L1 ENGLISH L2 GERMAN LEARNERS' GRAMMATICALITY JUDGMENTS AND
KNOWLEDGE OF DEMONSTRATIVE PRONOUNS

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ABSTRACT

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Second language learners are often faced with difficult decisions while interpreting language. One specific difficulty of discourse is dealing with ambiguity, which is often made more challenging by the fact that second language learners' native language processes may carry over into their second language processes. Some learners may not have received any explicit instruction on how to deal with ambiguity and must rely on internal processing by their interlanguage to make a guess as to what the speaker means.

This thesis explores the acquisition of German demonstrative pronouns by second language learners of German whose native language is English. Unlike German, which allows for both personal pronoun usage (*er, sie, es* etc.) and demonstrative pronoun usage (*der, die, das* etc.) to refer back to antecedents, English only allows personal pronouns. Thus English native speakers tend to rely on syntactic structure to resolve ambiguous pronoun usage, while German speakers can differentiate antecedents through the use of demonstrative and personal pronouns. Demonstrative pronouns in German typically encode for object pronoun reference, while English does not have an equivalent form. In order to determine how L1 English learners of German deal with this incongruity between English and German pronoun resolution, learners of German in advanced German classes were tested via a grammaticality judgment test to see whether they were able to successfully identify demonstrative pronouns in German as grammatical or if they interpreted the demonstrative to be an error. Additionally, participants were asked to discuss their thoughts on the use of demonstratives and their purpose in German through the use of a post-test interview. The results show that some participants recognize the difference between pronouns in German and can select the appropriate antecedent.

For my loving parents Robert and Loretta for all their support,
without which I could have never achieved my dreams.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

KEY TO SYMBOLS AND ABBREVIATIONS

Avg.	Average
DEM	Demonstrative Pronoun
DRT	Discourse Representation Theory
L1	Native Language
L2	Second Language
L1 English/L2 German	Native English Speakers with German as their Second Language
P# (P1)	Participant Number (Participant 1)
PERS	Personal Pronoun
SDRT	Segmented Discourse Representation Theory
TL	Target Language
V2	Verb Second Position
V-final	Verb Final Position

INTRODUCTION

Pronouns can cause confusion because they can often have more than one referent, especially when the pronoun is encoding information identical to two antecedents. This problem is further exacerbated when the person encountering the pronoun is not a native speaker of the language. If a phrase containing a pronoun can refer to more than one antecedent, listeners (or readers) need to have some way to pick which antecedent the speaker (or writer) is referring to. Pronominal disambiguation is a strategy employed for discourse comprehension by both native and non-native speakers of all languages that allows for anaphora with multiple antecedents. When pronouns encode information that is identical to multiple antecedents, listeners are forced to choose one of the antecedents as the referent of the pronoun via some cognitive process. The process of disambiguation differs by the discourse and grammar features of a particular language which can be seen in the distinct types of processing found from one language to the next. The two examples that are the focus of this thesis are Segmented Discourse Representation for pronominal disambiguation in English, as proposed by Lascarides and Asher (2007), and a quite different process proposed in Bosch, Rozario, and Zhao (2003), the Complementarity Hypothesis, which states that German speakers rely on inherent properties of the type of pronoun selected, i.e. whether the speaker chooses to use a demonstrative or personal pronoun.

1.1 Rationale

In both German and English, pronouns help speakers avoid repetition and serve a number of other functions in discourse, but in doing so, they also make the referent less explicit. This lack of explicitness can cause a problem in discourses that have multiple possible antecedents that are equal in number, gender and person. The pronoun being used could refer to more than one of these antecedents because, as discussed in Chomsky's (1981) *Lectures on Government and Binding*, binding theory only

1

states what can be a referent and does not offer any syntactic restraints on selection from multiple antecedents. At this point in a discourse, where the pronoun can have more than one possible antecedent, it becomes necessary that the other participants interpret the pronoun as one of the possible antecedents of the pronoun, despite its ambiguity. The example below taken from Keating, VanPatten, and Jegerski (2011) shows the problem at hand:

1. Jim saw John, while *he* was at the beach.

In the above sentence, *he* could refer to either *Jim* or *John*, but not to both simultaneously. Speakers of English will be forced to choose one of the two antecedents as the referent of *he*, but one has to ask how this choice is made.

The way the participants in the English discourse decide on an antecedent is the result of a cognitive process. Native English speakers implement a cognitive operation which relies on the relationship of the clauses to one another. SDRT, as proposed by Asher and Lascarides (2003) and Lascarides and Asher (2007), attempts to explain a number of different elements pertinent to the analysis, but the focus here will be delimited to ambiguity in relation to pronoun usage. In this regard, SDRT states that if two clauses are at the same level of discourse, i.e. the second clause is not dependent on the content of the first and is a continuation of the focus of the first clause, a native speaker of English will want to continue the subject and will choose the subject of the first clause as the antecedent of the pronoun. Example 2 shows two segments of a discourse that are at the same level of the discourse.

2. He went to the ball. He danced.

In example 2 above, both sentences involve something *he* did and the focus remains on the same referent, i.e. *he* has a singular referent, so the *he* in both clauses refers to the same person. The focus remains on the subject because of the way the two segments of the discourse are related to each other, which, as defined in the beginning of this chapter, is local attachment.

On the other hand, if one clause is dependent upon another clause in the discourse, thus at a lower level of the discourse, then there is a possibility for a change of subject. This means that participants in the discourse would be more willing to allow the object of the first clause to be the antecedent of the ambiguous pronoun, although the subject is not disregarded as an impossible antecedent simply due to the discourse position, but other discourse clues can interfere. In example 3, there is a change in referent from one sentence to the next.

3. He ate the fish. It was delicious.

Example 3 shows how the subject of one segment of a discourse, namely *he* in the first sentence, switches to a different subject in the second segment, *it*. This means that the second segment is at a lower level of the discourse because it relies on a non-subject element to fill its subject position. In this case, the pronoun *it* has non-local attachment with the previous clause.

In regards to SDRT, when two clauses are connected via a conjunction, the conjunction has a semantic role in the decision of the listener as to whether the second clause will be at the same discourse level as the first clause. For example, as discussed by Asher and Lascarides (2003) the conjunction *while* forces a speaker of English to interpret the second clause to be a continuation of the first clause and thus a local attachment is set up between the clauses. On the other hand, *after* forces a speaker of English to interpret the second clause as a possible change in focus and a nonlocal attachment relationship is formed. This is the basic outline of SDRT which is relevant to this study.

Further details about the specifics of SDRT will be provided in the literature review portion of this thesis and examples will be given to explain the differences in discourse levels.

So far, the focus has been on native speakers of English, but depending on the language in question, there may be a different process at work in the resolution of the ambiguous pronoun. For example, contrary to the model for English which relies on the interpretation of discourse segments, the German process of ambiguous pronoun resolution, according to Bosch, Rozario, and Zhao (2003), relies on the distinction between two types of pronouns. The examples below show two possible sentences with the difference being the choice of the demonstrative (*der, die, das,* etc.) or personal (*er, sie, es,* etc.) pronoun. Note that the personal pronoun in example 4 and the demonstrative pronoun in example 5 are only marked for an antecedent which is third person, singular and masculine:

4. *Hans wollte mit Jan spielen, aber **er** war krank.*

   Hans wanted with Jan to play, but he-PERS was sick.

  "Hans wanted to play with Jan, but he was sick."

5. *Hans wollte mit Jan spielen, aber **der** war krank.*

   Hans wanted with Jan to play, but he-DEM was sick

  "Hans wanted to play with Jan, but he was sick."

As can be seen from the translations provided, English does not afford the same distinction between personal pronouns and demonstrative pronouns. The question to be posed here is why this distinction is important in German.

Bosch et al. (2007) conducted research on the different uses of personal pronouns and demonstrative pronouns in German by native speakers. They found that native German speakers will

still interpret example 4 above to be ambiguous because the personal pronoun does not make a distinction as to which antecedent should be chosen, although there is a preference for the subject of the first clause to be the antecedent of the ambiguous personal pronoun. A preference becomes clearer when looking at demonstrative pronoun usage in example 5.

German speakers interpret the antecedent of example 5 to be the object of the first clause. In example 5, *Jan* is the only possible choice for native speakers of German to replace the demonstrative pronoun *der*, because, according to Bosch et al. (2003) demonstrative pronouns in German bear an object antecedent selection feature.

When native speakers hear a sentence like example 4, they most often choose the subject as the antecedent. If the speaker had wanted to emphasize that the pronoun was referring to the object antecedent, he or she would have chosen the demonstrative pronoun. Because the speaker opted to use the personal pronoun, the listener is led to believe that the speaker wanted to maintain the same subject across both discourse segments (Bosch et al., 2007). Further examples and clarifications of demonstrative pronoun usage in German will be explored in the literature review and help show the importance of this decision when native German speakers resolve ambiguous pronouns in a discourse.

After exploring these two systems of pronoun disambiguation, this thesis will explore how the first language influences the processing of disambiguation in discourse in a second language. The data collected from the current study will provide some evidence whether the L1 English/L2 German participants rely on their native English processing to resolve ambiguous pronoun usage in German discourse or if they use some other type of cognitive process. This cognitive process may or may not conform to a more native-German-like style of processing which entails a decision between the type of pronoun used.

1.2 Definition of Terms

Before delving in to the literature review behind this thesis, I would like to first discuss a few terms. The following list gives the intended usage of these terms in this thesis.

Ambiguity – The term ambiguity, as used in this thesis, is the confusion caused by a pronoun which shares the same features with more than one possible antecedent.

Interlanguage – Since Selinker's (1972) creation of the term interlanguage, it has come to represent a number of different terms to different researchers. In this thesis, interlanguage will be defined as the internal second language competence created by a second language learner's language system, which is both independent of the learner's first language and limited to the learner's implicit knowledge of the second language. Here, explicit knowledge is not included as part of the learner's interlanguage.

Local/ Nonlocal Attachment – Dussias (2003) utilized the terms local attachment and non-local attachment to describe the relationship between two elements in a discourse. She describes local attachment as a relationship between an ambiguous discourse element and the topic antecedent and nonlocal attachment as a relationship between an ambiguous discourse element and a non-topic antecedent. The topic of a clause is the subject. In this thesis, these terms will be more narrowly defined to describe the relationship between ambiguous pronouns and their intended antecedent. Local attachment refers to the relationship between an ambiguous pronoun and a subject antecedent, while nonlocal attachment will be used to refer to an ambiguous pronoun that refers to a non-subject antecedent, such as a direct object.

Proceduralization – This term refers to the internalization of explicit knowledge into a learner's interlanguage where it is no longer simply a language fact, but rather a viable linguistic process available to an L2 learner that can be used productively. Proceduralization can come about by repeated exposure and use, and can be identified when a learner no longer needs to be cognizant of an item of language in order to use it. This could also be seen as automatization of some explicit rule, either given or formed from linguistic awareness by the learner.

Segmented Discourse Representation Theory (SDRT) – SDRT is a theory proposed by Lascarides and Asher (2003) to explain the cognitive processes involved in discourse processing. The literature review of this thesis will focus specifically on the predictions made from SDRT in the resolution of ambiguous pronouns in English.

Chapter 2 of this thesis will discuss the details of ambiguous pronoun resolution in German and English as well as current research on the effect of L1 transfer on L2 learners' interpretation of ambiguous pronouns. Additionally, chapter 2 will outline the research questions and hypotheses proposed for L1 English/L2 German speakers with regards to ambiguous pronoun resolution in German.

LITERATURE REVIEW

This section will look at two distinct areas of research that have influenced the development of the current study. First, an overview of current approaches to pronoun resolution will be explored. After a description of pronoun resolution is in place, research into resolution of ambiguous pronouns will be identified. The approaches to ambiguous pronoun resolution by L1 German speakers and L1 English speakers will be juxtaposed to determine the processing differences and clarify the dilemma that L1 English L2 German learners face. In addition to the theoretical research on pronoun resolution, current research on the effects of time abroad on the acquisition of advanced grammatical structures will be investigated.

2.1 Pronoun Resolution in English

Beginning with pronoun resolution in English provides information on the different kinds of perspectives taken in regard to how pronouns function in English. After establishing how pronouns interact in the language processes of English speakers, a comparison will be drawn with speakers of German. First, an explanation of how different parts of language, such as syntax and semantics, interact and compete for control and interpretation of pronouns will be given.

The following information on pronoun resolution will establish a base for ambiguous pronoun resolution research. Looking first at pronoun resolution, it is important to note that a number of approaches can be taken. Since so many elements of language intersect during pronoun resolution, including the syntax, semantics, pragmatics and discourse properties of a language, it is important to identify the list of possible perspectives one can take, while keeping in mind that it is the combination of multiple sources that makes pronoun resolution possible. It

is even possible that pronunciation at the supra-segmental level is a contributing factor in the resolution of the pronoun, as is evident in English and discussed briefly in Bosch et al. (2003) and Bosch et al. (2007). Observe the following sentence, where **bold** denotes stress intonation at the supra-segmental level.

6. Did you mean **him?**

In the above example, Bosch et al. (2003) state that when a pronoun in English is stressed more than usual, it has the ability to imply reference to a less-salient antecedent, namely one which is not the subject, and also possibly a new element of the discourse.

The list of language faculties that intersect can be clearly seen by examining what pronouns do. First, there must be some connection to the discourse because if there was a lack of a proper antecedent in the discourse there would be no way to attach a meaning to the pronoun. For example, the only way for a speaker to correctly interpret the pronoun in the second sentence of example 7 is to draw on knowledge from the first sentence.

7. Mike went to the beach. Jeff went with **him**.

In example 7, *him* is of course, *Mike*, but without this connection to the previous discourse element, there would have been no way of interpreting the pronoun *him* in the second discourse segment.

Without the semantics coming into play with the other elements, speakers are not able to process pronouns for meaning. Similarly, the pronoun can only come in certain places in the

sentence. In some languages, such as English, the placement of the pronoun in relation to other pronouns and antecedents in the syntactic structure can alter the meaning of the sentence. This syntactic structure unpacked using examples from Hobbs (1997).

Hobbs (1977) provides sound evidence for taking both a syntactic and semantic approach to pronoun resolution. In *Resolving Pronoun References*, Hobbs refers to these two approaches as "The syntactic approach: The naive algorithm," and "The semantic approach." (p. 340, 345). In the naive algorithm, the surface parse tree, or the tree that "exhibits the grammatical structure of the sentence … without permuting or omitting any of the words in the original sentence," is traversed to find appropriate noun phrases (p. 340). The height of the noun phrase, or NP, and its syntactic distance from the original pronominal structure are factors in the selected NP's eligibility as a possible antecedent. This naive algorithm is effective because it can be used recursively in a discourse made up of multiple surface parse trees if no appropriate NPs are found in the sentence which contained the pronoun.

Hobbs' evidence for this can be seen in examples 8 and 9 (p. 340):

8. Mr. Smith saw a driver in his truck.

9. Mr. Smith saw a driver of his truck.

Figures 1a and 1b below show the different tree structures created by Hobbs (1977) to represent the two different relationships between the pronoun and the availability of the word *driver* as an antecedent. Figure 1a corresponds with example 8 above and figure 1b corresponds with example 9 above.

Figure 1

Tree Structures for Hobbs (1977) Accessibility of *driver* as Antecedent (p. 341)

(a)   (b)
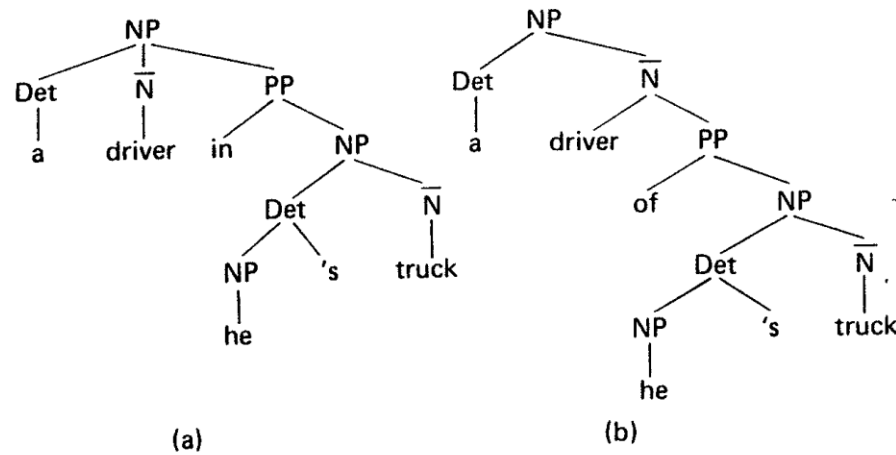
According to the naive algorithm, there is a difference in the structural make-up of the two trees, namely that in example 8, *driver* is an eligible NP antecedent for the pronoun *his* (labels as the pronoun *he* plus the genitive marker *'s* in the trees in figure 1). In example 9 on the other hand, *driver* is part of the N-bar structure, which means it is not a possible antecedent for the possessive pronoun *his*. Simply put, the listener has access to *driver* as a possible antecedent in example 8, but not in example 9. This means that in example 8, English syntax allows for both *Mr. Smith* and *a driver* to be the antecedents of *his*, but in example 9, English syntax restricts the eligible antecedent to *Mr. Smith*. Therefore syntactic structures are able to restrict access to otherwise available and sententially present NPs, which shows that the syntax of a language is another factor involved in pronoun resolution.

Returning to Hobbs's (1977) semantic approach to pronoun resolution, he brings up the point that syntactic resolution is not the only factor. An example shows the problem clearly:

"Note that syntactic criteria do not solve the problem, for the sentence, 'Walter was introduced by John to **his** present wife,' 'his' could refer to Walter, John, or someone else" (p. 349, my emphasis). But the question remains, when there is no semantic information available as a referent or any clues to help the semantic system interpret the pronoun one way or the other, what system determines the outcome of the pronoun resolution? In other words, when a pronoun is in a relationship with more than one possible antecedent, but no outside context is available to assist the semantics in the interpretation of the pronoun, how does a person reach a conclusion about what the pronoun is actually referring to?

In an attempt to answer this question and to create an overarching structure for the anaphoric relations within a discourse structure I turn now to Asher and Lascarides (2003). The theory proposed by Asher and Lascarides (2003) is Segmented Discourse Representation Theory, or SDRT, which broke with traditional Discourse Representation Theory (Kamp, 1981) in that it does not try to simply create a structure for discourses, but rather breaks down discourses into multiple parts so that it can look at the interactions between those parts. The theory proposes that the structural relationship between these parts is more important than the overall structure of the entire discourse with regard to conveying the semantic meaning of the discourse.

Although SDRT can provide a number of solutions to different types of discourse issues, the focus will be SDRT's predictions on the way ambiguous pronouns are resolved in English. The way that two segments of a discourse are combined affects the analysis of further elements in the sentence. This relationship is described by Asher and Lascarides (2007) as following "Hobbs (1985) and Asher (1993) in assuming that *Elaboration* induces subordination whereas *Narration* induces coordination. The resulting structure effects anaphora," (p. 5). To make this a bit more explicit, I will adapt the terms local attachment and nonlocal attachment from Dussias

(2003).

Local attachment comes about due to *Elaboration*. When two segments of a discourse are in an *Elaboration* relationship, the second phrase is strongly connected to the preceding phrase. This means that the topic of the first phrase, which in many cases is the subject, has a strong tendency to remain the topic of the second phrase. Nonlocal-attachment, on the other hand, comes about due to *Narration* and does not rely heavily on the semantic information about the subject of the first phrase. This means there is a greater likelihood, although not necessarily a need, for the topic of the second clause to shift to a different element in the discourse. This could possibly be the focus of the previous clause, which is oftentimes the object.

Lascarides and Asher (2007) provide the following discourse and graphic representation of the *Elaboration* and *Narration* relationships involved between each discourse segment. The graphic represents a hierarchy, where the higher the sentence appears in the graphic, the higher its level in the discourse. Those elements that are parallel to each other horizontally are at the same level of the discourse.

Figure 2

Elaboration and Narration Relationships in a Specific Discourse in Lascarides and Asher (2003, p. 8)

John had a lovely evening.

He had a great meal.

He ate salmon.

He devoured cheese.

He won a dancing competition.

13

Figure 2 (cont.)
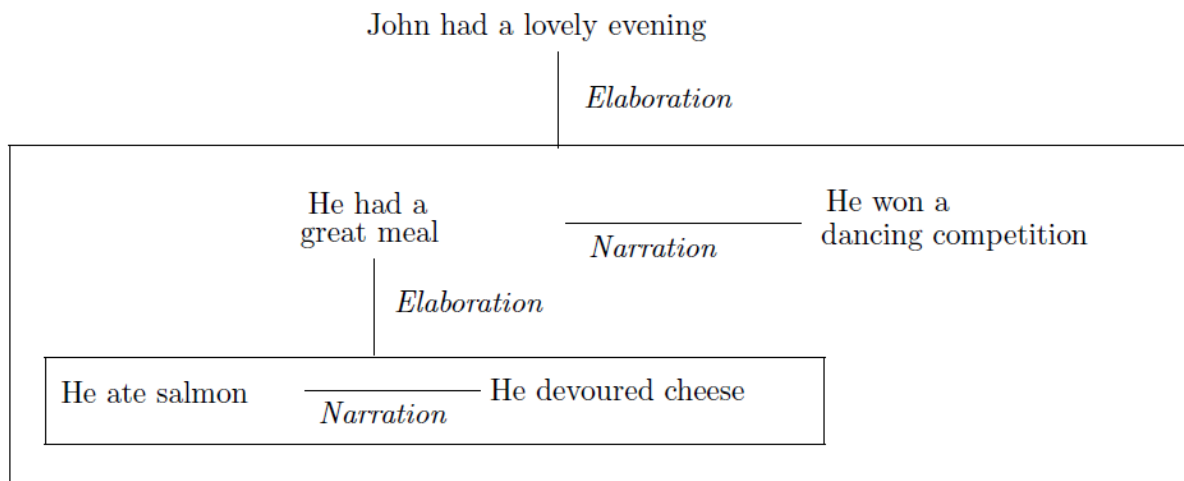
In figure 2, the phrase "John had a lovely evening" is at the highest level of discourse. Through an *Elaboration* relationship, the next phrase "He had a great meal" is placed at a lower level of the discourse because "He had a great meal" is dependent upon "John had a lovely evening" because the second phrase is an *Elaboration* of the first. In the same way, both "He ate salmon" and "He devoured cheese" are *Elaborations* of "He had a great meal." Neither sentence relies on the previous subject *he* necessarily, but moreso on the "great meal" for interpretation.

The *Narrations*, on the other hand, are not reliant on the previous phrases for their comprehension in the discourse, thus they attach to the same level of discourse directly below the phrase they *Elaborate*. For example, although "He won a dancing competition" is the last sentence in this discourse, it has nothing to do with John's meal, but rather "a lovely evening." Therefore, "He won a dancing competition" moves up to the same level of discourse as "He had a great meal," shown here by its being at the same vertical position in the graphic.

The remaining question is, what drives these different types of attachment? Although there are many different ways that these two types of attachment can appear, I will focus on the

use of specific conjunctions, whose innate lexical properties decide the type of attachment of the second phrase to the first. This phenomenon has been explored in Lascarides and Asher (1993) and Asher and Lascarides (2003). In each of these texts, the effect of specific conjunctions were examined to reveal which conjunctions produced local-attachment, e.g. *while*, and which produced nonlocal-attachment, e.g. *after*.

Returning to the issue of pronouns, the following two examples show local- and nonlocal-attachment, respectively, where i shows coindexation.

10. Jim$_i$ saw John, while he$_i$ was at the beach.

11. Jim saw John$_i$, after he$_i$ was at the beach.

In example 10, the conjunction *while* triggers a local-attachment relationship between the two clauses, which forces the pronoun in the subordinate clause *he* to be interpreted as the subject of the main clause, *Jim*. On the other hand, the pronoun in the subordinate clause in example 11 is set up in a nonlocal-attachment relationship because of the discourse properties of the conjunction *after*. This means the pronoun is no longer restricted as a referent to the subject and can take the object as its antecedent, although it could still take the subject or some other element of the discourse, as long as the person, gender and number features match.

In relating SDRT to current research in Second Language Acquisition, a study conducted by Keating, VanPatten, and Jegerski (2011) will be analyzed. Keating, VanPatten and Jegerski (2001) focused on the differences between how English learners of Spanish at varying

proficiency levels assigned meaning to ambiguous pronouns in Spanish and English via the use of these two types of conjunction induced discourse attachments, i.e. the relationships invoked from the uses of *while*, which produces local-attachment, and *after*, which produces nonlocal-attachment. These L1 English/L2 Spanish participants were tested against native speakers of Spanish to compare whether the L2 Spanish speakers were performing comparably to the L1 Spanish speakers in terms of deciding which antecedent was the referent of the pronoun when the pronoun was ambiguous.

The L1 English/L2 Spanish participants were asked to read sentences that had an ambiguous pronoun and two clauses connected by either *while* or *after*. After the participants read the test sentences, they were asked to decide who or what the pronoun in the second clause was referring to, either the subject or object of the first clause. When reading English sentences, the L1 English L2 Spanish participants behaved according to the principles established in SDRT. It is important to reiterate that the reason for this extensive processing required by English speakers is the fact that pronouns in English come in limited forms, compared to other languages, and they are always obligatory.

This is in contrast to Spanish. Since Spanish is a pro-drop language, that is, a language in which the pronoun is optionally expressed, Spanish speakers rely less on the system proposed by SDRT and more on whether the pronoun is overtly expressed[1].

12. *Juan vio a Pedro cuando estaba a la playa.*

   Juan saw Pedro while (pro) was at the beach

   "Juan saw Pedro while he was at the beach."

13. *Juan vi al Pedro mientras **él** estaba a la playa.*

     Juan saw Pedro while he-PERS was at the beach.

     "Juan saw Pedro while he was at the beach."

When the pronoun was overtly expressed, as in example 13 above, it was more likely that the L1 Spanish speakers assumed the overtness of the pronoun to cause a shift of the topic of the second clause to the object of the first clause. On the other hand, when the pronoun was omitted, such as in example 12, the L1 Spanish speakers chose the subject of the first clause as the subject of the second clause.

This point is highly relevant to this thesis in that it shows that different languages offer different means to speakers to resolve ambiguous pronouns, which is the case I will put forth for German based on evidence from Bosch et al. (2003) and Bosch et al. (2007), which shows that L1 German speakers rely on the type of pronoun, rather than on discourse relationships.

Keating, VanPatten, and Jegerski's (2011) study was conducted to discover whether the proficiency level of L1 English L2 Spanish speakers and time abroad were factors in the resolution of ambiguous pronouns. Those participants with more time abroad were also those with higher proficiencies as measured on the American Council on the Teaching of Foreign Language (ACTFL) proficiency scale. The L1 English/L2 Spanish participants were rated at Intermediate Mid, Intermediate High, and Advanced and then given sentences in Spanish comparable to those given to the L1 Spanish speaking participants. The L1 English/L2 Spanish participants were asked to decide whether the pronoun, sometimes overt and sometimes omitted, was the subject of the first clause or the object of the first clause. Keating, VanPatten, and

Jegerski's (2011) study shows partial evidence that the higher the proficiency level, the more native-Spanish-like the resolution of the pronouns, and so there was some evidence provided to suggest a shift in learner processing from the English SDRT strategy to the overt/omitted pronoun disambiguation strategy exhibited by the L1 Spanish speakers. It is important to note that only those participants who had spent more than two years living in a Spanish-speaking environment were able to perform comparably to the native-Spanish speakers in their selection of subject or object referent.

Two things are important to take away from Keating, VanPatten, and Jegerski (2011). First, that the target language can have elements which make SDRT processing unimportant to the resolution of the ambiguous pronoun by L1 speakers of that language. This is important for the upcoming section looking at pronoun resolution in German. Second, this also shows that there may be some correlation between the environment and time spent learning the language on the acquisition of L2 cognitive processes.

2.2 Pronoun Resolution in German

This section will provide an outline of the differences between English and German pronouns and the differences in pronoun resolution between these languages. Specifically, there will be an investigation into how the lexical properties of German pronouns make the discourse strategy proposed in SDRT unnecessary for speakers of German.

The main sources for information on the phenomenon of German pronoun distribution and its variances from those found in English are two studies conducted by Bosch et al. (2003) and Bosch et al. (2007). Bosch et al. (2003) provides more of an overview of the differences between demonstrative and personal pronouns in German, while Bosch et al. (2007) provides

evidence for the non-subject bias of demonstrative pronouns in German.

Bosch et al. (2003) begins with a comparison of English and German demonstrative pronouns, namely that, "[u]nlike English, German has demonstrative pronouns that are inflected for number, gender, and case, and can refer also to persons as well as other individuals, very much like personal pronouns," (p. 1).

It is important to note that it is mainly the issue that English demonstrative pronouns, e.g. *these*, *those*, *this* and *that*, do not inflect for gender or case. In German, definite articles, such as *der*, *die* and *das*, are the root form for many of the German demonstrative pronouns. The English definite article *the* does not inflect for gender, case or number, so it does not encode for the same amount of data and is not used as a demonstrative pronoun. This means it is impossible for *the* to convey semantic information about an antecedent, whereas this is easily observable in the multiple forms of the definite article in German which serve as the root form for the German demonstrative pronouns. Not only is the definite article the root form for many of the demonstratives, but the definite article in German often mirrors its corresponding demonstrative pronoun, which is why Bosch et al. (2003) label them *der*-paradigm demonstratives. Table 1 shows the different *der*-paradigm demonstrative pronouns in German with reference to their number, case and gender and their corresponding personal pronoun placed in parentheses.

Table 1

***der*-Paradigm Demonstrative Pronouns in German (Plus Personal Pronouns)**

	Masculine	Feminine	Neutral	Plural (M/F/N)
Nominative	*der (er)*	*die (sie)*	*das (es)*	*die (sie)*
Accusative	*den (ihn)*	*die (sie)*	*das (es)*	*die (sie)*
Dative	*dem (ihm)*	*der (ihr)*	*dem (ihm)*	*denen (ihnen)*
Genitive	*dessen (sein)*	*deren (ihr)*	*dessen (sein)*	*deren (ihr)*

German demonstrative pronouns include information about gender, number and case, so they are easily utilizable as anaphora, while English demonstrative pronouns lack this additional information, and are therefore not available as pronouns to English speakers. This means that English speakers are restricted to personal pronouns when referring to antecedents. In comparing German and English, it is necessary to understand why one would need to use a demonstrative form in German when the personal pronoun form already exists. Bosch et al. (2003) poses this question as well, stating, "At first glance there is considerable overlap in the distribution of the demonstrative and personal pronouns. In many contexts […] either form seems acceptable and semantic, pragmatic, or even stylistic differences are hard to pinpoint," (p. 2). Although it is difficult to distinguish in most contexts, functionally, the two forms must be encoding different semantic information beyond just number, gender, and case.

Bosch et al. (2003) propose three regularities present in the use of demonstrative pronouns in German. First, they have the ability to choose from several antecedents which are not the most salient item in the discourse. Second, they may "pick up a unique antecedent […] even though it stands for the most salient referent (the topic)," but there was a stylistic difference chosen by the writer (p. 3). Finally, "*[t]hey highlight a previously non-salient referent,*" (p. 4).

From this information, Bosch et al. (2003) conclude that there is an inherent semantic difference between the German personal and demonstrative pronouns and proposes the Complementarity Hypothesis, which states that "[a]naphoric personal pronouns prefer referents that are established as discourse topics, while demonstratives prefer non-topical referents," (p. 4).

Using the NEGRA corpus, [2] Bosch et al. (2003) found that 46.7% of demonstrative pronouns used in the written corpus were referring to a non-nominative antecedents. This was much higher than the 14.5% that referred to the nominative antecedent (p. 6).

As would be predicted from the first data, the use of the personal pronoun to refer to an antecedent in a preceding sentence was flipped, namely that 48.0% of personal pronouns referred to a nominative antecedent in the preceding sentence, while only 7.3% referred to a non-nominative antecedent in the preceding sentence (Bosch et al., 2003, p. 6).

The other instances of demonstrative and personal pronouns were referring to other elements already present in the discourse or in the same sentence. When these other occurrences of personal and demonstrative pronouns were removed, the study showed that the two pronominal forms were in complementary distribution. When the demonstrative pronoun was used, 76.4% referred to non-nominative antecedents, while only 23.6% of the recorded cases referred to a nominative antecedent. When the personal pronoun was used, 86.7% of the cases referred to a nominative antecedent, while only 13.2% referred to a non-nominative antecedent (Bosch et al., 2003, p. 7). This provides strong evidence for the Complementarity Hypothesis proposed in the beginning of Bosch et al. (2003) and a solid foundation for the following study which attempts to prove the non-subject bias of German demonstrative pronouns.

Bosch et al. (2007) set out to expound upon their first results based on a written corpus with lab evidence for the proposed Complementarity Hypothesis and prove that German speakers

usually reserve the demonstrative pronoun to select a less salient antecedent than the topic, or subject, of the previous sentence. In this study they conducted two experiments. The first experiment consisted of 64 sentences, 32 of which contained a demonstrative pronoun and 32 of which contained a personal pronoun. Of the 64 total sentences, 32 were taken directly from the *Frankfurter Rundschau*, a prominent German newspaper, and the other 32 were artificially created by the researchers. 30 participants from the University of Osnabrück were given 16 real and 16 artificial sentences and asked to judge which ones they thought were from the newspaper and which were artificial. This comparison was used to show that choice of pronoun somehow made the real sentences more authentic than those artificially created with an arbitrary demonstrative or personal pronoun assigned to it. The results showed congruent results with the original corpus results from Bosch et al. (2003) in the L1 German participants' ability to identify authentic uses of the demonstrative pronoun.

The second experiment consisted of sets of four sentences which attempted to look at the selection of demonstrative pronouns versus personal pronouns in a contextualized discourse. The first three sentences gave background information about a certain setting and interaction between two people with the same gender. A blank line was presented in the fourth sentence and participants were asked to fill in the blank with a corresponding pronoun. After completing these tasks, the participants were asked to interpret the example sentences and say explicitly who the referent of pronoun they had placed in the blank was.

Results from this study showed that when the preceding sentence was in Subject-Verb Object (SVO) or Object-Verb-Subject (OVS) structure, the participants chose the personal pronoun as the referent to the preceding subject, while the demonstrative was used to refer to the preceding object. A post-test questionnaire showed similar results for the SVO structured

sentences, while the evidence was less clear when the preceding sentence's word order was OVS.

These two studies provide some evidence that the German demonstrative pronouns have a bias as referents to non-subject antecedents, whereas the personal pronouns are selected when the pronoun meant to refer back to the subject antecedent.

From this conclusion, it is possible that German speakers are equipped with additional resources in relation to pronoun resolution due to the inherent semantic information encoded in the different types of pronoun. If this is the case, appropriate ambiguous pronoun resolution in German relies on the semantic information inherent in the structure of the pronoun, while English speakers must rely on the process proposed by SDRT to interpret ambiguous pronouns.

2.3 L1 Influence in Second Language Acquisition

In describing the process of ambiguous pronoun resolution in German and in English, this thesis assumes some kind of L1 transfer of the English process into the German interlanguage of the L1 English L2 German learner. This section will outline the theoretical framework of L1 transfer being used in this study, specifically the theory of Full Access/ Full Transfer proposed by Schwartz and Sprouse (1996).

In their theory of L1 transfer, Schwartz and Sprouse (1996) postulate that L2 learners have full access to all the linguistic material available in their L1 and that all of this material transfers to the interlanguage of the L2 learner. In this case then, the absolute starting interlanguage for L1 English learners of German would contain the ambiguous pronoun resolution process proposed by Asher and Lascarides (2003). Since there is a need for the same type of process in German because of the possibility of ambiguous pronouns in German, beginning L1 English L2 German speakers would only have access to the process described in

SDRT and there would be no initial knowledge of the use of demonstrative pronouns in German to select for non-subject antecedents.

In order for learners to overcome their L1 English process and replace it with the one in German, two important theories are also assumed. First, that noticing (Schmidt, 1990, in Lightbown and Spada, 2006, p. 44) is essential for learners to become aware of the demonstrative pronoun in German. If students have not noticed the demonstrative and how it is used in contrast to the personal pronoun, L2 learners of German will never acquire the demonstrative pronoun or its function in the German language. For this study, it is hypothesized that learners would have needed to notice the difference between demonstrative and personal pronoun usage in German for them to become aware of the discrepancy between ambiguous pronoun resolution in English and German. If they have not noticed demonstrative pronouns, it is assumed that they will have no knowledge of the inherent object-selection feature of demonstrative pronouns in German.

Second, that repeated input containing the target structure is essential for L2 learners to both comprehend and be able to utilize different parts of the L2 (Piske and Young-Scholten, 2009) and will be maintained here as an integral part of advanced L2 feature acquisition. For this study, it would be expected that more advanced students had more input, which would help to develop the acquisition of advanced L2 processes, such as ambiguous pronoun resolution.

2.4 Research Questions and Hypotheses

The current study was inspired by a study conducted by Keating, VanPatten, and Jegerski (2011), in which they investigated the processing of ambiguous pronoun resolution by advanced learners of Spanish. In an attempt to replicate their study and see if their results could be seen in

the acquisition of German, this thesis looks to explore the factors that contribute to the acquisition of advanced grammatical structures and cognitive processes by L1 English/L2 German speakers. In reviewing the different types of processing utilized by L1 English and L1 German speakers, the following questions for L1 English/L2 German learners arose:

1. Can L1 English/L2 German speakers recognize that demonstrative pronouns in German are grammatical? For those participants who do recognize the grammaticality of German demonstrative pronouns, what common traits and experiences do they share?

2. If L1 English/L2 German learners do recognize the use of demonstrative pronouns in German as grammatical, what cognitive process do these learners use to resolve pronominal ambiguity? Do they still rely on their English process, or have they adopted a new process. If so, how closely do the choices resulting from this new process mirror the choices made by native German speakers?

3. Finally, what kind of knowledge, i.e. implicit or explicit, do these learners have about demonstrative pronouns and ambiguous pronoun resolution in German?

In response to these research questions, the following hypotheses are predicted:

1. A number of factors will play a role in participants' acceptance of the demonstrative pronouns. Greater proficiency and increased time abroad will

correlate with those participants who are better able to identify the demonstrative pronoun as correct.

2. Participants who accept the demonstrative pronoun as grammatical will also be more likely to pick the correct antecedent. This may imply that these participants are using a more German-like ambiguous pronoun resolution process or at least a process which is independent of their native-English process.

3. It is predicted that most participants will have little or no explicit knowledge of demonstrative German pronouns or the function they serve native speakers of German. This being said, explicit knowledge may not be necessary to perform successfully on the grammaticality judgment test and/or the post-test interview. Implicit knowledge of the function of German demonstrative pronouns may have been acquired by some participants, which may help them accurately select the proper antecedent for the German demonstrative pronouns.

This study will show that despite the complexity of the German pronoun system vis-à-vis English and the proposed differences in the cognitive processes employed by speakers of each language, some advanced learners in this study have indeed managed to acquire this fairly complex system of pronoun disambiguation utilized by speakers of German.

METHODOLOGY

Since the goal of this research was to attempt to identify whether L2 German students recognized demonstrative pronouns in German as grammatical and if they had adopted a more German-like ambiguous pronoun resolution strategy, a grammaticality test and think-aloud-style post-test interview were the most viable options to uncover this data. These instruments also allowed an interaction between quantitative and qualitative data which helps to triangulate the data in the analysis portion of this thesis. With both types of data, the quantitative results can be bolstered by the qualitative data and possible explanations to unexpected results may be clarified. Because this focuses on individual participants' performance, testing was conducted in a laboratory test setting to remove the participants from other distractions. The following subsections detail both the experimental design of the study, as well as the instruments used to collect the data. In addition, the demographics from the research participants will also be displayed in this section.

3.1 Participants

This section will first detail the information collected in the pre-test questionnaire (See Appendices A and B). All participants were undergraduate students at a Midwestern State University, and were all in, or had taken, a 400-level German class. The age of the entire population ranged from 18 to 22 years of age with an average age of 20.6 years and a median of 21. Of the nine participants, four were male and five were female. Four of the participants were seniors and five were juniors. All of the participants were German majors.

The average age of the participants when they began learning German was 13.6, but there

is one outlier. Participant 4 began learning German at the age of seven, but moved from Germany back to the United States where she did not use German and claimed she had to "relearn" it starting in high school at the age of 13. Of the nine participants, only two said they had the chance to speak German at home, but both made it clear that it was very limited and was not typically spoken at all.

In the self-rated proficiency portion of the pre-test questionnaire, the average score was 3.1 for speaking, 3.8 for listening, 3.78 for reading and 3.22 for writing, where 1 was "very weak" and 5 was "superior." When rating their knowledge of German, the average score was 3.2 for grammar, 3.67 for vocabulary and 4.2 for culture on the same Likert scale as the proficiency section. It is interesting to note here that the participants' average for culture is the only one that averages above a rating of 4, or "very strong."

The places that each participant spent time abroad in Germany include Aachen, Freiburg, Hamburg, and Mayen. One participant spent his time abroad in Lunsbruck, Austria. The average time spent abroad for the entire population was 7.64 months, with a range of .5 months to 24 months.

When rating their experience abroad on a Likert scale where 1=poor and 5=excellent, the average for the entire population was 4.89. When rating how immersed they felt they were while abroad on a Likert scale where 1=not immersed and 4=very immersed, the average score for all participants was 3.72, with a range from 3 to 4.

Additionally, participants were asked whether they had had a German-speaking significant other while they were abroad in order to determine whether having a German-speaking significant other correlated with their competence of the use of demonstrative pronouns. Only two participants had one and when they were together with their significant

28

other, one participant averaged ten hours of communication in German with that person per day while the other averaged three and one half hours per day of German communication with their significant other. Table 2 below provides information on each participant.

Table 2

Population Demographics

Participant #	1	2	3	4	5	6	7	8	9	Avg.	SD
Age	22	21	21	20	21	21	18	21	21	20.667	1.118
Gender	M	F	M	F	M	M	F	F	F		
Class level J=Junior S=Senior	S	J	J	J	J	S	J	S	S		
Age began learning GRM	16	17	19	7	13	14	11	14	13	13.778	3.492
Months Abroad	12	24	7	1.75	3	1.5	.5	7	12	7.639	7.512
Proficiency: Spelling	4	4	3	3	3	4	4	3	3	3.444	0.527
Proficiency: Listening	5	4	3	4	4	3	4	4	4	3.889	0.601
Proficiency: Reading	5	4	3	4	4	3	4	4	3	3.778	0.667
Proficiency: Writing	4	4	3	3	3	2	4	3	3	3.222	0.667
Knowledge: Grammar	3	3	3	4	3	2	5	3	3	3.222	0.833
Knowledge: Vocabulary	4	4	3	4	4	4	4	3	3	3.667	0.500
Knowledge: Culture	5	5	4	3	4	4	4	5	4	4.222	0.667

In addition to the quantitative data collected in the pre-test questionnaire, participants also provided qualitative data via written questions and an oral proficiency test. The oral proficiency test, which contained five questions relating to participants' time abroad, was viewed and rated by a native German speaker. The native German speaker was certified in conducting a Simulated Oral Proficiency Interview. The rater gave both a proficiency rating for each participant on the ACTFL scale for ease of comprehension and comparison with the Keating, VanPatten and Jegerski (2011) study, although the rater was not trained as an ACTFL rater. In addition, the participants were ranked by the native speaker by level of proficiency, where 1 was the most proficient and 9 was the least proficient. It is important to note that oral proficiency interview

was not a true OPI, nor were the ratings conducted with the true ACTFL scale requirements in mind, but rather a brief overview of the participants' abilities. Table 3 shows the rankings for each participant. These rankings will be supported with data from the grammaticality judgment test.

Table 3

Ranked Order of Participant Proficiency as Determined by the Native Speaker

Participant #	Ranking	Time Abroad in Months	Rating
2	1	24	Advanced
1	2	12	Advanced
4	3	1.75	Intermediate High
9	4	12	Intermediate High
8	5	7	Intermediate High
7	6	.5	Intermediate Mid
5	7	3	Intermediate Mid
3	8	7	Intermediate Mid
6	9	1.5	Intermediate Mid

The data in the above chart is ranked by proficiency level. Proficiency level is for the most part correlating with time abroad. Figure 3 below shows this relationship.

Figure 3

Participants' Proficiency Rankings by Time Abroad
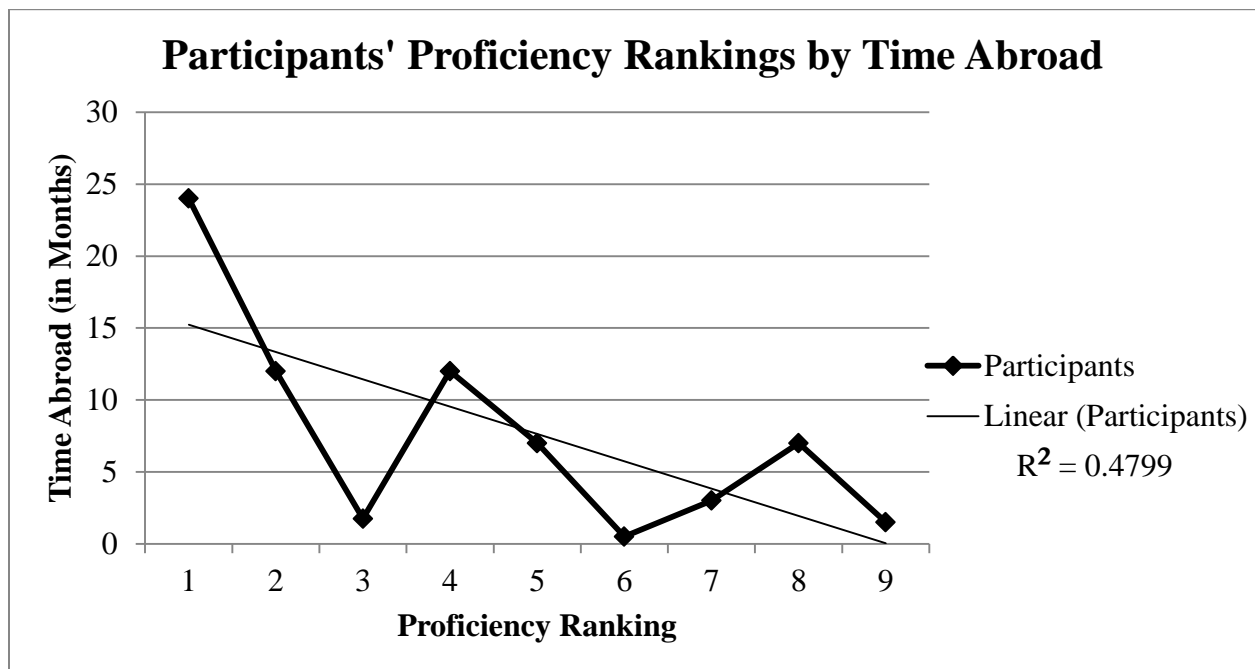
In order to simplify the analysis of the data and the comparison of the participants, each participant's number will be affixed with their proficiency ranking number and time abroad in months. For example, participant 1 was ranked as the second most proficient and had spent 12 months abroad. From this point in the study, participant 1 will be identified as P1-2/12. The following table gives each participant and their new designation.

Table 4

New Participant Designations

Former Participant #	New Participant Designation
1	P1-2/12
2	P2-1/24
3	P3-8/7
4	P4-3/1.75
5	P5-7/3
6	P6-9/1.5
7	P7-6/.5
8	P8-5/7
9	P9-4/12

There are two outliers to note in Table 4, specifically P3-8/7 and P4-3/1.75. It is clear that other factors must be at play besides time abroad, because otherwise the performances by these two participants could not be accounted for. P3-8/7, despite having lived abroad for eight months, was ranked only seven out of nine by the native speaker.

Conversely, P4-3/1.75 was rated third overall but had only spent less then two months abroad. In relation to P4-3/1.75, there must be other factors which have projected her language acquisition to a higher level despite her limited time abroad, specifically 1.75 months. One interesting piece of data that comes from P4-3/1.75 is that her age of acquisition was significantly earlier than other participants. P4-3/1.75 began learning German at the age of seven,

after which she stated that she took a break from it and started again at the age of thirteen. The age of encountering German for this individual could have played a strong part in her performance.

3.2 Procedure

The participants were recruited in two ways. First, the researcher was given access to a list of students who had been on the abroad program to Freiburg the previous year. The researcher also attended a 400-level class in order to recruit participants. These students provided the main source of recruitment for the 6-Group.

Each participant met with the researcher once for approximately 30 to 45 minutes. After each participant signed the consent form, he or she was given the pre-test survey. After completing the written sections of the pre-test questionnaire, the researcher then videotaped the oral questionnaire. The researcher asked each participant the same questions and recorded the session in order to have a native speaker give each participant a proficiency rating.

After the pre-test interview, participants were given the grammaticality judgment test and given the instructions orally as well as in writing. There was no time limit for the grammaticality judgment test, which will be addressed in chapters five and six.

After completion of the grammaticality judgment test, each participant was given the post-test survey orally. The researcher interviewed each participant individually and recorded the entire post-test with a video camera. The researcher orally guided each participant through the interview and collected all answers orally.

33

3.3 Instruments

The instruments used to collect data included a paper-based and oral pre-test which was video recorded, a paper-based grammaticality judgment test and a post-test oral interview which was also video recorded. Additional information on each instrument of the study is provided below.

3.3.1 Pre-test questionnaire.

The pre-test questionnaire (Appendices A and B) was given to each participant. The participants filled out each section except for the last portion, which was a five question proficiency examination conducted orally by the researcher. This proficiency examination was video recorded with permission from each participant. This video-recorded interview was the basis for the initial proficiency rating given by a third party rater.

Two pre-test questionnaires were developed for use in this experiment. Questionnaire A was created for participants who had never spent any time abroad and Questionnaire B was created for participants who had previously been abroad. Despite the development of two questionnaires, only one was used because every participant in this study had been abroad. Even participants with minimal time abroad needed to have the opportunity to describe their experience in Germany.

The pre-test was broken up into four sections: Language Background, Language Proficiency, Views On Living Abroad, and Oral Questionnaire. In the Language Background section, participants were asked to answer questions about their age, gender, class level, major(s) and minor(s), the age they began learning German, and whether they had had the opportunity to speak German at home.

The Language Proficiency section gave participants the opportunity to self-rate their perceived proficiency in German. Participants were asked Likert scale questions about their views on their proficiency in different areas, including speaking, listening, reading, writing, grammar, vocabulary and culture. A Likert scale was used to give students a range of possible answers which could be quantified by the researcher. The range for these questions was as follows: 1= very weak, 2=weak, 3=good, 4=very good, 5=superior. These Likert scale questions were used to provide insight into whether the participants' self-reported abilities actually matched the rating they were given by the proficiency rater.

Additionally, participants completed a short-answer question, which asked them to state which of the seven self-rated proficiency areas discussed was their strongest and why, and also which was their weakest, and why. This information is important in the analysis of the results to see if their self-reported strengths and weaknesses correlate in any way with their test results.

The Views On Living Abroad section was made up of short answer, multiple choice and Likert-scale questions. The first two questions ask participants to say where they were and the extent of their stay. The next question is a Likert-scale question asking them to rate their overall experience abroad the following scale: excellent, above average, average, below average, and poor. After that, participants elaborated on their answer. Question five was also Likert-based and asked participants to rate how immersed they felt while abroad on the scale of very immersed, somewhat immersed, not very immersed, or not immersed at all. This Likert-scale was only given four items because the researcher intentionally took away a middle or more neutral answer and forced the participants to pick an answer that was skewed toward more or less immersed. In the next question, participants had to explain how they immersed themselves in the culture. The final question of the Views On Living Abroad section asked whether the participants ever had a

German-speaking significant other, and if yes, to describe how many hours a week they spent speaking in German on average. The reason for this question was to see if having a German-speaking significant other provided participants with more interaction and input than other participants who did not have a relationship while they were abroad. The researcher was interested in seeing how those participants with a German-speaking significant other performed in comparison to the other participants.

The final section of the pre-test interview was the Oral Questionnaire, which was a short, six question oral proficiency exam, which consisted of a warm-up question and five more questions about their stay abroad. These oral interviews were video recorded and were given to a native speaker trained as an oral proficiency rater to analyze the results of the oral proficiency exam and give a general ranking to each participant. The data collected from each participant was displayed in section 3.1.

3.3.2 Grammaticality judgment test.

Next, each participant was given the grammaticality judgment test (See Appendices C and D). There was no time limit for the grammaticality judgment test, which will be further discussed in the limitations section of this thesis.

The grammaticality judgment test was comprised of forty total sentences (Refer to Appendices C and D). For each sentence, participants were required to check either YES if they believed that the sentence was grammatical, or NO if they considered the sentence to be ungrammatical. If the participant marked the sentence as ungrammatical, they had to change the sentence to make it grammatical. This was done to allow the researcher to see what part of the sentence was identified as wrong. It also helped determine if the reason the participant marked

36

the sentence as ungrammatical was based on the use of the demonstrative pronoun, or some other part of the sentence unrelated to the topic of investigation.

Within those forty questions, there were four subsets of ten questions. The subsets of questions were not separated from one another; rather they were mixed together in an attempt to hide the focus of the grammaticality judgment test.

The first group of ten questions focused on the use of demonstrative pronouns in the second clause. See example 14 below. The bold-face word is given to emphasize the placement of the demonstrative and was not done so on the actual grammaticality judgment test.

14. *Helga ist mit Jenny einkaufen gegangen, nachdem **die** ihre Hausaufgaben fertig geschrieben hat.*

   Helga is with Jenny shopping gone, after **she-DEM** her homework done written has.

   "Helga went shopping with Jenny, after she did her homework"

These ten sentences were the focus of the study.

The second subset of ten questions was similar to the first in all respects except that the pronoun used in the second clause was the personal pronoun, marked as PERS in example 15 below. Once again, bold is used for emphasis and was not included in the actual test.

15. *Arthur wollte eine Reise mit Kevin machen, aber **er** hatte keine Zeit.*

   Arthur wanted a trip with Kevin (to)make, but **he-PERS** had no time.

   "Arthur wanted to take a trip with Kevin, but he had no time."

These questions helped to uncover whether participants were noticing a difference between the personal pronoun and the demonstrative, and whether they were marking grammaticality for each in a different way. Also, there were two variations of the grammaticality judgment test, which differed by which sentences had a personal pronoun and which had a demonstrative. In Grammaticality Judgment Test A, ten of the questions had a demonstrative pronoun and ten had a personal pronoun. In Grammaticality Judgment Test B, the ten questions in A that had a demonstrative pronoun were switched to personal pronouns and the ten questions that had a personal pronoun were switched to demonstrative pronouns. This was done to ensure that the sentences were not semantically marking a difference and it was completely dependent on the lexical feature of the pronoun.

The last two subsets of ten questions were distractor questions. The first subset was made up of sentences with both verb-second and verb-final placement of the conjugated verb in *weil*-clauses. These questions were meant to distract the participants and possibly persuade them to believe that the focus of the study was on the placement of the conjugated verb in *weil*-clauses. This specific grammatical aspect was selected to provide some additional information to the researcher on participants' views on the grammaticality of verb-second in *weil*-clauses, but will not be analyzed as part of this thesis.

The final subset of ten questions incorporated any number of standard German sentences which did or did not contain grammatical errors. These errors ranged from the wrong choice of helping verbs to incorrect adjective endings. The main goal of these twenty distractor questions, the random error and *weil*-clauses was to draw attention away from the demonstrative pronoun sentences, which are the focus of this study.

The grammaticality judgment test was created in order to provide information about whether participants were able to identify demonstrative pronouns as grammatical and examples which could be looked at again by the participants in the post-test interview.

3.3.3 Post-test interview.

After the completion of the grammaticality judgment test, each participant was led via the researcher through an examination of the results of specific answers given in the grammaticality judgment test, specifically those that were relevant to demonstrative pronoun usage. These post-test interview questions (See Appendix E) were also video recorded in order to capture the exact phrasing and reactions to the answers provided.

The post-test interview consisted of six discussion questions meant to help the participants uncover the purpose of using demonstrative pronouns in German while only revealing small portions of the answer at a time. In doing so, the researcher was able to uncover the extent of each participant's knowledge of demonstrative pronouns, both explicitly and implicitly. At each step, the participants' understanding of the structure in question was investigated and recorded before more information was provided. All answers were video recorded to retain both the oral data, as well as participants' facial and bodily expressions during the interviews.

Before the first question relating to pronoun usage was asked, participants had to discuss any thoughts they had that particularly stood out while taking the grammaticality judgment test. After participants discussed any number of issues from their lack of understanding of certain grammatical rules to how difficult they thought the test was, they were asked to describe their understanding of the use of German demonstrative pronouns. Additionally, they were asked to

describe why a speaker would choose to say *der* in one scenario and *er* in another. The second question asked the participants whether they had ever been taught about the differences between the use of demonstrative pronouns and personal pronouns in German.

The third question took a specific example which had a demonstrative pronoun from the grammaticality judgment test. If the student had marked it as incorrect, the researcher told them that the demonstrative was grammatically correct in the sentence. While looking at the example sentence, the participant was asked to replace the demonstrative pronoun with one of the two possible antecedents. This allowed the researcher to understand whether the participant was relating the demonstrative pronoun to either the subject antecedent or the object antecedent.

The fourth question asked the participants to explain how sure they were about the grammaticality or ungrammaticality of the sentence before they had found out that the use of the demonstrative was grammatical.

Next, the participants had to contemplate why a speaker would choose the demonstrative pronoun over the personal pronoun. This was done to uncover what the participants thought about the relationship between lexical choice and antecedent. Additionally, participants were asked whether or not they would change who they thought the antecedent was if the demonstrative in the example sentence was changed to a personal pronoun.

The fifth and final question asked the participants to describe a grammatical rule that governs the use of demonstrative pronoun use in German and why a speaker would choose one form of the pronoun over another. They were also asked how this choice effected the interpretation of the pronoun by the listener.

RESULTS AND DISCUSSION

In this chapter, I will show the results of the grammaticality judgment test and the post-test interview, as well as discuss those results in terms of individual performance and attributes such as proficiency, which may have led to the results found in the current study.

4.1 Grammaticality Judgment Test Results

In this section, the results of each participant will be discussed and their qualitative data from the pre-test will be referenced to help interpret this data. First, the results of the random-error distractor sentences will be analyzed to help validate the proficiency results given to each participant. Next, the results from the demonstrative pronoun sentences will be analyzed and then compared to the results from the personal pronoun sentences.
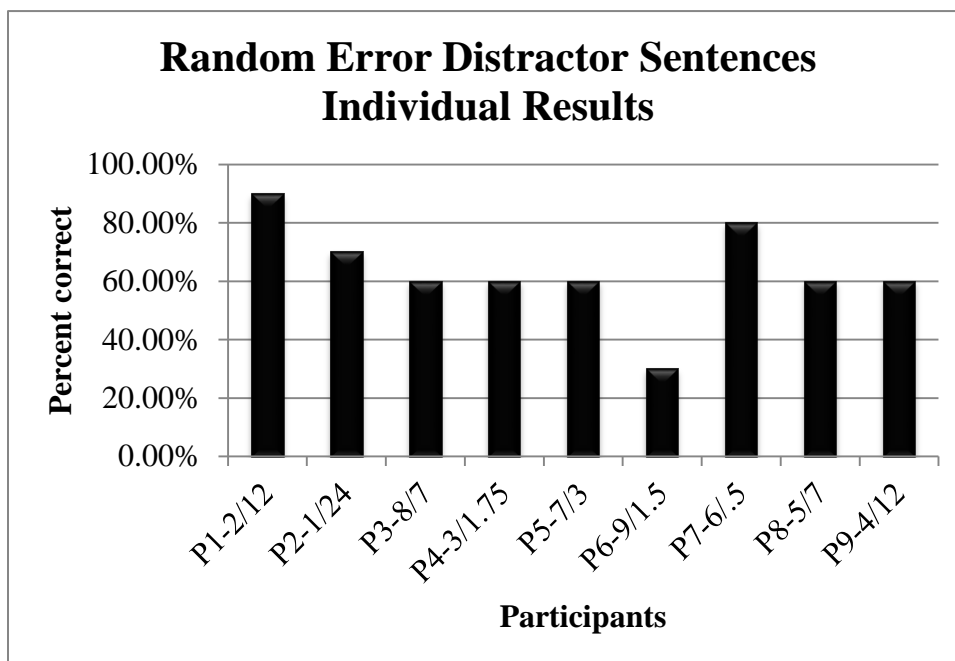
Figure 4

Figure 4 above shows individual participants' accuracy on the random error distractor questions. P1-2/12 and P2-1/24, both given an Advanced rating by the native speaker, scored higher than the rest of the participants, with the exception of P7-6/.5. The inconsistency between the ranking of P7-6/.5 and her performance on the grammaticality judgment test could be linked with her limited time abroad. This participant may have gotten a lower score on the ranking because it was an oral test of proficiency and without the same amount of time abroad as other participants, she may have had a lower speaking proficiency. If a true proficiency exam had been given, it is possible that this participant may have scored high in other sections and simply has a deficit in speaking compared to her overall knowledge of German. P6-9/1.5 scored the lowest which is in line with this participant's ninth place proficiency ranking.

While a general observation of percent correct gives some validity to the rankings of the participants, a closer inspection of each participant's performance will provide further evidence for the accuracy of the rankings. Of the ten distractor sentences, four had actual errors in them. They were numbers 2, 12, 15, and 24 in the grammaticality judgment test (See Appendices C and D). Numbers 2 and 15 tested case and gender marking and are given below as examples 16 and 17. The sentence is given with the correct form in parentheses.

16. *Stephan und Patrick wollen Basketball spielen, aber sie haben kein (keinen) Basketball.*

17. *Spaghetti ist mein Lieblingsessen, denn ich liebe italienischer (italienisches) Essen.*

42

Only participants P1-2/12 and P2-1/24 made the proper corrections on both of these sentences, which helps support the 'Advanced' rating given to them by the native speaker. P5-7/3 corrected example 16 above appropriately and P7-6/.5 corrected example 17 above. P5-7/3 correctly marked example 17 above as incorrect, but he falsely changes the incorrect *–er* ending on *italienisch* to *–en*, which is still incorrect (it should be *–es*). The two advanced participants, P1-2/12 and P2-1/24, were able to correct both ending mistakes, which supports the higher proficiency rating given to them by the native speaker. Also, the two lowest ranked participants, P3-8/7 and P6-9/1.5, did not notice these errors.

Sentences 12 and 24 of the grammaticality judgment test, given below as examples 18 and 19, tested the perfect tense.

18. *Inge hat (ist) nach Hamburg gefahren, um ihren Opa zu besuchen.*

19. *Der Mann hat den Jungen angeschriet (angeschrien), der gerade etwas geklaut hat.*

For sentence 18 above, P1-2/12, P2-1/24, P5-7/3, P7-6/.5, P8-5/7, and P9-4/12 all supplied the appropriate correction. Again, the two lowest participants, P3-8/7 and P6-9/1.5, did not correctly identify the error in this sentence. Since the error in example 18 is most likely something students get more feedback about than the incorrect past participle in example 19, it was expected that more of the participants would make the appropriate correction to example 18 than example 19, which is the case. For example 19 above, no participants marked this sentence as ungrammatical, but P2/1/24 did write the correct form of the past participle on her grammaticality judgment test and then scratched it out. As the highest ranked participant, she would have been the most likely to correct it and it seems she was the only participant who

noticed the error, but for some unknown reason decided that it was ultimately a grammatical sentence. Overall, the two types of errors explored here, conversational past and gender, case and number agreement, support the ranking and rating given to each participant by the native speaker.

Turning now to the structure in question, figure 5 shows each participant's acceptance of demonstrative pronouns.

Figure 5
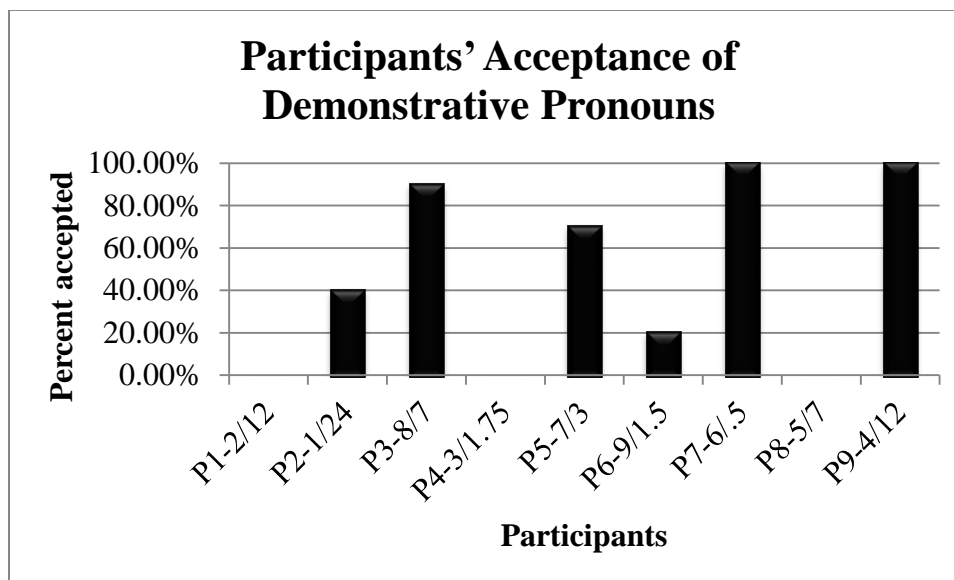
Figure 5 shows that there are some participants who always accept demonstrative pronouns as grammatical (P7-6/.5 and P9-4/12) and some who do not (P1-2/12, P4-3/1.75, and P8-5/7). In the grammaticality judgment test, all of the instances of demonstrative pronouns were correct. There were also those participants who showed trends in answering but did not give consistent judgments about the grammaticality of demonstrative pronouns (P2-1/24, P3-8/7, P5-7/3, and P6-9/1.5). It may not be possible to uncover the reasons for the varying participants'

44

results from the current data. For now, the discussion will be limited to factors from the pre-test. The next section will discuss individual results in connection with their answers to the post-test interview, which may provide further explanation for participants' performances on the grammaticality judgment test.

The two participants who assessed all of the instances of demonstrative pronouns as grammatical, P7-6/.5 and P9-4/12, have very different backgrounds. First, P7-6/.5 only spent half a month abroad as compared to the 12 months abroad for P9-4/12. P7-6/.5 began learning German at the age of 17, while P9-4/12 began learning at 13. P7-6/.5 indicated that she was only somewhat immersed during her time abroad, which is understandable with the limited time she spent abroad, while P9-4/12 indicated that she was very immersed over the course of her 12 month stay abroad. One point to be made about the very limited time abroad by P7-6/.5 and her successful acceptance of all demonstrative pronouns is that this participant may simply not have marked any of the demonstratives wrong because she did not notice them. As will be shown in the next section, this participant was not able to pick the correct antecedent, which supports the idea that her grammaticality results may reflect a lack of noticing, rather than knowledge of the acceptability of demonstrative pronouns in German.

Another interesting factor that may have had an effect on P9-4/12 was her indication that she had a German-speaking significant other during her time abroad and that she spent 20 to 30 hours on average per week speaking German with that person. The only real similarity between these two participants is the proximity of their proficiency levels and their Intermediate-Mid ratings, but this does not mean that their proficiency was the only contributing factor in their decision-making process about the grammaticality of demonstrative pronouns. The results from these two participants will be further discussed in the next section in relation to the information

45

in the think-aloud style post-test interview in order to find out more specific answers as to why these participants, with such different language backgrounds, performed so similarly on the grammaticality judgment test.

As stated above, P1-2/12, P4-3/1.75, and P8-5/7 also behaved similarly on the grammaticality judgment test. These participants judged all instances of demonstrative pronouns as wrong. As with the two participants above, the language backgrounds of all of these participants are quite distinct from one another. P1-2/12 was ranked as the second most proficient and also spent the second most time abroad out of all participants. He began learning German at the age of 14 and judged his level of immersion while abroad to be 'very immersed,' according the scale in the pretest survey. P4-3/1.75 was ranked fourth most proficient, but spent less than two full months living abroad and rated her immersion there as 'somewhat immersed.'

Most notably about P4-3/1.75 is her age of exposure to German, which was significantly younger than any of the other participants. In her pretest she wrote, "I lived in Germany and was fluent from [ages] 6-8, but moved back and had to completely relearn once [I began] high school." This may have had a significant effect on her test results because she had so much previous experience with the language as compared to the other participants. She was also one of the two participants who indicated the use of German at home, although she made it clear that the use of German at home was very sparse and not an everyday occurance. P4-3/1.75's ranking of third out of nine participants may lend some credit to her claim that she did have to "relearn" German, as she stated in her pre-test, but her early exposure may have nevertheless had an important impact on her performance.

With regard to the other participant who scored all instances of demonstratives as ungrammatical, P8-5/7 is in the middle in terms of time abroad and proficiency ranking. She was

ranked fifth out of nine in terms of proficiency and spent seven months abroad, which is also in the middle of the group. P8-5/7 began learning German at the age of 14 and described her immersion into German culture as 'very immersed', which was the average answer for all participants who spent at least one semester abroad.

In addition to the consistent *yes* or *no* judgments on demonstrative usage by the five participants above, there were four participants, P2-1/24, P3-8/7, P5-7/3, and P6-9/1.5, who were not consistent in their judgments on whether demonstrative pronoun usage was grammatical or ungrammatical. P2-1/24 is surprising to find in this group because I would have expected the highest ranked participant with the most time abroad to have the most consistent system in place. This may still be the case and this participant's results will be analyzed in detail in section 4.2.

P3-8/7 accepted all instances of demonstrative pronoun usage as grammatical except one. This is highly interesting in that there seems to be a clear pattern from his overall answers of an acceptance of demonstrative pronouns, but there is one instance of demonstrative pronoun usage which he deemed ungrammatical. P3-8/7 marked the first instrument item with a demonstrative pronoun on the grammaticality judgment as wrong, but did not mark any of the other sentences with demonstrative pronouns as wrong. It could have been that after subsequent encounters with this form, P3-8/7 assumed that his first instinct was wrong and the continual appearance of this form in the test was actually correct and he therefore stopped marking it as incorrect.

P5-7/3 accepted seven of the ten instances of demonstrative pronouns and P6-9/1.5 accepted two of the ten instances. While there is a trend for P5-7/3 for acceptance of the demonstrative and a trend for P6-9/1.5 to not accept the demonstrative pronoun, the inconsistencies of these two participants probably shows instability in the learners' perceptions of demonstrative pronouns. Overall, these participants may not have had enough input or

exposure to demonstrative pronouns to be able to clearly decide whether their usage is ungrammatical or grammatical. Further analysis of all the participants' results on the grammaticality judgment test and their answers to the post-test questions will be discussed in section 4.2.

As a measure of validity for the grammaticality judgment test, participants' acceptance of personal pronouns is given below in figure 6. This was done to show that participants were not marking the position of the pronoun wrong, but rather its demonstrative form. Figure 6 below shows the participants' complete acceptance of all instances of personal pronouns. It is important to remember that there were two versions of the grammaticality test, and that the difference between the two versions was simply the change from personal pronoun to demonstrative pronoun and vice versa from one version to the other. Figure 6 shows that all sentences that tested for pronouns were in fact testing the form of the pronoun, i.e. personal pronoun versus demonstrative pronoun, and that no other part of the sentence affected participants' judgments.

Figure 6

48
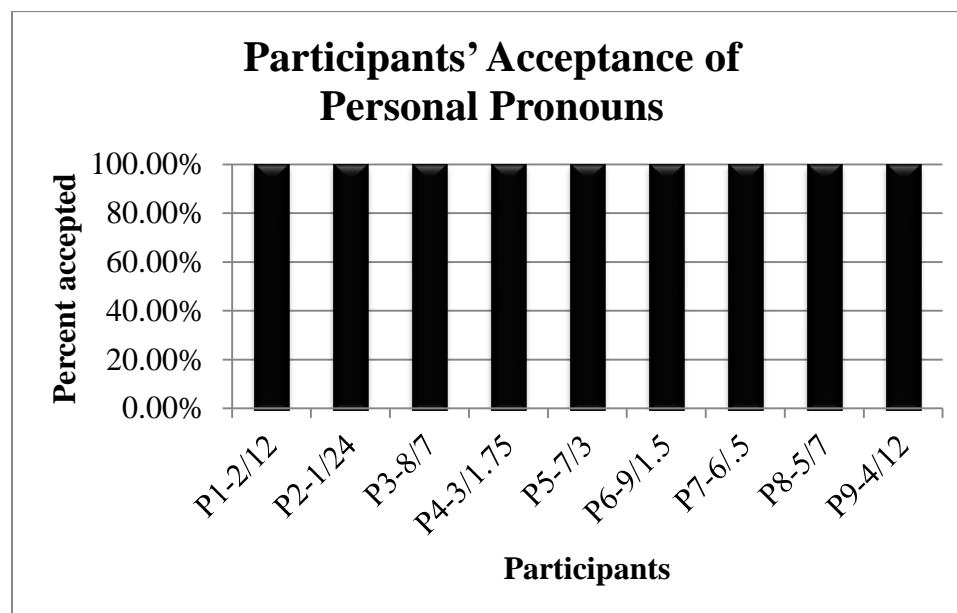
4.2 Post-test Interview Results

The post-test interview provided qualitative data in addition to the quantitative data analyzed in the previous section, as well as provided further insight into the results found in the analysis of the grammaticality judgment test. The investigation of the post-test results produced four major questions of interest answered by each participant, specifically (a) what is your explicit knowledge of demonstrative pronouns, (b) to which antecedent is the demonstrative pronoun referring, (c) why would a native speaker of German choose a demonstrative pronoun over a personal pronoun, and (d) to which antecedent would the pronoun be referring if the demonstrative was replaced by a personal pronoun?

All participants showed a lack of explicit understanding in regard to demonstrative pronouns. In fact, many participants confused demonstrative pronouns with relative pronouns because of the similarity of their forms in German, i.e. *der* is not only a possible definite article and demonstrative pronoun, but also a possible form for a relative pronoun. This could have led to a positive effect for correct antecedent selection, because relative pronouns select for the closest available antecedent with matching features (Bosch 2003). This means that participants with no knowledge of demonstrative pronouns, either explicitly or implicitly, may be coaxed into picking the correct antecedent, namely the object antecedent, because of its proximity to the demonstrative pronoun, rather than the antecedent's status as an object or subject.

In response to the question about reference of the demonstrative pronoun, participants differed both in quantity and quality of responses. P2-1/24, P3-8/7, P5-7/3, P6-9/1.5, and P9-4/12 correctly identified the object antecedent as the appropriate referent for the demonstrative pronoun. P1-2/12, P4-3/1.75, P7-6/.5, and P8-5/7 were unable to identify the correct antecedent

of the demonstrative pronoun. This shows that the participants who correctly identified the object

antecedent may have been able to remap their underlying cognitive process of pronoun

resolution in their L2 German interlanguage to incorporate the inherent object-selecting property

of demonstrative pronouns used by L1 German speakers to resolve ambiguous pronouns. The

participants who were not able to pick the correct antecedent may have been clinging to the

discourse-based interpretation proposed in SDRT, or they may have been fluctuating between a

number of different processes. This fluctuation could have come about from the amount of input

they had received in regard to pronoun resolution was not ample enough to provide evidence for

one system over another.

One possible reason for the lack of competency in this area by P8-5/7, who did not select

the correct antecedent, could be correlated with her experience abroad. In contrast to the other

participants, P8-5/7 said she had never heard a single instance of demonstrative pronoun use.

This could mean that her experience abroad did not include the extent of immersion expressed by

other participants. In addition, even if she had been around people who used demonstrative

pronouns, it may have simply been that she did not notice the demonstrative. The idea of

noticing has become essential to the study of second language acquisition since the Noticing

Hypothesis was proposed by Schmidt (1990) (Lightbown and Spada, 2006, p. 44). As discussed

in 2.3 of this thesis, noticing is assumed to be a prerequisite for successful acquisition of the

usage of demonstrative pronouns in German.

As to an explanation of why German speakers would choose demonstrative pronouns

over personal pronouns in certain scenarios, only a few among those who correctly identified the

appropriate antecedent were able to formulate an explanation why. Specifically, P1-2/12

discussed the possibility of distinguishing between antecedents, but did not state which pronoun,

demonstrative or personal, referred to which antecedent. P9-4/12 was correctly able to surmise that demonstrative pronouns refer to the "second" person, which she identified as the antecedent that was not the subject. An interesting note is that P9-4/12 was one of the two participants who acknowledged being able to speak German at home. This was of course in a limited context and the actual amount of time speaking German at home was not specified. Again, it is important to note that the method of questioning involved in the post-test interview allowed P1-2/12 and P9-4/12 to reach their conclusions. They were unable to explicitly explain the phenomenon without guidance from the researcher, which is important to note because it means they did not have any explicit rules already in mind going in to the grammaticality judgment test. All of the other participants said they had no idea what demonstrative pronouns did.

Finally, participants were also asked to reanalyze their antecedent selection by replacing the demonstrative pronoun in the example sentence with a personal pronoun. For example, if a sentence had the demonstrative *der* in the second clause, participants were asked if whether they would still pick the same antecedent if the sentence had the personal pronoun *er*. P2-1/24, P3-8/7, P5-7/3, and P9-4/12, all of whom correctly identified the demonstrative as the object referent, were also able to correctly identify the personal pronoun as referring to the subject antecedent. It is important to note that P6-9/1.5, who selected the object antecedent as co-indexed with the demonstrative pronoun, did not change her answer when confronted with the revised sentence containing the personal pronoun, i.e. she stated that the personal pronoun also referred to the subject antecedent. This is important because unlike the other four participants listed above who seem to at least implicitly make a distinction of demonstrative pronouns with non-subject and personal pronouns with subjects, P6-9/1.5 does not. This may mean that this participant does not have a solid complementary system for German pronouns in place. This

supports the assumption of this study that proficiency and time abroad interact with acceptance and correct interpretation of demonstrative pronouns in German since P6-9/1.5 is ranked as the least proficient and has spent the second least amount of time abroad. Also, despite her initially correct interpretation of the demonstrative as being co-indexed with the object antecedent, the grammaticality judgment test also shows that this participant did not have a clear judgment about demonstrative pronouns in German.

Of the four participants who did not correctly identify the object antecedent as the appropriate referent for the demonstrative pronoun, P4-3/1.75 and P7-6/.5 said that the new personal pronoun refers to the object antecedent while P1-2/12 and P8-5/7 said that the new personal pronoun still referred to the subject antecedent. This kind of variation would be expected from these four participants because they did not reach the initial conclusion about the object selecting property of German demonstrative pronouns.

Returning here to the discussion in section 4.1 about the similarities in performance between P7-3/1.75 and P9-4/12, only one conclusion can be drawn from the data about why both participants accepted all of the demonstrative pronouns as correct. As shown above, some of the other advanced learners also revealed that they only marked demonstratives wrong because of the written nature of the task, so it makes sense that P9-4/12 would also group with the other participants who also had higher proficiency rankings and more time abroad. The question here is really, why participant P7-3/1.75 decided to accept all of the instances of demonstrative pronoun usage. From the post-test data it can be seen that this participant had little to no idea about what demonstrative pronouns were or what their function was. From the multiple appearances of these on the grammaticality judgment test P7-3/1.75 may have assumed that this form was correct and since she knew nothing about it opted to not mark the demonstrative

wrong. While P9-4/12 was most likely marking the demonstratives correct because of her implicit knowledge of them, P7-3/1.75 may have simply not marked any of them wrong because she had no implicit knowledge of them and therefore may have taken no notice of them.

4.3 Discussion Summary

As a summary of this chapter, I would like to reintroduce the research questions presented in the introduction and discuss how the results answered these questions:

1. Can L1 English L2 German speakers recognize that demonstrative pronouns in German are grammatical? For those participants who do recognize the grammaticality of German demonstrative pronouns, what common traits and experiences do they share?

With regard to this question, it seems that some participants in this study, specifically P2-1/12, P7-6/.5, and P9-4/12 were able to recognize the grammaticality of German demonstrative pronouns. While these three participants marked all instances of the demonstrative correct, there does not seem to be a singular trait that these three participants share. All three seem to have varying backgrounds and no clear conclusion can be drawn about why these three participants accepted the demonstrative form so readily. Despite P7-6/.5's small amount of time abroad, she was able to judge the demonstrative pronouns as grammatical. This may be due to her early exposure to German and thus she is acting more like a heritage learner than an L2 learner whose first encounter with German was much later.

2. If L1 English L2 German learners do recognize the use of demonstrative pronouns in German as grammatical, what cognitive process do these learners use to resolve pronominal ambiguity? Do they still rely on their English process, or have they adopted a new process. If so, how closely do the choices resulting from this new process mirror the choices made by native German speakers?

P2-1/24, P3-8/7, P5-7/3, P6-9/1.5, and P9-4/12 identified the correct antecedent for the demonstrative pronoun. The decisions that these learners made were correct, but we cannot know what the underlying systems of these learners' look like. These participants have a system in place which produces the correct answers when faced with this type of pronoun disambiguation, but it is impossible to say whether that underlying process is constructed in the same manner as that of a native speaker, which it is most likely not. What is important to take away from the achievements of these participants is their ability to perform like native speakers of Germans, not necessarily their acquisition of the exact process a native speaker goes through. The goal of this type of acquisition of advanced grammatical features and L2 processes for both instructors and learners perhaps should not be to create the exact same underlying system a native speaker has, but rather to develop a system which produces the same results.

3. Finally, what kind of knowledge, i.e. implicit or explicit, do these learners have about demonstrative pronouns and ambiguous pronoun resolution in German?

The lack of understanding of demonstrative pronoun usage on the part of the participants

shows that these students either (a) received no instruction, (b) do not remember any instruction, or (c) did not synthesize an explicit rule for themselves about the use of demonstrative pronouns in German. This provides strong evidence that students did not rely on any explicit knowledge about the grammaticality of demonstrative pronouns during the grammaticality test, which was administered before the post-test, in which a number of participants were able to formulate the correct rule to govern demonstrative pronoun usage in German. Rather, the grammaticality judgment test responses show a reliance on implicit knowledge of the target language. The implicitness of the test is essential to determine the underlying strategies being employed by the students in their interpretation of the demonstrative pronoun. While no participant could provide any explicit information about the use of demonstrative pronouns in German before the researcher-led discussion, it seems that those who correctly identified them as grammatical and maybe even more importantly, those who selected the proper antecedent of the demonstrative pronoun, have some implicit knowledge about the use of demonstrative pronouns in German. This means that explicit knowledge may not be necessary for the acquisition of advanced cognitive processes in L2 acquisition.

CONCLUSION

This thesis has shown that some L1 English/L2 German students recognize demonstrative pronouns as grammatical. In addition to this, some L1 English/L2 German participants also seem to have access to implicit information about German demonstrative pronouns in spite of their inability to explicitly define a rule which governs demonstrative pronoun usage in German. Finally, some students also seem to process German demonstrative pronouns in a way which produces the same antecedent selection as native speakers of German. The implications of these results and limitations of this study are presented below.

5.1 Implications

From the results and discussion portion of this thesis, a few implications about advanced cognitive processes in second language learning and acquisition can be made. First, on an optimistic note, it appears that some of the participants in this study were able to perform like native speakers in their judgments on the usage, and some even on the interpretation, of demonstrative pronouns in German. While there is not enough information in this study about the exact nature of these participants' acquisition of this advanced grammatical feature and its corresponding cognitive process of disambiguation, the learning of such advanced structures and processes, it seems, is not a hopeless endeavor for learners of German.

When comparing the two types of ambiguous pronoun resolution proposed in the beginning of this thesis, specifically SDRT in English and the Complementarity Hypothesis in German, it cannot be clearly seen what these learners are doing internally, but from the varying types of explanations, results and discussions provided by the participants, they seem to at least

implicitly realize that there is a difference between German and English ambiguous pronoun resolution.

This thesis has also shown that learners do not have to be explicitly aware of an advanced grammatical feature in order to acquire it. None of the participants in this study could explicitly define what demonstrative pronouns are before the researcher led an interview about them, and yet some were able to identify them as grammatically correct when used as a substitute for the personal pronoun and match the demonstrative with the appropriate antecedent. For teachers, this may mean that they may not have to focus specifically on the explicit instruction of every advanced process or grammar item in a given L2.

The findings from this study are important to the field of SLA in that they show that second language learners can acquire advanced grammatical structures and cognitive processes of the target language.

5.2 Limitations

This section investigates the limitations of this study and provides information about how the limitations in this study can affect the design and implementation of future studies.

5.2.1 Sample size.

The first limitation of this study was the small sample size. Although this thesis can make some conclusions about the participants in this study, there were not enough participants to generalize to a larger population or run a statistical analysis. Future studies need to look to increase sample sizes by drawing from multiple pools of participants from different universities.

5.2.2 Proficiency ratings.

Another limitation of this study was the lack of a true proficiency rating for the students involved. The method used in this study was meant to obtain a quick and general overall view of participants' proficiency in German. A more complete and widely-accepted proficiency exam with at least two raters would have produced a more reliable proficiency score.

The proficiency test employed in this study focused solely on participants' production and comprehension of spoken German. It did not provide any proof of grammatical or written proficiency, which may have been more accurate due to the fact that the grammaticality judgment sentences were presented in writing. Although the data were meant to be representative of spoken language, the actual grammaticality judgment test was given in writing. This limitation will be discussed in section 5.2.3.

5.2.3 Grammaticality judgment test instructions.

Because of the method in which participants encountered the grammaticality questions, specifically, that they were given only in a written format and were not told that the test questions were meant to represent spoken language, the instructions given to participants in the grammaticality judgment test might have skewed the results. The participants were presented with the grammaticality judgment test in this format in order to give them more time to think about each question. In hindsight, these sentences should either been presented aurally for the participants or the instructions should have specifically stated that these were instances of spoken language. Some participants specifically said that the reason that their answers patterned the way they did with respect to the demonstrative pronouns was due to the fact that they were not specifically told that the examples were meant to be representative of informal, spoken language.

Without this knowledge, participants were forced to make an assumption as to the formality and form of the examples.

These participants were forced to assume that since they received the examples in writing, they were meant to interpret the examples as formal instances of written language, which could mean that different and more likely stricter judgments were made of the data. One student reported that she was specifically taught at a German high school that demonstrative pronouns were absolutely incorrect in formal, written texts.

Although only two of the participants specifically said that this was a factor in their decisions, it stands to reason that all of the participants were forced to make the same judgment about the examples. Further studies would require clearer instructions that told participants what kind of data they were dealing with.

5.2.4 Distractor sentences.

Some participants noted that, despite the fact that there were three distractor questions for every one sentence testing for demonstrative pronouns, they still noticed a pattern in the experimental sets that was looking for the difference between demonstrative and personal pronouns. This can sometimes be a problem in that participants may want to say what the researcher wants them to hear, rather than do what they really think, as discussed in Gubrium and Holstein (2002). In this case, if the participants saw a pattern in the grammaticality judgment test, they might see the focus of the study and their results may reflect what they think the researcher is trying to find rather than what they would actually do. Two strategies could have remedied this issue. First, there could have been a larger amount of distractor sentences in comparison to those testing the target form. Another, and possibly better, option that would not

increase the length of the test would be to create other identifiable patterns in the distractor sentences, such as incorrect subject-verb agreement, case marking, verb placement, etc. With a larger number of overt linguistic patterns for participants to discover, they would be less likely to detect which pattern is actually being tested.

5.2.5 Closer mirroring of English and German phenomenon.

One final limitation of this study was the fact that not all of the German sentences matched the English phenomenon exactly. By this, I mean that despite the fact that all of the sentences in German were composed of two clauses and were linked by a conjunction; the conjunctions used in this study should have been limited to and evenly distributed between those that were investigated in Asher and Lascarides (2008), namely *after* and *while*, as discussed in section 2.1 of this thesis. For example number 36 from the grammaticality test, given below as , does not have *after* or *while* in it, so it is unclear what the pattern in SDRT would predict as the appropriate antecedent for the conjunction *but* which is used here.

20. *Mika wollte mit Katie später ausbleiben, aber sie hatte Bauchschmerzen und konnte nicht.*

   Mika wanted with Katie later stay out, but she had stomachache and could not.

   "Mika wanted to stay out later with Katie, but she had a stomachache and couldn't."

This would have shown more conclusively whether participants were following the more English-like or more German-like strategy of pronoun resolution. This study was also dependent on the results of Bosch, et al. (2003, 2007) for projected results on this grammaticality judgment test. A native-German baseline would also have helped provide more validity for the results and a

closer comparison of a native-German group to the L2 German group.

5.3 Future Research

First, a larger population of L1 English L2 German participants would produce statistically significant data from which stronger evidence for the claims in this study could be made. This research would most likely need to be conducted with the cooperation of multiple institutions because the population in question is relatively small at any one institution. The pool of advanced learners of German is relatively small at any one institution and even with the participation of every advanced German student, assuming that they all complete the testing phase, there would still not be enough data to make generalizable claims. In conjunction with this point, it would also have helped to have a native speaker group confirm the grammaticality judgment test and post-test results.

Second, the acquisition of different linguistic forms in German needs to be investigated further to understand if other cognitive processes have also been acquired by advanced learners of other languages. Without evidence from other linguistic structures, the information found in this study and any replication of this study would be limited to this one German structure. Additionally, further languages and structures need to be explored and compared to one another to discover whether certain forms are more likely to develop than others. From these data, important investigations into the heterogeneity of the development of specific structures will help researchers in the field of Second Language Acquisition and German Studies uncover dissimilarities in the acquisition of L2 grammatical features in comparison to L1 acquisition of those same features. It would be highly useful to researchers and educators to understand the variance in acquisition of diverse grammatical features for both improvements in methods of

instruction and insight into the internal cognitive mechanisms governing L2 acquisition. Because of this, further research is needed as to why this variation occurs and where it comes from, in addition to whether L2 acquisition variation is independent of L1, L2 or external influences.

In relation to the acquisition of advanced grammatical features and cognitive processes, a third area of future research would be to understand the process of implicit knowledge acquisition. Research is needed to understand whether L2 learners are able to learn implicitly, i.e. without any metalinguistic support from explicit rules either learned or developed, or whether they must use their metalinguistic skills to create hypotheses about linguistic rules which they must then test and, if found to be correct, proceduralize and integrate into their interlanguages. At this point, research, such as this thesis, has shown that students do have implicit knowledge about the target language and can make correct guesses about explicitly unfamiliar structures, but the question is how they acquired this information. Have students learned purely implicitly or have they created their own rules about the target language and internalized those rules?

5.4 Summary

This thesis has shown that at least in the case of German demonstrative pronouns, native-like acceptance and interpretation of the German demonstrative pronouns is not an impossible feat for some L2 learners, even if replication of the exact underlying process used by native speakers of German is not achieved. Because of the varying backgrounds of the participants who successfully judged the demonstrative pronouns in German as grammatical, noticing may be a much more important part in the learning of German demonstrative pronouns than any single demographic feature. The importance of noticing could be one reason that proficiency and time abroad was not necessary for all of the participants to accept demonstrative pronouns as

grammatical. It may be more important for learners to notice these types of advanced structures rather than simply their proficiency level or amount of time abroad, although presumably those students with higher proficiency levels and more time abroad would have had more opportunities to notice the usage of German demonstrative pronouns. In addition to noticing the demonstrative, L2 German learners may also need to be provided with the appropriate context in order to learn not only the grammaticality of German demonstrative pronouns, but also the way in which these demonstrative pronouns are used in discourse by native speakers of German.

APPENDICES

Participant # _____

Pre-test Questionnaire A

Please take some time to answer the following questions. Answer as completely and accurately as possible. If you need more space, feel free to use a blank piece of paper. This questionnaire will remain confidential. Thank you for participating in this study.

A. Language Background

1. Date_____

2. Age_____

3. Gender [ ] M [ ] F

4. Class level [ ] freshman [ ] sophomore [ ] junior [ ] senior [ ] graduate or other

5. Major(s)_____

6. Minor(s)_____

7. At what age did you start learning German?_____

_____

8. Do you speak any German at home?_____

_____

B. Language Proficiency

1. Please rate your proficiency in German in each of the following areas.

      (1=very weak, 2=weak, 3=good, 4=very good, 5=superior)

      Speaking   1   2   3   4   5

      Listening   1   2   3   4   5

Reading   1   2   3   4   5

Writing   1   2   3   4   5

2. Please rate your knowledge of German in the following areas (see scale above).

Grammar   1   2   3   4   5

Vocabulary   1   2   3   4   5

Culture   1   2   3   4   5

3. What area(s) from the list above do you believe to be your weakest? Why? What area(s) do you believe to be your strongest? Why?

_____

_____

_____

_____

_____

C. Views On Living Abroad

1. How motivated are you to go abroad? Please circle the most appropriate.

Very motivated motivated indifferent not motivated opposed

2. Do you think going abroad is a worthwhile experience for language learning? Why, or why not?

_____

_____

_____

3. What do you think would be the biggest advantage to going abroad?

_____

_____

_____

4. How would you immerse yourself in the culture?

_____

_____

_____

D. Oral Questionnaire

In this section you will be asked to speak only in German. Please answer the researcher's questions as completely as possible.

*Wie heißt du? (**What is your name?**) (**Note: The purpose of this and the following question is simply to warm up the students to speaking and hearing German, not to attain personal information.**)*

*Woher kommst du?(**Where are you from?**)*

*Kannst du deine Heimatstadt beschreiben?(**Can you please describe your hometown?**)*

*Kannst du beschreiben, wie du Deutsch gelernt hast?(**Can you please describe, how you have learned German?**)*

*Warum lernst du Deutsch?(**Why are you learning German?**)*

*Kannst du das letzte Jahr beschreiben?(**Can you describe the previous year?**)*

Participant # _____

Pre-test Questionnaire B

Please take some time to answer the following questions. Answer as completely and accurately as possible. If you need more space, feel free to use a blank piece of paper. This questionnaire will remain confidential. Thank you for participating in this study.

A. Language Background

1. Date_____

2. Age_____

3. Gender [ ] M [ ] F

4. Class level [ ] freshman [ ] sophomore [ ] junior [ ] senior [ ] graduate or other

5. Major(s)_____

6. Minor(s)_____

7. At what age did you start learning German?_____

_____

8. Do you speak any German at home?_____

_____

B. Language Proficiency

1. Please rate your proficiency in German in each of the following areas.

      (1=very weak, 2=weak, 3=good, 4=very good, 5=superior)

      Speaking   1   2   3   4   5

Listening   1   2   3   4   5

Reading   1   2   3   4   5

Writing   1   2   3   4   5

2. Please rate your knowledge of German in the following areas (see scale above).

Grammar   1   2   3   4   5

Vocabulary   1   2   3   4   5

Culture   1   2   3   4   5

3. What area(s) from the list above do you believe to be your weakest? Why? What area(s) do you believe to be your strongest? Why?

_____

_____

_____

_____

_____

C. Views On Living Abroad
        Please describe your living situation.

1. Where did you spend your time abroad? _____

2. How long were you abroad and what were the dates? _____

3. Please rate your overall experience abroad by circling one of the options below.

        excellent   above average   average   below average   poor

4. Why did you rate your abroad experience this way? _____

_____

_____

_____

5. How immersed do you feel you were in the culture while abroad? Please circle one of the options below.

Very immersed   somewhat immersed   not very immersed   not immersed at all

6. How did you immerse yourself in the culture? _____

_____

_____

_____

_____

7. Did you ever have a German significant other? [ ] Yes [ ] No

If yes, how many hours a week do you think you spent speaking German? _____

D. Oral Questionnaire

In this section you will be asked to speak only in German. Please answer the researcher's questions as completely as possible.

*Wie heißt du?(**What is your name?**)*

*Kannst du deine Wohnsituation letztes Jahr beschreiben? (**Can you please describe your living situation last year?**)*

*Kannst du die Stadt beschreiben, wo du warst? (**Can you please describe the city you lived in last year?**)*

*Was hast du an einem typischen Tag gemacht?(**What did you do on a typical day?**)*

*Was hat dir am besten gefallen? Warum?(**What did you like best and why?**)*

*Was hat dir am wenigsten gefallen? Warum nicht?(**What did you like the least and why?**)*

APPENDIX C: Grammaticality Judgment Test A

Please read the following sentences and decide whether the sentence is <u>grammatically</u> correct. If yes, check (X) the "YES" box in the right hand column. If no, check (X) the "NO" box in the right hand column <u>AND</u> correct the sentence in the space provided below the sentence.

		YES	NO
1	Hans wollte mit Jan spielen, aber der war krank. *Hans wanted to play with Jan, but DEM-(he) was sick.*	**YES** x	**NO**
2	Stephan und Patrick wollen Basketball spielen, aber sie haben kein Basketball. *Stephan and Patrick want to play basketball, but they don't have a basketball.*	**YES**	**NO** x
3	Ich muss heute Abend nach Hause, weil ich habe Hausaufgaben. *Tonight I have to go home, because I have homework.*	**YES**	**NO** x
4	Helga ist mit Jenny einkaufen gegangen, nachdem sie ihre Hausaufgaben fertig geschrieben hat. *Helga went shopping with Jenny, after she finished her homework.*	**YES** x	**NO**
5	Arthur wollte eine Reise mit Kevin machen, aber der hatte keine Zeit. *Arthur wanted to take a trip with Kevin, but DEM-(he) didn't have any time.*	**YES** x	**NO**
6	Matthias und Benjamin benutzen ihren Computer, um ihre Hausaufgaben zu machen. *Matthias and Benjamin use their computer to do their homework.*	**YES** x	**NO**
7	Matthias und Helga sollten mit ihren Eltern nach Spanien reisen, aber die hatten kein Geld. *Matthias and Helga were supposed to go to Spain with their*	**YES** x	**NO**

71

	parents, but *DEM-(they) didn't have any money.*		
8	Der Arzt und sein Patient hatten ein Argument, weil der Arzt spät war. *The doctor and his patient had an argument because the doctor was late.*	**YES** x	**NO**
9	Karl wollte mit Hans spielen, aber er musste vorher seine Hausarbeit fertig machen. *Karl wanted to play with Hans, but he had to finish his homework first.*	**YES** x	**NO**
10	Der Polizist sollte seinen Partner am Hauptbahnhof treffen, aber der wurde abgelenkt. *The police officer was supposed to meet his partner at the train station, but DEM-(he) got sidetracked.*	**YES** x	**NO**
11	Sara wollte mit Claudia Tennis spielen, aber die konnte ihren Tennisschläger nicht finden. *Sara wanted to play Tennis with Claudia, but she couldn't find her tennis racket.*	**YES** x	**NO**
12	Inge hat nach Hamburg gefahren, um ihren Opa zu besuchen. *Inge has driven to Hamburg to visit her grandfather.*	**YES**	**NO** x
13	Der alte Mann geht jeden Tag ins Theater, weil er immer noch Schauspieler werden will. *The old man goes to the theater every day, because he still wants to be an actor.*	**YES** x	**NO**
14	Jakob hat Michael gesehen, während der am Strand war. *Jakob saw Michael while DEM-(he) was at the beach.*	**YES** x	**NO**
15	Spaghetti ist mein Lieblingsessen, denn ich liebe italienischer Essen.	**YES**	**NO** x

		YES	NO
	Spaghetti is my favorite food, because I love Italian food.		
16	Maria hat Isabella gesehen, während die im Supermarkt war. *Maria saw Isabella while DEM-(she) was in the supermarket.*	**YES** **x**	**NO**
17	José wollte Marie nach der Schule besuchen, aber seine Mutter sagte, er darf nicht. *José wanted to visit Marie after school, but his mother said, he wasn't allowed to.*	**YES** **x**	**NO**
18	Markus wollte mit Georg in die Disko gehen, aber er muss heute Abend früh ins Bett. *Markus wanted to go to the Disco with Georg, but he has to go to bed early tonight.*	**YES** **x**	**NO**
19	Seine Freundin ist nicht gekommen, weil sie hat ihn mit einer anderen Frau gesehen. *His girlfriend didn't come, because she saw him with another woman.*	**YES**	**NO** **x**
20	Der Mann hat den Jungen gesehen, nachdem der im Park war. *The man saw the boy after DEM-(he) was in the park.*	**YES** **x**	**NO**
21	Sabine hat Tina besucht, nachdem sie mit ihrem Job fertig war. *Sabine visited Tina after she was done with her job.*	**YES** **x**	**NO**
22	Mark wollte mit Tobias einkaufen gehen, aber Tobias hat zu viel zu tun. *Mark wanted to go shopping with Tobias, but Tobias had too much to do.*	**YES** **x**	**NO**
23	Tina hat ihre Mutter gesehen, während sie beim Spazierengehen war. *Tina saw her mother, while she was out for a walk.*	**YES** **x**	**NO**

24	Der Mann hat den Jungen angeschreit, der gerade etwas geklaut hat. **The man yelled at the boy, who just stole something.**	**YES**	**NO** x
25	Frank liebt seine Mannschaft und die liebt ihn auch. **Frank loves his team and DEM-(she(the team)) loves him too.**	**YES** x	**NO**
26	William hat Tim gesehen, nachdem er eine neue Hose gekauft hat. **William saw Tim after he bought a new pair of pants.**	**YES** x	**NO**
27	Heute kann ich nicht mitkommen, weil ich habe eine groβe schriftliche Arbeit fällig. **I can't come with you tonight, because I have a huge essay due.**	**YES**	**NO** x
28	Arnold sah Carlos, während der ins Kino gegangen ist. **Arnold saw Carlos while DEM- (he) was going into the movie.**	**YES** x	**NO**
29	Miguel wollte mit Pedro Deutsch lernen, aber er hat heute keine Zeit. **Miguel wanted to learn German with Pedro, but he doesn't have time today.**	**YES** x	**NO**
30	Caitlin hat Kim angerufen, während sie bei der Haltestelle war. **Caitlin called to Kim, while she was at the bus stop.**	**YES** x	**NO**
31	Ich bin heute gekommen, weil ich mit dir reden wollte. **I came today, because I wanted to speak with you.**	**YES** x	**NO**
32	Scott hat Katja gerufen, weil sie in die falsche Richtung gegangen ist. **Scott called to Katja, because she went in the wrong direction.**	**YES** x	**NO**
33	Martin konnte heute Morgen nicht kommen, aber sein Bruder	**YES**	**NO**

	konnte. *Martin couldn't come this morning, but his brother was able to.*		
34	Tanya hat "Hallo" gesagt, weil sie ist sehr freundlich. *Tanya said "Hello," because she is very friendly.*	**YES**	**NO** **x**
35	Carlos wollte mit Michael die Hausaufgaben zusammen schreiben, aber er hat heute Fuβballclub. *Carlos wanted to do his homework with Michael, but he has soccer club today.*	**YES** **x**	**NO**
36	Mika wollte mit Katie später ausbleiben, aber die hatte Bauchschmerzen und konnte nicht. *Mika wanted to stay out later with Katie, but DEM- (she) had a stomachache and couldn't.*	**YES** **x**	**NO**
37	Pedro sagt, "Weil ich will das nicht!" *Pedro said, "Because I don't want to!"*	**YES**	**NO** **x**
38	Isa und Margarete wollten ins Kino gehen, aber die bösen Eltern sagten, "Nein." *Isa and Margarete wanted to go to the movies, but their mean parents said, "No."*	**YES** **x**	**NO**
39	Janet und Mika wollten Klavier spielen, aber Mika spielt lieber Geige. *Janet and Mika wanted to play piano, but Mika would rather play the violin.*	**YES** **x**	**NO**
40	Tom will nicht mitspielen, weil er nicht so gut spielen kann. *Tom doesn't want to play, because he isn't so good.*	**YES** **x**	**NO**

The B form of the document is the same except that the sentences containing a demonstrative pronoun "the (he)" or "the (she)" now just use "he" or "she" and the ones that used the personal pronouns will now be replaced with a demonstrative pronoun, e.g., "he" is now "the (he)".

Please read the following sentences and decide whether the sentence is <u>grammatically</u> correct. If yes, check (X) the "YES" box in the right hand column. If no, check (X) the "NO" box in the right hand column <u>AND</u> correct the sentence in the space provided below the sentence.

		YES	NO
1	Hans wollte mit Jan spielen, aber er war krank.		
2	Stephan und Patrick wollen Basketball spielen, aber sie haben kein Basketball. (incorrect, should be "keinen")		
3	Ich muss heute Abend nach Hause, weil ich habe Hausaufgaben.		
4	Helga ist mit Jenny einkaufen gegangen, nachdem die ihre Hausaufgaben fertig geschrieben hat.		
5	Arthur wollte eine Reise mit Kevin machen, aber er hatte keine Zeit.		
6	Matthias und Benjamin benutzen ihren Computer, um ihre Hausaufgaben zu machen.		
7	Matthias und Helga sollten mit ihren Eltern nach Spanien reisen, aber sie hatten kein Geld.		
		YES	NO

8	Der Arzt und sein Patient hatten ein Argument, weil der Arzt spät war.		
9	Karl wollte mit Hans spielen, aber der musste vorher seine Hausarbeit fertig machen.	**YES**	**NO**
10	Der Polizist sollte seinen Partner am Hauptbahnhof treffen, aber er wurde abgelenkt.	**YES**	**NO**
11	Sara wollte mit Claudia Tennis spielen, aber sie konnte ihren Tennisschläger nicht finden.	**YES**	**NO**
12	Inge hat nach Hamburg gefahren, um ihren Opa zu besuchen. (incorrect, should be "ist gefahren")	**YES**	**NO**
13	Der alte Mann geht jeden Tag ins Theater, weil er immer noch Schauspieler werden will.	**YES**	**NO**
14	Jakob hat Michael gesehen, während er am Strand war.	**YES**	**NO**
15	Spaghetti ist mein Lieblingsessen, denn ich liebe italienischer Essen. (incorrect, should be "italienisches")	**YES**	**NO**
16	Maria hat Isabella gesehen, während sie im Supermarkt war.	**YES**	**NO**

		YES	NO
17	José wollte Marie nach der Schule besuchen, aber seine Mutter sagte, er darf nicht.		
18	Markus wollte mit Georg in die Disko gehen, aber der muss heute Abend früh ins Bett.		
19	Seine Freundin ist nicht gekommen, weil sie hat ihn mit einer anderen Frau gesehen.		
20	Der Mann hat den Jungen gesehen, nachdem er im Park war.		
21	Sabine hat Tina besucht, nachdem die mit ihrem Job fertig war.		
22	Mark wollte mit Tobias einkaufen gehen, aber Tobias hat zu viel zu tun.		
23	Tina hat ihre Mutter gesehen, während die beim Spazierengehen war.		
24	Der Mann hat den Jungen angeschriet, der gerade etwas geklaut hat. (incorrect, should be "angeschrien")		
25	Frank liebt seine Mannschaft und die liebt ihn auch.		

		YES	NO
26	William hat Tim gesehen, nachdem der eine neue Hose gekauft hat.	**YES**	**NO**
27	Heute kann ich nicht mitkommen, weil ich habe eine große schriftliche Arbeit fällig.	**YES**	**NO**
28	Arnold sah Carlos, während er ins Kino gegangen ist.	**YES**	**NO**
29	Miguel wollte mit Pedro Deutsch lernen, aber der hat heute keine Zeit.	**YES**	**NO**
30	Caitlin hat Kim angerufen, während die an der Haltestelle war.	**YES**	**NO**
31	Ich bin heute gekommen, weil ich mit dir reden wollte.	**YES**	**NO**
32	Scott hat Katja gerufen, weil sie in die falsche Richtung gegangen ist.	**YES**	**NO**
33	Martin konnte heute Morgen nicht kommen, aber sein Bruder konnte.	**YES**	**NO**
34	Tanya hat "Hallo" gesagt, weil sie ist sehr freundlich.	**YES**	**NO**
35	Carlos wollte mit Michael die Hausaufgaben zusammen schreiben, aber der hat heute Fußballclub.	**YES**	**NO**

		YES	NO
36	Mika wollte mit Katie später ausbleiben, aber sie hatte Bauchschmerzen und konnte nicht.	YES	NO
37	Pedro sagt, "Weil ich will das nicht!"	YES	NO
38	Isa und Margarete wollten ins Kino gehen, aber die böse Eltern sagten, "Nein." (incorrect, should be "bösen")	YES	NO
39	Janet und Mika wollten Klavier spielen, aber Mika spielt lieber Geige.	YES	NO
40	Tom will nicht mitspielen, weil er nicht so gut spielen kann.	YES	NO

Let's review some of the items on the test. I am interested in your thoughts while answering the grammaticality judgment test.

Please describe your understanding of the use of the use of demonstrative pronouns (*der*, *die*, *das*) *(the, the, the)*. For example, why would a person say *der (the)*instead of *er(he)* in some scenarios?

Have you ever been taught about the differences between the two?

Let's look at #5 from the grammaticality test, which is a grammatically correct sentence. If you had to replace the *der(the)* in sentence #5 with either Arthur or Kevin, which would you choose? In other words, who did not have any time?

> # 5 Arthur wollte eine Reise mit Kevin machen, aber der hatte keine Zeit.
> *(Arthur wanted to take a trip with Kevin, but DEM (he) didn't have any time.)*

Before I told you that #5 was correct, how sure/ unsure were about the usage of the demonstrative pronoun *der (the)* in the second clause?

Why do you think a speaker would use *der (the)* in sentence # 5 instead of *er (he)*?

After this discussion, could you describe a grammatical rule that governs the use of demonstrative pronouns in sentences like # 5? Why would a native speaker choose *der (the)* over *er (he)* in certain circumstances? How does this choice effect the interpretation of the pronoun?

NOTES

[1] Spanish pro-drop examples were collected via email correspondence with Leah Wicander on February 5th, 2011.

[2] NEGRA Corpus is a syntactically annotated compilation of German newspapers available online.

[3] For further information about the acquisition of explicit versus implicit second language knowledge, see Ellis, Loewen, Elder, Erlam, Philip, and Reinders's (2009) *Implicit and Explicit Knowledge in Second Language Learning, Testing and Teaching*, specifically part four, "Form-focused Instruction and the Acquisition of Implicit and Explicit Knowledge", pages 237-332.

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