only valid but also easy to read by ESL learners across all proficiency levels. The complete version of this DCT instrument is given at the end of this study as Appendix B.

Data Collection Procedures

Data collection was carried out following multiple steps. First, the research instrument was approved by the Human Subjects Review Council at Central Washington University. Second, the researcher received approval from the UESL program coordinator and instructors. Then, some meetings took place with the UESL staff to make suitable arrangements for data collection. After that, the researcher recruited the students and received their signatures on the written consent forms. The task was then administered to twenty-seven ESL learners at all proficiency levels in a classroom setting. The time in which participants were allowed to perform the task was 50 minutes; however, all participants completed the task in 15-30 minutes.

Data Analysis Procedures

The test results were transferred to MS-Excel for further analysis. It was found that two students, one at the beginning level and the other at the advanced level, missed over 30% of the items on the task. The researcher decided to exclude these two tests since they were statistical outliers and would otherwise affect the validity of the results. As a whole, the total number of participants whose results was analyzed was 25, (i.e., 6 at the beginning level, 8 at the intermediate level, and 11 at the advanced level).

Two main scoring criteria were used to answer the research questions: first, suppliance of morphemes in obligatory contexts and second, the Group Score Method (GSM). The method of suppliance of morphemes in obligatory contexts was first introduced by Brown (1973) and adopted later by researchers in second language acquisition. The researcher calculated the results using suppliance in obligatory contexts (SOC) since the aim was to compare the study's results to the results of those major studies on the similar topic reviewed in Chapter II. The main idea of SOC is that each morpheme has to be identified in its obligatory context and scored as a test item. For example, the past tense morpheme *-ed* in "Yesterday, I walked two miles" is obligatory in this context because the speaker is talking about an activity that took place in the past prior to the utterance. To score this item using SOC, I assigned 1 point if the learner supplied a correct morpheme or zero point if the learner did not supply a morpheme or supplied a wrong morpheme.

In addition to SOC, the GSM was used to analyze the data. GSM was first introduced by Dulay and Burt (1974b) to determine the order of acquisition for each morpheme at each proficiency level. Larsen-freeman (1975), among others, also used the GSM in her analysis of the data. For the research purposes, this method measures the

group rank for each morpheme so as to decide the order of acquisition and compare the study's results to the major findings concerning the acquisition order of English morphemes.

The following example illustrates how the researcher applied the SOC method and scored the morphemes.

(Jane is talking to Susan about their abilities.)
Jane: Do you like dancing?
Susan: Yes, and I _____ (shall/ can/ will/ may) sing, too.

In this dialogue, the researcher examines the modal verb *can* when it refers to a person's ability to do something. When developing the instrument, it was ensured that only one verb is permissible in this context. In this case, it is the modal verb *can*. To score this item, a learner who supplied it with *can* would receive one point; otherwise, a learner would receive a zero point if he or she supplied any other modal or no modal.

CHAPTER IV

RESULTS

This chapter presents the findings of this research. As explained in the previous chapter, the results were analyzed using Suppliance in Obligatory Contexts (SOC) and the Group Score Method (GSM). The aim of using these two concepts was to compare the results with significant findings in the previous morpheme order studies.

The results of this study are explored according to the research questions. The first section concerns the general results of the study to find out if there is a universal pattern between ESL learners when acquiring English morphemes. The second section presents the data using the GSM to reveal the order of acquisition of grammatical morphemes. Finally, the last section explains the acquisition criteria used in this study and explores the meanings of the modal verbs which were acquired at each proficiency level.

General Results Regarding Their Suppliances in Obligatory Uses

This subsection reveals the general SOC findings for all the morphemes across three proficiency levels. Table 5 presents the total number of morphemes supplied correctly at each proficiency level.

Table 5

Total Suppliances of Morphemes across Proficiency Levels

Morphemes	Beginning Level	Intermediate Level	Advanced Level
Can	6	19	27
May	4	17	26
Will	9	19	25
Must	5	21	26
Should	7	9	18
Would	2	21	26
Might	2	4	11
Could	3	15	17
Copula *be*	12	23	30
Auxiliary *be*	8	16	23
3rd Person Singular *-s*	2	14	22
Past *-ed*	8	23	23
Past Irregular	8	19	20
Perfect Aspect	12	23	30

As noted in Table 5, the number of morphemes supplied correctly becomes higher as the proficiency level of learners improves. For instance, the modal verb *can* was supplied correctly six times at the beginning level, nineteen times at the intermediate level, and twenty-seven at the advanced level. This correlation between the number of correct morphemes supplied and the proficiency level of learners is expected since learners of English language at the beginning level have different skills and competencies compared to those at the advanced level. The results also show that some morphemes seem easier across all levels while others, in contrast, seem difficult. Copula *be*, as an example, was the most supplied morpheme across all proficiency levels. In contrast, the modal verb *might* was among the lowest scores and, thus, seemed difficult for ESL learners even at the advanced level. These general results lead to the first research question, as reproduced below:

Research Question 1: Is there a universal pattern in the acquisition of verbal morphology among ESL learners?

The answer is yes; there is a universal pattern in the acquisition of modal and non-modal verbal morphology among ESL learners. Some verbal morphemes were supplied correctly by ESL learners more than others regardless of the learners' proficiency levels or their first language background. In contrast, some morphemes received low scores even at the advanced levels. This means that learners of English have a common tendency in their acquisition of English grammatical morphemes. Moreover, these realizations were true for modal verbs as well as non-modal verbal morphemes.

The number of morphemes supplied correctly across proficiency levels is one clue to the understanding of the universal mechanisms involved; however, the next chapter will address these findings with more supporting details. For now, the following subsection examines the acquisition of morphemes in detail to reveal the order of their acquisition.

Results Regarding the Group Score Method (GSM)

The results of this study were analyzed using the GSM to determine the order of acquisition for verbal morphemes. First, I present the accuracy percentages for all the morphemes across the proficiency levels. After that, I move to the order of acquisition of all verbal morphemes under study.

To illustrate how the research obtained the accuracy percentages for the verbal morphemes, let's take the morpheme *past -ed* at the beginning level as an example. The beginning level is comprised of six students. The total number of obligatory contexts for the past *-ed* at this level is eighteen; however, the number of the correct suppliances was only eight. Thus, the accuracy percentage was obtained by dividing the number of correct

suppliances by the number of obligatory contexts, and multiplying the result by 100 to reveal the percentage, as follows:

The accuracy score for a morpheme = $\frac{number\ of\ correct\ suppliances}{number\ of\ obligatory\ contexts} \times 100$

The following table presents the accuracy percentages for all verbal morphemes across the three proficiency levels.

Table 6

Accuracy Percentages across Proficiency Levels

Morphemes	Beginning Level (%)	Intermediate Level (%)	Advanced Level (%)
Can	33.3	79.1	81.8
May	22.2	70.8	78.7
Will	50	79.1	75.7
Must	27.7	87.5	78.7
Should	38.8	37.5	54.5
Would	11.1	87.5	78.7
Might	11.1	16.6	33.3
Could	16.6	83.3	51.5
Copula *be*	66.6	95.8	90.9
Auxiliary *be*	44.4	66.6	69.6
3rd Person Singular *-s*	11.1	58.3	66.6
Past *-ed*	44.4	95.8	69.6
Past Irregular	44.4	79.1	60.6
Perfect Aspect	66.6	95.8	90.9

It can be observed in Table 6 that copula *be* and the perfect aspect have the highest scores across all three levels. In addition, the most striking observation to emerge from the data is the low accuracy score for the modal verb *might* across all proficiency levels. It seems clear that learners of English found this modal verb difficult. The more

significant findings regarding the acquisition order of verbal morphemes are explained below as the answer to the second research question.

Research Question 2: What is the order of acquisition of these morphemes by ESL learners?

In order to decide the order of acquisition of all the verbal morphemes studied in this research, the researcher analyzed the results of twenty-five learners and calculated the accuracy scores of each verbal morpheme across all levels. To demonstrate this idea, copula *be* was analyzed according to the following formula.

Copula *be* = $\frac{number\ of\ correct\ suppliance\ across\ all\ levels\ (65)}{number\ of\ obligatory\ contexts\ across\ all\ levels\ (75)} \times 100 = 86.6\%$

After the researcher analyzed all the morphemes, the order of acquisition was determined based on the accuracy scores received by ESL learners, as can be seen in Table 7.

Table 7

The order of Acquisition of Verbal Morphemes

Verbal Morphemes	Accuracy Scores (%)	Order of Acquisition
Copula *be*	86.6	1
Perfect aspect		
Past *-ed*	72	2
Modal verb *will*	70.6	3
Modal verb *can*	69.3	4
Modal verb *must*		
Modal verb *would*	65.3	5
Auxiliary *be*	62.6	6
Past irregular		
Modal verb *may*		
3rs Person Singular *-s*	57.3	7
Modal verb *could*	46.6	8
Modal verb *should*	45.3	9
Modal verb *might*	22.6	10

The results in Table 7 reveal that copula *be* and the perfect aspect demonstrated the highest accuracy rates among all the verbal morphemes; thus, they were ranked the first.

ESL learners from all proficiency levels were found to perform the best on these two morphemes. In addition, the results also indicate that some verbal morphemes had the same accuracy scores and, as a result, were grouped together, such as auxiliary *be*, past irregular, and the modal verb *may*.

Moreover, the results in Table 7 highlight the early development of English modal verbs compared to other verbal morphemes. Some modal verbs were acquired early by ESL learners, e.g., the modal verb *will*. Similarly, Table 7 shows that the modal verbs *can*, *must*, and *would* precede non-modal verbal morphemes like auxiliary *be* and the irregular past. However, it was found that the modal verb *might* was outranked by all other 13 morphemes since its accuracy score was the lowest, that is, only 22.6%.

Taken as a whole, the results show the significance of including and studying English modal verbs when examining the acquisition of the verbal morphology system. It was obvious that ESL learners reached high accuracy scores on modal verbs like *will* more than other verbs and tenses like auxiliary *be* or the past irregular tense. More details on these findings are discussed in the next chapter. Below, I discuss the results concerning the meanings of each modal verb acquired at the Beginning, Intermediate, and Advanced level respectively.

Results Regarding the Acquisition of Modal Verbs

So far, the general findings of modal and non-modal verbal morphemes were discussed, and the order of their acquisition was established. An important area of this research is the discussion of modal verbs and their meanings. The aim of this subsection is to present the specific results on specific meanings of modal verbs that were acquired at each proficiency level.

As was stated in the Method chapter, this research studies major meanings of modal verbs and used reliable procedures to decide the meanings to be tested. First, all meanings studied were based on *the American Heritage Dictionary* (4th edition). Second, the meanings were then checked for content validity by carrying out a pilot test to Native American English speakers. The final meanings of modal verbs tested, which resulted from careful analysis, were aforementioned in Table 4 in Chapter III.

The acquisition criterion used in this study is the same criterion that has been used in most morpheme order studies, e.g. Andersen (1978). Namely, the acquisition is achieved when ESL learners reached an accuracy score of 80% or higher on each morpheme. Following this criterion, I report the meanings of each modal verb that were acquired by ESL learners at each level.

At the beginning level, five out of the six students supplied *can* correctly. Thus, the accuracy score was obtained following this formula:

Accuracy score of the verb *can* = $\frac{number\ of\ correct\ suppliance\ (5)}{number\ of\ obligatory\ contexts\ (6)} \times 100 = 83.3\%$

As a whole, learners of English achieved low scores on most English modal verbs at this level. Only the modal verb *can*, when it refers to a person's capability or skill to do something, received high accuracy score and, satisfies the acquisition criteria. Table 8 presents the results of modal verbs acquired at the intermediate level.

Table 8

Modal Verbs Acquired at the Intermediate Level

Modal Verbs & Meanings	Accuracy Score (%)
Can (used to indicate capability or skill)	100
Will (used to indicate intention)	100
Would (used to indicate a desire or wish)	100
May (used to indicate a certain measure of possibility)	87.5
Will (used to indicate simple futurity)	87.5
Would (used to make a polite request)	87.5
Must (used to indicate obligations by law).	87.5
Must (to be compelled, as by a physical necessity).	87.5
Must (used to express a command).	87.5

To illustrate how the results in Table 8 were obtained, the modal verb *will* is analyzed as an example, following this formula:

Accuracy score of the verb *will* = $\frac{number\ of\ correct\ suppliance\ (8)}{number\ of\ obligatory\ contexts\ (8)} \times 100 = 100\%$

The total number of students at the intermediate level is eight. All of the learners at this level supplied the verb *will,* when used to indicate intentions, correctly. Taken as a whole, learners of English at the intermediate level achieved high scores on five modal verbs *can, will, would, may* and *must.* All participants at this level supplied the modal verb *can* as in "*I can sing"* correctly. The same applies to the modal verbs *will* when indicating intention, and *would* when expressing a desire. Moreover, the results also indicate that the modal verbs *must, would, will* and *may* were acquired at the Intermediate level with an accuracy score of 87.5%. Table 9 presents the results of modal verbs at the advanced level.

Table 9

Acquired Modal Verbs at the Advanced Level

Modal Verbs & Meanings	Accuracy Score (%)
Can (used to indicate capability or skill).	100
May (used to indicate a certain measure of possibility).	100
Will (used to indicate intention).	90.9
Will (used to indicate futurity).	90.9
Would (used to express a possibility or likelihood).	90.9
Should (used to express obligation or duty).	90.9
Must (to be compelled, as by a physical necessity).	81.8
Must (used to express a command).	81.8
Would (used to make a polite request).	81.8
Could (used to indicate ability in the past).	81.8

In the same way, the results of the acquired morphemes were obtained following this formula:

Accuracy score of the verb = $\frac{number\ of\ correct\ suppliances}{number\ of\ obligatory\ contexts} \times 100$

As an illustration, the modal verb *will* will be examined when used to indicate futurity. The total number of correct suppliances of this particular meaning was ten, and the total number of obligatory contexts was eleven. Thus, the accuracy score was determined by dividing the two values and multiply the result by 100 to reveal the percentage.

Altogether, learners of English at the Advanced level supplied the modal verbs *can*, when used to refer to people's abilities or skills to do things, and *may*, when used to indicate possibilities, correctly 100% and, as a result, these two modal verbs were acquired at this level. At the same time, two meanings of the modal verb *will*, when it refers to intentions and futurity, were scored 90.9% at the advanced level. The verbs *would* and *should* were also supplied correctly 90.9%. Those morphemes which were scored 90.9% were acquired by ESL learners at the advanced level. Other meanings were also acquired at this level since their accuracy scores exceeded 80%. These meanings

include the verb *must* when used to express physical necessity or a command, *would* when used to make a polite request, and *could* when referring to abilities that took place in the past. As a whole, the number of meanings of modal verbs acquired at the advanced level is the highest number across all proficiency levels.

Furthermore, the results above indicate that some modal verbs were acquired by learners at the three proficiency levels. First of all, the modal verb *can*, when used to indicate people's abilities or skills, was acquired by learners at the beginning level (83.30%), intermediate level (100%), and the advanced level (100%). This meaning of *can* is one of the most frequently supplied morphemes by all ESL learners; thus, it can be considered to be one of the easiest meanings from the group of morphemes studied in this research. Second, the modal verb *may*, when used to express a certain measure of possibility, was acquired by learners at the intermediate level (87.50%) as well as the advanced level (100%). Moreover, both meanings of the modal verb *will*, namely, intention and futurity respectively, were acquired at two proficiency levels, intermediate and advanced level. In the same way, some meanings of the modal verbs *must*, *should*, and *would* were acquired by ESL learners at the last two levels.

To summarize, the results so far indicate that ESL learners have acquired some meanings of modal verbs very early and other meanings of the same modals late. Thus, it is necessary to take into account the specific meanings of modal verbs when looking at all the verbal morphemes studied here. The next chapter discusses these results in more detail and explains the similarities and differences in the order of acquisition of this study as compared to those in previous morpheme order studies.

CHAPTER V

DISCUSSION

In this chapter, the results of the research are discussed in detail. The first section of the chapter discusses two main issues in SLA research, namely, whether the acquisition of the second language is determined for the most part by features of first language or by universal cognitive mechanisms. The second section focuses on SLA theories that explain the acquisition of verb morphology by ESL learners. After that, the order of acquisition by L2 learners is addressed and compared to the order found in previous studies. Later in the chapter, findings on modal verbs are explained and discussed with relation to findings in the literature.

L1 Effect or Language Universals

The discussion of what determines the acquisition of a second language was, and still is, one of the challenging areas in second language acquisition research. In fact, the literature suggests that there is continual debate on this issue, and that early morpheme order studies neglected the role of the native language in favor of the cognitive approach to language acquisition. For example, Dulay and Burt (1974a) studied syntactic errors in the speech of 179 children learning English as a second language. In this well-known study, Dulay and Burt found that 87.1% of the errors were developmental errors and that only 4.7% of the errors resulted from L1 negative transfer. Moreover, in their study on the acquisition of morphemes, Dulay and Burt (1974b) explained their results only on the basis of the innate ability of L2 learners. As they put it, “Although only a fragment of English was studied, the results of this study provide a strong indication that universal cognitive mechanisms are the basis for the child’s organization of a target language, and

that it is the L2 system, rather than the L1 system that guides the acquisition process" (Dulay & Burt, 1974b, p. 52). This view of language acquisition was supported by many scholars who claimed that the first language of learners has no role in the acquisition of the second language. Specifically, it was during the 1970s when many researchers argued against the behaviorist view of language acquisition and explained L2 acquisition by the innate mechanisms that found to be the same across all the learners.

Despite this common view of language transfer in second language acquisition at that time, some researchers argued that L1 features have a clear role in the acquisition process. Moreover, they emphasized the careful examination of individual profiles when discussing the order of acquisition obtained by their ESL learners. In this context, Andersen (1978) suggested that L1 transfer explained the acquisition of articles and possessive –*'s* by the Spanish speakers of his study. He also concluded that the first language is clearly one of the factors that interact with the acquisition order of grammatical morphemes (Andersen, 1978). Accordingly, several researchers of the 1980s and 1990s have seriously discussed the role of L1 in the acquisition of English grammatical morphemes.

Overall, the findings of this research are better explained with careful analysis of two factors: L1 transfer as well as cognitive mechanisms. To begin with, the general results regarding suppliance of morphemes in obligatory contexts indicate that there is a universal pattern between second language learners in their general performance. Though ESL learners in this study were from a wide variety of L1s, they have reacted similarly regarding English verb morphology. For one thing, all the learners supplied high scores on copula *be*, which indicates that this morpheme is one of the easiest to language

learners across all proficiency levels. The same applies to the perfect aspect morpheme *-en* or *-ed*, which has the highest scores supplied by these subjects. In addition to tense and aspect, English modal verbs received similar suppliances by ESL learners in this study. The modal verb *can*, as an example, received high accuracy scores by learners at the beginning, intermediate, and advanced level. This indicates that there is a universal tendency among ESL learners in their acquisition of the modal verb *can*. The same applies to the modal verb *might* which was one of the least supplied across all learners at the three proficiency levels. These results suggest that ESL learners, who speak different L1s, have universal cognitive mechanisms that allow them to acquire verbal morphemes in similar ways. However, the role of first language has to be examined to determine its effect on the acquisition of English verb morphology.

To investigate the role of first language in the acquisition of English grammatical morphemes and answer the last research question, I have analyzed the accuracy percentages of two major groups of L2 learners in the study, L1 Arabic and Japanese. Table 10 summarizes the individual profiles of two Japanese and two Saudi Arabian learners at the advanced level.

Table 10
Accuracy Scores by Japanese and Arabic Speakers

First Language	Copula *be* (%)	Auxiliary *be* (%)	3rd Person Singular *–s* (%)	Past *-ed* (%)	Irregular past (%)	Perfect aspect (%)
Japanese (1)	100	66.6	100	100	100	100
Japanese (2)	100	33.3	33.3	100	33.3	100
Arabic (1)	66.6	33.3	0	66.6	33.3	33.3
Arabic (2)	100	66.6	33.3	0	33.3	100

As can be seen here, the results show inconsistent accuracy percentages across learners of the same language group. For instance, one Japanese speaker supplied auxiliary *be*

accurately 66.6%, and the other one 33.3%. Interestingly, the two Saudi Arabian learners supplied the same results, 33.3% and 66.6%. In addition to auxiliary *be*, all the other morphemes were supplied either similarly by the two groups or inconsistently among the same group. This indicates that Japanese learners performed, to some extent, similarly to Saudi Arabian learners with regard to English verb morphology (tense and aspect). However, more analysis is needed to reach final conclusions. Table 11 shows the performance of the same groups with regard to modal verbs to reveal their accuracy percentages.

Table 11

Accuracy Scores of Modal Verbs by Japanese and Arabic Speakers

First Language	*Can* (%)	*May* (%)	*Will* (%)	*Must* (%)	*Would* (%)	*Should* (%)	*Might* (%)	*Could* (%)
Japanese (1)	100	100	100	100	33.3	100	33.3	66.6
Japanese (2)	33.3	100	100	33.3	66.6	100	0	33.3
Arabic (1)	100	33.3	33.3	0	33.3	66.6	33.3	66.6
Arabic (2)	66.6	33.3	66.6	66.6	66.6	0	0	0

With Modal verbs, the results show some correlation between the accuracy percentages and the L1 background of the learners. The Japanese speakers supplied the same accuracy scores (100%) with regard to the modal verbs *may*, *will* and *should*. In contrast, the Arabic speakers supplied low scores on these verbs. These findings suggest that modal verbs, which have distinct semantic meanings, can be a clue for the influence of the first language. In other words, the similarity between the Japanese learners of English in their suppliance of modal verbs suggests that the Japanese language has affected the acquisition of English modal verbs. The same conclusion applies to Saudi Arabian students who supplied similar results regarding English modal verbs.

But even with these similarities between learners of the same L1 background, there were also similarities between all learners in their suppliance of English verb morphology. First of all, both Japanese and Saudi Arabian learners of English supplied low scores on the modal verb *might*. Not only the Japanese and Arabic speakers, but also all ESL learners, with other L1 backgrounds: *Thai, Urdu, Chinese, Turkish* and *Spanish*, have supplied this verb with either 33.3% accuracy percentage or zero scores. These findings support previous studies, as will be discussed later in the chapter. In addition to the modal verb *might*, all ESL learners in this study supplied high scores with regard to the modal verb *can* when it refers to *a person's ability or skill to do something.* This also indicates the universal innate mechanisms that all learners share despite their age, L1 background, and the type of learning involved.

These findings appear to be well explained by taking into account the first language background as well as the innate universal mechanisms that allow learners to acquire English language similarly. Unlike early research on the acquisition of morphemes, this study does not support a complete rejection of L1 transfer in second language acquisition. There have been many examples in which learners of the same L1 background performed similarly to English morphemes. At the same time, the overall results indicate a universal pattern in the acquisition of English verb morphology (tense, aspect, and modality). Given that both factors, language transfer and universal mechanisms, play a clear role in the acquisition of verbal morphemes by ESL learners in this study, more careful treatment of these factors should be taken when discussing the results of this research. This study may have limitations, e.g.; the number of participants; thus, the researcher emphasizes the UG influence without rejecting the role of language transfer in second

language acquisition. The following section examines major theories of L2 acquisition of verb morphology and explains their relevance to this research.

Interpretations of Acquisition of L2 Verbal Morphology

This subsection addresses the core of this research: understanding how second language learners acquire English verb morphology (tense, aspect, agreement, and modality).The general results obtained by ESL learners suggest the following conclusions. First of all, learners of English follow similar stages in their acquisition of verbal morphology. These stages have been documented and discussed extensively in the literature, and many theories and interpretations have been provided by scholars to explain these phenomena. On top of SLA theories is the Universal Grammar (UG) theory by Noam Chomsky, which basically claims that "all human beings inherit a universal set of principles and parameters that control the shape human languages can take, and which are what make human languages similar to one another" (Mitchell & Myles, 2004, p. 54). This theory highlights the existence of an innate language faculty in the human brain. Following this approach, second language learners are believed to go through developmental stages which are very similar across learners of the same group as well as learners from various L1 backgrounds.

However, the applications of UG to the acquisition of verbal morphology is more complicated than it appears. There are plenty of factors that play a role, e.g., the grammar of the first language, the frequency of verbal morphemes, or saliency. As just explained, second language learners were seen to have similar tendencies in their acquisition of verbal morphology. Some morphemes like copula *be*, perfect aspect, and the modal verb *will* were supplied accurately by most of the students across all proficiency levels. Also, a

morpheme like the third person singular *-s* was less accurately supplied by ESL learners in all groups. A striking fact is that the participants come from a wide variety of L1 backgrounds*: Japanese, Chinese, Arabic, Spanish, Turkish, Vietnamese* and *Urdu*. However, they have supplied the morphemes very similarly. This was true for the highest scores as well as for the lower scores regarding the suppliance of verbal morphemes, both modal and non-modal verbs. What is more interesting is that most of these findings regarding the acquisition of verbal morphology have been supported and discussed in the SLA literature. Put together, the acquisition of verbal morphology by L2 learners is believed to follow universal stages of development. This was very clear in these research findings as well as in previous studies on the acquisition orders.

Because the general role of UG on second language acquisition of verbal morphology (and other areas as well) have been supported by many studies over the past 45 years or so, the current question that appears in the discussion of this topic is regarding what sub-components of UG might be available or not to ESL learners. As seen in the previous chapter, the accuracy results on verbal morphemes were low at the beginning level, and these results become more accurate as the proficiency level of learners improves. This is one of the significant conclusions drawn from this research: the interlanguage (IL) of learners appears to become native-like at the advanced level for all ESL learners. In the field of second language acquisition, the first stage of acquisition is referred to as the *"initial state"* and, in the UG approach, the initial state of L2 grammar has been widely researched and debated. Some researchers have argued that the initial state of L2 learners is UG, meaning that second language learners begin the acquisition with full access to universal cognitive principles that guide their acquisition. Others, on the other hand, have

claimed that the initial state of L2 learners is the first language, and that L2 learners will not have access to UG until later in their acquisition. Clearly, each view has its own supporting findings from SLA research. I discuss the relevant views with regard to the research results.

Broadly speaking, results of this study show that ESL learners at the beginning level were less accurate in their suppliance of verb morphology than both the intermediate and advanced levels. This was true for both modal and non-modal verbal morphemes. To illustrate this point, an examination of how ESL learners supplied the third person singular *-s* at the beginning, intermediate, and advanced levels is in order. The accuracy percentages for the third person singular *-s* were 11.1% at the beginning level, 58.3 % at the intermediate level, and 66.6% at the advanced level. Clearly, the accuracy percentages improve with correlation to the proficiency level of learners. Given that there was an obvious universal tendency in the acquisition of verbal morphology across ESL learners, the initial state of ESL learners was the L1, and that UG was available to L2 learners at the higher stages of proficiency.

A related hypothesis *Full Transfer/ Full Access* was introduced by Schwartz & Sprouse, 1994, 1996, 2000; Schwartz, 1998; and Whong-Barr, 2005. This hypothesis assumes that first language grammar is the basis for the L2 acquisition, but that UG is also available during the acquisition process. According to Gass et al. (2013), "[T]he learner is assumed to use the L1 grammar as a basis but to have full access to UG when the L1 is deemed insufficient for the learning task at hand" (p. 168). Based on this hypothesis, the ESL learners in this study started their acquisition of English modal verbs and most non-modal verbal morphemes with the grammar of their first language. This

was true for the low accuracy scores in the suppliance of verbal morphology at the beginning level. Furthermore, the ESL learners were more accurate in their suppliance of verbal morphemes at the advanced levels, and more similar in their general performance due to their access to UG as just discussed.

Moreover, ESL learners interpret English modal verbs very similarly especially at the advanced levels. For one thing, the modal verb *can* was acquired by most of ESL learners in this study, but only when *can* refers to one semantic meaning, that is, people's abilities or skills to do something. The same realization was true for the modal verb *might*, for example, which was highly difficult for ESL learners across all proficiency levels. Why then did all ESL learners find the modal verb *can* easy as opposite to *might*? Or why did they supply high accuracy scores with regard to one semantic meaning of the verb *can* but not to the other meanings? This tendency reveals that the acquisition of English verb morphology, whether tense, aspect or modality, is ruled and guided by universal mechanisms that operate at certain stage of learning. What's more, ESL learners were found to have low accuracy scores at the beginning level since there is clearly L1 influence at the initial state of acquisition. The next subsection compares the acquisition order obtained by ESL learners in this research to the findings in earlier morpheme order studies.

Discussing the Order of Acquisition of Verbal Morphology

One of the aims of this research was to shed new light on the "morpheme order studies" by examining English modal verbs within other verbal morphemes and examine the order of their acquisition. Also, the purpose was to compare the order of acquisition obtained by ESL learners in this study to that reported in previous studies. Specifically,

the acquisition orders found in Dulay and Burt (1974), Krashen (1977), Larsen-Freeman (1975), Andersen (1978), and Semren (2017) are discussed. Dulay and Burt (1974b) were two of the leading scholars in this area of inquiry. Krashen (1977) introduced the "natural order of acquisition," which influenced this line of research for years. Larsen-Freeman (1975) and Andersen (1978) were among the leading scholars in the morpheme order studies. Semren (2017) was one of the few and most recent researchers who studies the acquisition of verb morphology by EFL learners.

To begin with and in general, participants in this study were found to acquire modal verbs relatively early. What's interesting is that some modal verbs were acquired earlier than most non-modal verbal morphemes. For clarity and easy reference, I have reproduced Table 7 below as Table 12.

Table 12

The order of Acquisition of English Verb Morphology

Verbal Morphemes	Accuracy Scores (%)	Order
Copula *be*	86.7	1
Perfect aspect		
Past -*ed*	72	2
Modal verb *will*	70.6	3
Modal verb *can*	69.3	4
Modal verb *must*		
Modal verb *would*	65.3	5
Auxiliary *be*	62.6	6
Past irregular		
Modal verb *may*		
3rs Person Singular -*s*	57.3	7
Modal verb *could*	46.6	8
Modal verb *should*	45.3	9
Modal verb *might*	22.6	10

The distribution of modal verbs in the table above reveals that half of English modal verbs were acquired early by ESL learners. This conclusion has never been addressed in

second language acquisition research. In fact, early morpheme order studies considered modal verbs as a separate class of verbs and never investigated their order of acquisition within verbal morphemes. The current study has addressed that problem, claiming that learners seem to know some modal verbs and use them accurately from early stages of acquisition. As the table indicates, the modal verb *will* was acquired after copula *be*, perfect aspect, and the regular past verbs *-ed*. After that, two modal verbs appeared, *can* and *must*, with the same accuracy percentage (69.3%). In contrast, three modal verbs received the lowest accuracy scores; they are *could*, *should* and *might*. The order of acquisition of English verb morphology shows clearly the significance of the study of English modal verbs within verbal morphemes (tense, aspect, and agreement) since modal verbs appeared early in the acquisition order.

Turning to other verbal morphemes, namely, copula *be*, auxiliary *be*, third person singular *-s*, perfect aspect, past *-ed*, and irregular past, this study obtained the following remarkable findings: First of all, copula *be* was acquired the first among all verbal morphemes, and this correlates with Dulay and Burt (1974b) as well as Krashen's natural order. Also, Semren (2017) found that copula *be* was the first and highly accurate morpheme among her pupils. In this view, this specific finding emphasizes the validity of the study's approach as well as the analysis of the data. To be specific, ESL learners with different L1 backgrounds have access to UG in their acquisition of English verb morphology as it was the case for major studies in SLA. Second, the results indicate high accuracy scores regarding the perfect aspect. Unfortunately, previous morpheme order studies have not addressed the perfect aspect. Even Semren (2017), who studied the perfect aspect within group of verbal morphemes in her study, was not able to discuss the

perfect aspect since her subjects did not produce it in their speech. This particular result is significant because most ESL learners at all proficiency levels supplied this morpheme more accurately than all verbal morphemes and, most of the time, exactly as their performance to copula *be*.

Moreover, the past tense *-ed* was the second acquired morpheme by ESL learners in the current study. This finding correlates with Dulay and Burt's acquisition order as well as Larsen-Freeman (1975). However, Krashen's natural order does not support this finding since in Krashen's order, the regular past follows the irregular past. In this study, it was found that regular past *-ed* precedes irregular past. Generally speaking, some SLA researchers found the same order, i.e., the past tense *-ed* is acquired before the irregular past, while others found the opposite. For Semren (2017), the rank of past regular *-ed* was different across her learners, but mostly the rank does not support the order in this study. To offer further explanation to this issue, Andersen's study (1978) was one of the studies that received attention in the literature. The most relevant to this discussion is his ordering of the past *-ed* and irregular past. Andersen (1978) did not find differences in the accuracy scores of the two past tense verbs, so he grouped them together to indicate that they are acquired mostly at the same time. These differences in the interpretations of the past tense verbs and their acquisition order indicate that there might be other factors affecting the acquisition of the past tense verbs, factors related to the semantics of the verbs, the first language grammar, among others.

Furthermore, these results regarding the acquisition of auxiliary *be* were somewhat in line with previous studies. Auxiliary *be* was acquired after copula *be* in this study as well as in Dulay and Burt's (1974b) study. However, Larsen-Freeman (1975) found auxiliary

be to be acquired before copula *be*. For Krashen's natural order of acquisition, copula *be* and auxiliary *be* were acquired at the same time; thus, they were grouped together according to his order.

But more importantly, the third person singular *-s* was the last acquired verbal morpheme in most of the morpheme order studies, e.g., Dulay and Burt (1974), Bailey et al., Madden, and Krashen (1974), Rosansky (1976), Krashen (1977), among others. The correlation between this study and previous studies supports this approach and analysis of the data. It also supports the interpretations of the results regarding the role of UG in the acquisition of English verb morphology since L2 learners in this study as well as in most of the major studies have acquired the third person singular *-s* very late.

It is important, at this time, to discuss the scale of difficulty proposed by Andersen (1978), which is relevant to the order of acquisition of verbal morphemes in this research. The overall acquisition order for verbal morphemes in Andersen's study was as follows (as cited in Chapter II):

copula → aspect (± progressive) → tense (± past) → subject-verb agreement (± 3rd person singular)

The order of acquisition by these participating ESL learners correlates to some degree with Andersen's scale of difficulty. Copula *be* was the easiest in Andersen's order and the first acquired morpheme in this study's order. Then, aspect precedes tense, according to Andersen. For this study, the perfect aspect precedes the past tense. Thus, these results differ slightly from Andersen's (1978) scale of difficulty. For subject-verb agreement, it seems that the order of acquisition in this study as well as in Andersen's scale of difficulty are in complete agreement with previous results reported in the literature.

As already mentioned, the order of acquisition of this work shares a number of similarities with Dulay and Burt (1974), Krashen (1977), and Andersen (1978). Copula *be* and subject-verb agreement supports, to a large extent, previous findings whereas past tense (*-ed* and irregular verbs) seems to differ from earlier studies. Apart from this slight disagreement, this study shows that universal cognitive mechanisms play a major role in the acquisition of English verb morphology. The next subsection explores second language acquisition of modal verbs, and how their acquisition is similar to English L1 acquisition.

Second Language Acquisition of English Modal Verbs

This study is the first to investigate English modal verbs within verb-related morphemes (tense, aspect, and agreement) as part of morpheme order studies. In fact, the acquisition of modality is one of the complex and difficult areas of English grammar. Yet, it is one of the most important areas to master in English language. As mentioned before, some modal verbs appeared early in the acquisition order, e.g. the verb *will*. However, there are some points that should be addressed before making final conclusions.

To begin with, ESL learners tend to acquire modal verbs gradually and similarly despite the fact that these learners are different in age and L1 backgrounds. Table 13 singles out and summarizes the accuracy scores for English modal verbs among ESL participants.

Table 13
The order of Acquisition of Modal Verbs by ESL learners

Modal verbs	Accuracy Scores (%)	Order
will	70.6	1
can	69.3	2
must		
would	65.3	3
may	62.6	4
could	46.6	5
should	45.3	6
might	22.6	7

As the table indicates, these ESL learners earned very low scores with regard to three modal verbs: *could*, *should*, and *might*. In contrast, modal verbs like *will*, *can* and *must* were found to have the highest accuracy scores among L2 learners. What's important in these findings is the fact that first language children were found to acquire English modal verbs in a similar pattern. Children begin to produce modal verbs around age two, and they begin with the modals *can* and *will* (Fletcher 1985; Wells 1979; as cited in Moloi 1998). These findings can be seen in both L1 and L2 acquisition research. For example, Moloi (1998) observed that English L2 children produced the verbs *can't* and *will* at age (3:4), *can* and *want to* at age (3:6), *must* and *won't* at age (3:8), *may* at age (3:10), and *could* at age (4:0) (p. 9).

In the context of second language acquisition, these findings are not surprising since many studies found the modals *will* and *can* to appear early by ESL/EFL learners. To be specific, Elturki and Salsbury (2016) studied written compositions by L1 Arabic speakers of English and found that "*can* and *will* are the most frequent in all the levels" (p. 60). Even in ESL textbooks, it was argued that *can* and *will* were the most frequent modal verbs in the textbook corpus (Orlando, 2009). Moreover, Saeed (2009) examined modal verbs in two different tasks: *production* and *recognition*. At the production level, the verb

will received the highest score, followed by the verb *can*. Then, the verb *must* appeared and it was followed by the verb *would*. These results suggest that second language acquisition of English modal verbs is similar to first language acquisition. More importantly, L1 children as well as adult L2 learners with different native language backgrounds acquire English modal verbs in a similar order of acquisition.

In addition to the modals that received the highest accuracy scores, this study yielded interesting results regarding the modal *might*, which received the lowest accuracy score. *Might* is used to express weak possibility or probability, past permission, or polite request. These meanings were claimed to be acquired late by L1 and L2 children. In other words, Moloi (1998) relates the order of acquisition observed by his Sesotho-speaking children, which was similar to child L1 acquisition, to the cognitive development of the children. According to Moloi (1998),

> Children predominantly use language with more practical and here-and-now emphasis. Later, as they become more cognitively aware of abstract ideas and situations, they are able to make predictions about others, and to comprehend and discuss more abstract, complex, and remote concepts including inference, possibility, and prediction. This is the time when modals *would, should, might* occur. (p. 17)

As for child L2 acquisition, the cognitive development of English in L2 adults influences the acquisition of modal verbs. Furthermore, the cognitive development of the target language is similar across learners with broad L1 backgrounds. This means that there is UG influence in the acquisition of the modal verbs, too. This study shows that second language learners supplied verbal morphemes with similar results. Thus, UG has a role

not only in the acquisition of tense, aspect, and agreement but also in the acquisition of English modality.

CHAPTER VI

CONCLUSION

Motivated by the fact that English modal verbs have never been investigated in the context of the "morpheme order studies" despite their fundamental status in English grammar, this study, to the best of my knowledge, was the first to examine the acquisition of English verb morphology (tense, aspect, agreement, and modality) by learners of L2 English with different native language backgrounds. I have managed to study the acquisition of fourteen verbal morphemes as follows: copula *be*, auxiliary *be*, perfect aspect, past tense *-ed*, *past* irregular, and third person singular *-s.* Besides, the following modal verbs have been examined: *can, could, will, would, may, might, should,* and *must*.

A key concept, Suppliance in Obligatory Contexts (SOC), was used in this study to analyze the morphemes. For further analysis, the Group Score Method (GSM) was used to determine the order of acquisition of morphemes. These two concepts were adopted and used by major studies, e.g., Brown (1973), Dulay and Burt (1974), and others. The rationale of using these two popular methods of analysis was to compare this study's order of acquisition of verbal morphemes with major prior findings in the literature.

The results of the study illustrate that ESL learners follow universal and predictable stages in the acquisition of verbal morphology. Learners at all proficiency levels earned high scores with regard to certain morphemes, e.g., modal verb *will*, copula *be*, or perfect aspect but low scores for other morphemes like the third person singular *-s* and the modal verb *might*.

Why did all second language learners supply similar results with regard to English verbal morphology? The answer can be straightforward: ESL learners have universal

cognitive mechanisms that guide their acquisition of English verb morphology. To justify this claim, L2 learners in this study came from different first language backgrounds, yet their acquisition order followed similar stages. These results correlate, to a large extent, with major morpheme order studies, including Dulay and Burt (1974), Krashen (1977), and Andersen (1978).

All in all, this study provides further evidence of learners' innate predisposition in language acquisition. In other words, this research supports the Universal Grammar (UG) view of language, claiming that second language acquisition is guided by innate universal mechanisms that enable learners to acquire the language in similar ways. However, the interlanguage of L2 leaners is also L1 influenced. This was clear in the similarities of the results regarding some modal verbs between learners who share the same native language, e.g., Japanese. Also, the accuracy scores were low at the beginning levels, but became higher and similar as learners gained more experience with the target language. Thus, the results suggest that second language learners begin their acquisition with full access to their first language grammar, but after they reach higher levels of proficiency, the universal cognitive mechanisms tend to guide their acquisition. These findings support White's *Full Transfer/Full Access Hypothesis* (1989, 2003).

Since this study is the first that examined the acquisition order of modals and non-modal verbal morphemes in the field of SLA, there were interesting and unexpected results regarding the acquisition of modality by ESL learners. First of all, these findings were mostly consistent with previous studies especially with regard to the following modal verbs: *can, will, must,* and *might.* Children as well as adult language learners demonstrate high accuracy percentages with the verb *can*, as an example, even for L2

leaners at the beginning level. In contrast, learners of English at all proficiency levels appear to supply very low scores with the modal verb *might*. The results can be explained by the cognitive development of L2 learners. Some semantic meanings of modal verbs like *prediction* or *possibility* are not cognitively acquired until certain levels. It is very significant to study this area in future research to determine precisely how the cognitive development interacts with second language acquisition of modality. In addition, the order of acquisition obtained by these ESL learners suggests clearly that some modal verbs were acquired early, e.g. the verb *will*, which follows the past regular tense *-ed*. The same is true for the modals *must* and *can* which were at the top of the acquisition order. These findings demonstrate the importance of the study of modal verbs within the context of the morpheme order studies. ESL learners were found to know some modal verbs early, yet there is no study that emphasizes the early development of modal verbs.

As a whole, this study proposed an order of acquisition for English verb morphology, both modal and non-modal verbal morphemes, that is in agreement with previous studies in the literature. Consequently, it is clear that the acquisition of English verbal morphemes (tense, aspect, agreement, and modality) is more complex than it appears; however, the correlation found between ESL learners in the current study and those in previous research strongly confirms the availability of UG in SLA. Thus, the morpheme order studies of the 1970s are still a fruitful area of inquiry as opposed to the criticisms posited by some scholars. Gass et al. (2013) support this claim as follows: "[T]he morpheme order studies have been, and continue to be, influential in our understanding of the nature of developmental sequence" (p.128).

Limitations and Suggestions for Future Research

It is plausible that a number of limitations might have influenced the results obtained. First, the sample size was limited and, as a result, the discussion of the results would have been more successful if there had been more subjects especially when analyzing the role of first language. Second, the number of obligatory contexts for each morpheme was not ideal; however, it was difficult to extend the number of obligatory contexts for each morpheme because of the length of the instrument and the time limit for the test session. This restriction could account for most of the results. Thus, it is recommended that future research is undertaken to determine the order of acquisition of English verbal morphology (tense, aspect, agreement, and modality) with a larger sample size, more obligatory contexts, and more explanation for that order.

As regards the cognitive development of L2 learners, more studies on the acquisition of modal verbs within the verbal morphemes are needed to confirm these developmental stages. In addition, more research needs to be done using different instruments, e.g., oral tests. This would help to understand the acquisition of verbal morphemes with more confidence and explain the UG influence, if found, among learners of English as a second language.

In conclusion, this research has highlighted the acquisition of modal verbs within verbal morphemes. Fourteen verbal morphemes were studied and the order of their acquisition was determined by second language learners of English from a wide variety of L1 backgrounds. This study yielded comprehensive results evidencing the existence of universal cognitive mechanisms that guide the acquisition. Moreover, these results confirmed the *Full Transfer/Full Access Hypothesis* that takes into account the influence

of the first language of learners as well as the UG. In sum, this work contributes to a growing body of literature known as “the morpheme order studies” and seeks to serve as a basis for future studies in the same area.

REFERENCES

AlQudah, M., & Yasin, A. (2016). The perception of English modals among Arab language learners. *International Journal of Applied Linguistics & English Literature*, *5*(3), 282-289.

Andersen, R. W. (1978). An implicational model for second language research. *Language Learning*, *28*, 221-282.

Bailey, N., Madden, C., & Krashen, S. D. (1974). Is there a "natural sequence" in adult second language learning. *Language Learning*, *24*, 235-243.

Bauer, L. (1988). *Introducing linguistic morphology.* Edinburgh: Edinburgh University Press

Brown, R. (1973). *A first language: The early stages.* Cambridge, MA: Harvard University Press

Cazden, C. (1972). *Child language and education*. New York: Holt, Rinehart & Winston.

Chomsky, N. (1957). *Syntactic structures*. The Hague: Mouton.

Chomsky, N. (1959). Review of B. F. Skinner, *Verbal behavior. Language*, *35*, 26-58.

Cook, V, (1993). *Linguistics and second language acquisition*. ST. Martin's Press: New York.

Dulay, H. C., & Burt, M. K. (1973). Should we teach children syntax? *Language Learning*, *23*, 245-258.

Dulay, H. C., & Burt, M. K. (1974a). Errors and strategies in child second language acquisition. *TESOL Quarterly, 8,* 129-136.

Dulay, H. C., & Burt, M. K. (1974b). Natural sequences in child second language acquisition. *Language Learning*, *24*, 37-53.

Elturki, E., & Salsburg, T. (2016). A cross-sectional investigation of the development of modality in English language learners' written narratives: A corpus-driven study. *Issues in Applied Linguistics*, *20*(1), 51-72.

Gass, S. M., Behney, J, & Plonsky, L. (2013). *Second language acquisition: An introductory course* (4th ed.). New York, NY Routledge.

Goldschneider, J., & DeKeyser, R. (2005). Explaining the "natural order of L2 morpheme acquisition" in English: A meta-analysis of multiple determinants. *Language Learning*, *55*, 27-77.

Gregg, K. (1984). Krashen's monitor and Occam's razor. *Applied Linguistics*, *5*, 79-100.

Hakuta, K. (1974). A preliminary report on the development of grammatical morphemes in a Japanese girl learning English as a second language. *Working Papers on Bilingualism, 3,* 18–38.

Hawkins, R. (2001). *Second language syntax: A generative introduction.* Malden, MA: Blackwell.

Kwon, E. Y. (2005). The "natural order" of morpheme acquisition: A historical survey and discussion of three putative determinants. *Teachers College, Columbia University Working Papers in TESOL & Applied Linguistics*, *5*(1), 1-21.

Larsen-Freeman, D. (1975). The acquisition of grammatical morphemes by adult ESL students. *TESOL Quarterly*, *9*(4), 409–419.

Luk, Z. P., & Shirai, Y. (2009). Is the acquisition order of grammatical morphemes impervious to L1 knowledge? Evidence from the acquisition of plural-*s*, articles, and possessive '*s*. *Language Learning*, *59*(4), 721–754

Mackey, A., & Gass, S. M. (2005). *Second language research: Methodology and design*. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

McLaughlin, B. (1978). The monitor model: Some methodological considerations. *Language learning, 28*(2), 309-332.

Mitchell, R., & Myles, F. (2004). *Second language learning theories* (2nd ed.). London Hodder Arnold.

Moloi, F. (1998). Acquisition of modal auxiliaries in English L2. *Southern African Journal of Applied Language Studies, 6*(2), 1-22.

Nation, I. S. P. (2008). *Teaching vocabulary: Strategies and techniques*. Boston: Heinle Cengage Learning.

Nation, I. S. P., & Anthony, L. (2013). Mid-frequency readers. *Journal of Extensive Reading, 1*(5-16).

Orlando, M. E. (2009). The frequency and collocation of modal verbs in English as a second language textbooks as compared to standard English corpora. *Unpublished Master's thesis.* University of Montreal, Montreal, Canada.

Pica, T. (1983). Adult acquisition of English as a second language under different conditions of exposure. *Language Learning 33*, 4, 465–497.

Rosansky, E. J. (1976). Methods and morphemes in second language acquisition research. *Language Learning, 26*, 409-425.

Saeed, A. T. (2009). Arab [*sic*] EFL learners' acquisition of modals. *Research in Language, 7*, 75-98.

Schwartz, B., & Sprouse, R. (1994). Word order and nominative case in nonnative language acquisition: A longitudinal study of (L1 Turkish) German interlanguage.

In T. Hoekstra & B. D. Schwartz (Eds.), *Language acquisition studies in generative grammar* (pp. 317-368). Amsterdam: John Benjamins.

Schwartz, B., & Sprouse, R. (1996). L2 cognitive states and the full transfer/full access model. *Second Language Research*, *12*, 40-72.

Schwartz, B., & Sprouse, R. (2000). When syntactic theories evolve: Consequences for L2 acquisition research. In J. Archibald (Ed.), *Second language acquisition and linguistic theory* (pp. 156-186). Oxford, UK: Basil Blackwell.

Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics*, *10*, 209-231.

Sermen, M. (2017). A longitudinal study of the acquisition of verbal morphology in the EFL classroom. *ELOPE: English Language Overseas Perspectives and Enquiries*, *14*(1), 55-74.

(2000). *The American Heritage dictionary of the English language*. Boston: Houghton Mifflin.

VanPatten, B., & Benati, A. G. (2010). *Key terms in second language acquisition.* Continuum International Publishing Group, London / New York.

VanPatten, B., & Williams, J. (2007). *Theories in second language acquisition: An introduction.* Mahwah, NJ: Erlbaum.

White, L. (1989). *Universal grammar and second language acquisition.* Amsterdam: John Benjamins.

White, L. (2003). *Second language acquisition and universal grammar*. Cambridge, UK: Cambridge University Press.

Whong-Barr, M. (2005). Transfer of argument structure and morphology. In L. Dekydtspotter, R. Sprouse, & A. Liljestrand (Eds.), *Proceeding of the 7th Generative Approaches to Second Language Conference (GASLA 2004)* (pp. 269-282). Somerville, MA: Cascadilla Press.

APPENDICES

APPENDIX A

The Consent Form

Central Washington University
Consent for Research Participation

Study Title: Extending the Morpheme Order Studies: Acquisition of Modal and Non-modal Verbal Morphemes by ESL Learners.

Principle Investigator: Amal Alshehry

English Department

Faculty Sponsor Dr. Charles Li.

Professor

English Department

1. What should you know about this study?

- You are being asked to join a research study.
- This consent form explains the research study and your part in the study.
- Please read it carefully and take as much time as you need. You will get a copy to keep.
- Ask questions about anything you do not understand now or later.
- You are a volunteer. If you do join the study and change your mind later, you may quit at any time without any penalty.

2. Why is this research being done?

We want to better understand the acquisition order of verbal morphemes. Results of this study may help understand the order of acquisition of different verbs and aspects in order to improve research and textbooks in this area.

3. What will happen if you join this study?

If you agree to be in this study, we will ask you to read short dialogues and choose the correct verb or verbs from four choices in each dialogue. You can expect for the task to take 15-20 minutes. It is okay if you need more time to complete the task. The researcher will wait until you are finished.

You can agree to be in the study now and change your mind later. If you want to withdraw from the study we will ask you whether we may use any information gathered up to that point.

4. What information about you will be kept private and what information may be given out?

Taking part in this study is voluntary. You can stop at any time. Information about you is confidential. We will not identify you in any way in our notes and reports. We will only need to know your first language to help analyze the results.

5. What should you do if you have questions about the study?

Call the principal investigator, Amal Alshehry at (509) 899-4578. You may contact the HSRC if you have questions about your rights as a participant or if you think you have not been treated fairly. The HSRC office number is (509) 963-3115.

6. What does your signature on this consent form mean?

By signing this consent form, you are not giving up any legal rights. Your signature means that you understand the study and have been able to ask questions about the information given to you in this form, and that you agree to join the study.

Do you want to be part of this study? (Yes, No)

Your signature: _____

APPENDIX B

The Discourse Completion Task

What is your first language? _____

What is Your Level of Proficiency (circle one): 1, 2, 3, 4, 5

Directions: Choose the most appropriate verb form from each string of the verbs listed in parentheses below to complete each short dialogue between Jane and Susan. For a few dialogues, more than one answer can be possible; when that is the case, choose the answer that you think best fit the context.

1. (Jane is talking to Susan about their abilities)
   Jane: Do you like dancing?
   Susan: Yes, and I _____ (shall/ can/ will/ may) sing, too.

2. (Jane is complaining about her phone)
   Jane: My cellphone _____ (received/ receive/ receiving/ receives) no calls any more.
   It _____ (seems, seemed, seem, seeming) slow, too.
   Susan: If I were you, I _____ (should/ could/ would/ might) buy a new one.

3. (Jane and Susan are talking at a cafe)
   Jane: Life _____ (am/ is/ are/ have) a beautiful journey when we find love in everything we do.
   Susan (with certainty): Yes, it _____ (should/ will/ can/ must) seem so.

4. (Jane and Susan are talking on the phone)
   Jane: How is the weather there today?
   Susan: It's rather cloudy; it _____ (shall/ can/ would/ may) rain. (The speaker indicates a certain measure of possibility)

5. (Jane is reading a newspaper report)

Jane: The wildfires _____ (grow/ have grown/ growing/ grows) stronger since last year in California.

Susan: Yeah, these fires _____ (am, is, have, are) really bad.

6. (Jane is surprised when she enters her room)

   Jane: My plants _____ (have dying/ are dying/ dying/ die) here. Why is that?

   Susan: Plants _____ (must/ could/ would/ might) have sunlight. You need to move them outside the room.

7. (Jane is talking to Susan about what happened with Emily)

   Jane: Yesterday, Emily _____ (failed/ failing/ has failing/ fail) to tell me the truth and she kept silent all the while.

   Susan: I suspect she doesn't know the truth at all.

8. (Jane is worried about her brother Kevin)

   Jane: I _____ (have called/ calling/ calls/ call) Kevin many times and he didn't reply.

   Susan: Don't worry; he will call you back soon.

9. (Jane has been sick for a week)

   Jane: These pills _____ (have making/ are making/ makes/ is making) my stomach sick!

   Susan: You _____ (must/ could/ would/ might) be careful with these pills.

10. (Jane and Susan are talking about what to do today)

    Jane: What's your plan for today?

    Susan: I _____ (shall/ can/ will/ should) go to the movie theatre at 3:00 p.m.

11. (Jane and Susan are watching T.V. at Susan's home, but it's close to dinner time, so Susan offers to cook)

    Jane: I don't want you to cook for me.

Susan: Ok, you _____ (shall/ can/ will/ could) regret it.

12. (Jane is angry because her friend, Sarah, lied to her)
    Jane: I still don't understand why Sarah lied to me.
    Susan: _____ (Will/ Might / Must/ Would) I speak to her and find out why? (The speaker expresses a higher degree of politeness than *may*, *ought*, or *should*)

13. (Jane is sad. She is talking to Susan about their sister's death)
    Jane: Our sister was born with brain damage, which_____ (leading/ led/ have lead/ lead) to her death.
    Susan: If we _____ (should/ could/ would/ might) have helped, we would.

14. (Jane and Susan are waiting for a group of friends to come to a picnic)
    Jane: The group _____ (depart/ departing/ departed/ have departed) very early this morning.
    Susan: They _____ (should/ could/ would/ must) arrive soon.

15. (Jane is feeling regretful)
    Jane: I am sorry for losing your keys!
    Susan: It's ok, such things _____ (shall/ can/ will/ should) happen.

16. (Jane and Susan are waiting for their friends)
    Jane: Where are our friends now?
    Susan: Very close; they _____ (shall/ can/ will/ could) appear very soon.

17. (Jane and Susan are looking at a race brochure)
    Jane: I ran a mile in five minutes when I was 19 years old.
    Susan: I _____ (should/ could/ shall/ will) run faster at that time.

18. (Jane and Susan are cleaning the garage and Susan seems sick)
    Jane: Don't worry about the heavy box.

Susan: Thanks, but I _____ (shall/ can/ will/ may) lift it.

19. (Jane and Susan are at a school meeting)

    Jane: I _____ (am leaving/ leave/ leaves/ left) now. I have a class.

    Susan: Ok, I will see you later.

20. (Jane is at Susan's home)

    Jane :_____(Shall/ Must/Will/ May) I go now? (The speaker is asking for permission to go)

    Susan: Yes, you can go whenever you like.

21. (Jane is talking to Susan after a party is over)

    Jane: Sarah's son is still here, and I am wondering why he has not left with his buddies.

    Susan: Sarah told him he _____ (shall/ will/ would/ might) not go. (He didn't have permission to go)

22. (Jane is talking about her neighbors)

    Jane: I ____ (haven't seen/ hasn't seen/ haven't see/ seen) my neighbors the last couple of weeks.

    Susan: You should call and ask about them.

23. (Jane is at Susan's home)

    Jane (making a very polite request): I'm going to a new movie this evening; _____(should/ may/ would/ might) you go?

    Susan: Yeah, sure.

24. (Jane and Susan are walking)

    Jane: Why are you collecting these rocks?

    Susan: You don't know! We _____ (should/ will/ would/ might) discover gold!

    Jane: It ____ (am/ is / are/ has) impossible!

25. (Jane and Susan are talking about their friend, Alicia)

Jane: Alicia _____ (broke/ breaks/ breaking/ break) her leg while she was in Paris.

Susan: We _____ (should/ could/ would/ might) call her.

26. (Jane is a teacher, and Susan is Jane's student)

Jane: Class is over.

Susan: But _____ (shall/ should/ must/ may) I ask a question?

27. (Jane and Susan are reading the Driver's Guide)

Jane: The new law_____ (forbidding/ forbids/ forbid/ have forbidding) owning unregistered cars.

Susan: Really! Then I _____ (must/ could/ would/ might) register my car.

28. (Jane is talking to Susan on the phone)

Jane: It's surprising that Kate_____ (left/ leave/ leaving / leaves) the party quickly yesterday.

Susan: Yeah, she seemed worried, too.

29. (Jane and Susan are coworkers in a library)

Jane: New books keep arriving, dozens of them every day.

Susan: I _____ (will/ could/ would/ might) like to read every one of them.

30. (Jane and Susan are talking about their friend, Sara)

Jane: Yesterday, I _____ (talking/ talked/ have talked/ talk) to Sara. Do you know how old she is?

Susan (politely): I don't know. I think she is 25, but I _____ (should/ could/ would/ will) be wrong!