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# The Aspect Hypothesis And Its Application In The Comprehension Of Perfective Telic And Imperfective Atelic Situations In Leveled English Language Learners: Insights Into The Link Between Comprehension And Production

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THE ASPECT HYPOTHESIS AND ITS APPLICATION IN THE COMPREHENSION  
OF PERFECTIVE TELIC AND IMPERFECTIVE ATELIC SITUATIONS IN  
LEVELED ENGLISH LANGUAGE LEARNERS: INSIGHTS INTO THE LINK  
BETWEEN COMPREHENSION AND PRODUCTION

by

Collin Klagmann

A capstone thesis submitted in partial fulfillment of the requirements for the degree of  
Master of Arts in English as a Second Language

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For:

Kelly—my past, Helena—my present, and Otto (et al.)—my future.

Thank you for teaching me unconditional love.

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## CHAPTER ONE: INTRODUCTION

*The Past and Present walked into a bar. It was tense.*

### **Time and Language**

Language is used to express the interpretations of our experience. It not only transforms our reality, but actively creates it by providing a structured and tangible way of organizing our existence in space and in time. It is no surprise, then, that languages around the world have complex and intricate ways to code for time, which is a fundamental component of human experience, thought, and action. This is manifested in English in what is most traditionally known as tense (Klein, 1994). Tense, though, is only part of this complex code, and it could be argued that the more enigmatic and interesting features of temporal reference in language exist with aspect.

Tense and aspect have long since been an interest to language learners and researchers alike, often creating complex and even contentious debates in the field of Second Language Acquisition (SLA) (Bardovi-Harlig, 2000; Comajoan, 2006; Klein, 1994; Shirai, 2004). So much of the research focuses on language production and input, but there is an apparent lack of research when it comes to bridging the gap between production and comprehension. This current study aims at exploring the connection between comprehension and production in terms of tense and aspect. This study looks closely at the Aspect Hypothesis (Anderson & Shirai, 1996) and determines if the predictive tenets of the Aspect Hypothesis can be applied to comprehension of the

intrinsic lexical aspect inherent in English verbs and sentences. This exploration will further illuminate the interconnectedness between input and production, and will help to determine the causes of predictive acquisition theories such as the Aspect Hypothesis or Krashen's Natural Order Hypothesis (1982). This is a vital exploration in the field of SLA because it provides quantitative evidence for learner comprehension of different lexical and grammatical aspectual situations at different stages of L2 development in English. Furthermore, this study assesses the validity of the Aspect Hypothesis when applied to certain situations and tests to see if its predictive qualities can also extend to the comprehension of temporal reference in English.

### **Temporal Reference**

All of human experience occurs in time. This rather simplistic insight carries some very real and dramatic linguistic and psychological implications. Every known language in the world has an intricate system to code for the varying facets of time, which, as described by Klein (2008), include:

bare time spans, their position on the timeline or their duration; “real” events that are actually experienced; imaginary events that could or should happen; events stored in memory, regardless of from which source; and specific temporal features of all of these types of events, such as length of duration or frequency. (p. 9)

All of these individual facets of time are components of the human experience, and need to be rationalized by the brain, and then interpreted, represented, and shared through language. This certainly is no easy task, but languages around the world have maintained devices to allow just that—the functional interpretation and representation of our existence in time.

In order, now, to continue our exploration in time, we must first understand the major tools that languages use to code for time. There are six main devices that natural languages use to express our experience in reference to time (Klein, 2008). These six devices are tense, grammatical aspect, lexical aspect, temporal adverbials, temporal particles, and discourse principles. These six devices will be discussed in more detail in Chapter Two, but it is important now to first develop a brief understanding of each.

Tense is typically what is first thought of when discussing temporal reference. Tense places an event or action in time, and in English is most commonly marked by an inflection on a verb or in combination with an auxiliary. An event or action is marked with a “temporal anchor” and tense allows the speaker the ability to describe the event as happening before, during, or after the temporal anchor, which is most typically the time of the utterance. These characteristics of tense are known as past, present, and future time, as described in their simplest forms.

Another, perhaps more functional, yet complicated, way to look at tense is to recognize that all sentences have three potential time periods within the given utterance: the *utterance time*, *topic time*, and *situation time* (Schramm, 2017). The utterance time typically acts as the temporal anchor, and is the actual moment when a speaker says a sentence in real time. The topic time is the time frame referenced for when a reported event in a sentence takes place. And finally the situation time describes what other situation(s) may be going on during or around the topic time (see Figure 1).

**Utterance time:** when a speaker says an utterance in real time.

- The coach reports,

**Topic time:** the time an event in the sentence occurs.

- players scored 30 goals

**Situation time:** the time of another situation in the sentence.

- during the season.

Figure 1: The Three Potential Time Periods in a Sentence

These three time periods interact in different ways to create temporal reference in English, and it is the expressed relationship between these time periods that creates aspect (Klein, 1994). So, while tense is formed mainly by the relationship between the utterance time and topic time, it is the interplay of all three that forms a more complex, yet fluid interpretation of our existence in time, which is described mainly through what is known as aspect.

Grammatical aspect is one of two types of aspect that allows for the addition of a particular perspective in reference to an event or action described in time. Like tense, aspect in English utilizes inflections on the verb, and often with an auxiliary. Aspect allows for an event or action in time to be expressed as being completed in its entirety at the time of the utterance, or as ongoing. Completed events are known as perfective aspect and ongoing, or *uncompleted* (Klein, 1994), events are known as imperfective aspect (Vendler, 1957).

Lexical aspect expresses a similar perspective as grammatical aspect—the time periods connected with an event and their interacting durations—but does not rely on any external morphological markings to express this perspective. Rather, the perspective is inherent to the verb and its arguments, independent of external morphological markers. Examples of this include words like *know* or *love* compared to words like *realize* or *die*. *Know* and *love* describe ongoing states with no foreseeable endpoint, while *realize* and

*die* describe momentary events that are intrinsically completed, unmarked by morphological indicators of time or duration. Through understanding the inherent temporal characteristics of verbs and predicates, also referred to as situations (Klein, 1994), verbs can be sorted into four different semantic categories (Vendler, 1957). These categories are *states*, *activities*, *accomplishments*, and *achievements*. While these categories of verbs will be discussed in greater detail in Chapter Two, it is also important to first demonstrate how these categories are expressed.

According to Vendler (1957), each category of verb can be rated on three features: whether or not the verbs are telic, durative, and/or static. Telic verbs have natural endpoints and are a feature of *accomplishment* verbs, such as *read a story* and *watch a movie*, and also *achievement* verbs, such as *realize* and *become*. Durative events are described by verbs and predicates that are inherently ongoing and are expressed by *state* verbs, such as *know* and *want*, *activity* verbs, such as *build* and *eat*, and also again *accomplishment* verbs, such as *build a car* and *eat a hamburger*. Finally, events that are described as being static do not express inherent changes. *State* verbs, such as *know* and *want*, are the only category verb that is described as being static. It is through the interaction of these three characteristics—telic, durative, and static—that verb classes can be categorized. This study, in part, looks at the telic and atelic verb classes to determine if certain lexical and grammatical features are more salient, and hence more comprehensible, for learners acquiring the perfective and imperfective morphemes in English.

These three initial devices for coding time in language—tense, grammatical aspect, and lexical aspect—are the focus of this research, and are pivotal to understanding

the process of acquisition of temporal reference in English. The three additional devices for coding temporal reference—temporal adverbials, temporal particles, and discourse principles (Klein, 2008)—are beyond the scope of this research.

### **Relevance to the Field**

This study has several implications that make it a worthwhile endeavor in the field of second language teaching and learning. The research of this study is important because it addresses a central, albeit often dismissed, theme in SLA—the relationship between comprehension and production, as evidenced by a multitude of production studies on aspect as cited by Bardovi-Harlig (1995), Klein (1994), and Anderson & Shirai (1996). This study draws attention to the often overlooked connection between comprehension and acquisition of tense–aspect morphology across different levels of proficiency as described by WIDA. Additionally, the issue of temporal reference is as much of a philosophical pursuit as it is linguistic, and any contribution to this field of study has intrinsic value.

### **Tense and Aspect**

Language, which, as we've seen is intrinsically symbolic, relies on “a structured inventory of constructions as conventionalized form–meaning pairings used for communicative purposes” (Wulff, Ellis, Römer, Bardovi-Harlig, & Leblanc, 2009, p.354). These form–meaning pairings manifest in different ways and exhibit varying degrees of complexity, from concrete items such as individual words, to more abstract items such as word class and abstract grammatical formations (i.e. lexical and grammatical aspect). It is widely believed, however, that the acquisition of these formations is “input–driven, and depends on the learner's experience of the form–

function relations” (Wulff et al., 2009, p.355). It is the purpose of this study to develop insights into the learner’s experience of these form–function relations, and better describe how various linguistic phenomena relate to the comprehensible encoding of temporal reference. This study aims to shed light on the connection between input, production, and comprehension, and analyzes a student’s ability to comprehend lexical and grammatical aspect at various levels of English language learner proficiency as described by WIDA.

## **WIDA**

The WIDA Consortium grew out of an Enhanced Assessment Grant (EAG) in 2002 and initially included just three states—Wisconsin, Delaware, and Arkansas. Today, WIDA operates in at least 38 states or territories in North America, and is prominently establishing itself as a world leader in English language development, design, and assessment for K–12 education. WIDA’s mission statement claims that “WIDA advances academic language development and academic achievement for children and youth who are culturally and linguistically diverse through high quality standards, assessments, research, and professional learning for educators” (wida.us). WIDA primarily fulfills this mission through working closely with state departments of education to create English Language Development (ELD) standards and assessments for English language proficiency. In coordination with these standards and assessments, WIDA has created distinct levels of proficiency and Can Do Descriptors to help define what students should be able to do at the various levels of WIDA proficiency.

Countless families, teachers, and administrators rely on WIDA to define the stages of English proficiency for the practical needs of schools and districts. As such, WIDA has identified six levels of English language proficiency, which individual states

then use to set entrance and exit criteria for students needing appropriate educational language support. A WIDA assessment is used for English learner identification when a student first enters a school district, and a WIDA assessment is used each year thereafter to measure the progress and development of English language proficiency until the student qualifies to exit the English Learners (EL) program by reaching proficiency as defined by the state's board of education. With WIDA being used at each stage of an English language learner's education, it becomes clear how important WIDA has become to K–12 education in the United States.

WIDA defines a non–English speaker as a Level 1. A learner with native–like proficiency is described as a Level 6. Each stage in between represents a progressive increase in English language proficiency. For each level of proficiency, WIDA provides a set of descriptors that describe what a learner at that proficiency level should be able to do. The WIDA Can Do Descriptors are used to identify the skills teachers can expect of their learners, and they are often used to adapt content and assignments in the classroom. It is important that these descriptors provide meaningful and accurate descriptions of the learner profile. The Can Do Descriptors are discussed further in Chapter Two, as there is an identifiable need for further structural specificity in describing the type of language a learner will produce at a given proficiency level. This study is designed in the hopes of adding specificity to the WIDA Can Do Descriptors.

When aligning the results of this research with the proficiency levels as defined by WIDA, this study provides quantitative and tangible indicators for further development of WIDA's Can Do Descriptors. It also provides the beginnings of a structural component to the descriptors, which have previously been focused primarily on

linguistic functions rather than meanings and associated structures. Through this research, additional insight may be made into morpheme acquisition and natural order processes.

### **Guiding Questions**

This study is centered on the following inquiry, which looks closely at the Aspect Hypothesis and its application in the comprehension of perfective telic and imperfective atelic situations, as well as its developmental relationship to the WIDA levels of proficiency.

*Does the salience observed by the Aspect Hypothesis show in the comprehension of specific aspectual scenarios by leveled English language learners?*

*Subquestion A: Is the comprehension of telic verbs more salient in a perfective context and its concurrent use of morphosyntactic forms?*

*Subquestion B: Is the comprehension of atelic verbs more salient in an imperfective context and its concurrent use of morphosyntactic forms?*

*Subquestion C: Can this salience and the connected comprehension be tracked linearly throughout WIDA levels of proficiency?*

It is through these guiding questions that this study unfolds.

### **Chapter Overviews**

Chapter One provided an introduction to the relevant topics of this study. It discussed ways languages code for time, with particular focus on grammatical and lexical aspect. It discussed the Aspect Hypothesis and its implications to SLA, as well as the implications of tense and aspect as a whole on second language acquisition. Chapter One has also expressed the relevance of this study and what it will mean to the field of SLA and to K–12 teachers of ESL. Chapter Two is a literature review of the relevant research

on this topic. It explores more on the Aspect Hypothesis and discusses possible causes for its predictive nature. These discussions will include relevant research around natural order studies and innatist versus input-driven approaches. Chapter Three includes the research design and methodologies. Chapter Four presents the results of the study. Chapter Five expresses the implications this research has to teachers of English language learners and WIDA participants, limitations inherent to this study, and the need for future research.

## CHAPTER TWO: LITERATURE REVIEW

This study aims at making connections between often isolated topics in the field of SLA—comprehension and production. This chapter elaborates the relevant research around the topics of temporal reference and the Aspect Hypothesis, morpheme acquisition, and issues of salience, all the while attempting to draw parallels between production and comprehension. This research hopes to determine the validity of the Aspect Hypothesis when applied to the comprehension of perfective telic and imperfective atelic situations and whether or not a predictive, production-focused understanding of language acquisition can also be applied to comprehension. Finally, this study hopes to examine the ability to align these results with the process of developmental proficiency as described by WIDA's Can Do Descriptors. My research questions are as follows:

*Does the salience observed by the Aspect Hypothesis show in the comprehension of specific aspectual scenarios by leveled English language learners?*

*Subquestion A: Is the comprehension of telic verbs more salient in a perfective context and its concurrent use of morphosyntactic forms?*

*Subquestion B: Is the comprehension of atelic verbs more salient in an imperfective context and its concurrent use of morphosyntactic forms?*

*Subquestion C: Can this salience and the connected comprehension be tracked linearly throughout WIDA levels of proficiency?*

## Temporal Reference

There are six main devices that natural languages use to encode for time (Klein, 2008):

- A. *Tense*. Tense refers to the location of an event or action in time, and is most typically marked by an inflection on a verb, or, as is often the case, in combination with an auxiliary. Essentially, tense allows for a temporal relationship to exist between an event, action, or state, and some “temporal anchor,” which, most typically, is the moment of the utterance. Tense will express the event or action as being earlier, simultaneous, or later than the “temporal anchor,” representing *Past*, *Present*, and *Future* time. It is interesting to note here that not all languages express tense; however, all languages do denote reference to past, present, and future time.

Let us look at the sentence *I ate breakfast*. The temporal anchor is the time of the utterance—i.e. *now*. The sentence refers to a completed accomplishment that happened at “a time before now,” as indicated by the inflection of the verb *to eat*. We can then assume that our temporal anchor is sometime *after* breakfast. So, just in this very simple sentence, *I ate breakfast*, an intricate temporal reference is taking place—namely, identifying a past time event to be relevant to a present time situation. This sentence is an example of *past tense*.

- B. *Grammatical Aspect*. Grammatical aspect is one type of aspect that allows for a more intricate understanding of time reference for a given event or action. Aspect in English, like tense, is also an inflectional category of the verb, and

often utilizes an auxiliary. Grammatical aspect denotes a particular perspective of the given event. The speaker can indicate the event as being completed in its entirety (perfective) or ongoing (imperfective). Let's revisit our example sentence *I ate breakfast*, but this time we will add the imperfective aspect expressed using *be Vb-ing*: *I was eating breakfast*. The tense is still in the past, but now we have added the imperfective aspect. So, while the accomplishment of eating breakfast still occurred before the time of the utterance (in the past), the additional morphemes *be Vb-ing* show that the activity was not yet completed. This allows the possibility of expressing that, perhaps, something occurred that interrupted breakfast. Grammatical aspect utilizes morphosyntax to grammatically mark verbs, indicating either a completed event, or an ongoing event.

C. *Lexical Aspect*. Lexical aspect is an aspectual temporal reference that is inherent in the verb and its arguments itself, and does not require the addition of grammatical morphemes to denote temporal meaning. Verbs possess an inherent aspect and can be categorized based on their inherent temporal situation (Vendler, 1957). Based on their characteristics, verbs can be categorized into four different semantic categories, determined by whether the verb includes an inherent endpoint (telic), is ongoing (durative), or expresses inherent changes (dynamic/static) (Vendler, 1957). The four semantic categories of verbs are outlined below with some examples (Huang, 2008):

- i. *States*: know, want, feel, like [– telic, + durative, + static]
- ii. *Activities*: build, eat, walk, play [–telic, + durative, – static]

- iii. *Accomplishments*: build (a car), eat (an apple), walk (to the park), play (a game) [+ telic, + durative, – static]
- iv. *Achievements*: become, die, discover, realize [+ telic, – durative, – static]

In looking at these examples, it becomes clear how lexical aspect is manifested inherently within the verb and its arguments, and these semantic categories can be organized based on telicity, durativity, and static ratings. It is interesting to note that all languages demonstrate these distinctions.

- D. *Temporal Adverbials*. Temporal adverbials, as well as the final devices described below, will be mentioned only briefly here, and are not the focus of this investigation. Temporal adverbials may be the least researched component of temporal reference in language, and include bare adverbials such as *now*, *often*, and *then*, prepositional phrases such as *before the movie*, *for five years*, and *at first sight*, and finally subordinate clauses such as *before I come to the end* and *when the bells are ringing*. While a great deal more research needs to be done with temporal adverbials, it is beyond the scope of the current study.
- E. *Temporal Particles*. Temporal particles are special particles that denote time. Although this can be rare in some cases, many languages have expressions that somehow exhibit characteristics of both particles and temporal adverbs, such as *still*, *yet*, and *again*.
- F. *Discourse Principles*. Discourse in speech and in text typically follows certain temporal patterns, as are anticipated by the discourse participants. The most

common of these would be the “principle of chronological order.” This principle basically states that, unless otherwise indicated, events in a narrative/situation occurred in the order in which they were mentioned. The sentence *He got dressed and took a shower* violates this principle, and therefore sounds quite strange.

While this paper will only focus on the first three components described above (A–C), it is necessary to first understand all the intricate tools languages use to reference temporal meanings within an utterance or extended discourse. It becomes clear how temporal reference is a massive linguistic issue, and is vital to the coherent expression and comprehension of our experiences. Because of these complexities, second language (L2) acquisition and development is posed with unique challenges when it comes to the acquisition of tense and aspect, which is why this study aims to shed light on the delicate interplay of comprehension and production as it relates to the acquisition of telic and atelic past tense morphemes as predicted by the Aspect Hypothesis.

### **The Aspect Hypothesis**

Issues of temporal reference and the acquisition of tense–aspect morphology have been a central concern of researchers for over three decades. Focusing heavily on the semantic categories of verbs and their relationship to the morphological encoding of time within an utterance or discourse, these studies related heavily to the relationship between conceptual development—the recognition of inherent lexical aspect—and language development—the learner’s ability to affix the accurate morphemes to convey the appropriate temporal reference. Through this extensive research that looked closely at the

influence of semantics on language acquisition, an important tense–aspect theory was eventually developed known as the Aspect Hypothesis.

The Aspect Hypothesis, which was developed by Andersen and Shirai (1994, 1996), Bardovi–Harlig (1992, 2000), Robison (1995), Shirai (1991), and Shirai and Andersen (1995), has been widely tested, and for the most part, has been widely accepted as well. It draws on the distinction between grammatical and lexical aspect—the linguistic devices used to mark tense–aspect, such as auxiliaries and morphemes, and the inherent aspectual qualities or internal temporal characteristics, which exist within a verb, its arguments, and ultimately within the situation expressed by a sentence, respectively. According to Andersen & Shirai (1994), “first and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with or affixed to these verbs” (p.133). The central insight developed from the Aspect Hypothesis is that language learners consistently use past tense and perfective *–ed* with telic verbs, which semantically have inherent endpoints, such as accomplishments (e.g. *build a car, have breakfast*) and achievements (e.g. *get up, discover*), and employ the imperfective (expressed by progressive *be + Vb–ing*) to verbs which are semantically dynamic and durative—activity verbs (e.g. *play, run*) and stative verbs (e.g. *know, want*) (Bardovi–Harlig, 2000; Huang, 2008; Muñoz and Gilabert, 2011; Wulff et al., 2009). It is important to note that L1 learners typically do not inaccurately overcorrect by attributing *–ing* to stative verbs. Native language learners do not typically produce sentences such as *I am loving the book*; however, this is seen in learners of a second language. Figure 2 below, from Shirai (2004), demonstrates the predicted trends of L2 morphological development following the Aspect Hypothesis.

	State	Activity	Accomplishment	Achievement
<b>(Perfective) Past</b>	4 ←	3 ←	2 ←	1
<b>Progressive</b>	? ←	1 →	2 →	3
<b>Imperfective Past</b>	1 →	2 →	3 →	4

Figure 2: Predicted Order of Development of Morphology (Shirai, 2004)

Figure 2 above highlights that, on the path to English language proficiency, past tense perfective markings (*-ed*) are most typically first attributed to achievement verbs and then next to accomplishment verbs followed by activity and state verbs. Progressive markings (*-ing*) do not typically get attributed to state verbs, and are most typically first attributed to activity verbs followed by accomplishment and then achievement verbs. Finally, the imperfective past markings (*be + Vb-ing*) begin with state verbs and then move through the other categories from activity to accomplishment to achievement verbs.

Muñoz and Gilabert (2011) elaborate on this chart and demonstrate how the Aspect Hypothesis can be broken down into four central claims, adapted from Shirai (1991) and Andersen and Shirai (1996), referring to the language acquisition process for both L1 and L2:

1. The past tense/perfective markings are first applied to achievement, accomplishment verbs, and later extended to activity and state verbs.
2. If a language resorts to morphology to distinguish between the perfective and the imperfective, the imperfective past is acquired later, and the imperfective past markings are first used with state and activity verbs and then with accomplishment and achievement verbs.

3. If a language uses morphemes to mark the progressive aspect, the morphemes will first be used to mark activity verbs, and then sequentially to mark accomplishments and achievements.
4. Progressive markings are not typically overextended incorrectly to stative verbs in L1 acquisition, but they are in L2.

These four claims provided by the Aspect Hypothesis are the guiding principles for this current study. They also demonstrate the need for further research into the impact of the Aspect Hypothesis as it relates to comprehension of the perfective telic and imperfective atelic situations, as well as how it may be applied to the WIDA levels of proficiency, which is why this study seeks to contribute to the principles of the Aspect Hypothesis by answering those very questions.

### **Morpheme Acquisition and Salience**

It has long since been recognized that, just as is claimed by the Aspect Hypothesis, morphemes in English are acquired in a generally predictable sequence (Gass & Selinker, 2008). Researchers, though, initially took an innatist approach to morpheme order research, and quickly the term *natural order* studies came to dominate the landscape (Kwon, 2005). More recently, researchers have found that there are external factors that incite the apparent consistency in which English morphemes are acquired (Goldschneider & DeKeyser, 2005; Klein et al., 2011; Kwon, 2005; O'Dowd, 1991). These morpheme order studies demonstrate the impact that input has on the acquisition process and exhibits the close relationship between comprehension and production. When looking at this connection, it becomes evident that there is something other than an innate processing mechanism responsible for the general consistency of morpheme acquisition

for learners of English (Goldschneider & DeKeyser, 2005). A multi-determinant approach is necessary to understand and describe the order of acquisition and to more fully determine how language interacts with its learners (Kwon, 2005).

This idea becomes particularly relevant when looking at the Aspect Hypothesis, which states a predictive order of attribution of morphemes onto certain classes of verbs based on learners' proficiency levels. In the event that natural order studies support a recognizable pattern of morpheme use and acquisition, this predictive quality of natural order studies needs to be adjusted in light of the Aspect Hypothesis. Natural order studies imply that the inherent lexical aspect of verbs would not play a role in the accurate attribution of perfective and imperfective morphemes, but rather would simply follow the patterns laid out by these studies. While there is often a great deal of consistency in morpheme acquisition, researchers are finding that salience plays a role in one's ability to accurately acquire morphemes in English. More research is needed to determine the interconnectedness of salience and the Aspect Hypothesis. This study, in part, aims to determine if salience, as expressed through comprehension of verbs in different aspectual contexts, plays a role in the accurate attribution of perfective and imperfective morphemes onto specific verb classes.

### **Perceptual Salience**

Perceptual salience describes the ease at which a given structure can be heard, perceived, or recognized by an individual (Goldschneider & DeKeyser, 2005). This notion of salience seems to be at the heart of morpheme acquisition. Researchers agree that salience plays a role in the natural order process, but to what extent is still under debate. Brown, in his pivotal 1973 book, makes the important point that, at least for L1

acquisition, “*some* role for salience is guaranteed; the child will not learn what he cannot hear” (p. 410). The same holds true in L2 morpheme studies, and a variety of contributing factors that affect salience have since been described, including semantic complexity, morphophonological regularity, syntactic category, and frequency (Goldschneider & DeKeyser, 2005). The assumption then is that the more salient the morpheme, the easier and earlier it will be acquired. The current study focuses on both lexical and grammatical category, in terms of salience and its relationship to the Aspect Hypothesis, by looking at verb classes and the attribution of perfective and imperfective morphemes within the context of a story.

In Goldschneider and DeKeyser’s 2005 meta-analysis of five determinants of morpheme acquisition, the researchers first distinguished perceptual salience as a specific category unto itself. Through the course of the study, other determinants—semantic complexity, morphophonological regularity, syntactic category, and frequency—came to be realized as aspects of perceptual salience. Following this understanding, it could be said that all relationships between structure and meaning of a language can be considered components of salience. Goldschneider and DeKeyser (2005) perhaps express the relevance of this best when they say:

The five factors that have been shown in this study to account for a large percentage of variance in order of acquisition constitute phonological, morphological, syntactic, semantic, and numerical aspects of salience. It is possible, therefore, that just one variable, salience, is the ultimate predictor of the order of acquisition. (p.61)

It would seem that salience, and the student's ability to notice, plays a pivotal role in the use and acquisition of morphemes (Meidal, 2008; Kivimägi, 2013). So what accounts for the relative consistency of the Aspect Hypothesis? Are atelic state and activity verbs more salient in an imperfective context that does not express an inherent endpoint, and likewise, are telic accomplishment and achievement verbs more salient in a perfective context that does express an inherent endpoint? And if so, how does the learner react and interact with the possible morphemes that can be attributed to each verb within the given context? More research is needed to better determine how salience plays a role in the acquisition of temporal markers, and more generally, morphemes as a whole. This study sheds light on leveled students' abilities to recognize the subtle nuance between telic and atelic situations, and then accurately attribute the corresponding perfective and imperfective morphemes.

The Aspect Hypothesis states that lexical aspectual classes of verbs influence learners when using tense–aspect markers in the target language (Andersen & Shirai, 1994). This means that there is an inherent level of salience attributed to lexical aspect. Whether or not this salience is explicitly noticed by the learner is relatively unstudied as of yet, but Huang (2008), says it best:

for the aspect hypothesis to be plausible, first, a crucial premise that language learners are (consciously or unconsciously) aware of lexical aspect in their target language needs to be accepted. It is paradoxical that language learners are, on the one hand, influenced by verbal aspect when they use temporal markings and, on the other hand, possibly insensitive to lexical aspectual classes of verbs. (p. 1)

This contradiction is significant in determining the impact of the Aspect Hypothesis. While the tenets of the Aspect Hypothesis are generally accepted and are often consistent, it is evident that some pieces of the puzzle are indeed missing. The paradox between lexical influence and salience, or lack thereof, cannot be disregarded. While countless studies have helped validate the Aspect Hypothesis, studies demonstrating the apparent lack of learner awareness of lexical class and aspect (Huang, 2008) contradict, or at least add a dimension of uncertainty to, both the descriptive and predictive qualities of the Aspect Hypothesis.

While there is growing evidence in the research of this paradox, it still does not provide a comprehensive explanation for how salience, lexical and grammatical class, and the Aspect Hypothesis interact. And while there is no conclusive explanation, evidence still suggests that salience, whether conscious or not, plays a role. Wulff et al. (2009) notice much of the input is consistent with the temporal context in which the verb is used, and accurate attribution of perfective and imperfective cases may occur purely due to the consistency and repetitiveness of the input. They state:

Within their topical limits, the learner data suggest that the verbs first learned by adults in the progressive are also frequent in the progressive in the input, distinctively associated with the progressive in the input, and highly atelic, as defined in the rating study (i.e., significantly less telic than verbs that are frequent and associated with past tense in the input). Likewise, the verbs first learned in past tense are frequent in past tense in the input, highly distinctive for past tense in the input, and highly telic. (p. 366)

It is clear that salience still plays a role in learners' choices in the target language. Whether that salience is explicitly perceived or not, input from the target language impacts both the comprehension and production of tense–aspect morphology. This study searches for that salience and determines if the measured alignment in the input leads to greater noticing and comprehension of the student for the perfective telic and imperfective atelic forms.

Finally, nearly all of the research around the Aspect Hypothesis has been focused on production, and the vast majority of the studies have collected spontaneous student production and then analyzed the data for consistency and trends. Few studies have attempted to create a controlled response for a specific outcome. And while many studies support the Aspect Hypothesis, there is a growing collection of variability in L2 studies, particularly with the attribution of *-ing*. Klein et al. (2011) cites several examples of the morpheme *-ing* not following the predictions laid out by the Aspect Hypothesis. There have been several explanations given for this inconsistency, but no conclusive resolution has been made. It is through these inconsistencies that my interest was born, and the research question regarding comprehension was developed.

### **WIDA's Can Do Descriptors**

WIDA's Can Do Descriptors dramatically changed the field of English language instruction in the United States by describing concrete skills students should be able to perform at varying levels of proficiency, such as in reading a level 2 language learner in the 9–12 grade cluster should be able to “match sentence–level descriptions to visual representations,” while a level 3 student should be able to “identify topic sentences or main ideas and details in paragraphs,” and a level 4 can “infer meaning from a text”

(wida.us). The descriptors help both language educators as well as mainstream content teachers to better evaluate student performance and make tangible, measurable goals for “leveling up.” While these descriptors are useful, they provide only a description of very general skills, and lack any linguistically structural pieces that could be useful for identifying proficiency and linguistic ability, which is in part a motivator for the current study.

As an example, one key distinction between levels that is often used by educators is the production and comprehension of general, specific, or technical vocabulary. WIDA uses these terms as an indicator of proficiency level, whereas a level 2 learner uses “general language related to the content areas,” a level 3 learner uses “general and some specific language of the content areas,” and a level 4 learner uses “specific and some technical language of the content areas” (wida.us). These distinctions are indeed helpful, but they do not elaborate further into the structural side of language acquisition, which could be an additional useful tool in education. Teachers would benefit, for example, by knowing at what level to expect students to be able to comprehend or produce accurately described complex tense scenarios with the most appropriate use of aspect and correct attribution of morphemes. Should a level 2 student be reading a text written primarily in progressive tense because it might be acquired earlier? This study aims to shed light on these issues.

In recent years, WIDA has tried to address some of these concerns by adding a component of *Key Uses* for the Can Do Descriptors, which breaks communicative academic language down into four specific purposes. These purposes, as described by WIDA, are *recount*, *explain*, *argue*, and *discuss*. Through these key uses, WIDA has

delineated to some extent the Can Do Descriptors, but does not provide any further the technical pieces of proficiency. Instead, the descriptors for grades 9–12 proficiency level 3 for reading in the key use of *argue*, for example, states that the learner will be able to, “Process arguments by identifying their purposes and audiences, [and] evaluate the strength of evidence statements.” Likewise, the descriptor for the same proficiency level, grades and key use in writing states that learners will be able to, “Argue by justifying reasons or opinions with evidence, [and] summarize opposing positions with evidence.” As can be seen from these examples, the WIDA Can Do Descriptors provide a nice general overview of proficiency skills, but it does little to get at the specific structural characteristics of English Language Learners’ (ELLs’) productive language at various levels of proficiency. To elaborate, for example, on the key use of *argue*, information regarding some structural features associated with the task of arguing could be included, such as the use of present, present perfect, or past to express different degrees of a speaker’s “distance” to the argument expressed, as posited by Swales and Feak (2004). This kind of information could be useful if able to be attributed to stages of proficiency development and then described by WIDA’s descriptors. Thus, this study aims to provide insights into WIDA proficiency levels by including structural data, motivated by the Aspect Hypothesis, to determine at what level of proficiency teachers can expect students to have accurately acquired the imperfective and perfective morphemes.

A clear gap in the research has been shown regarding the predictive nature of morpheme acquisition theories, their relationship to certain types of salience, and particularly how they relate to not just production, but comprehension as well. Additionally, it has been shown that WIDA’s Can Do Descriptors and definitions of

proficiency levels could benefit from some structural linguistic insights, which would provide K–12 educators an added tool with which to instruct and assess ELLs. In order to address these missing pieces in the research, my study asks the following questions:

*Does the salience observed by the Aspect Hypothesis show in the comprehension of specific aspectual scenarios by leveled English language learners?*

*Subquestion A: Is the comprehension of telic verbs more salient in a perfective context and its concurrent use of morphosyntactic forms?*

*Subquestion B: Is the comprehension of atelic verbs more salient in an imperfective context and its concurrent use of morphosyntactic forms?*

*Subquestion C: Can this salience and the connected comprehension be tracked linearly throughout WIDA levels of proficiency?*

Chapter Two expressed the relevant research regarding the Aspect Hypothesis, morpheme acquisition, and perceptual salience, and also discussed the impact WIDA and its Can Do Descriptors and leveled proficiency definitions has on K–12 English language development instruction. Chapter Three discusses the research paradigm, participants, and procedures of this study.

## **CHAPTER THREE: METHODOLOGY**

This chapter describes my research paradigm and the experimental design of using a forced-choice protocol method for data collection and explains how it was used to collect data for this research. I then provide a detailed description of the participants of this study, the setting in which it was conducted, and the materials used. Finally, I describe the procedure for how this data was collected to answer my essential research questions:

*Does the salience observed by the Aspect Hypothesis show in the comprehension of specific aspectual scenarios by leveled English language learners?*

*Subquestion A: Is the comprehension of telic verbs more salient in a perfective context and its concurrent use of morphosyntactic forms?*

*Subquestion B: Is the comprehension of atelic verbs more salient in an imperfective context and its concurrent use of morphosyntactic forms?*

*Subquestion C: Can this salience and the connected comprehension be tracked linearly throughout WIDA levels of proficiency?*

### **Quantitative Research Paradigm**

This study uses a quantitative research paradigm in order to address the essential research questions. A quantitative paradigm is ideal for this study because quantitative research typically begins with an experimental design that is driven by a hypothesis, followed by the quantification of data, upon which a numerical analysis is used to

determine the significance of the results (Mackey & Gass, 2005). The current study follows this paradigm, and therefore is considered quantitative. This study is motivated by a hypothesis—*the salience revealed by the predictive meaning-based Aspect Hypothesis can also apply to the comprehension of perfective telic and imperfective atelic situations and therefore could align to a scale of English proficiency levels as described by WIDA*. Quantitative data is collected, then analyzed numerically to demonstrate the significance of the results in regards to the hypothesis and essential research questions. These results should be verifiable and able to be replicated in subsequent studies and also generalizable in that they should be able to be applied to other situations beyond this specific study. My research questions demand clear and specific results, and therefore a quantitative study is ideal, as it provides measurable outcomes, while qualitative research can be subjectively interpreted providing varying shades of meaning and significance, which would be problematic for the current inquiry. This study relies on measurable outcomes that do not require observation or description, and is therefore functioning under a quantitative research paradigm.

### **Experimental Design**

The experimental design of this study includes collecting data on two lexical aspects—telic and atelic—in coordination with two grammatical aspects—perfective and imperfective—differentiated between four English language proficiency levels as defined by WIDA—Levels 2, 3, 4, and Exited (wida.us). The belief is that the inherent lexical aspect of verbs will impact the learner's choice in attributing grammatical aspect to complete a sentence that describes a scenario. The Aspect Hypothesis predicts that learners should first be able to accurately attribute perfective past marking *-ed* on telic

verbs followed by accurately attributing the imperfective marking *-ing* on atelic verbs. This would then further suggest that learner preferences should align to levels of language proficiency, and could therefore be described in WIDA's Can Do Descriptors.

In order to answer the research questions, I created a quantitative study using a forced choice protocol for elicitation. In trying to answer the question of whether or not the Aspect Hypothesis can be applied to the comprehension of perfective telic and imperfective atelic situations, I created six opportunities for study participants to comprehend a described either telic or atelic event and then ascribe the corresponding perfective or imperfective form of the verb to the perceived reference of time. After ascribing the preferred morphological endings to the events described, participants were then asked if the events were completed or not.

Each scenario begins with a common introduction of the context, and is used for grounding both the telic and atelic events. Each forced-choice sentence begins with the prepositional phrase *During \_\_\_\_\_*. This was used to create consistency between scenarios and limit the influence outside language has on the target responses for participants. For example, one telic scenario reads *Tom and Susan like to spend time together on dates. Now I will tell you about one date last year. During their time together, Tom and Susan **walked/were walking** to the movie theater*. The participants were instructed to choose between **walked** and **were walking**. After this choice, participants were asked if the event was completed or not by circling a *Yes* or a *No*: *Walking to the movie theater finished/completed? **Yes/No***. Likewise, the atelic form of this scenario reads *Tom and Susan like to spend time together on dates. Now I will tell you about one date last year. During their time together, Tom and Susan **talked/were***

*talking about their future. Talking about their future finished/completed? Yes/No.*

Through this form of questioning, this study ascertains the student's ability to consciously decipher inherent endpoints within a given telic or atelic context, and then measures how student preferences align with the predictive nature of the Aspect Hypothesis as it relates to the comprehension of the inherent temporal characteristics and associated morphosyntactic forms of the verb phrases provided. Numerical correlations are made between positive responses—matching the perfective *-ed* with telic events and imperfective *-ing* with atelic events—as well as between the participant's conscious awareness of the event's completion.

### **Participants and Setting**

The participants of this study include students from various linguistic backgrounds at various levels of English proficiency. Students are high school aged and were selected to provide a cross-section of each proficiency level as defined by WIDA. Students were previously assessed using WIDA's ACCESS for ELLs 2.0 test to determine proficiency levels. Four students were selected for each proficiency Level 2, 3, 4, and Exited totaling 16 participants. WIDA's levels of proficiency range from 1 to 6; however, the English proficiency of a Level 1 is too low to complete a task of this complexity, and Level 5 and Level 6 proficiencies are advanced enough to exit from English Learners (EL) programs in K–12 public school districts across Minnesota, where this study is being carried out, as well as many other WIDA affiliated districts across the U.S. It is for this reason that this study uses participants from proficiency Levels 2, 3, 4, and Exited.

The study participants were not chosen at random, but picked out of a pool of participants to accurately represent the target proficiency levels. Each WIDA ACCESS test result provides weighted category subsection results for oral proficiency (listening and speaking scores combined) as well as for literacy (reading and writing scores combined). Because the current study focuses on literacy, participants were included only if their literacy scores fell within the same proficiency range as their overall scores, so all of the proficiency Level 2 participants also had a subcategory proficiency score of Level 2 for literacy, and likewise for Levels 3 and 4. All Exited students completed a final year enrolled in the EL program and met proficiency on the most recent ACCESS test. The level of Exited is not a WIDA designation but is defined by the State of Minnesota and represents academic English language proficiency comparable to school-aged peers. The State of Minnesota says that a student has reached English proficiency and can be exited from an EL program when the individual has achieved a composite score of 4.5 or greater with a score of 3.5 or greater in three or more of the domains of Listening, Speaking, Reading, and Writing ([education.mn.gov](http://education.mn.gov)). All Exited participants of this study met this criteria. These protocols were in place to ensure consistency across the proficiency levels.

All participants were selected from a large suburban high school outside of Saint Paul, Minnesota, where I was employed as an EL teacher. The 16 participants, ten males and six females, consisted of five native speakers of Spanish, four of Amharic, two of Yoruba, and one native speaker each of Arabic, Somali, Hmong, Filipino, and French. This cohort of participants represents a fairly typical EL demographic for schools around the Twin Cities and represents a nice cross section of learners for this study. These students have been in the United States for varying amounts of time from several months

to several years. All of the participants, though, were born outside of the United States and are native speakers of languages other than English. None of the participants are considered Long Term English Learners (LTELs) nor are any considered Students with Limited or Interrupted Formal Education (SLIFE). Finally, none of the participants have an Individualized Education Plan (IEP) or receive Special Education services.

This study was conducted within a normal classroom environment during a typical day of learning, and therefore did not require any additional consent to participate. Nothing about the typical classroom was changed for this study. At the beginning of a typical day of class, students entered the classroom and found their seats. Students sat in pairs at small triangle tables. Students were given the research materials to complete. The study was administered in one day to all the relevant classes. The participant materials were immediately separated into two piles—those that fit the acceptable criteria for participation as described above, and those that did not. The criteria for participating in this study are 1) the participant was born outside the United States and has a native language other than English, 2) the participant does not have an exceptional educational factor, such as an IEP or LTEL or SLIFE designation, and finally, 3) the participant's ACCESS for ELLs 2.0 Composite Score and subcategory Literacy Score both match the target proficiency level for inclusion in the study. Imposing these restrictions on the participant pool resulted in four participants in each proficiency Level 2, 3, 4, and Exited.

### **Materials**

Three fictional scenarios were created for the purpose of this study. Each scenario contained two described events—one telic and one atelic. Each of the six completion options were printed in a large clear font on half-sheets of paper and stapled together as a

packet. The sheets were randomized so that no pattern existed as participants completed the tasks. In total, each packet contained seven sheets of paper—one sheet with the directions, three sheets representing a telic event and three sheets representing an atelic event. The directions were placed on the front as a cover page for each packet, as well as listed on the top of each sheet. The directions were intentionally made to be simple and easy to understand: *1. Read the story. 2. Circle what you think is the best way to complete the sentence. 3. Then, circle “Yes” or “No” to answer the question about the sentence you completed.*

Below the directions on each sheet, two sentences were used to describe the scenario and provide context. These same two sentences were used for both scenario events—the telic and atelic versions. The first of the two sentences used a state verb written in present tense describing the scenario. The second of the two sentences informed the participant that I would describe one event associated to the scenario. For example, the context sentences used for a scenario about two people on a date read, *Tom and Susan like to spend time together on dates. Now I will tell you about one date last year.* The scenario was introduced using the state verb *like* and set up the context for the story. Then, the participant was told about one example that functions within the context. This pattern was repeated for all scenarios. For an additional example, another scenario was introduced in this way: *Farmers need honey bees to pollinate their crops. Now I will tell you about an apple farm last year.*

Below the context sentences, the participants had the forced-choice completion sentence. Each of the two forced-choice completion events were described with a common sentence starter using the prepositional phrase *During \_\_\_\_\_*, and then

participants chose how to complete the sentence. For example, in the scenario describing two people on a date, the telic version read, *During their time together, Tom and Susan **walked/were walking** to the movie theater.* The participants chose how to complete the sentence by circling either *walked* or *were walking*. The pattern was repeated for the atelic version: *During their time together, Tom and Susan **talked/were talking** about their future.* This design provided an opportunity for six completion choices in total for each participant. The class of the lexical aspect was deliberately chosen by me, but the student had the choice of completing the sentence using the perfective *-ed* or the imperfective *-ing* option.

Below the forced-choice completion sentence, the participants were asked a Yes/No question regarding the completion of the event. Each event had a Yes/No question for the participants to indicate if they think the event was finished/completed. The question was framed by using the verb phrase from the completion sentence, but written in the progressive form. The example from scenario one, the date scenario, for the telic version read, *Walking to the movie theater finished/completed? **Yes/No***, and the atelic version read, *Talking about their future finished/completed? **Yes/No***.

Each of the three scenarios followed this exact pattern. One scenario described two people on a date, another scenario described honey bees on a farm, and the final scenario described a soccer team. These scenarios were chosen deliberately because they were high-interest, relatable to high school students, and provided a mixture of social and academic language. Additionally, the design of the data collection tools were created to be uniform and consistent across tasks in order to limit variability. Figures 3 and 4 below demonstrate the full telic and atelic examples provided to participants for the scenario

describing two people on a date. (See Appendix A for all six tasks for all three scenarios, p. 91).

<p><b><u>Directions:</u></b></p> <ol style="list-style-type: none"> <li>1. Read the story.</li> <li>2. Circle what you think is the best way to complete the sentence.</li> <li>3. Then, circle “Yes” or “No” to answer the question about the sentence you completed.</li> </ol> <p>Tom and Susan like to spend time together on dates. Now I will tell you about one date last year.</p> <p style="text-align: center;">walked</p> <p>During their time together, Tom and Susan _____ to the movie theater.</p> <p style="text-align: center;">were walking</p> <p>Walking to the movie theater finished/completed?    Yes    /    No</p>
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Figure 3: Telic Date Scenario

<p><b><u>Directions:</u></b></p> <ol style="list-style-type: none"> <li>1. Read the story.</li> <li>2. Circle what you think is the best way to complete the sentence.</li> <li>3. Then, circle “Yes” or “No” to answer the question about the sentence you completed.</li> </ol> <p>Tom and Susan like to spend time together on dates. Now I will tell you about one date last year.</p> <p style="text-align: center;">talked</p> <p>During their time together, Tom and Susan _____ about their future.</p> <p style="text-align: center;">were talking</p> <p>Talking about their future finished/completed?    Yes    /    No</p>
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Figure 4: Atelic Date Scenario

### Procedure

For the purposes of this study, I did not provide any direct instruction or activate any prior knowledge before this test. This study was carried out within a typical classroom environment during a typical single day of high school. The study was conducted as the first task of class for the day and was given to all students in my English

Language Development classes. The participants were later categorized into those who met the study parameters and those who did not. In order to participate in this study, test subjects needed to 1) be born outside the United States and have a native language other than English, 2) not have an exceptional educational factor, such as an IEP or LTEL or SLIFE classification, and finally, 3) have an ACCESS for ELLs 2.0 subcategory Literacy Score that matches the overall Composite Score for the target proficiency level. The study was given to all students in the classroom, despite the listed parameters above, in order to maintain consistency in the classroom environment and limit the external factors that could potentially influence the research.

The materials were prepared ahead of time in the manner previously described. One packet of seven half-sheets of paper were created for each student. The first sheet was the same for all packets. It listed the directions in a large clear font. The next six sheets contained the inquiry. These six sheets were randomized so as to prohibit a pattern in the tasks that could potentially influence student responses. No demographic questionnaire was needed because, as the participants' teacher, I already had access to the necessary information prior to conducting the research.

Students entered the classroom and found their seats as normal. I first described my research by telling students that I am interested in learning how English language learners acquire an understanding of how time is represented in language. I talked very generally about the research and was very brief. I informed the students that they could be selected to be part of my study, but that no personal identifiers would be used and that participation would be fully anonymous. I also explained that I did not require signatures

for participation because nothing out of the ordinary was taking place—it was just another day in class.

Next, I briefly explained the task. I told students that they are to answer every question on the sheets. Each sheet has two choices—the first is to choose the best way to complete a sentence and the second is a Yes/No question. I instructed students to not linger over a question for too long and to trust their first choices. I also made it very clear that there is no wrong answer, but rather I am looking for what individuals think is the best way to complete the sentences, and also what they think about the sentences they completed. Again, this explanation was very brief and concise. I used much of the same language in my discussion as is listed in the directions themselves. After this brief overview, I told the students to write their names on the top of the packets so that I can organize them later, but the names would not be used in the study. Then, I read the directions aloud and told the students to begin. When all students completed the packets, I collected them and sorted out those that met the study parameters for participation to be analyzed and quantified.

### **Expectations**

Through this process, we should be able to learn two things. First, if the saliency observed by the Aspect Hypothesis shows in the comprehension of this study's described scenarios/events, and the comprehension of telic verbs are indeed more salient in a perfective context and atelic verbs more salient in an imperfective context with their respective morphosyntactic forms, we should find a strong tendency for students to choose the corresponding morpheme to the corresponding verb class for each task—*ed* endings should be preferred with telic verb classes, and *-ing* endings should be preferred

with atelic verb classes. Furthermore, since perfective markings are acquired before imperfective, the rates of accurately attributing the perfective *-ed* with telic events should be higher than those associated with attributing the imperfective *-ing* with atelic events, particularly for the participants in the lower proficiency levels. This would demonstrate that the predictions described by the Aspect Hypothesis for L2 learner production to first attribute the perfective *-ed* ending to telic verbs and predicates and later attribute the imperfective *-ing* ending to imperfective verbs and predicates would also apply to L2 learner comprehension of those grammatical and lexical aspectual scenarios. Second, we should be able to determine if the results suggest a leveled progression, as is suggested by the Aspect Hypothesis. We should see more consistency to the Aspect Hypothesis as students rise in proficiency, further indicating the connection between production and comprehension.

### **Data Analysis**

Data in this study is collected through the use of a forced-choice sentence completion task, as well as a Yes/No awareness question asking if the event described in the sentence is finished/completed. Three scenarios are used—two people on a date, honey bees on an apple farm, and a soccer team at a high school. Each scenario presents with two events, one telic and one atelic. Each event is described using a common sentence stem and consistent pattern, but the study participants must choose to complete the sentence using either a perfective or imperfective form of the verb phrase by circling either option. This task is designed to measure the number of participant responses that attribute the perfective *-ed* form to the telic events and the imperfective *-ing* form to the atelic events, as predicted by the Aspect Hypothesis.

As both choice responses are grammatically accurate, I am not testing the student's ability to perform accurately. Rather, I am determining whether or not the intrinsic class of the verb plays a role in student preferences for the attribution of tense–aspect morphology following the predictions laid out by the Aspect Hypothesis. The first measure of this study occurs as a score of “1” is attributed to choosing the perfective *–ed* ending for telic events and the imperfective *–ing* ending for atelic events. These pairings are looked at as a whole, but then also differentiated across participants' proficiency levels.

The next layer of data has two measures, and results are earned by accurately identifying the telic event and perfective choice as finished/completed and also the atelic event and imperfective choice as not finished/completed. A score of “1” is awarded when participants match the telicity of the event, and also their perfective or imperfective sentence completion choices with the accurate Yes/No response. For example, if the participant identifies a telic event as *Yes (finished/completed)* or an atelic event as *No (not finished/completed)*, a score of “1” is awarded. Likewise, if the participant chooses the perfective *–ed* ending to complete the sentence, and then identifies the event as *Yes (finished/completed)*, or chooses the imperfective *–ing* option and then identifies the event as *No (not finished/completed)* a score of “1” is awarded, regardless of the event's actual telicity rating.

Finally, this study looks at how the two previously described layers of data—the sentence completion tasks and the awareness tasks—interact to demonstrate the awareness an English language learner has, or does not have, of the impact the intrinsic class of a verb/predicate and its associate morphosyntactic forms have on a given context.

The next chapter analyzes this data and quantifies it for understanding. The data is first interpreted as a whole and then aggregated into proficiency levels. As described above, there are three layers to this data that are explored. The first layer of data is sourced from attributing the perfective *-ed* ending to telic events and the imperfective *-ing* ending to atelic events. The second layer of data represents awareness and is produced by accurately identifying the telicity of the event and perfectivity of the choice as either completed/finished or not completed/finished. The third layer of data is a result of combining the first two layers together to produce an overall measure of comparison to the Aspect Hypothesis, and construct the most complete response to the essential questions posited by this study.

## CHAPTER FOUR: RESULTS

This study aims to better understand what potentially causes the predicted pattern of attribution of grammatical–aspect morphemes to telic and atelic events, as described by the Aspect Hypothesis, by determining an English language learner’s ability to recognize and comprehend the scenarios/events discussed earlier in Chapter Three and referenced in Appendix A, while also attributing perfective and imperfective endings based on what has been comprehended. This study’s guiding questions are as follows:

*Does the salience observed by the Aspect Hypothesis show in the comprehension of specific aspectual scenarios by leveled English language learners?*

*Subquestion A: Is the comprehension of telic verbs more salient in a perfective context and its concurrent use of morphosyntactic forms?*

*Subquestion B: Is the comprehension of atelic verbs more salient in an imperfective context and its concurrent use of morphosyntactic forms?*

*Subquestion C: Can this salience and the connected comprehension be tracked linearly throughout WIDA levels of proficiency?*

The data of this study will be discussed in three layers. The first layer will look at the sentence completion task. The second layer will look at the Yes/No event completion awareness task. And finally, the third layer combines the two and represents an overall measure of an English language learner’s ability to comprehend and interpret the salience constituted by the inherent lexical aspect of verbs and the choice of certain

morphosyntactic markers and their grammatical–aspect meanings. For each layer, the data will be viewed as whole for the total number of 16 participants, but then will also be aggregated into the four different WIDA proficiency Levels 2, 3, 4, and Exited.

In this study, if a participant attributes the perfective *–ed* form to telic events, a positive value of “1” is awarded. Likewise, if a participant attributes the imperfective *–ing* to atelic events, a positive value of “1” is awarded. Participants then indicate whether they think the sentence they completed describes a finished/completed event or not. This piece of the data is analyzed in two ways. First, the data is examined in relation to the telicity of the event, which reveals a level of lexical aspectual awareness. The data is also examined in relation to the participant’s previous response in the sentence completion task, which highlights the participant’s grammatical awareness. A result of “1” is awarded when, in one analysis, the participant’s Yes/No response matches the telicity of the event, or in the other analysis, the participant’s Yes/No response matches the choice made in the forced–choice completion sentence.

In other words, *Yes (finished/completed)* pairs with the telic event or the participant’s perfective *–ed* response to yield a result of “1,” and *No (not finished/completed)* pairs with the atelic event or the participant’s imperfective *–ing* response to yield a result of “1.” If a participant indicates that the telic event is uncompleted or the atelic event is completed, a value of “0” is assigned. Likewise, in the other analysis, if a participant chooses the imperfective *–ing* completion option, but then indicates that, *Yes*, the event is *finished/completed*, or if the participant chooses the perfective *–ed* completion option, but then indicates that, *No*, the event is *not*

*finished/completed*, a value of “0” is assigned. See Figure 5 for a visual of the three layers of data.

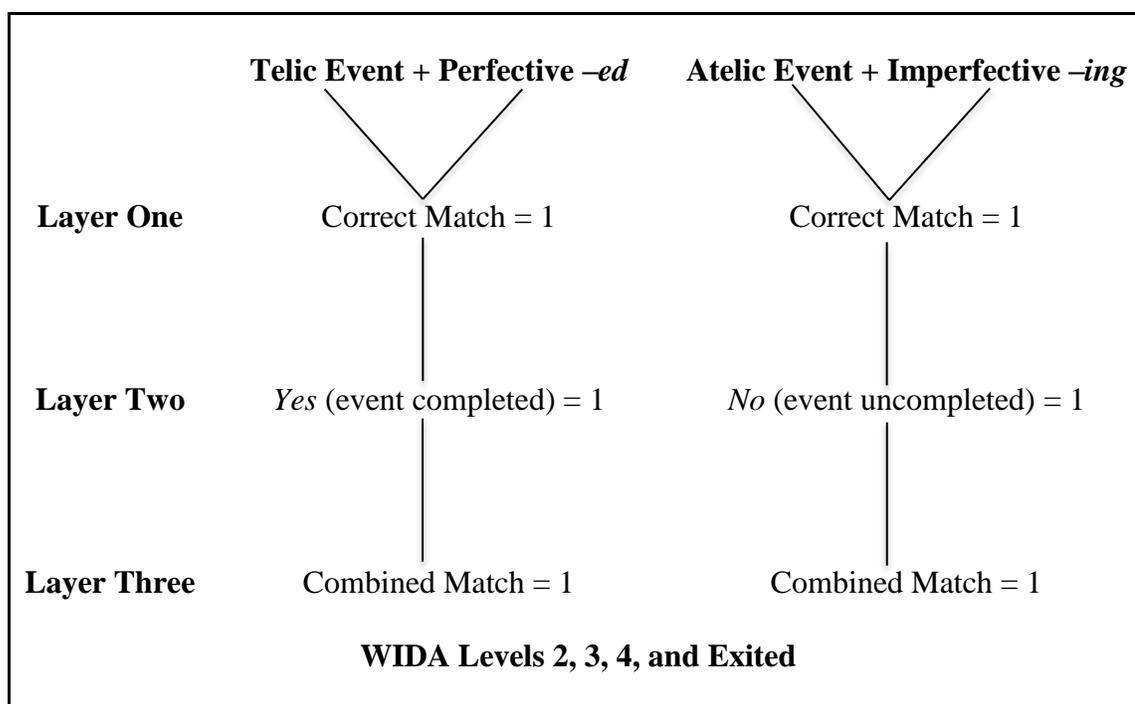


Figure 5: The Three Layers of Data

Chance is represented as 50% success rate in these first two layers of data. Each individual task has two possible outcomes, so a guess has a 50% probability of success. A score lower than 50% represents avoidance of the targeted construction, and a score above a 50% represents alignment to the predictions of the Aspect Hypothesis and a clear indication of learner preference and awareness.

### Sentence Completion Task

This first layer of data represents an English language learner’s tendency to attribute first the perfective *-ed* ending to telic verbs and predicates, and then the imperfective *-ing* to atelic verbs and predicates, as described by the Aspect Hypothesis (Anderson & Shirai, 1996). Participants were tasked with completing six sentences choosing either the imperfective or perfective verb phrase option. Three of these

sentences are telic and three are atelic. A value of “1” is awarded each time a participant chooses the perfective *-ed* option for telic events, and likewise for each time the participant chooses the imperfective *-ing* option for atelic events. With 16 participants providing responses for three telic events and three atelic events each, there are a total of 48 data points for the telic and 48 data points for the atelic sentence completion tasks.

### Whole Group Results

Initial results for this task as a whole group are shown in Table 1 below.

Table 1: Sentence Completion Task Whole Group Results: Matching Perfective *-ed* with Telic Events and Imperfective *-ing* with Atelic Events

<b>Telicity</b>	<b>Perfective <i>-ed</i> Responses</b>	<b>Imperfective <i>-ing</i> Responses</b>
<b>Telic</b>	<b>28</b>	20
<b>Atelic</b>	31	<b>17</b>

Of the 48 data points available for each the telic and atelic situations, 28 had positive correlations for the telic events and only 17 for the atelic events; 58% of telic event responses used the predicted perfective *-ed* option, while only 35% of atelic event responses used the predicted imperfective *-ing*. This means there was 23% greater alignment of matching perfective responses with telic events than matching imperfective responses to atelic events, and since the Aspect Hypothesis states that the perfective *-ed* is first applied to telic events before the imperfective *-ing* is applied to atelic events, this first layer, as a whole, supports the Aspect Hypothesis for English language learners from various backgrounds and with various levels of proficiency. At the same time, numbers of incorrect answers are higher for both telic and atelic events. The other component of

the Aspect Hypothesis is therefore not confirmed for the whole group where perfective *-ed* is predominantly used with telic and imperfective *-ing* with atelic events.

### Aggregated Results by Proficiency Level

Next, results were aggregated by proficiency level. Four participants from each WIDA proficiency levels 2, 3, 4, and Exited provided responses for a total of 12 data points for each proficiency level for each telic and atelic option.

For the telic responses for Level 2 proficiency, 7 out of 12 responses, or 58%, yielded positive results by matching the perfective *-ed* option with the telic event, while only 6 of 12 (50%) for Level 3, and the same for Level 4, yielded positive results. Nine of 12 (75%) responses from the Exited level of proficiency yielded positive result. See Table 2 below for a summary of these results, which reveals that the predictive progression of the Aspect Hypothesis is perhaps more complicated than a simple linear process when used in the comprehension of perfective telic situations. Matching telic events with perfective morphology appears to be mostly chance for learners in Levels 2, 3, and 4, as shown by the near 50% success rates; only Exited learners show a clear preference by earning a success rate well above 50%.

Table 2: Sentence Completion Task by WIDA Level: Matching Perfective *-ed* to Telic

	Events				
Perf. Telic Matches	Level 2	Level 3	Level 4	Exited	Whole Grp
Count	7	6	6	9	28
Percentage	58%	50%	50%	75%	58%

The atelic responses show a slightly different pattern. Strangely, Level 2 proficiency performed the best in the atelic responses with 6 out of 12 (50%) responses

yielding positive results by matching the imperfective *-ing* with the atelic event. Level 3 earned 3 of 12 (25%) positive results, while both Level 4 and Exited each earned 4 of 12 (33%) positive results (see Table 3 below.) Given the low number of positive data points, it appears that learners first match atelic events with imperfective morphosyntax by chance (Level 2). Then they appear to avoid pairing atelic events with imperfective morphosyntax on the next three levels. This data does not support a measurable progression of acquisition of imperfective *-ing* across the explicitly described WIDA proficiency levels.

Table 3: Sentence Completion Task by WIDA Level: Matching Imperfective *-ing* to Atelic Events

<b>Imperf. Atelic Matches</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Exited</b>	<b>Whole Grp</b>
<b>Count</b>	6	3	4	4	17
<b>Percentage</b>	50%	25%	33%	33%	35%

The combined results are shown in Figure 6 below.

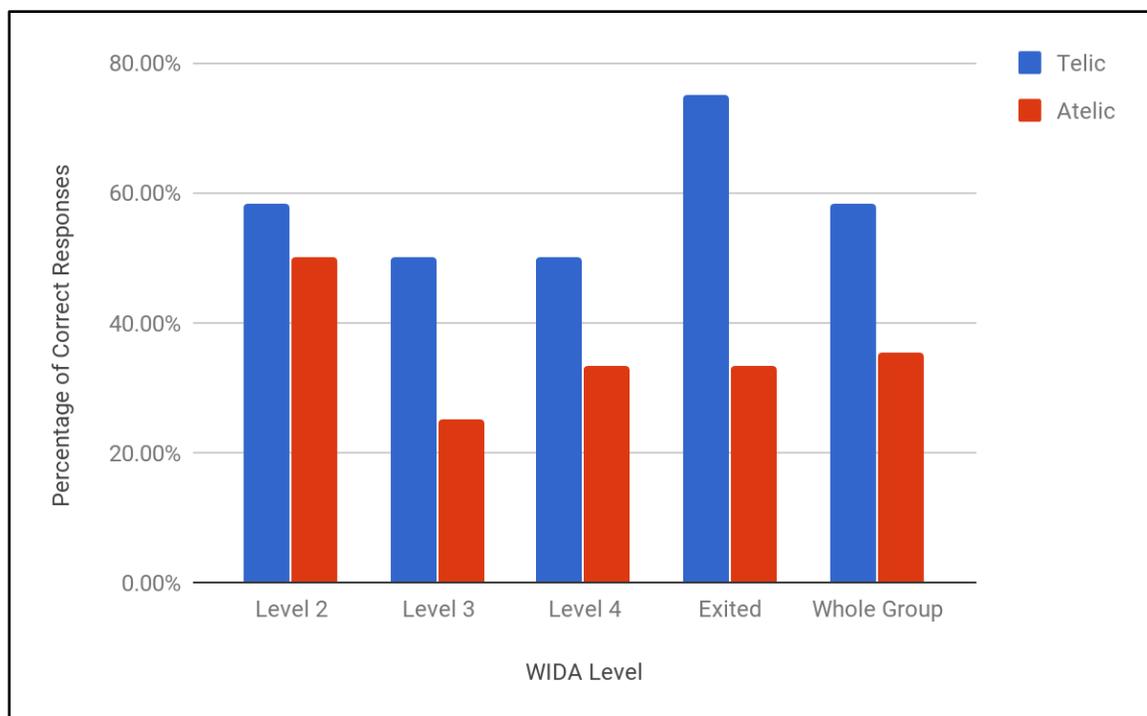


Figure 6: Summary of Sentence Completion Task by WIDA Level: Attributing Perfective *-ed* to Telic Events and Imperfective *-ing* to Atelic Events

When looking at the overall results for the sentence completion task as shown in Figure 6 above, evidence suggests that learners first attribute perfective *-ed* to telic events and imperfective *-ing* to atelic events by chance. This pattern continues for perfective *-ed* for telic events in Levels 3 and 4 before increasing to a clear preference for matching perfective *-ed* with telic events in the Exited level. Imperfective *-ing* plus atelic events, on the other hand, is avoided throughout all remaining levels after Level 2, indicating that learners prefer perfective *-ed* regardless of lexical aspect through the Exited level and that matching of atelic events with imperfective *-ing* must occur even later in language acquisition than predicted by the Aspect Hypothesis.

### **Aspectual Awareness Task**

In conjunction with the initial sentence completion task asked of this study's participants, an additional noticing question about the completedness of the event was put in place to determine what participant awareness existed, if any, regarding the lexical-aspect class of the events in question and their related choices of grammatical-aspect of the verbs. This data is analyzed in two ways. The first analysis compares the participant response to that of the telicity of the event, and represents the potential level of lexical awareness participants have of the event and its telicity. If the Aspect Hypothesis is correct, learners should be aware of the boundedness of telic events and consequently answer *Yes* to the question regarding whether or not the event is completed. And in turn, this will lead to selecting the perfective *-ed* option in the sentence completion task. Lexical aspect and grammatical aspect should be yoked for learners.

The second analysis compares the participant response to that of their initial perfective *-ed* or imperfective *-ing* sentence completion option. This represents the participant's ability to recognize how the grammatical aspectual choice made in the sentence completion task impacts the meaning of the described event. This data is being used to demonstrate both a level of lexical aspectual awareness as well as grammatical aspectual awareness, depending on how the comparisons are made.

#### **Lexical Awareness Comparison**

A result of "1" is awarded to data in this section when the participant chooses *Yes (finished/completed)* for telic events and *No (not finished/completed)* for atelic events. A score of "0" is awarded when the Yes/No response does not align with the designated telicity; when participants use *Yes (finished/completed)* with atelic events or *No (not*

*finished/completed*) with telic events, a score of “0” is given. This analysis represents an awareness of the inherent telicity of the described events, and shows to what extent lexical aspect plays a role in a student’s ability to comprehend the scenarios in question and then make grammatical choices based on that comprehension. This set of data contains a total of 48 data points for each the telic and atelic options. Divided between four proficiency levels, there are 12 data points for each level for each of the telic and atelic options.

**Whole group results.** Of the 48 possible data points, 26 (54%) yielded positive results for telic events, and only 14 (29%) yielded positive results for atelic events. See Table 4 below for the whole group results.

Table 4: Lexical Aspect Awareness Whole Group Results: Indicating Telic Events are Completed and Atelic Events are Uncompleted

Lexical Aspect Awareness	Count	Percentage
<b>Telic Events</b>	26	54%
<b>Atelic Events</b>	14	29%

This shows again that, as a whole, telicity is not aligned with perfectivity or imperfectivity for telic events, but rather it is a matter of chance for participants. There is a slight preference for indicating that events are completed rather than uncompleted, and there is even a level of avoidance by participants to indicate an atelic event as uncompleted.

**Aggregated results by proficiency level.** Each proficiency level has 12 possible outcomes for each the telic and atelic options. Level 2 for both telic and atelic earned 4 out of 12 (33%). Level 3 earned 4 out of 12 (33%) for telic and 5 out of 12 (42%) for

atelic. Level 4 earned 11 out of 12 (92%) for telic and only 1 out of 12 (8%) for atelic. Finally, Exited students earned 7 out of 12 (58%) for telic and 4 out of 12 (33%) for atelic. See Table 5 below for the results aggregated by WIDA proficiency level.

Table 5: Lexical Aspect Awareness by WIDA Proficiency Level: Indicating Telic Events are Completed and Atelic Events are Uncompleted

<b>Lexical Aspect Awareness</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Exited</b>	<b>Whole Grp</b>
<b># of Telic Events</b>	4	4	11	7	26
<b>% of Telic Events</b>	33%	33%	92%	58%	54%
<b># of Atelic Events</b>	4	5	1	4	14
<b>% of Atelic Events</b>	33%	42%	8%	33%	29%

As a whole, data again shows that participants seem to actively avoid marking atelic events as uncompleted across all proficiency levels. Telic events are also avoided as being marked completed by Levels 2 and 3; however, there seems to be a clear preference for Level 4 and somewhat of a preference for Exited students to accurately identify telic events as completed. Level 4 may be an outlier. This suggests that the salience represented by the Aspect Hypothesis, particularly for telic constructions, may only apply to high level learners. Furthermore, for atelic events, the data is below chance for all proficiency levels, which shows that students in this study actively avoid, or use some other strategy that steers them away from aligning atelic events with imperfectivity. Finally, Level 4, while somewhat conforming to trends, seems here to be an outlier for this data set. See Figure 7 below for a summary of the lexical awareness task.

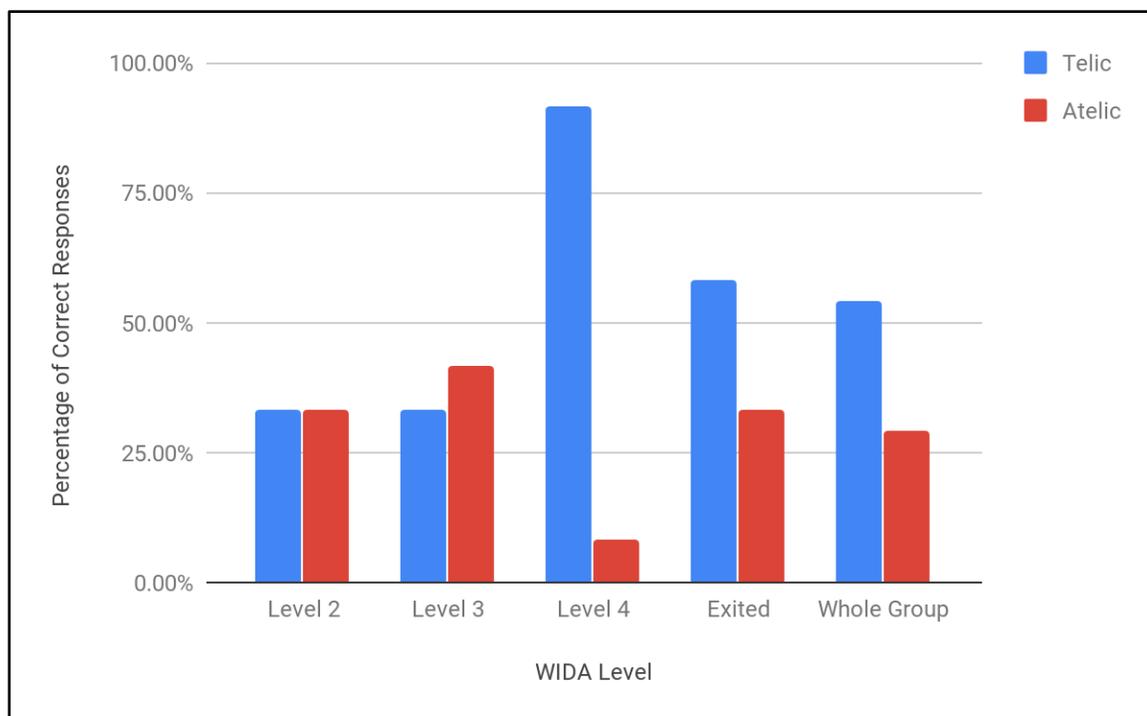


Figure 7: Summary of Data for Lexical Aspect Awareness Task by WIDA Level:

Indicating Telic Events are Completed and Atelic Events are Uncompleted

### Grammatical Awareness Comparison

The second comparison made using this data focuses on grammatical aspectual awareness and compares the participant's Yes/No response to that of the participant's previous sentence completion response. A result of "1" is awarded when a participant's Yes/No response matches their perfective or imperfective choice, regardless of the event having an inherent endpoint (telic) or not (atelic). A result of "1" is given each time a participant matches a *Yes (finished/completed)* response to the previously chosen perfective *-ed* option, and likewise when a *No (not finished/completed)* response is used along with the imperfective *-ing*. Because positive results are awarded based on matching the Yes/No response to the participant's previous sentence completion response, there are an unequal number of data points for the perfective awareness

compared to the imperfective awareness results. As previously described, participants had greater success matching the perfective *-ed* verb phrase with telic events. In addition to this, participants chose the perfective *-ed* option more frequently than the imperfective *-ing*. Participants as a whole had a total of 96 opportunities to choose either the perfective or imperfective options to complete the sentences. Fifty-nine of those responses were perfective, while only 37 responses were imperfective. This means that for this second layer of data, the perfective *-ed* awareness has 59 data points, while the imperfective *-ing* awareness measure has 37 data points. Results will therefore be presented in percentages as well.

**Whole group results.** As a whole, 59 out of 96 responses used the perfective *-ed* option, and of those 59, 41 (69%) demonstrated awareness of the temporal impact of their choice by saying *Yes* the event was *finished/completed*. Likewise, of the 96 total responses, 37 used the imperfective *-ing*. Eighteen of those 37 (49%) were awarded positive results by acknowledging that *No*, the imperfective choice was not *finished/completed*. See Table 6 below for the whole group results of the perfective *-ed* imperfective *-ing* usage awareness.

Table 6: Grammatical Aspect Awareness Whole Group Results: Identifying the Perfective *-ed* Option as Completed and the Imperfective *-ing* Option as Uncompleted

Grammatical Aspect Awareness	Count	Percentage
<b>Perfective <i>-ed</i></b> (out of 59)	41	69%
<b>Imperfective <i>-ing</i></b> (out of 37)	18	49%

This data once again supports the use of the Aspect Hypothesis in the comprehension of perfective *-ed* and imperfective *-ing* and demonstrates that some awareness must exist of the temporal meaning of perfective *-ed* first and only later of the meaning of imperfective *-ing*. Perfective *-ed* is associated with completed meaning nearly 70% of the time while the uncompleted meaning is assigned to imperfective *-ing* only at chance. It shows that, as a whole, the perfective *-ed* is likely acquired before the imperfective *-ing* due in some part to the student's ability to notice the impact this construction has on temporal reference, further suggesting that the perfective *-ed* may be more salient than the imperfective *-ing*, and therefore acquired first.

**Aggregated results by proficiency level.** Level 2 participants performed relatively the same for each category, achieving 46% consistency (6 out of 13) for the perfective *-ed* usage awareness match and 45% consistency (5 out of 11) for the imperfective *-ing* usage awareness match. Level 3 performed better in both categories, as expected, by achieving an awareness match of 53% (8 out of 15) for perfective and 67% (6 out of 9) for imperfective. The fact that the Level 3 participants had a greater awareness of usage for the imperfective *-ing* is anomalous and does not align with the expectations made by the Aspect Hypothesis. Level 4 participants also produced unexpected results and again appear to be an outlier in this data set, in that they demonstrated 100% (14 out of 14) awareness in the perfective usage, but only 20% (2 out of 10) awareness of the imperfective. Both Levels 3 and 4 may be evidence of the well-known pattern whereby learners deteriorate before they improve. Finally, the results for the Exited participants align with general expectation, achieving 76% (13 out of 17) awareness of the perfective usage and also 71% (5 out of 7) of the imperfective usage.

This is different from the Aspect Hypothesis and previous results, where the imperfective was lagging behind the perfective. The results are presented in Table 7 below.

Table 7: Grammatical Aspect Awareness by WIDA Level: Identifying the Perfective *-ed* Option as Completed and the Imperfective *-ing* Option as Uncompleted

<b>Grammatical Awareness</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Exited</b>	<b>Whole Grp</b>
<b># of Perfect. <i>-ed</i></b>	6/13	8/15	14/14	13/17	41/49
<b>% of Perfect. <i>-ed</i></b>	46%	53%	100%	76%	69%
<b># of Imperf. <i>-ing</i></b>	5/11	6/9	2/10	5/7	18/37
<b>% of Imperf. <i>-ing</i></b>	45%	67%	20%	71%	49%

However, the results for this task show that English language learners are more aware of the perfective *-ed* usage as representing telic events than compared to imperfective *-ing* representing atelic events. If the participant did not previously match the perfective *-ed* to the telic event or the imperfective *-ing* to the atelic event in the first task, then it would not be meaningful to use this data to determine if the participant is aware of the inherent temporal characteristics of the event, since the lack of awareness is already demonstrated by the mismatched usage. Rather, it is more meaningful to use this data to determine how awareness impacted the participant's *choices* by making comparisons with their previous responses. When using the data in this way, the research adds specificity to the essential questions. This task demonstrates the student's ability to comprehend the described situation and reveals an awareness of the impact tense–aspect morphology has on the description of perfective telic and imperfective atelic scenarios,

while at the same time showing a preference for perfective telic scenarios over imperfective atelic scenarios when completing sentences. This dissociation of telicity and perfectivity can also be seen when comparing the relative preference for telic events in the Lexical Awareness Comparison Task with the equality between perfective and imperfective scenarios here. This seems to indicate that telicity and perfectivity are not yoked at this stage. See Figure 8 below for a summary of the perfective *-ed* and imperfective *-ing* usage awareness task.

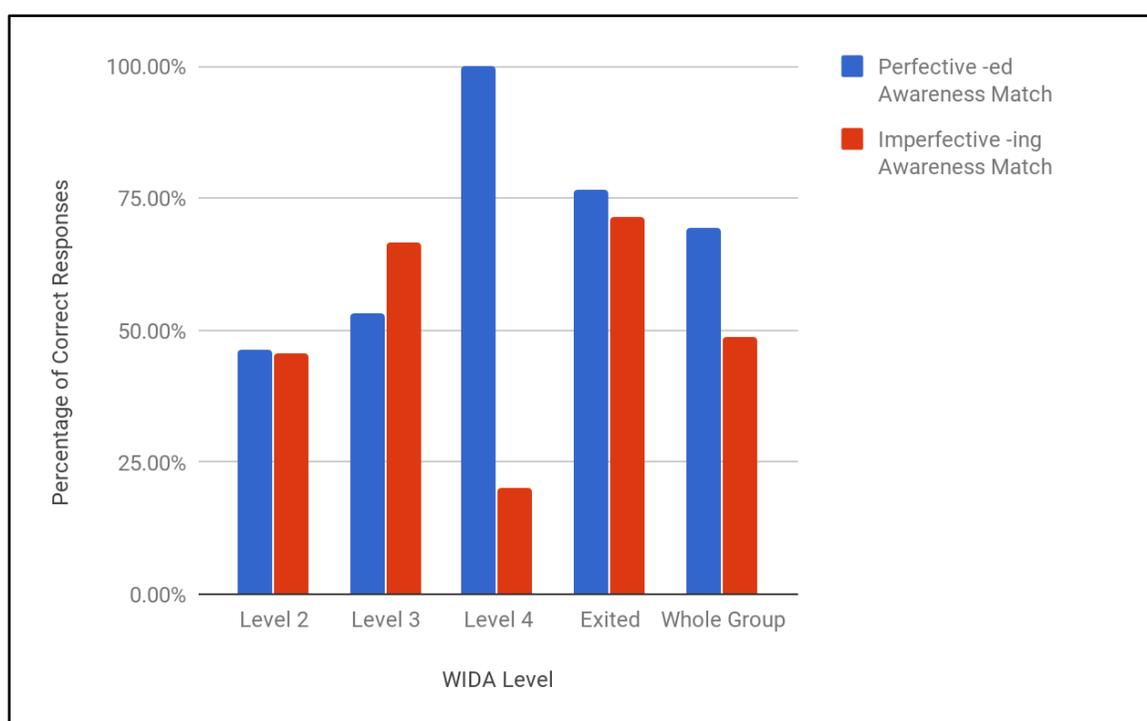


Figure 8: Summary of Data for Perfective and Imperfective Usage Awareness Task by WIDA Level: Matching *Yes (finished/completed)* with the Perfective Choice and *No (not finished/completed)* with the Imperfective Choice

The data shows an indication of awareness increasing as proficiency level also increases. The trend of this data, particularly the higher match between telic events and the perfective *-ed*, supports the application of the Aspect Hypothesis in the

comprehension of perfective telic and imperfective atelic situations, and reveals the salience potentially attributed to the perfective *-ed* construction over that of the imperfective *-ing*. Marking Level 4 as an outlier in this data helps demonstrate that for both the perfective *-ed* and imperfective *-ing* constructions, lower levels of learners demonstrate awareness mostly by chance, but the higher level of Exited shows a clear recognition of form to function.

### **Combined Results of Sentence Completion Tasks and Awareness Tasks**

The first layer of data in this study determined an English language learner's preference to use the perfective *-ed* construction of a verb phrase when comprehending telic events and the imperfective *-ing* construction when comprehending atelic events. The second layer of data determined the level of awareness the English language learners had when making their choices creating insights into the influence of salience. This third layer of data combines the first two and represents a full match of awareness and usage/comprehension of the perfective telic and imperfective atelic forms.

A full match of grammatical and lexical aspectual usage, comprehension, and awareness results when two things happen in conjunction: 1) the participant uses the perfective *-ed* sentence completion option with telic events or uses the imperfective *-ing* construction with atelic events and 2) chooses *Yes (event finished/completed)* with the perfective telic response or *No (event not finished/completed)* with the imperfective atelic response. These two results combined demonstrate a comprehensive awareness and understanding of perfective telic or imperfective atelic aspectual forms within the given scenarios, and positive results here represent a full alignment to the predictions formed from the Aspect Hypothesis when applied to the comprehension of perfective telic and

imperfective atelic situations. In this way, we are able to draw parallels between comprehension and production as well as reveal how noticing and salience impact student choices.

Because this layer of data has two components working in conjunction, each participant has six opportunities for full alignments—three opportunities for perfective telic events and three opportunities for imperfective atelic events, which creates 96 data points. There are 24 data points for each proficiency level—12 perfective telic and 12 imperfective atelic—with which to measure these results.

### Whole Group Results

As a whole, participants have 48 telic and 48 atelic opportunities to earn a positive result of “1” by first attributing the perfective *-ed* verb phrase construction to telic events or by attributing the imperfective *-ing* option to atelic events and then responding *Yes (event finished/completed)* for the perfective telic construction or *No (event not finished/completed)* for the imperfective atelic construction.

Once again, consistent along all layers of data in this study, the results here show that the perfective telic construction has a higher rate of accuracy and awareness than the imperfective atelic construction, by a wide margin. See Table 8 for the results.

Table 8: Combined Results Whole Group

<b>Sentence Completion Tasks with Awareness</b>	<b>Count</b>	<b>Percentage</b>
<b>Perfective Telic with Awareness</b>	18	38%
<b>Imperfective Atelic with Awareness</b>	6	13%
<b>Total Combined</b>	24	25%

Eighteen out of 48 (38%) responses yielded positive results for the perfective telic event with awareness, while only 6 out of 48 (13%) yielded positive results for the imperfective atelic event with awareness. The alignment of the perfective telic is three times that of the imperfective atelic construction; however, the overall levels of alignment—38% and 13% respectively—are quite low. This reveals that while a progression of acquisition from the perfective telic to the imperfective atelic may exist, there is a relatively low rate of instances in which participants match the lexical aspectual class of a verb or predicate with the appropriate perfective or imperfective morpheme and then match the grammatical form used with the appropriate representation of event completedness. When combining the results for both the telic and atelic events, a match of only 25%, or 24 out of 96, occurs. Only one quarter of the overall results matched the predicted outcomes by using the perfective *-ed* verb phrase option with telic events and then indicating that the event was finished/completed or by using the imperfective *-ing* verb phrase option with atelic events and then indicating that the event was not finished/completed.

### **Aggregated Results by Proficiency Level**

A positive result of “1” is awarded for the perfective telic task with awareness when a participant uses the perfective *-ed* verb phrase option with the telic event and then also identifies the event as *Yes (finished/completed)*. Level 2 participants earned 3 out of 12 (25%) positive results. Level 3 participants earned 2 out of 12 (17%) positive results. Level 4 earned 6 of 12 (50%), and finally, Exited earned 7 of 12 (58%) positive results. This once again shows that some progression exists, as described by the Aspect Hypothesis, but a clear linear pattern would require more research to identify. The

positive results in this data are too low to be able to determine a clear, strong correlation with the Aspect Hypothesis though, as even the highest level of proficiency in this study only earns full positive results just over half of the time. See Table 9 below for the results of the perfective telic task with awareness by WIDA proficiency level.

Table 9: Combined Perfective Telic Tasks with Awareness by WIDA Level

<b>Perf. Telic with Awareness</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Exited</b>	<b>Whole Grp</b>
<b>Count</b>	3	2	6	7	18
<b>Percentage</b>	25%	17%	50%	58%	38%

For the imperfective atelic task with awareness, a positive result of “1” is awarded when a participant uses the imperfective *-ing* verb phrase option with the atelic event and then also identifies the event as *No (not finished/completed)*. Level 2 participants earned 1 out of 12 (8%) positive results. Level 3 participants earned 2 of 12 (17%) positive results. Level 4 earned 1 of 12 (8%), and Exited earned 2 of 12 (17%). The imperfective atelic task with awareness earned lower results than the perfective telic task with awareness, as anticipated, since the Aspect Hypothesis claims that the imperfective atelic construction is acquired after the perfective telic construction. The exceptionally low results here again demonstrate that there is perhaps a lag in the application of the Aspect Hypothesis in the comprehension of imperfective atelic events and associated morphosyntactic forms. See Table 10 below for the results of the imperfective atelic task with awareness by WIDA proficiency level.

Table 10: Combined Imperfective Atelic Tasks with Awareness by WIDA Level

<b>Imperf. Atelic with Awareness</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Exited</b>	<b>Whole Grp</b>
<b>Count</b>	1	2	1	2	6
<b>Percentage</b>	8%	17%	8%	17%	13%

Finally, when the two aspectual tasks are combined—the perfective telic task with awareness and the imperfective atelic task with awareness—an overall measure of alignment can be made. Results here are created by adding the results of the two previous measurements. As such, Level 2 participants earned only a total 4 out of 24 (17%) positive results. Level 3 participants had the same rate of success with 4 out of 24 (17%) yielding positive results. Level 4 performed better, earning 7 out of 24 (29%), and the Exited participants performed the best, earning 9 out of 24 (38%) positive results. The full table of results can be seen in Table 11 below.

Table 11: Combined Tasks by WIDA Level

<b>Combined Tasks</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Exited</b>	<b>Whole Grp</b>
<b># of Perf. Telic with Awareness Match</b>	3	2	6	7	18
<b>% of Perf. Telic with Awareness Match</b>	25%	17%	50%	58%	38%
<b># of Imperf. Atelic with Awareness Match</b>	1	2	1	2	6
<b>% of Imperf. Atelic with Awareness Match</b>	8%	17%	8%	17%	13%
<b># of Combined Perf. Telic and Imperf. Atelic with Awareness Match</b>	4	4	7	9	24
<b>% of Combined Perf. Telic and Imperf. Atelic with Awareness Match</b>	17%	17%	29%	38%	25%

When the two aspectual tasks are combined, a single measure of alignment to the Aspect Hypothesis exists as it is applied to the comprehension of perfective telic and imperfective atelic situations, in conjunction with a measured conscious awareness of the inherent telicity, or lexical aspectual class of the verb phrase, and also to how the grammatical form can represent a temporal function. This final value, comprised of a combined perfective telic and imperfective atelic with awareness match, is perhaps the most complete value in determining the answers to this study's research questions, and in

better understanding the interaction between comprehension and production as it applies to the Aspect Hypothesis and its use in the comprehension of perfective telic and imperfective atelic situations.

When looking at this final cumulative layer of data, a pattern that is predicted by the Aspect Hypothesis nearly emerges. The Aspect Hypothesis states that the lexical aspectual class of verbs influences student production, and in the process of acquisition of English, language learners will first attribute the perfective *-ed* ending to telic verbs and predicates and then later attribute the imperfective *-ing* to atelic verbs and predicates (Anderson & Shirai, 1996). When applying this theory to the comprehension of perfective telic and imperfective atelic situations, one would expect to see a progression of increased accurate attribution of these morphemes to the appropriate contexts as one moves higher through English proficiency levels, as well as a measurable awareness of how these linguistic constructions reference temporal events.

The positive correlations in this study are all generally low, but the expected progression may exist for the perfective telic construction, which is acquired first according to the Aspect Hypothesis, but no meaningful pattern emerges for the imperfective atelic construction. When looking at this final number, a progression of acquisition is revealed, but the values also demonstrate that learners at proficiency levels 2, 3, 4 and Exited are more unaware than aware of the interactions between tense and aspect morphology in creating and comprehending perfective telic and imperfective atelic situations. Figure 9 below shows a summary of this third layer of data, as described above, which nicely demonstrates the progression of proficiency across tasks and levels, as well as the overall low alignments to the Aspect Hypothesis.

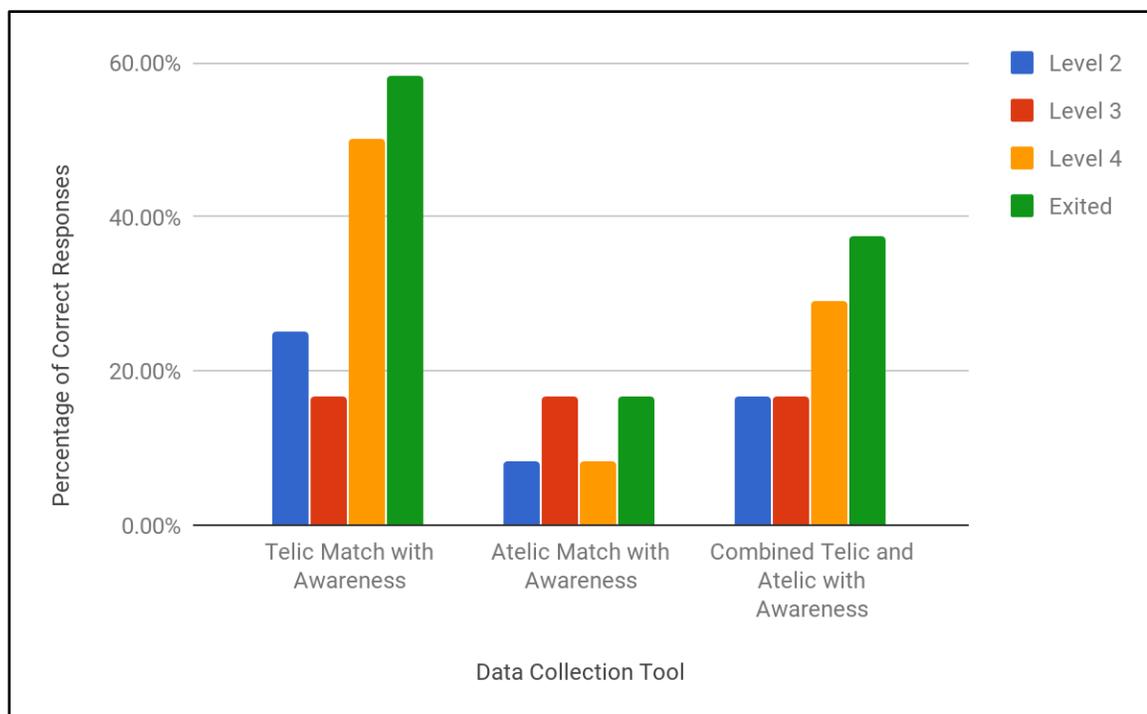


Figure 9: Summary of Combined Results: Aspectual Tasks with Awareness

Figure 9 shows how each proficiency level performed on the combined tasks and reveals that, when combining a participant's preferences of the perfective and imperfective options with the participant's awareness of the temporal characteristics of the events, there is a leveled progression for the telic tasks, but not for the atelic tasks. Additionally, it shows that when combining all tasks together, there is a progression of overall proficiency in an English learner's ability to comprehend and use perfective telic and imperfective atelic constructions; however, results are so low that more research would be needed to determine exactly how much or how soon proficiency in the perfective telic construction impacts proficiency in the imperfective atelic construction, as it seems by the data that earlier proficiency in the perfective telic form drives the overall proficiency in this study.

## General Discussion

This study produced a plethora of rich data points for interpretation, and reveals a trend in English language acquisition of the perfective and imperfective structures for telic and atelic events, but also contains several anomalous results that deserve deeper investigation. As a whole, this study is successful in addressing the guiding research questions:

*Does the salience observed by the Aspect Hypothesis show in the comprehension of specific aspectual scenarios by leveled English language learners?*

*Subquestion A: Is the comprehension of telic verbs more salient in a perfective context and its concurrent use of morphosyntactic forms?*

*Subquestion B: Is the comprehension of atelic verbs more salient in an imperfective context and its concurrent use of morphosyntactic forms?*

*Subquestion C: Can this salience and the connected comprehension be tracked linearly throughout WIDA levels of proficiency?*

The Aspect Hypothesis's meaning-based predictive nature suggests that learners of English are influenced by the lexical aspectual class of verbs (Anderson & Sharai, 1994), and that it is paradoxical to think that learners are simultaneously influenced by, but oblivious to, the lexical aspectual class of verbs and predicates (Huang, 2008). This influence, then, should be identifiable and measurable in coordination with the usage and comprehension of the perfective and imperfective forms. This study tracked this influence by including an awareness task attached to each sentence completion task.

The results as a whole demonstrate two main insights: 1) there is indeed a progression of acquisition, and, as predicted by the Aspect Hypothesis, when applied to

the comprehension of perfective telic and imperfective atelic situations, English language learners first develop mastery and understanding around the perfective telic construction before the imperfective atelic construction (Andersen & Shirai, 1996), suggesting that a telic lexical aspect is more salient with the use of the perfective *-ed*, but an atelic lexical aspect may not be more salient with the use of the imperfective *-ing*, and 2) the English proficiency needed to comprehend perfective telic and imperfective atelic temporal reference likely occurs long after English language learners begin actually using the perfective telic and imperfective atelic forms, showing that production, in this case, precedes comprehension. Please see Figure 10 below for the full summary of data produced by this study.

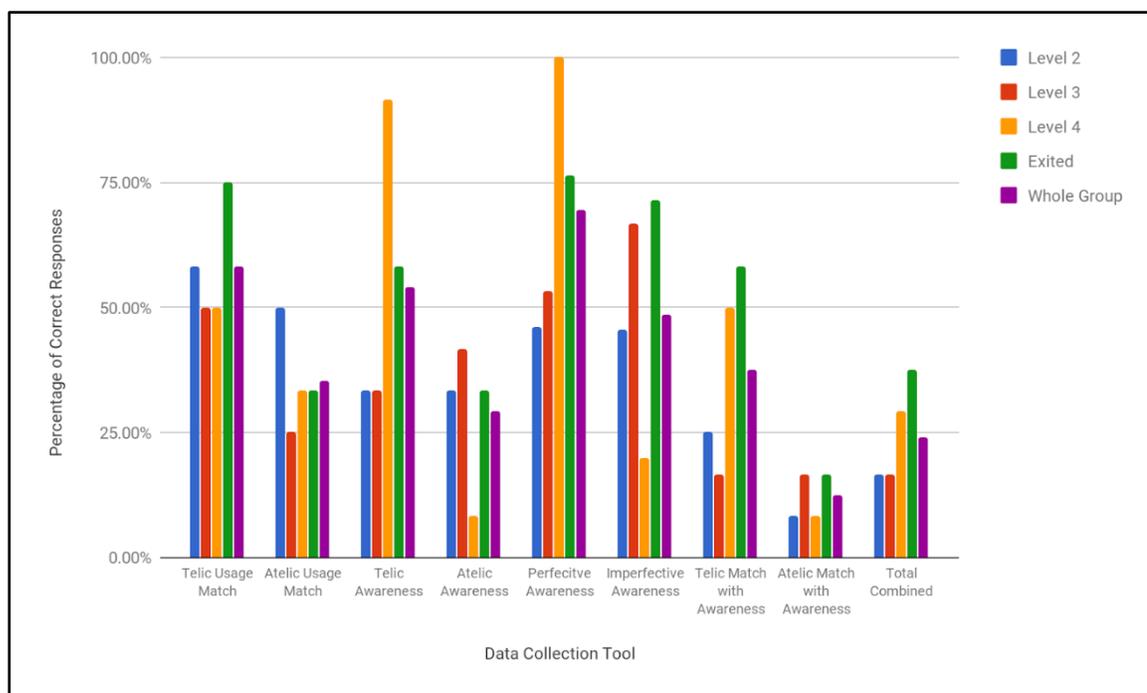


Figure 10: Complete Summary of Data

When looking solely at the first layer of data—the participants' preference to attribute the perfective *-ed* to telic events and the imperfective *-ing* to atelic events—one would expect, based on the Aspect Hypothesis and its predicted order of acquisition,

greater positive results as one increases in proficiency from Level 2 through to Exited. Instead, data in this study reveals that an English language learner's ability to comprehend perfective telic and imperfective atelic scenarios and the associated temporal reference does not easily conform to a linear process of acquisition. Participants in levels 2, 3, and 4 initially matched the perfective *-ed* with telic events mostly by chance, as indicated by the roughly 50% success rate. Only Exited students seemed to purposefully make the connection, obtaining nearly a 75% success rate. Furthermore, attributing the imperfective *-ing* to atelic events appears to be purposefully avoided by all levels, except by Level 2, as indicated by the exceptionally low scores for this task earned by Levels 3 through Exited. This avoidance, though, would still indicate some level of noticing and shows that student choice is still impacted in some way by the perceived salient forms. It is possible that Level 2 proficiency is so low that it does not register in the parameters of the Aspect Hypothesis and the perceived salience is not at all recognized by Level 2 participants, allowing them to guess freely and not be impacted at all by the lexical or grammatical aspectual forms.

When incorporating the participants' awareness of the aspectual characteristics of the described events, a comprehensive picture of acquisition of the perfective telic and imperfective atelic constructions for English language learners at different stages of development appears to take shape, and the apparent paradox between the influence, yet ignorance, of the inherent aspectual characteristics of temporal reference in learner development can be addressed. Salience, and the students ability to notice, plays a pivotal role in the use and acquisition of tense aspect morphology (Meidal, 2008; Kivimägi,

2013), and the low results of this study show that there is a general lack of awareness of aspectual meaning, particularly in the imperfective atelic context.

As a whole group, participants were more aware of the completedness of the telic events compared to the atelic events, as well as the perfective form compared to the imperfective form. Additionally, participants earned much higher results when the awareness was paired with the grammatical perfectivity of the morpheme, rather than lexical telicity of the event. This shows the limited capacity in which English language learners are aware of, and then influenced by, the inherent lexical class of verbs and predicates, adding to the growing research that challenges the perceived salience described by the Aspect Hypothesis when used for student production. These results do indicate, however, that salience is likely increased for both lexical and grammatical aspectual characteristics when using the perfective *-ed* with telic events compared to using the imperfective *-ing* with atelic events. And this seems driven by the telicity awareness rather than perfectivity awareness in Level 4 because perfectivity awareness was on par while telicity awareness was not. This may be driven by frequency effects of certain verb classes (Wulff et al., 2009). Overall, however, participants at all proficiency levels are generally unaware of the aspectual characteristics of the imperfective atelic context and morphosyntactic form.

While the results are lower than anticipated, they do demonstrate some predicted outcomes from the Aspect Hypothesis; all the perfective telic tasks earned better results over the imperfective atelic tasks, which reaffirms that mastery of the perfective telic context and morphosyntactic form is acquired by learners of the English language before that of the imperfective atelic form. The low results as a whole, though, indicate that the

parameters of the Aspect Hypothesis may need to be adjusted to be applied to all levels of proficiency, and demonstrates that the acquisition of using and comprehending perfective telic and imperfective atelic situations is a nuanced skill that perhaps takes a higher level of proficiency to master. Some mastery is seen at all levels, as indicated by the whole group results, but at the lower levels of proficiency, the results may be too inconsistent to fully support the Aspect Hypothesis. This inconsistency further reveals that, based on this data, a linear progression of acquisition defined by WIDA proficiency levels would be difficult to identify.

The expectation was that each increased proficiency level would earn increased positive results. This trend may be there, but there are anomalies within each category. Only when looking at all the results combined does the expected pattern of performance emerge, albeit with a very low alignment of success. While this shows that there is a progression of ability in the acquisition of perfective telic and imperfective atelic linguistic constructions, it is not linear enough or specific enough to add to WIDA's described proficiency levels or Can Do Descriptors ([wida.us](http://wida.us)). It is worth noting, though, that learners at lower proficiency levels produce lexical and grammatical aspectual forms prior to understanding their meaning. While this might not be able to add specificity to the WIDA Can Do Descriptors, the awareness that learners produce linguistic structures before comprehending them adds a dimension worth considering when working with English language learners at different proficiency levels. Furthermore, the level of Exited may need to be redefined at the State level, since this study shows there are clear gaps in understanding, despite being at a level that is functionally described as "native-like proficiency."

The variability in the data and the exceptionally low success rate suggest once again that the English language is not acquired in a clear linear progression, as is inferred by the Aspect Hypothesis and other morpheme order studies, but that all levels of proficiency are working on acquiring the various linguistic constructions simultaneously, demonstrated by the observed production that precedes comprehension of these structural forms. However, that being said, salience and consistency of input infer a quicker process of mastery for the perfective *-ed* in a telic context than for the imperfective *-ing* in an atelic context. This reaffirms much of what we understand of second language acquisition, in that learners of a language must constantly adjust and incorporate new information, new input, and new understanding into an ever-changing schema of knowledge and use.

### **Summary**

This study determined that the Aspect Hypothesis can to some extent be applied to the comprehension of perfective telic and imperfective atelic situations, but the issue is very nuanced and complex, and cannot currently be used to add specificity to the WIDA levels of proficiency as they relate to the Can Do Descriptors. Furthermore, components of the Aspect Hypothesis may need to be adjusted to account for the low success rates in this study, which reveal the limited capacity in which learners are influenced by the inherent lexical aspectual class of verbs and predicates. The results show that learners at all proficiency levels included in this study have some willingness for, and success with, interpreting a telic context marked by the perfective *-ed* form, even if that success is found through chance. Only Exited students seem to find deliberate success with the perfective telic construction. On the other hand, the imperfective construction seems to be

actively avoided in the atelic context, so there is limited success in this formation across all proficiency levels in this study.

The results show that learners at all levels of proficiency in this study are to some extent aware of the implications of the grammatical and lexical aspectual characteristics of verbs and predicates within certain contexts, but those contexts must be carefully constructed in order for a student to infer the appropriate temporal meaning. The lexical class of a verb and predicate becomes more salient when used with the appropriate morphosyntactic form, and this has real world implications for teachers of English to speakers of other languages.

As a whole, this study shows that students become more proficient in the production, comprehension, and awareness of the perfective telic and imperfective atelic formations as proficiency level increases, and while learners may be aware of the impact of aspectual classes of verbs, they do not consistently attribute the expected morpheme for the corresponding context. This study has been able to add a dimension to the production-based order of acquisition theories by showing that English acquisition trends in comprehension may not always align with production trends. The low positive results in general in this study suggest that English language learners first begin producing a linguistic structure before comprehending it.

The next chapter discusses the need for further research and expresses the limitations of this study.

## CHAPTER FIVE: CONCLUSION

The purpose of this study was to gain a deeper understanding regarding the tensive link between comprehension and production in English language acquisition, and to determine how salience and noticing, and production-based order of acquisition theories such as the Aspect Hypothesis, interact as a learner progresses through the English language proficiency levels as defined by WIDA and the Can Do Descriptors. This study's guiding inquiries were as follows:

*Does the salience observed by the Aspect Hypothesis show in the comprehension of specific aspectual scenarios by leveled English language learners?*

*Subquestion A: Is the comprehension of telic verbs more salient in a perfective context and its concurrent use of morphosyntactic forms?*

*Subquestion B: Is the comprehension of atelic verbs more salient in an imperfective context and its concurrent use of morphosyntactic forms?*

*Subquestion C: Can this salience and the connected comprehension be tracked linearly throughout WIDA levels of proficiency?*

### Future Research

Based on the conclusions of this study, listed below are suggestions for future research:

- (1) Include more learners, more advanced learners, and even native speakers in the study, or use a different metric for proficiency level.

- (2) Include probing questions to ask students what they noticed and why they chose what they did.
- (3) Include instruction and use a pre- and post-test.
- (4) Test other order of acquisition studies for comprehension trends.
- (5) Set up a comparative study.

### **More Participants; More Data**

Broadening the participant pool for a study like this would help tremendously. By including more data points, across a wider range of proficiency, we might better understand the process of acquisition for the perfective telic and imperfective atelic constructions. The results of this study suggest that the use of the Aspect Hypothesis becomes more relevant for higher levels of proficiency, and it is in those higher levels that potential patterns more clearly emerge. By including more participants at each level of proficiency and by including more tasks for each participant, researchers could better pinpoint and define the factors that influence tense aspect morphological acquisition. This study could be expanded and divided into its individual components for a more accurate representation of acquisition. Including participants across a wider range of proficiency levels, including native speakers, while focusing on one individual task at a time would create a clearer, more comprehensive inquiry into the issue of tense aspect morphology as it relates to the Aspect Hypothesis and English language development.

### **Probing Questions**

In order to better understand what participants are thinking as they complete the tasks, additional probing questions could be included. This study would benefit from a deeper insight into the participants thought process, particularly for the awareness piece.

An additional question could be included that asks why participants think the event is finished/completed or not. Probing questions like these would help determine the impact noticing and salience has on this process and how they relate to the Aspect Hypothesis and other predictive morpheme order studies.

### **Instruction with Pre- and Post-Test**

One way to better understand the impact of salience and noticing would be to include in this study a portion of direct instruction with a pre- and post-test, building off of work done by Schramm (1998, 2017), Meidal (2008), Kivimagi (2013), and Wytaske (2016). Students could be taught to notice specific aspectual features through the use of textual enhancements and then asked to repeat the tasks described in this study. This would better reveal how noticing and salience contribute to the acquisition of perfective telic and imperfective atelic constructions, and also give researchers and teachers alike better tools with which to approach this complex, yet necessary, component of English language acquisition.

### **Test Order of Acquisition Theories for Comprehension**

There is a great need for the field of SLA to better describe the interplay between production and comprehension. More studies are needed that look at production-based theories from a comprehension lens. As this study demonstrated, just because a student uses a linguistic form, it does not mean that the individual can comprehend the linguistic form. More research would be needed to determine if order of acquisition production studies also align with order of acquisition comprehension studies.

### **Set Up a Comparative Study**

This study reveals an unexpected shortcoming of the WIDA levels of proficiency, as well as the parameters states use to exit a student from an EL program. The level of Exited is typically meant to represent a student whose English proficiency does not act as a barrier to success in school, similar to that of a native speaker. This study shows that there are still gaps in proficiency for Exited students. Teachers would not be surprised by this result, though, because often learners reach the level of Exited, but do not always find success in school. It would be useful in this case, building on Schramm & Mensink (2016), to create a comparative study looking closely at the proficiency and linguistic skill of Exited students compared to native speakers, particularly when it comes to tense aspect morphology.

### **Shortcomings**

This study produced many intriguing results, and while these results were impactful in gaining insights into the acquisition of tense aspect morphology, there were also some factors that should be highlighted that perhaps limited the success of this research.

I would like to first express how difficult, if not nearly impossible, it is to create temporally “pure” scenarios in which to carry out studies like this, and this challenge, I think, created some anomalous responses by the students. Six out of the total 16 participants responded *Yes (event finished/completed)* for every event, and one of these six also used the perfective *-ed* ending for every event, which yielded this individual a 100% perfective *-ed* awareness match. I think that it is possible that these students who answered *Yes (event finished/completed)* for every event may have been influenced by the

fact that the entire scenario took place in the past. So, in this structure, the telicity of the event becomes a bit ambiguous, because while the imperfective is being used with the atelic event, the whole entire scenario is already completed. A grounding point to better highlight the telicity of the events in question is lacking. On the other hand, these six participants may have simply thought that all the events were indeed telic, and therefore answered in this way. The difficulty of creating temporally pure situations in which to conduct research like this is challenging, and it is impossible to know in this study if that factored into the outcomes.

Second, I feel this study was too broad in scope, but too narrow in the participant pool. There may have been too many components to this study to be extensively applicable. This research does a thorough job initially at providing an overview of how the Aspect Hypothesis can be applied to the comprehension of perfective telic and imperfective atelic situations, but now a narrower focus needs to be taken with more participants creating more accessible trends. There were too many anomalies in this study that cannot be ignored. By including more data points for each individual task and proficiency level, a clearer more valid picture can be created. As is mentioned above, expanding the participant pool could help eliminate, or make sense of, some anomalous student responses, and better understand why 6 out of 16 students responded *Yes (event finished/completed)* for every event, but only one of those students had a 100% awareness match. One participant said *No (event not finished/completed)* for every event. And finally, there were two other 100% awareness matches and one 0% awareness match, despite the sentence completion tasks for these participants as having contrasting results.

Having more data points, as well as a clearer focus of inquiry, would help in demonstrating what, if anything, students are thinking about when they respond.

Finally, I would like to acknowledge the theoretical nature of this research. While I find it fascinating and important for the fields of linguistics and second language acquisition, I was anticipating a more practical application of this research in the classroom. My hope for this study was a research base capable of adding specificity to the WIDA levels of proficiency, as that would have had major classroom implications. However, the endpoint revelation is precisely what impassioned me to language learning in the first place—it is not a linear, easy to track, formulaic process, but instead a rich tapestry that reveals the mysteries of the human mind itself. While I did not find a significant practical use for this research in my day-to-day professional life, I am reinvigorated and inspired by the awesome mysteries of the mind, space, and time. And how wonderful it is to reveal these mysteries of the grand universe through a little linguistic study like this.

*The Past and Present walked into a bar...  
They looked at each other in awe, and then became friends.*

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## Atelic Date Scenario

**Directions:**

1. Read the story.
2. Circle what you think is the best way to complete the sentence.
3. Then, circle "Yes" or "No" to answer the question about the sentence you completed.

Tom and Susan like to spend time together on dates. Now I will tell you about one date last year.

During their time together, Tom and Susan \_\_\_\_\_ talked \_\_\_\_\_ about their future.  
 \_\_\_\_\_ were talking

Talking about their future finished/completed?    Yes   /   No

## Telic Farm Scenario

**Directions:**

1. Read the story.
2. Circle what you think is the best way to complete the sentence.
3. Then, circle "Yes" or "No" to answer the question about the sentence you completed.

Farmers need honey bees to pollinate their crops. Now I will tell you about an apple farm last year.

During the summer, honey bees \_\_\_\_\_ collected \_\_\_\_\_ the pollen from every apple tree.  
 \_\_\_\_\_ were collecting

Collecting the pollen finished/completed?    Yes   /   No

## Atelic Farm Scenario

**Directions:**

1. Read the story.
2. Circle what you think is the best way to complete the sentence.
3. Then, circle "Yes" or "No" to answer the question about the sentence you completed.

Farmers need honey bees to pollinate their crops. Now I will tell you about an apple farm last year.

During the summer, honey bees \_\_\_\_\_ moved \_\_\_\_\_ from flower to flower.  
 \_\_\_\_\_ were moving

Moving from flower to flower finished/completed? Yes / No

## Telic Soccer Scenario

**Directions:**

1. Read the story.
2. Circle what you think is the best way to complete the sentence.
3. Then, circle "Yes" or "No" to answer the question about the sentence you completed.

South High School has a very good soccer team. Now I will tell you about their team last year.

During the season, players \_\_\_\_\_ scored \_\_\_\_\_ 30 goals against other teams.  
 \_\_\_\_\_ were scoring

Scoring 30 goals finished/completed? Yes / No

## Atelic Soccer Scenario

**Directions:**

1. Read the story.
2. Circle what you think is the best way to complete the sentence.
3. Then, circle "Yes" or "No" to answer the question about the sentence you completed.

South High School has a very good soccer team. Now I will tell you about their team last year.

During the season, players \_\_\_\_\_ listened \_\_\_\_\_ for directions from the coach.  
were listening

Listening for directions finished/completed? Yes / No