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Comparing Instructional Methods for Address Pronouns in Second Language German

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by

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Abstract

The German language utilizes three address pronouns to express the second-person pronoun 'you'; *du* is the singular informal pronoun, *Sie* is the singular and plural formal pronoun, and *ihr* is the plural informal pronoun. As a result of social movements, the German address system has changed and developed over time, and there are now multiple perspectives about what the default singular address form should be (i.e., *du* or *Sie*) in new interactions. These competing systems can pose problems even for German native speakers (NSs), as they navigate social situations. Previous research investigating address among second language (L2) learners has shown consistently that without direct instruction, learners have poor control over their address choice. Within classroom instruction, time is already limited, and textbooks examples can be oversimplified or lack contextualization; thus, a new approach is needed to instruct learners.

The present study compares implicit and explicit instruction in a computer-assisted language learning environment (CALL) on the effect of address choice among second language (L2) German learners. To accomplish this, address behaviour data were gathered from NSs in Hamburg, Germany and from L2 learners in Calgary. The NS data served a baseline from which to measure pragmatic development of L2 learners, and they also informed the instruction of the implicit and explicit training modules delivered to the learners. A pre-test, immediate post-test and delayed post-test were used to measure improvements towards native-like address behaviour. Results show that L2 learners exposed to explicit instruction had immediate and sustained pragmatic development, and little pragmatic development was observed for participants instructed implicitly.

Keywords: second language, German, sociopragmatics, pragmatics, address pronouns, implicit instruction, explicit instruction, computer-assisted language learning

Preface

This thesis is original, unpublished, independent work by the author, C. Ryan. The surveys, interviews, and training reported in Chapters 2-5 and Appendices A-D were covered by Ethics Certificate number REB19-0936, issued by the University of Calgary Conjoint Research Ethics Board for the project "A comparison of implicit and explicit instruction on the development of L2 German second-person addresses in a Computer Assisted Language Learning (CALL) setting" on February 2, 2020.

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Dedication

This thesis is dedicated to the educators who have inspired me.

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List of Symbols, Abbreviations & Nomenclature

ACMC: Asynchronous CMC (e.g., email)

CALL: Computer-assisted language learning

CBI: Concept-based instruction

CBPI: Concept-based pragmatics instruction

CMC: Computer-mediated communication

EFL: In an English Foreign Language (EFL) setting, English is a non-native language in the learning environment.

ESL: In an English Second Language (ESL) setting, English is a native language in the learners' environment.

ICC: Intercultural competence

L2: Second language

NS: Native speaker

NNS: Non-native speaker

SCMC: Synchronous CMC (e.g., instant messaging)

T/V Address System: An address system with an informal T address form, and one or more formal V address forms, denoted (V_1, V_2, V_3, etc.,).

Chapter 1

Introduction

1.1 Overview

In recent years, academic interest in second language (L2) pragmatics, i.e., the study of how context affects meaning in social situations, and sociopragmatics, the language used in everyday social situations, has grown considerably. However, this increased interest has not yet been translated outside of academia, with pragmatics instruction still mostly being left out of classroom and textbook instruction (Bardovi-Harlig, 2020). It can be difficult for instructors to find resources and authentic materials to use in pragmatic instruction, and when textbooks do present such material, it can be problematic, often due to a lack of contextualization (McConachy & Hata, 2016). One particular area of pragmatics that is still lagging behind others in terms of academic, classroom, and textbook attention is forms of address[1], i.e., "words and phrases used for addressing" collocutors (Braun, 1998, p. 8). The German language, among other widely spoken languages, like French and Spanish, utilizes a T/V address system, with the T, from the Latin *tu*, representing the "simple or intimate pronoun of address" and V, from the Latin *vos*, representing the "polite, distant, or secondary" address (Braun, 1998, p.8). This means that there are multiple pronouns available to directly address collocutors. These different pronouns, or addresses, are used to communicate social distance or solidarity and can be used to encode the relationship between collocutors more so than other linguistic features (Joseph, 1989). Given the potential impact of an address choice, it is pertinent for L2 learners to develop their sociopragmatic knowledge.

Within the German language there are three second-person address forms used; *du* is the singular informal address, *Sie* is the singular and plural formal address, and *ihr* is the plural

[1] 'Forms of address' can also be referred to as 'address forms', 'address pronouns', 'pronouns of address', 'address terms'; for the sake of simplicity in this these, the term 'address' will be used in place of 'forms of address'.

informal address. Through social movements, especially the student movement in the 1960s, the German address system has changed and developed over time (Delisle, 1986; Hickey 2003). There are now multiple systems that prescribe different unmarked (i.e., default) addresses. These competing address systems can pose problems even for native speakers (NSs) of German as they navigate new social situations, with some resorting to avoidance strategies to bypass direct pronoun use altogether (Gerndt, 2008; Hickey, 2003; Krentzenbacher et al., 2006). The lack of focused classroom instruction on second-person addresses has meant that L2 German learners are left without the necessary tools to communicate in everyday situations (Belz & Kinginger, 2003). Pragmatics instruction in textbooks can also leave learners ill-prepared, as examples can lack contextualization and be out-dated (McConachy & Hata, 2016). In addition to building intercultural competence (ICC), it is important for learners to understand the address system to avoid making social faux pas. Inappropriate address use can make speakers appear disrespectful, rude, or condescending, depending on the formality expected in a situation. Pragmatic infractions can also be seen as egregious as grammatical errors by native speakers (Bardovi-Harlig & Dörneyi, 1998).

While T/V address forms are ubiquitous in media delivered to L2 learners, it is evident that incidental learning is not occurring in the classroom (Belz, 2007; Belz & Kinginger, 2003; Gonzalez-Iloret, 2008; McCourt, 2009; Van Compernolle et al., 2011) or study abroad (Barron, 2006; Blood, 2018; Hassall, 2013). Even in simpler pragmatic situations, such as during peer-to-peer conversation in the classroom, students struggle with address choice (McCourt, 2009; Van Compernolle et al., 2011) and, even after correction by peers, learners can still show inconsistent address behaviour (Belz, 2007; Belz & Kinginger, 2003; Gonzalez-Iloret, 2008;). To learn appropriate address behaviour, it is clear that learners must be instructed on pragmatics. Additionally, a limited body of research shows students have a desire for pragmatics to be incorporated into their language instruction (Chen, 2009; Kim, 2016; Liu, 2007). But while the importance of pragmatics instruction is clear from both an instructor and student perspective, few

studies have investigated effective methods for instruction on address systems (Kuepper & Feryok, 2020; Van Compernolle, 2011; Van Compernolle et al., 2016). These studies support the notion that T/V address systems are teachable through long-duration, explicit instruction. Nonetheless, it is not necessarily feasible to incorporate this type of instruction on address into the classroom, where time is already limited.

With classroom instruction, time is already limited, and textbooks provide an over-simplification of address systems, a new approach is needed to instruct learners. This thesis will investigate the efficacy of two instructional methods on pragmatic development related to second-person address use for L2 German learners. The two methods are implicit and explicit instruction; in explicit instruction, learners' attention is consciously directed to L2 features (Ellis, 1994). Implicit instruction employs a less formal, communicative approach by directing learners to L2 features subconsciously (Ellis, 1994). Due to time constraints already faced by instructors in the classroom, the instruction examined in this thesis was designed to be easily accessible to learners at all proficiency levels and provide instruction with a low time burden for instructors.

1.2 Thesis Organization

This thesis is organized into five chapters. This chapter introduced and motivated the problem the current study addressed. Chapter 2 provides a literature review for areas relevant to the current study, such as computer-assisted language learning (CALL), implicit and explicit instruction, pragmatics, and T/V address systems. It also introduces the research questions and their hypotheses. Chapter 3 describes the methodology of the current study. Chapter 4 presents the data analysis techniques and results. In Chapter 5, the results are discussed and contextualized within previous literature. Following this, the limitations and implications of the current study are addressed. Finally, the chapter is concluded with a summary of the thesis and a discussion of future research.

Chapter 2

Literature Review

2.1. Computer-Assisted Language Learning

Computer-assisted language learning (CALL) is a broad field that focuses on the integration of technology into language teaching and learning. Research in this area has studied the effects of such technologies as offline computer applications, synchronous (e.g., instant messaging) or asynchronous (e.g., email) computer-mediated communication (CMC), blogs, telecollaboration (e.g., Skype), entertainment media (e.g., TV shows), and online collaboration tools (e.g., Google Docs) on L2 instruction, practice, or assessment. Mobile assisted language learning (MALL), which utilizes smart phone apps, has become increasingly popular, with some apps having millions of users worldwide (e.g., Duolingo, Memrise). Within the CALL field, researchers have explored the affordances of these different technologies for all aspects of L2 learning, from the four skills to grammar, vocabulary, pronunciation, and culture.

With podcasts becoming a popular pastime in recent years, millions of podcast episodes are available in over one hundred languages (PodcastInsight, 2020). For dedicated language learning alone, there are thousands of podcast episodes available (Fernández, 2011). Similar to mobile apps, podcasts have the potential for low-cost, self-paced, mobile-accessible delivery of authentic materials to language learners. With language learners likely to already listen to podcasts in their spare time, and the abundance of authentic content produced, the affordances of podcasts in areas of L2 learning should be further explored. This thesis focuses on the use of video podcasts to provide L2 German learners with easily accessible instruction on native-like address behaviour.

2. 1.1 Podcasts

Often segmented into a series of topics, podcasts are audio-only digital media. While vodcasts refer to video podcasts, 'podcast' is often used as an all-encompassing term to describe both modalities. Podcasts have been shown to be a practical application for the delivery of L2

instruction. Some advantages of podcasts include portability, availability of authentic content for learners, low production cost, and accessibility for distance learners. Rosell-Aguilar (2007) discusses the types of podcasts available: authentic content podcasts produced by and for native speakers, self-contained language learning courses, and modular, supporting material podcasts for language learners. He noted the importance of appropriate chunking and content length, difficulty labelling, and consideration of L1/English use in the podcasts (Rosell-Aguilar, 2007).

Podcasts offer a great deal of flexibility in terms of their integration with language teaching. Language development has been observed in pronunciation, vocabulary, listening skills, and ICC through the use of podcasts. McBride (2009) outlines the possibilities for podcasts to be used in classrooms as a single large group, in small groups, individually, or as part of homework. She emphasizes the importance of accompanying tasks that focus either on the meaning understood from the podcast or the vocabulary or grammatical elements in the podcast. Instructors can use podcasts from a variety of sources; publicly available podcasts can be selected, or the instructors can create podcasts themselves. With the large number of podcasts available in a variety of languages, there is an abundance of authentic material available to L2 learners. Such authentic material and accompanying meaning-focused tasks can be used increase ICC (McBride, 2009).

If instructors choose to create their own podcasts for educational use, it is imperative that their podcasts be pedagogically sound. Fernández (2011) notes the importance of identifying the objective of the podcast during its development. She also outlines four possible objectives of a podcast (Fernández, 2011). The first objective focuses on language acquisition and using comprehensible and meaningful content suitable for the target audience and studied language feature. Comprehensibility can be improved through redundancy, slowed speech, transparency, focusing on familiar topics, providing a transcript or adding video to the podcast. The second objective includes podcast design strategies when the podcast is used to improve listening skills. If this is a goal of the podcast, the podcast itself should include and reinforce listening strategies that

students can practice while listening to the L2 content. Another objective of podcasts may be to provide explicit (i.e., metalinguistic) information about the L2 to fill the gaps left by textbooks. The last objective of L2 podcasts may be increasing cultural awareness and ICC. Podcasts can "convey information about certain perspective, product or practice of the target culture" (Fernández, 2011, p. 32) to accomplish this.

Lee (2009) looked at the development of ICC among L2 Spanish learners in the U.S. and L2 English learners in Spain who completed tandem projects using different CALL applications, like blogging platforms, podcasts, and discussion boards. The learner group created cultural content using the different platforms, and the native speaker group provided linguistic feedback. Qualitative data gathered from both groups suggested that the overall experience was positive, and ICC improved over the course of the study. Podcasting was also used by Birdsoto and Rengel (2009) to introduce students to authentic material and create a flexible method of instruction, in terms of topic, delivery, and difficulty. Podcasts were incorporated into an intermediate L2 Spanish class by having students develop the podcasts themselves. Over the semester, the podcast episodes were used to promote learning through their development, recording, and associated comprehension tasks. Each episode had an interview format, with the discussion focusing on an element of Spanish culture. Some qualitative reporting highlighted the positive perception students had of the podcast use in class.

In addition to improving ICC, learner-selected podcasts, subject to extensive listening, have been shown to improve the use of listening strategies in L2 German learners (Alm, 2013). Higher listener engagement is also correlated to significant improvements in listening comprehension (Faramarzi et al., 2019). Faramarzi et al. (2019) used vodcasts in their study looking at the development of listening comprehension and correlations between engagement with the vodcasts and listening comprehension development. All EFL students in the study watched vodcasts focusing on grammar and vocabulary as well as news and documentary style vodcasts. Development in

listening comprehension was measured with a listening proficiency pre-test and post-test. Engagement was measured by tracking the time each participant spent watching the vodcasts and completing their associated comprehension tasks. Results showed a positive correlation between the time spent engaging with the vodcasts and significant improvements made from the pre-test to the post-test.

Even when listening strategies and comprehension are targeted, studies suggest that learners prefer to have video accompanying the audio content (Alm, 2013; Leier, 2011). Leier (2011) observed such results with L2 German learners preferring video podcasts to audio-only podcasts. When students were surveyed about their experience listening to audio podcasts or watching video podcasts, Leier (2011) found that the vast majority of students agreed that the four to six-minute length of the podcasts was just right. The majority of students also expressed the desire for a transcript to supplement the audio podcast. Similar suggestions were made by Sendag et al. (2018) with a recommended podcast length of five minutes. Podcasts that were more than ten minutes in length were cited as unengaging by students (Sendag et al., 2018).

Podcasts have also been shown to have a positive impact on learners' productive skills and vocabulary development. Bamanger and Alhassan (2015) looked at the impact of grammar and vocabulary podcasting on EFL students' writing. The treatment group listened to two popular, publicly available podcasts outside of regularly scheduled instruction time. A pre-test and post-test in the form of an essay were used to measure performance gains. Significant writing development was observed for the treatment group only. Additionally, the researchers administered a questionnaire to gather the participants' attitudes towards and perceptions of podcasts. Overall, students' attitudes towards the podcast were positive, with many indicating they found them helpful and would continue to use them after the study.

As podcast consumption and availability increases outside the classroom, the accessibility of authentic and diverse materials for L2 learners increases. Podcasts can be developed directly by

the instructor or students for use in or outside of the classroom. This modality of instruction offers flexibility in terms of length and content and has been used to improve receptive and productive competencies as well as ICC.

2.1.2 Evaluation of CALL

An essential aspect of incorporating CALL into language teaching is its evaluation. Many frameworks have been put forward to evaluate the selection of CALL applications, a CALL application's design, and its efficacy. These frameworks often consider technical aspects, application design, validity (i.e., whether or not an assessment measures what it purports to), and authenticity as part of their evaluation. The frameworks can not only serve an evaluation function, but also as a guide to inform the development of a new application. Chapelle (2001) proposed a framework that uses six criteria to evaluate a CALL application: language learner potential, meaning focus, learner fit, authenticity, positive impact, and practicality. Jamieson and Chapelle (2010) set out to test the robustness of an evaluation framework based on Chapelle's (2001) six criteria. The robustness of the framework was tested by applying it to the evaluation of a single language learning app in several countries. Consistency in the evaluation results suggested that the framework was robust and suitable for use in multiple contexts.

McMurry et al. (2016) similarly outlined a series of steps to effectively evaluate a CALL application. The first steps are to identify the CALL or activities using CALL to be evaluated and the stakeholders, often students and instructors. A purpose should then be defined for the evaluation before an evaluation type, based on evaluative criteria, is set. These evaluative criteria are also used to develop evaluative questions that can be answered through data collection and analysis. Hubbard (2006) proposed a different three-step evaluation process for CALL applications. The Selection stage focuses on the appropriateness of the software for the setting, whether it is a single course or an entire university program. The Implementation stage enables identification of the applications within the specified learning environment, such as accessibility, pre- and post-

activities, and functionality for teacher-authored content. The final stage, Assessment, is used to determine if the chosen software is an appropriate selection for the environment, if it needs to be modified in any way, or if a new software should be chosen.

Finally, Rosell-Aguilar (2017) introduced a framework for the evaluation of language apps based on task-based language learning concepts. With the proposed framework, each application was evaluated on four measures: technology, pedagogy, user experience, language learning. The framework can not only be used as a guide to assess the functionality of the app, but also to inform the development of new applications. Other frameworks have considered more language-specific aspects of a CALL application, such as L2 learning theories, instructional design, and foreign language teaching methodologies (Villada, 2009).

Many frameworks have been proposed not only for the evaluation of CALL applications but also for new application development. These frameworks often give consideration to the context in which the application will be used, the users of the application, and the tasks the application will be used for.

2.2. L2 Pragmatics

Pragmatics can be defined as "the study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their use of language has on other participants in the act of communication" (Crystal, 1997, p. 301) or more broadly as "the general conditions of the communicative use of language" (Leech, 1983, p. 10). The study of pragmatics focuses on such language features as address terms, speech acts, discourse markers, routines, and conversation management (Bardovi-Harlig, 2020; Taguchi, 2011). Speech acts are "language that performs some kind of action" like compliments, requests, and criticism, whereas routines are context-dependent, conventional, and systematic expressions (Culpeper et al., 2018, p. 209). Pragmatics can be subdivided into two areas that together contribute to a speaker's pragmatic competence:

sociopragmatics and pragmalinguistics. Röver (2006, p. 231) describes sociopragmatics as the rules that define socially acceptable and appropriate language use and pragmalinguistics as the tools necessary for implementing such language.

L2 pragmatics instruction may be seen as less important, which is why it is less of a focus than research on the four skills (i.e., listening, speaking, reading and writing), grammar and vocabulary. But research conducted by Bardovi-Harlig and Dörnyei (1998) helps to motivate new research. In their study, ESL learners in the United States were asked about attitudes towards grammatical and pragmatic errors. EFL learners in Italy and Hungary also participated in the study. It was found that learners in the U.S. view pragmatic errors as more salient and egregious than grammatical errors. The inverse was true for learners in Europe, most likely due to the differences in level of interaction with English native speakers. If pragmatic mistakes are taken as seriously as grammatical mistakes, then it is necessary to be more deliberate in pragmatics instruction for L2 learners.

2.2.1 Teaching Pragmatics

Researchers have only recently come to a consensus that pragmatics, generally, is teachable, and individual questions regarding the teachability of specific language features have largely been resolved. Meta-analyses surveying instructional interventions for different language features have provided strong evidence in favour of the teachability of surveyed language features (Badjadi, 2016; Rose, 2005; Taguchi, 2015b). Pragmatics research has now begun to focus on the impact of different instructional conditions and learning environments on pragmatic development (Bardovi-Harlig, 2012; Taguchi, 2015a). Two areas of interest have emerged in this research: the comparison of implicit and explicit instruction conditions, discussed section 2.3, and the comparison of study-abroad with at-home learning (Bardovi-Harlig, 2012; Taguchi 2015a). The case for pragmatic development during a study abroad in the host country is not straightforward, as mixed results have been found and, in some cases, more pragmatic development has been observed in the at-

home setting (Bardovi-Harlig, 2012; Taguchi, 2008; Taguchi, 2015a). It also appears that some language features, e.g., routines, lend themselves better to pragmatic development in the study abroad context than others (Taguchi, 2015a). The length of stay, frequency of interaction with NSs, and intensity of interactions can also impact pragmatic development (Bella, 2011). However, typically, learners in the study abroad context show greater improvement in both sociolinguistics and pragmalinguistics than their at-home counterparts.

For example, Matsumura (2001) compared the development of pragmatic competence in English ESL and EFL learners. Japanese students participated in an eight-month study abroad in Canada while learning English. Their development in advice giving was compared to a group of students who did not complete a study abroad in an ESL context. Results showed that improvements in pragmatic competence were only observed in the study abroad participants, and that development was independent of the length of stay in Canada. Conversely, Taguchi (2008) observed that EFL students in Japan improved to a greater extent for comprehension of indirect refusals than their ESL colleagues studying abroad in the U.S. One drawback of the study abroad context, and "submersion"[2], as Cohen (2008, p. 220) describes, is the possibility of the target language feature naturally occurring infrequently or being elusive, even after repeated exposures. Submersion experiences can also be inconsistent with regard to the amount of corrective feedback received on the target feature from NSs, with many learners receiving no feedback from NSs (Hassall, 2013; Shively, 2011; Siegal, 1996).

While classroom-based pragmatics research has seen an increase in interest in recent decades, this interest from researchers has not translated to an uptick of pragmatics instruction by instructors or in textbooks (Bardovi-Harlig, 2020). Barriers to this uptake could be attributed to the lack of organic opportunities available in the classroom to practice targeted language features and

[2] The submersion approach to L2 learning provides instruction in the L2 without focus on preserving the L1 of the learner; often referred to as a 'sink-or-swim' approach (Cummins, 2009).

challenges faced by instructors in the design and implementation of pragmatics lessons. These challenges faced by instructors include available classroom time, feedback and assessment, instructor knowledge, available resources and authentic materials, and dialectal variation (Bardovi-Harlig, 2017; Sykes, 2013 p. 73). Cohen (2008) raised similar issues such as material selection, instructor preparation, the role of instructors, and evaluation. In terms of selecting authentic materials, examples in textbooks may not accurately reflect native speech, list the frequencies of use, or clearly explain the most appropriate form for a given situation. In some cases, dialogues featured in textbooks may be pragmatically inaccurate (Bardovi-Harlig, 1996). Other limitations of textbooks include a lack of contextualization for pragmatic utterances, or 'decontextualization' of speech acts, providing a "narrow range of expressions", outdated expressions without indication of such to learners (McConachy & Hata, 2016, p. 295). Mishan (2004) outlines five considerations to guide the selection process, when instructors are choosing authentic materials for pragmatics instruction. Instructors should evaluate:

1. provenance and authorship
2. original communicative and sociocultural purpose of the text
3. original context (source and sociocultural context) of the text
4. learning activity engendered by the text
5. learners' perceptions of and attitudes to the text and activity (p. 18)

Thus, when deciding on authentic materials to teach L2 pragmatics, instructors should consider the source of the material, the contextualization of the target form within the materials, and how the materials will fit with the learning activities for the target form.

Another other important consideration for teaching pragmatics is that of the learner's perspective. While there have been few studies examining this, students appear to see value in pragmatics instruction, as demonstrated by Kim (2016). During nine weeks of pragmatics instruction on English speech acts, participants were required to write a reflection journal, and

after the instruction they completed a questionnaire. Both low and intermediate proficiency learners expressed positive attitudes toward pragmatics instruction improving their communication skills, increasing their confidence in English interactions, and raising pragmatic awareness. These results are consistent with the small body of literature investigating learner attitudes towards pragmatics instructions (Chen, 2009; Liu, 2007).

While many would agree that it is possible to teach pragmatics, more research is still needed on the efficacy of different learning environments. Both the study abroad and classroom environments provide affordances and challenges. During a study abroad, the target feature may be infrequently encountered, but within the classroom access to authentic materials can be challenging. From the learner perspective there is value in pragmatics instruction in the classroom, as learners demonstrate positive perceptions of pragmatics instruction.

2.2.2 Assessment of Pragmatics

With pragmatics divided into pragmalinguistics and sociolinguisitics, differentiation is required for the assessment of pragmatic knowledge. Assessments focused on pragmalingusitics evaluate the grammar, vocabulary, and skills necessary to produce or comprehend speech acts; sociolinguistic assessments evaluate the ability to choose or judge an appropriate expression for a situation. In pragmatics assessment there is often a trade-off between practicality and reliability (Röver, 2013). Assessment instruments often used include written, oral, and multiple-choice discourse completion tasks/tests (DCTs), role play, and self-assessments (Brown & Ahn, 2011; Röver, 2011). Brown (2001; Brown & Ahn, 2011) found that practicality (i.e., resource intensity) and reliability have a somewhat inverse relationship: while multiple-choice DCTs tent to be very practical, they are the least reliable, as they only present a narrow representation of learners' skills. Conversely, role-play tasks were observed to be the most reliable but also the least practical. One problem with written DCTs is that they can be difficult to use when assessing beginner-level

learners, as morphosyntactic knowledge can lag behind conceptual knowledge (Van Compernolle et al., 2016).

An alternative to DCTs and role-plays is necessary when testing learners with lower linguistic knowledge. One instrument used to assess certain sociopragmatics features is the appropriateness/acceptability judgement task (AJT) (Bardovi-Harlig & Dörnyei, 1998; Kuepper & Feryok, 2020; Nemati et al., 2016; Niezgoda & Röver, 2001; Takimoto, 2006; Van Compernolle & Henery, 2014; Van Compernolle et al., 2016). In this task, participants rate the appropriateness of an utterance in a described context. This instrument can evaluate both implicit and explicit knowledge, depending on the time constraints of the task: untimed tasks can test explicit knowledge (Akakura, 2012), while timed tests will measure implicit knowledge (Ellis, 2015).

Takimoto (2006) used an AJT to assess pragmatic knowledge of English requests. Using an 11-point Likert scale, participants judged sets of three independent requests; after judging the first request on the Likert scale, the participants had to judge the subsequent two requests as more or less appropriate than the first request. Analysis of the AJT showed strong evidence for its validity and a high degree of reliability. Both Van Compernolle et al. (2016) and Kuepper and Feryok (2020) used pragmatic AJTs to evaluate knowledge gains after concept-based pragmatic instruction on T/V pronoun systems. Van Compernolle et al. (2016) presented six social situations to participants; for each scenario, participants indicated which of the Spanish T/V pronouns they would use (as a speaker) and would expect to receive (as a conversation partner). Kuepper and Feryok (2020) evaluated explicit pragmatic knowledge using a similar method to Van Compernolle et al. (2016) by presenting eight straightforward or ambiguous scenarios for evaluation. Nemati et al. (2016) used AJTs to assess learner sensitivity to pragmatic and grammatical errors in English speech acts, similar to Bardovi-Harlig and Dörnyei (1998) and Niezgoda and Röver (2001). In this study, participants were given a conversation transcript, asked to underline any errors, and rate the egregiousness of the errors using a Likert scale. Results were consistent with the previous two

studies, where EFL learners noticed and more harshly rated pragmatic errors compared to grammatical errors.

There are several methods of evaluating pragmatic knowledge, with more focus typically put on evaluating sociopragmatics knowledge than pragmalinguistic ability. More practical assessments, such as DCTs may be less reliable overall compared to less practical roleplay assessments. AJTs are a valuable tool that can be used with beginner-level language learners to evaluate both implicit and explicit pragmatic knowledge.

2.2.3 Technology and Pragmatics

One method of addressing the authentic material barrier to pragmatic instruction is through technology. Taguchi (2015a) conducted a literature review on the affordances of different pragmatic learning contexts. The review looked at studies focusing on pragmatics in the study abroad context, in the traditional classroom, and in online or environments utilizing technology. Many studies on pragmatics development through technology have used CMC or telecollaboration, either for participants to interact with fellow students or with NSs. A second area of interest in pragmatics research is in virtual environment gaming and mobile apps. These contexts provide a rich environment for learners to practice pragmatic features that are not available in the traditional classroom.

The study of pragmatics in virtual and mobile environments is still a developing field. Cirillo (2012) observed L2 English learners using compliment responses (CR) in the virtual gaming environment *Second Life*. The goal of the study was to compare the type and frequency of CR occurring in the virtual environment compared to face-to-face interaction data taken from a corpus. Overall there were differences observed, but the CR used by the L2 learners virtually followed the trend of face-to-face interaction data. Another study, using a mobile gaming environment, looked at pragmatic development resulting from different types of feedback within the game, such as game feedback, peer feedback, and instructor feedback (Holden & Sykes, 2013, p. 156). L2 Spanish

learners worked to solve a mystery by gathering clues from in-game characters and other players. The game environment provided opportunities for pragmatic situations not seen in the classroom and provided a variety of feedback to varying degrees of efficacy, with more salient feedback appearing to be better received by learners.

Some studies have looked at pragmatic development through the use of CMC between L2 learners. Abrams (2013) investigated the sociopragmatic skill development in second-semester L2 German learners. Over the course of a semester, six synchronous CMC (SCMC) sessions took place where participants had to discuss a given topic. Transcripts from the chats were analyzed, and learners showed improvement in areas of leave-taking, topic management, interpersonal features, like self-elaboration, humor, and mitigating devices. Ajabshir (2019) compared both asynchronous CMC (ACMC) and SCMC with face-to-face (control) interaction for the development of English request speech acts. High-intermediate EFL learners completed group-based tasks in their assigned treatment group. Both CMC groups significantly outperformed the control group on measures for pragmalinguistic and sociolinguistic knowledge. CMC can also be used to connect language learners and NSs. An in-depth case study by Gonzales (2013) looked at pragmatic development over CMC when an L2 learner conversed with Spanish NSs. Results from the analysis of six chat transcripts showed improvements in politeness strategies. Taken together, these studies demonstrate that CMC can be an effective tool to improve pragmatic competence for multiple language features.

The use of technology can not only provide benefit for the instruction of pragmatics but also for its assessment. Röver (2013) looked at the added benefit of using computer-based testing (CBT) and noted that CBT allows for greater authenticity of assessment tasks and increased data collection potential (e.g., reaction times). Another benefit of CBT is the availability of vocabulary aids. As both Röver (2013) and Kondo (2007) point out, speech act performance could be limited by a learner's linguistic abilities in grammar or vocabulary. Although technology has great affordances for L2 pragmatics, the environment of the study and the technology used can potentially affect the

results. Cunningham (2016) looked at the effects of synchronous telecollaboration between L2 German learners and NSs and focused instruction on the development of request speech acts. Though quantitative analysis showed no significant learning gains, a qualitative analysis showed learners' receptiveness to modifying their request structures using knowledge gained through the teleconference sessions and instruction. A possible consequence of the telecollaboration setting was noted by the author: there was a lack of development in indirect requests and persistent use of direct requests. This could be attributed to the environment and lack of available eye contact and gestures that can be used in sociolinguistic decision making. Hampel (2006) also noted disadvantages of the CALL environment: it is a "dead silent" environment, making turn taking difficult, and there can be adjustment periods for students to learn the software, making material coverage slower.

Technology provides many affordances for pragmatics learning. CMC and telecollaboration have been successfully used among L2 learners or between learners and NSs to increase pragmatic competence. Instruction and assessment can be improved with technology through access to authentic materials and language supports. However, a virtual environment can also present limitations by creating an artificial environment that can promote behaviours that work against pragmatic development.

2.3. Instructional Methods

The efficacy of a given CALL application depends on the effectiveness of the instruction used within the application. Studies on traditional, classroom-based pragmatics instruction often compare implicit and explicit instructional methods (Taguchi, 2015a). These instructional methods lend themselves well to the CALL environment, especially considering the broad range of CALL applications available. As noted by Hulstijn (2005), not every learning mode is suitable for every task. Factors such as salience of the target construction, regularity and complexity of the system presented, and learners' individual knowledge and skills can guide decisions about the feasibility of

certain instructional methods. With this in mind, researchers in areas across L2 learning are exploring the efficacy of these instructional conditions.

2.3.1 The Role of Noticing in Implicit and Explicit Instructional Conditions

Schmidt's (1995) Noticing Hypothesis has played a key role in pragmatics, and more broadly L2 learning research, especially in instructional intervention studies. The Noticing Hypothesis states that language learning occurs only when the targeted form is consciously registered (i.e., the learner is aware of the form) (Schmidt, 1990; 1995). Two further distinctions are made between awareness: awareness at the 'level of noticing' and awareness at the 'level of understanding'. Awareness with noticing involves perception, while awareness with understanding requires analysis, using metalinguistic awareness or knowledge of rules for the target form. Learning can still take place with awareness at the 'level of noticing', but it is required that the learner still attends to the target form (Schmidt, 2001). At this level of awareness, i.e., noticing, the learner does not need to be able to articulate their understanding of the target form. However, attention must be paid for long enough for the target form to enter working memory, as attention is a prerequisite to learning (Schmidt, 1995, 2001).

It is important to define the terms 'implicit' and 'explicit' in regard to learning and instruction by referring to aspects of the Noticing Hypothesis. According to DeKeyser (1995, p. 380), for learning to be explicit it must involve "some sort of rule being thought about during the learning process", and Ellis (1994) adds that this type of instruction promotes metalinguistic awareness. Implicit instruction is defined by its lack of explicit focus on rules. Ellis (1994; 2009) explains that learners do not receive information on the rules governing the input and learners are to "infer rules without awareness" (Ellis, 2009, p. 16). With this description it is important to recall Schmidt's distinctions between the levels of awareness and note that implicit instruction requires learners to be aware at the level of noticing, but not at the level of understanding (Schmidt 1995, 2001). Sometimes implicit instruction can be inaccurately defined as promoting 'unattended'

learning, but it might be more clearly described as *subconsciously* directing learners' attention to the target form. As noted by Schmidt (2001), attention is a prerequisite to learning, so even during implicit instruction, attention must be paid to the target forms, even if higher level awareness is absent. Ellis (2009) elaborates that exemplars often take the place of rules in instruction so learners can subconsciously internalize the rules or patterns of the target form.

The Noticing Hypothesis distinguishes between two levels of awareness: the 'level of noticing', where a learner may not be able to articulate their understanding, and the 'level of understanding'. This hypothesis informs the definitions of implicit and explicit learning conditions, with implicit instruction subconsciously directs a learner's attention to achieve awareness at the level of noticing. Conversely, explicit instruction consciously directs a learner's attention to achieve understanding of metalinguistic rules.

2.3.2 Implicit and Explicit Approaches across L2 Learning

The comparison of implicit and explicit instructional methods can be seen throughout L2 learning research, and such areas include corrective feedback methods, pronunciation, writing, vocabulary building, and grammar. Even with numerous studies in each area, the results are not always consistent, suggesting that implicit and explicit instructional conditions can vary in efficacy across L2 learning domains.

Grammar instruction, though, has shown more consistent results, tending to lend itself better to explicit than implicit instruction. Spada and Tomita (2010) conducted a meta-analysis to look at the differences in efficacy of implicit and explicit instruction for simple and complex English grammar features. Of the 41 studies included, 17 looked at instruction for simple grammatical features and the other 24 studied complex features. The authors used Norris and Ortega's (2000) operationalization of implicit and explicit instruction, with explicit instruction defined as instruction including "rule explanation" or directly instructing learners to "attend to particular forms and to try to arrive at metalinguistic generalizations on their own" (p. 437). Implicit

instruction was defined by the absence of both "rule presentation" and "directions to attend to particular forms" (p. 437). For both simple and complex grammatical features, both instructional methods were observed to be effective, with explicit instruction showing larger effect sizes (Spada & Tomita, 2010).

Similar results were observed during a study of corrective feedback (CF) for the English regular past tense *-ed.* Ellis et al. (2006) operationalized implicit CF as partial recasts, where only the part of the utterance containing the error was corrected. In the explicit CF condition, the instructor repeated the error and gave a metalinguistic explanation of the error without providing the corrected utterance. Participants completed a pre-test, post-test, and delayed post-test consisting of a grammaticality judgement task, metalinguistic knowledge test, and an oral imitation task. Results showed that learners in the explicit CF condition significantly outperformed the other groups on the delayed grammaticality judgement task and the oral imitation task.

The advantage of explicit instruction over implicit instruction is less clear in L2 pronunciation. Kissling (2013) compared implicit and explicit instruction for pronunciation with three levels of Spanish learners. Both treatment groups worked through online modules that had exposure, practice, and feedback for the target phones. Only the explicit group received additional instruction on phonetics as part of the modules and were told what the target phones were. A production pre-test and post-test were used along with module-specific post-tests. Results showed that both groups improved their production of the target phones, and the phonetics instruction in the explicit treatment group did not provide an advantage. Similarly, other studies have observed no difference between implicit and explicit treatment groups for pronunciation instruction. Bailey and Brandl (2012) investigated the effects of both instructional methods for pronunciation perception in Spanish learners. The explicit group received phonetic explanations, while the implicit group received aural exemplars; a control group received neither type of input. There were no significant lasting effects for any group from the perception pre-test to delayed post-test.

Peltekov (2017) again observed similar results under similar conditions for pronunciation training. An explicit group received instruction containing phonetic rules, while the implicit group did not. The control group received no pronunciation training. No significant differences were observed across the groups.

Mixed findings have also been observed for writing instruction. Khodabandeh (2016) separated EFL students into four groups to compare instruction method for writing development of classified ads: implicit instruction, explicit instruction, self-study/no formal instruction group, and task-based instruction. Participants in the explicit and task-based instruction groups showed the most improvement from the pre-test to the post-test in terms of lexical and discourse features. However, Asaei and Rezvani (2015) found both implicit and explicit instruction to be equally effective. In this study, participants were given instruction for the development of English collocations in writing. The explicit group participants were given direct information about collocations, whereas participants in the implicit group received exemplars with textual enhancement. A control group received texts with no enhancement. Participants in both treatment groups showed positive development in their use of collocations in writing compared to the control group. No significant difference was observed between treatment groups.

The comparison of implicit and explicit instructional conditions across L2 learning has had mixed results overall. Some areas such as grammar more consistently favour the explicit instructional condition, but for areas such as pronunciation and writing, the more effective instructional condition is less clear.

2.3.3 Implicit and Explicit Instruction in L2 Pragmatics

Both Rose (2005) and Taguchi (2015b), through their meta-analyses, helped to affirm the teachability of pragmatics. Nonetheless, the most effective teaching methods remain unclear. As Rose (2005) discussed, most pragmatics research looks to examine the efficacy of different instructional conditions. In these types of studies, implicit and explicit instruction conditions are

often compared (Taguchi, 2015b). The explicit condition has been well-defined in pragmatics research where direct metapragmatic information and rules are provided through instruction or activities (Taguchi, 2015b). On the other hand, implicit pragmatic instruction is considered to be an "underdeveloped area, both conceptually and methodologically" (Fukuya & Zhang, 2002, p. 3), with a lack of operationalization of the term in literature. This has meant that the implicit pragmatic instructional condition has been conceptualized in such ways as mere exposure to pragmatic input, input enhancement, consciousness-raising activities[3] and feedback in the form of recasts. This lack of operationalization has resulted in mixed findings, seen in both meta-analyses (Rose, 2005; Taguchi, 2015b). Taguchi's (2015b) review of 27 studies revealed that delivering metapragmatic information (i.e., explicit instruction) to learners and having the learners engage in production activities were the most effective methods for teaching L2 pragmatics. However, only one third of the studies reviewed found significant differences between implicit and explicit instructional treatments, with another one third of the studies showing no differences between treatments. In studies that found no differences between implicit and explicit treatment groups, the tasks used in the studies encouraged deeper processing, often through structured practice. Simple input exposure, in implicit instruction, even with input enhancement, does not appear to be as effective as explicit instruction (Taguchi, 2015b), and this is evident with studies where the implicit treatment condition is missing structured practice and/or production tasks. This apparent advantage of explicit instruction can be seen in Takahashi's (2001) study on English requests, where three types of implicit instruction were compared with an explicit instructional condition. The three different implicit conditions used were form-comparison, form-search, and meaning-focus. While there were no significant differences between the results from the implicit conditions, participants in the explicit instruction group outperformed all implicit instruction groups on a DCT (Takahashi, 2001).

[3] Consciousness-raising activities can be thought of as encouraging learners "to notice particular features of the language, to draw conclusions from what they notice and to organize their view of language in the light of the conclusions they have drawn" (Willis & Willis, 1996, p. 2).

Nguyen et al. (2012) examined speech act development of L2 English learners in their ability to give constructive criticism, using form-focused implicit and explicit instruction. Learners in the explicit treatment group participated in consciousness-raising activities and were given meta-pragmatic instruction with explicit corrective feedback. Learners in the implicit treatment group received enriched input and error recasting for correct feedback. Participants completed DCTs, role play scenarios, and gave oral feedback. The explicit treatment group outperformed the implicit group for all measures, with both treatment groups outperforming the control group, which did not receive instruction. Rafieyan (2016) observed similar results with a study investigating the differences between implicit focus on form instruction and explicit focus on forms instruction. Intermediate English learners received pragmatics instruction focusing on implied opinions. Learners in the explicit treatment group were given metapragmatic explanations, and the implicit treatment group received enhanced input, input flood, and recasting. Participants completed both comprehension and production tests. It was found that participants in the explicit focus on forms group significantly outperformed those in the implicit treatment group on both measures. However, even with production activities accompanying the implicit instruction, explicit instruction may still be more effective. In a study conducted by Eslami et al. (2014), results were again similar, with the explicit instruction group outperforming the implicit group. In this study, ACMC was used to deliver implicit and explicit instruction to upper-intermediate EFL learners. Emails were exchanged with an English tutor who gave either explicit instruction in the form of metapragmatic explanation and consciousness-raising activities or implicit instruction in the form of input enhancement and production activities. A control group received neither form of instruction; both treatment groups showed significant improvement over the control group.

In some studies, no significant results or mixed results have also been observed for pragmatics instruction. Hassaskhah and Ebrahimi (2015) studied the development of English compliment structures in beginner learners through the use of film-based implicit and teacher-led

explicit instruction. Both groups showed significant gains in pragmatic awareness on a written DCT, with no significant difference between groups; however, production ability for the compliment structures was not studied. Tateyama (2001) also used film-based instruction in their study of the development of the Japanese *sumimasen* routine (expressing attention, apology, and gratitude) among second-semester L2 Japanese university students. Implicit and explicit instructional groups were compared on written tasks and in a role play scenario. The implicit instruction group watched film clips twice, and the explicit group watched each film clip once and received metapragmatic instruction following the clip. There were no statistically significant differences observed between groups; however, the implicit group outperformed the explicit group on a role-play task, and the explicit group outperformed the implicit group on the written task.

Mixed results have been observed in studies comparing implicit and explicit instructional conditions for L2 pragmatics. This could be attributed to the lack of operationalization of the implicit learning condition and the variability in complexity of language features studied.

2.4. T/V Address Systems

The German language utilizes a T/V address system with three second-person pronouns: the singular informal *du*, the plural informal *ihr*, and the formal *Sie*. Research on this topic has mainly focused on historical and current second-person address systems (Delisle, 1986; Hickey, 2003; Kretzenbacher et al., 2006; Norrby & Warren, 2012; Winchatz, 2001) or T/V address choice by L2 learners (Barron, 2006; Belz & Kinginger, 2003; Blood, 2018; Gonzalez-Lloret, 2008; Hassall, 2013; McCourt, 2009; Van Compernolle, et al., 2011).

2.4.1 Address Behaviour in Native Speakers

Research on the evolution of address behaviour in T/V languages focuses on the classification of different systems, their contextual use, their rules, and their limitations. The main difference between the systems is the perspective of the interlocuters in a social situation, either that of social distance or solidarity. The understanding and navigation of these systems is critical, as

address choice can be "highly charged emotionally and politically" and has "been more subject than most aspects of language to cultural valuation" through its unmatched ability to encode the personal relationship of the interlocuters (Joseph, 1998, p. 855). Addresses can be used to convey a variety of social meanings. Winchatz (2001) found through interviews with NSs that *Sie* is commonly used to express 25 different meanings: age, adulthood, anger, arrogance, authority, closeness, coldness, conversableness, dignity, distance, frequency of contact, friendship, intimacy, isolation, knowing other, liking, personal, politeness, power, rejection, relationship, respect, solidarity, and status (p. 346). Clyne (1995) found that *Sie* can be used as an "instrument of exclusion" (p. 140), with Winchatz (2001) also finding that NSs said *Sie* expressed "degrees of non-solidarity" (p. 359). Clyne et al. (2009) discussed another factor for address behaviour: the intractability of the *du* address. Once a relationship is 'elevated' to using *du*, it often cannot go back to using *Sie* without the termination of the relationship.

Historically, asymmetrical pronoun use was more common as a [method of demonstrating power dynamics in a relationship], for example with nobility addressing commoners with the familiar T and being addressed by them with the formal V or Christians using T with Turks and Jews while receiving V (Brown & Gilman, 1960). In contemporary society, nonreciprocal address is less common, but pronoun choice can still be used to reinforce a power differential between collocutors. In some contexts, the transition between addresses is considered a rite of passage. When children near adulthood, they will start to be addressed with *Sie* by strangers in German and when a student graduates and is then able to call their professor by *du*. When switching addresses, the superordinate interlocutor, based on age difference, social or professional superiority, is responsible for initiating or offering the new pronoun. A survey conducted found that "men approved of a more rapid change" from *Sie* to *du* than women (Clyne, 1995), and Besch (1994) found that "young, male, educated non-church-going Green voters" were most likely to use *du*. As such, it may be that male native speakers have the greatest leeway in address choice.

However, reciprocal address can also signify social stratification (Hickey, 2003). In stratified societies, higher classes may use the formal V more, while the working class uses the informal T. As Hickey (2003, p. 403) explains, this retention of *"du* as the internal address form [acts] as a symbol of class solidarity" within the working class. Today, both skilled and unskilled tradespeople are far more likely to use *du* with similarly ranked colleagues than white-collar workers (Clyne, 1995). And while *du* can be used to express solidarity with a stranger, it can also be tactically used as a method of denigration, for example, if an authority addresses an immigrant with the informal *du* (Clyne et. al, 2009). Given the power differential between NS and non-native speakers (NNS) (Cohen, 2020), then, it is likely the cast that L2 learners are given much less leeway in pronoun choice, especially the use of the informal pronoun in social settings.

This ability for address to encode social relationships, is seen in the emergence of and varying perspectives on multiple second-person address systems. In the research on the topic, a dichotomy is formed from the different understandings of address behaviour, with each perspective considering a different unmarked (i.e., default) second-person pronoun. Norrby and Warren (2012) looked at second-person address practices in French, German, and Swedish. Among the languages, a traditional system was identified that uses unmarked V for formality with a marked T for intimacy. A second and newer system uses unmarked T for solidarity and a marked V for social distance. While solidarity must be determined by the interlocuters during interaction, it usually depends on the existence of common ground. This common ground can be established through common experiences, physical context, beliefs, and behaviours. Age is also a large factor in determining whether to address someone with T or V; in German, the transition to "mature adulthood" also marks the transition from T to V (Norrby & Warren, 2012, p.229).

Delisle (1986) looked specifically at the second-person address systems at play in Germany, exploring a similar dichotomy to Norrby and Warren (2012). Delisle describes two systems, A_1 and A_2. The A_1 system uses the unmarked V with everyone except close friends, family, and children

under 16. Problems can arise with this system at the boundaries of family and children. Subscribers to the A_1 system must consider their social distance to relatives and family by marriage. Another point of contention is when to switch from T to V with children; while a rule-of-thumb indicates the age of 16, it greatly depends on the maturity of the child being addressed. The A_2 system, on the other hand, uses unmarked T with members of the same "group" regardless of personal relationship. Since T use in A_2 is not guided by the relationship between interlocuters, common ground must be assessed based on parameters like dress, place of contact, intent of contact, age and political views. Speakers of the A_1 system feel it keeps interactions civil and polite, whereas users of the A_2 system see it as a caring, friendly, and egalitarian system.

Although the described address systems seem relatively clear cut, even native speakers face uncertainty related to address choice in some situations. Hickey (2003) looked at the nuances of the German second-person address system and specific usage and avoidance strategies in social situations. He discussed conflicting arguments for the established addressed systems used in Germany. In a system with an unmarked use of V, speakers are able to avoid forced intimacy; however, use of unmarked T can be used for the expression of identity and solidarity within a group (Hickey, 2003, p 408). He noted that English speakers can often have the misrepresentation of *Sie* being an unfriendly address and *du* representing familiarity. In situations where a speaker is to address a mixed group, unless there is an overwhelming majority of individuals with whom the speaker uses T, Germans will generally avoid addressing a group as a whole (Hickey, 2003). Navigating the switch from V to T is a careful choice, with necessary considerations about who should offer T, the amount of contact the individuals have with each other, timing, and personality. Hickey also discussed work-arounds such as the combination of V with first name address, T and surname, the reduction of *du* (T) to a schwa "Haste was, biste was." [If you possess something then you count as somebody] (Hickey, 2003, p. 416).

Kretzenbacher et al. (2006) further explored the ambiguities presented by the binary German address system. They examined three situations of second-person address use through interviews: reciprocal unmarked T, reciprocal unmarked V, and coexistence of the two systems. The last situation, with a lack of unambiguous rules, has a high potential for embarrassment; the navigation of T versus V in this situation is often done through assessment of social distance, relative age, and the search for commonalities among the interlocuters. There was found to be some variation in standard practice among people in Mannheim, Leipzig, and Vienna which could be traced back to the different social history of each area. Native German speakers from the three cities were asked to decide on addresses for different situations. Responses were split in scenarios such as "How do you address your superiors, coworkers, and clients at work? How do they address you?" While communication with superiors and clients tended towards V usage, and coworkers towards T, it was not unanimous. T usage was highest in Vienna and lowest in Leipzig. In a situation where a neighbour unexpectedly used T or V, responses were again divided, with most participants citing ambivalence or a negative reaction (Kretzenbacher et al., 2006, p. 179).

Finally, Gerndt (2008) looked at the evolution of the dichotomous systems and the inclusion of the plural-informal *ihr* in singular contexts. The study used a self-administered questionnaire, and respondents came from the Hesse region in Germany. Results suggested that *ihr* is used both more frequently and in other contexts than presented in L2 instruction. It was cited as a go-between for *Sie* and *du* (V and T). And of the 96 given situations presented and responded to on the survey, only 18% of scenarios had universal pronoun agreement from German native speakers. Most of the agreement involved the addressing of family members with *du*; discrepancies emerged with the addressing of great-grandparents, in-laws, and extended members of blended families (Gerndt, 2008, p. 57). The survey results also reinforce the difficulty German native speakers have with their own address systems. The majority of participants admitted to feeling unsure about

which pronoun to use at some point, with nearly half of participants declaring they had used the wrong pronoun at some point.

The German T/V address systems in play today have resulted in ambiguities that can make it difficult even for native speakers to navigate this binary, and possibly even ternary, system. The attitudes of the collocutors, with respect to intimacy and solidarity, can create conflicts between systems that default to V and those that default to T.

2.4.2 Address Behaviour in Language Learners

With these competing address systems, it is clear that even native speakers can find it difficult to come to agreements about which address to use in a given situation. It is unsurprising, then, to find that L2 learners also struggle to grasp their respective T/V address systems. Some research has only surveyed L2 learner tendencies during computer-mediated communication (CMC) sessions (Belz & Kinginger, 2003; McCourt, 2009; Van Compernolle et al., 2011), while other studies have looked at sociopragmatic development over time in this environment (Belz 2007; Gonzalez-Lloret, 2008). Other research has focused on development resulting from study abroad (Barron, 2006; Hassall, 2013). The limited body of literature focused on direct instruction of second-person addresses has used a concept-based instruction (CBI) approach (Kuepper & Feryok, 2020; Van Compernolle, 2011). This approach is a type of explicit instruction that is "based on the developmental principles of sociocultural theory" (Kuepper & Feryok, 2020, p. 162).

McCourt (2009) investigated T/V pronoun use among L2 French learners, across three years of French studies. Address choice was observed during student-student interaction using weekly 1-hour CMC sessions over 12 weeks. In this peer-peer context, markers for appropriateness were based on plurality of address. Transcripts were analyzed, and results showed that learners used T appropriately 88% of the time and V appropriately 43% of the time. Van Compernolle et al. (2011) conducted a similar study; they examined second-person address use for three levels of L2 French learners via synchronous CMC chat. Of 1182 coded interactions, only 66% of T/V use was

coded as appropriate. There was no correlation between proficiency level and appropriate address usage.

Belz and Kinginger (2003) also looked at address choice in a SCMC context. L2 German learners in fourth semester German participated in synchronous webchat with native German speakers. Classes watched films in parallel, and the students were then paired and told to discuss the media over SCMC. Results generally showed a lack of grammatical control by the learners, including changing addresses mid-sentence. Even after getting explicit correction from NSs, only half of students switched from V to T. Gonzalez-Iloret (2008) carried out a CMC case study on the development of sociopragmatic and pragmalinguistic competencies in Spanish learners. Similar to Belz and Kinginger's study (2003), the second-year L2 Spanish learners interacted with NSs through SCMC. Groups met every week for at least 1 hour for 10 weeks and were tasked with planning a full vacation, with a report due at the end of the semester. A case analysis was carried out on one student who showed the optimal scenario of development; by the end of the semester her T address use seemed more consistent and her V address use had decreased. These results were not universal in the study, and most students did not show improvement.

Similary, Belz (2007) completed an in-depth case study of a single participant who showed increased pragmatic awareness of the German address system after telecollaboration sessions with a German NS. While the participant was explicitly instructed to use the informal *du* with their telecollaboration partner, there were still random occurrences of them using the formal *Sie*, often within a sentence in which they had already used *du*. After being explicitly told by his NS conversation partner to address her informally, the participant finally switched to using *du* in all but one instance. The researcher noted that the development in address choice likely stemmed from the learner's existing relationship with his telecollaboration partner and his desire to maintain a positive relationship with her.

Other studies have looked at cultural competence and the study abroad context to see if exposure can aid in the command of the address system. Latimer (2015) looked at the effect of French students' cultural competence and proficiency level on their address behaviour. Higher proficiency L2 French learners were found to still struggle with address choice, but those who had completed a study abroad or had more cultural exposure showed an overall better understanding of the French address system. In studies focusing solely on study abroad effects, results have been inconclusive; however positive developments have been observed in cases where participants received correction or instruction during their interactions with native speakers. Pragmatic development after study abroad terms is often limited, possibly due to a lack of direct instruction or correction from native speakers. Barron (2006) studied the acquisition of the German address system by Irish students on a 10-month exchange. L2 learners' address choice was compared to that of native speakers, with a pre-test/post-test design, and improvement was only seen in 1 of 6 tested scenarios (i.e., a professor offered a ride home to the student). However, for all scenarios native speakers were in virtual agreement. Hassall (2013) conducted a similar experiment with students on a short-term study abroad. He looked at the knowledge development of Indonesian address terms during an 8-week study abroad with Australian English speakers. Overall, limited development was observed from the pre-test to the post-test. These results could be attributed to the lack of instruction or corrective feedback given to the participants during their study abroad. Blood (2018) also looked at changes to address choice for L2 German learners during a 6-week study abroad in Germany. Interviews were conducted with the participants before and after the study abroad, and field notes were collected. As part of the interview, participants responded to ambiguous scenarios by indicating their choice of address form. More convergence in the responses was seen after the study abroad, but decisions were not unanimous. Some learners received explicit feedback from native speakers during their study abroad, and some of their knowledge development could be attributed to this feedback.

More recently, there has been a focus on concept-based instruction (CBI) to teach pronoun systems to L2 learners. In general, positive results have been observed in studies utilizing CBI, with learners improving their conceptual knowledge of the instructed address system. Van Compernolle (2011) conducted an in-depth case study to analyze the development of second-person French pronouns during CBI. During a one-hour tutorial, index cards with information or diagrams on address and other French sociopragmatic concepts were given to the one participant in the study. Think-aloud speech was encouraged, and verbalized reflections were used during the analysis. An acceptability judgement questionnaire and language awareness interview were completed before and after the instruction. There was evidence that the participant successfully integrated the concepts based on their development from the pre- to post-instruction questionnaire and interview. Similar results were observed in Van Compernolle et al. (2016). In this study, concept-based pragmatics instruction (CBPI) was again used to instruct beginner-level learners on the Spanish T/V system. Development was assessed using a pre-test/post-test design with each test consisting of a language awareness survey, AJT, and written DCT. Overall, learners' conceptual understanding of the system increased from the pre-test to the post-test.

Most recently, Kuepper and Feryok (2020), following Van Compernolle's (2011) approach, investigated the efficacy of CBPI for address terms in L2 German learners. Enrichment sessions were used to instruct participants on the German address system through diagrams and learning tasks. Learning gains were measured using pre- and post-tests made up of AJTs, language awareness tasks, and production tasks. Knowledge development of the address system was observed for both beginner and intermediate L2 learners; however, some beginners struggled with some aspects of the CBPI. After the enrichment sessions, there was more convergence in the responses, and participants were better able to justify their address choice for each scenario.

Previous research has demonstrated that L2 learners struggle with T/V address systems and address choice. Observational studies have shown L2 learners can be inconsistent with their

address choice and may demonstrate little uptake of corrective feedback. Immersion environments are not universally effective for promoting appropriate address use either. Targeted instruction in the form of CBI has successfully promoted conceptual knowledge development of address systems. However, this type of instruction may not be conducive to successful classroom integration, given the amount of instruction required to improve conceptual knowledge only. Future research should explore other instructional methods that could be easily integrated into the already time-stretched classroom.

2.5 Literature Gap

Very few studies exist exploring instructional interventions for address systems in T/V languages, with only one instructional methods study for the German address system. And while the comparison of implicit and explicit instructional methods is common in pragmatics research, there are no studies comparing the two in the context of T/V systems. Currently, no research has compared implicit and explicit instructional methods for teaching L2 German learners about address behaviour beyond the limited examples encountered in textbooks or in the classroom. This thesis also seeks to add to the body of literature on address behaviour among adult German NSs, who are younger than those investigated in previous studies.

2.6 Research Questions

This thesis will address the identified gap in the literature by seeking to answer two research questions, outlined below.

2.6.1 Research Question 1

Question: How do the results of the address judgement test compare for the native and non-native German speakers in the absence of instruction, and what effects do language proficiency or time spent abroad have?

Hypothesis: There will be significant differences in terms of address behaviour between the NS and L2 learner groups. That is, prior to instruction, the L2 learners will prefer different addresses than the NSs for given scenarios. However, less difference will be observed between higher proficiency learners or those who have studied abroad and the NSs.

Given that previous studies have shown inconsistencies within the NS population (Gerndt, 2008; Krentzenbacher et al., 2006), and that L2 learners, across proficiency levels, tend to have a lack of control over address choice (Belz & Kinginger, 2003; McCourt, 2009; Van Compernolle et al., 2011) and have not had exposure to varied social situations, it is expected that the NSs and L2 learners will have significantly different responses. While studies examining the efficacy of study abroad environments on the development of address behaviour in L2 learners have shown study abroad to be minimally effective for address behaviour (Barron, 2006; Blood, 2018; Hassall, 2013), the L2 learners who have studied abroad will likely have encountered more varied social situations in their L2 than their at-home counterparts, so it is expected that the study abroad L2 learners may be more aware of the need to choose between *du* and *Sie* in these a variety of situations. Additionally, there is some evidence that students who have studied abroad have a better overall understanding of T/V address systems (Latimer, 2015). Similarly, even though high proficiency learners have been shown to lack address control similar to their beginner learner peers (Latimer, 2015; McCourt, 2009), they may have encountered more examples of appropriate address use during their instruction and may have more native-like responses prior to instruction.

2.6.2 Research Question 2

Question: How do implicit instruction and explicit instruction compare in terms of pragmatic development towards native-like address behaviour on an immediate post-test and a one-week delayed post-test?

Hypothesis: Participants who are exposed to explicit instruction will significantly outperform the implicit instruction participants on a judgement test. That is, those in the explicit

instruction group will display more native-like address behaviour than those in the implicit instruction group. Higher proficiency learners will show more development than lower proficiency learners, and those students with immersion experience will show more development than those without.

While there are mixed findings regarding the comparison of implicit and explicit instruction in pragmatics, the delivery of explicit instruction in the form of metapragmatic instruction has been shown to be most effective (Taguchi, 2015). There is a limited body of research on T/V address system instruction for L2 learners. However, in these studies, pragmatic development was observed in learners with an explicit instructional condition (Kuepper & Feryok, 2020; Van Compernolle, 2011; Van Compernolle et al., 2016). So, it is expected that participants receiving explicit instruction will show more pragmatic development than those receiving implicit instruction. Additionally, higher proficiency learners and those with study abroad experience, may have already considered or had exposure to the social implications of address choice, and consequently they may be more receptive to instruction on it.

Chapter 3

Methodology

To answer the research questions outlined in Chapter 2, a three-phase study was developed using online surveys, face-to-face interviews, and an online training module. The survey responses and interviews were used to inform the development of an online training module, with the module being used to instruct L2 German learners on singular second-person addresses. This chapter outlines both the design and procedure for collecting data in these three phases. Both qualitative and quantitative data were gathered during the survey and interview phases, and only quantitative data were gathered from the training module.

In order to develop effective instruction for L2 learners on appropriate second-person address use, data were first gathered from German NSs at the Universität Hamburg and L2 learners at the University of Calgary. The rationale for collecting these data was two-fold. Firstly, it was necessary to understand L2 learners' current grasp on the German address system and how it differs from that of NSs. Secondly, it was necessary to gather data from the perspectives of a similar NS population. After these data were gathered, knowledge gaps in the L2 learner group were identified and a set of example scenarios were developed to demonstrate and teach appropriate address use. Using these example scenarios, two versions of a training module were created: one utilizing implicit instructional methods and the other incorporating metapragmatic instruction to create an explicit instructional condition.

3.1 Design

3.1.1 Ethics Approval

Prior to its administration, each phase of the study (i.e., survey, interview, training module) obtained ethics approval from the Conjoint Faculties Research Ethics Board. All participants completed an online consent form to have their data collected confidentially, stored securely, and presented anonymously. Participation was completely voluntary, and University of Calgary

participants were compensated $5 CAD for completing the survey and $20 CAD for completing the training module. Participants were recruited through the use of posters hanging near classrooms used for German classes and through advertisement by professors orally in class and in the course's online content management system. German NSs at the Universität Hamburg were not compensated for their participation.

3.1.2 Survey Design

The design for the survey, administered to both the NS and L2 groups, was adopted from a previous study investigating the use of *ihr* as a formality intermediary between *du* and *Sie* (Gerndt, 2008). Since the current study also explores appropriate address behaviour, many of the scenarios presented in Gerndt's (2008) study were relevant. After completing a consent form, students at both the University of Calgary and Universität Hamburg simultaneously completed the survey using Qualtrics, an online survey platform. See Appendix A for both surveys. While audio or visual data gathered from NS may have provided more organic data, the data collection would have been invasive, overly time-consuming, or infeasible to observe real-life interactions like those simulated in the training modules. As such, the interviews were used to gather more in-depth and qualitative data that the surveys did not allow for. The survey results from the University of Calgary students were only used as a needs assessment, to inform the development of the training module; no statistical analyses were run on the data.

The survey designed for NSs and L2 learners asked participants to make appropriateness judgements for given social situations; this section was identical for both the NSs and L2 learners. The surveys also included a background and language history section, with the L2 learners being asked more questions in this section. Each survey was divided into 4 sections: demographic information, language experience, appropriate address judgement, and address avoidance self-assessment. In the first section, NSs were asked their gender, age, educational experience, major, and where they grew up. The L2 learners were asked for their age, gender, and their year of study.

In the language experience section, the NSs were asked about their native language and time spent learning German, if it was not their native language. The L2 learners were asked about their formal German education history, language skills, and study abroad experience.

In the third section, both groups of participants were asked to make judgements for the same 55 scenarios. Of the 55 scenarios presented, 15 were about family members, 18 scenarios described a service or professional context, eight scenarios focused on the age of the person, and ten presented more unique social situations (e.g., meeting a friend's work colleague at a party). For each scenario, a person or situation was described, and the participant had to indicate how they would address that person. Instead of presenting participants with a binary choice of *du* or *Sie*, they were presented with a slider that represented a 100-point continuum (Figure 3.1). For ratings in second language research, it is common to use sliding scales with non-numerical endpoints; for example, Saito et al. (2018) used frowning and smiling faces at either end of their scale when assessing pronunciation comprehensibility. The use of sliding scales is also feasible when assessing pragmatics. Qin (2018) used a 100-point sliding scale to capture L2 learners' agreement with a given pragmatic statement, with -50 representing 'Strongly Disagree' and +50 'Strongly Agree'. This type of slider was used in place of a Likert-scale, multiple-choice question, or open-ended/fill-in-the-blank question for several reasons[4]. Firstly, the slider provides flexibility with how *du*-like or *Sie*-like a participant might view a given scenario to be, especially since contextual factors may result in a described person being addressed differently in varying contexts. Secondly, the ratings given for each scenario could be interpreted as a confidence rating for each address choice, with significant changes towards the poles of the slider suggesting increased confidence.

The position of the slider represents how likely they would address the person described in the scenario with *du* or *Sie*. In Figure 3.1, the ratings shown demonstrate that it is equally likely that

[4] A binary scale would force participants to choose discretely between *du* or *Sie*; this would remove any ambiguity in address choice and would make consensus among participants clearer.

a 'Bartender' will be addressed with *du* or *Sie*, a 'Coworker' is more likely to addressed with *du* than *Sie,* but it might depend on the work environment, and a 'Bank Teller' is always addressed with *Sie.*

Figure 3.1. Slider bar example for du and Sie judgements on survey and in training module.

3.1.3 Interview Design

The interview functioned as an in-depth follow-up to the survey given to NSs. It provided more context to the less clear-cut scenarios presented in the survey. In addition to providing insight for the training module development, the data collected from the interviews will be used to contextualize and provide further insights into the findings during the discussion in Chapter 5. The interviews were semi-structured with six multi-part questions designed to elicit a more qualitative understanding to the survey's quantitative data. See Appendix B for the interview questions. In the interview, participants were first asked to sign a consent form before having their answers recorded. Afterwards they were asked to comment on their thoughts or feelings towards someone who addressed them opposite to what they were expecting. Next, they were asked to comment on how context affects address behaviour. For example, participants were asked whether the address used with waitstaff changes between casual dining establishments and upscale restaurants. Participants were asked to articulate factors that contributed to their decisions regarding how to address someone they were meeting for the first time. Finally, participants were asked about their experience with address avoidance.

3.1.4 Training Module Design

The training module consisted of five sections: a demographics survey, a pre-test, the instruction, an immediate post-test, and a delayed post-test. See Appendix C for the full training module for both instructional conditions.

3.1.5.1 Demographics Survey

This section contained 15 questions and asked participants about their gender, age, education level, language learning history, German language experience, and study abroad experience. For the questions related to German language experience, participants were asked to self-rate their German skills, describe the formal education they had received on the German language, and provide information regarding the length of time they had been learning German.

3.1.5.2 Pre-test

The pre-test consisted of 17 questions. Fourteen questions presented 55 scenarios in the same way as the survey described earlier, and participants were required to use a sliding scale to indicate their address choice for each scenario. The last three questions of the pre-test probed learners' address avoidance experience and strategies.

3.1.5.3 Instruction

Based on the information gathered from both surveys and the interviews, two online instruction modules were created using the online survey platform Qualtrics[5]. Separate instruction modules were developed for the two treatment groups: one module was created for the explicit instruction group and a separate module for the implicit treatment group. Both the implicit and explicit modules contained audio clips of the same ten scenarios. In nine of the ten clips, the appropriate address form was used between the collocutors; 1 video clip highlighted inappropriate address use by showing one collocutor reacting to the other's address choice. Of the nine appropriate address exemplars, five demonstrated appropriate use of *du* and the other four showed

[5] Qualtrics Experience Management: https://www.qualtrics.com/

appropriate use of *Sie.* The video clips contained still pictures with animated speech bubbles matching the dialogue. In each speech bubble, all second-person pronouns were made more salient through text bolding and enlargement.

The scenarios used in the instruction modules were chosen and developed based on two factors. The first factor was relevance to the L2 participants. This relevance is two-fold; firstly, it is important to reinforce social dynamics found in the L2 classroom. Secondly, it is necessary to instruct learners on real-life language use for social situations they may encounter in their L2 context. The second factor used to determine appropriate scenarios was the disparity seen between NSs and L2 learners on some areas of the survey.

In both sets of instruction (i.e., implicit and explicit), the participants were introduced to the scenario with a short description introducing the setting and characters. In the explicit module, participants were also given brief metapragmatic instruction before the audio clip. Following the clip, participants were asked to identify which address form was used between collocutors in the scenario. The other half of the participants received implicit training on the German address system. Since implicit pragmatic instruction has not been operationalized in literature, the definition of implicit instruction by Norris and Ortega (2000) was used in this study; in this case implicit condition is defined to be that without "rule explanation" or "directions to attend to particular forms" (p. 437). In the implicit module, participants were given the same introduction to the scenario as in the explicit module. However, instead of metapragmatic instruction and a follow-up question, participants were asked two distractor questions. The first distractor question, positioned before the clip, asked a question related to the setting of the scenario. The distractor question following the clip asked about content from the video rather than the form of address used. This second question also acted as a measure to ensure participants had watched the video. An example of each type of instruction is provided in Example 1 (Figures 3.2, 3.3) and Example 2 (Figures 3.4, 3.5). Example 1 shows the implicit and explicit instruction for a scenario

demonstrating inappropriate use of *Sie* in a party setting. Example 2 demonstrates appropriate use of *du* in a gym setting. Except for the content in the audio clips, the instruction modules were presented in English. This was a conscious decision so that beginner-level L2 learners could better understand and engage with the module. For all scenarios, including the English translations of each transcript, see Appendix C[6]

[6] All royalty-free images used in the instruction were sourced from https://colourbox.com

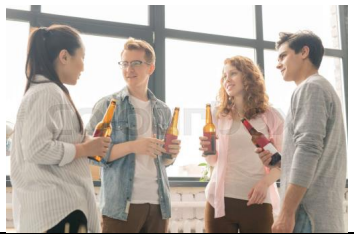
Scenario Description & Image	Lena, Martin, and Julia are all students at Uni Hamburg. Lena and Julia are roommates and Julia knows Martin from high school. They all attend the same party on a Friday night. 
Meta-pragmatic Information	When meeting new people around your age, especially in casual social environments like at a bar or a party, it can be considered rude to address them with Sie.
German Transcript	**Lena:** Hallo! Wir haben uns ja ewig nicht gesehen! **Martin:** Ja, ich weiß! Wie geht's dir? **Lena:** Sehr gut! Hast du Julia kennengelernt? **Martin:** Nein! Hallo, Julia – ich heiße Martin! Freut mich, dich kennenzulernen! **Julia:** Hallo! Freut mich! Sind Sie auch ein Student an der Universität? **Martin:** Sehe ich schon so alt aus? **Julia:** Nein! Huch! Bist du auch ein Student? **Martin:** Ja! Ich studiere Mathematik, und du? **Julia:** Biologie!
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie

Figure 3.2. Explicit instruction example for inappropriate use of *Sie* with friends

Scenario Description & Image	Lena, Martin, and Julia are all students at Uni Hamburg. Lena and Julia are roommates and Julia knows Martin from high school. They all attend the same party on a Friday night. 
Distractor Question	What might you do at a university party on the weekend? ○ Socialize ○ Study ○ Nap
German Transcript	**Lena:** Hallo! Wir haben uns ja ewig nicht gesehen! **Martin:** Ja, ich weiß! Wie geht's dir? **Lena:** Sehr gut! Hast du Julia kennengelernt? **Martin:** Nein! Hallo, Julia – ich heiße Martin! Freut mich, dich kennenzulernen! **Julia:** Hallo! Freut mich! Sind Sie auch ein Student an der Universität? **Martin:** Sehe ich schon so alt aus? **Julia:** Nein! Huch! Bist du auch ein Student? **Martin:** Ja! Ich studiere Mathematik, und du? **Julia:** Biologie!
Follow-up Question	What does Martin study? ○ Biology ○ Mathematics ○ Chemistry

Figure 3.3. Implicit instruction example for inappropriate use of *Sie* with friends

Scenario Description & Image	It's Mia's first day in a new yoga class, at a gym in Hamburg. Mia isn't sure which studio her yoga class is in, so she asks someone.	
Meta-pragmatic Information	The gym is a uniquely casual environment. In the gym, people of all ages will address each other with *du*, even the gym staff.	
German Transcript	**Mia:** Hallo! Ist das der Yoga-Kurs? Ich war noch nie in diesem Fitnessstudio. **Anja:** Ich glaube, dieses Zimmer ist richtig. Bist du hier für den Kurs um 09:00 Uhr „Yoga für Anfänger"? **Mia:** Ja, das ist er! Vielen Dank! **Anja:** Hast du schon mal Yoga gemacht? **Mia:** Ja, ich habe schon früher Yoga gemacht, aber das war vor vielen Jahren. Machst du oft Yoga? **Anja:** Nein, ich mache zum ersten Mal Yoga.	
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

Figure 3.4. Explicit instruction example for appropriate use of *du* in a gym setting

Scenario Description & Image	It's Mia's first day in a new yoga class, at a gym in Hamburg. Mia isn't sure which studio her yoga class is in, so she asks someone.	
Distractor Question	What would you find in a gym or fitness centre? ○ A sauna/steam room ○ A hair/nail salon ○ A classroom	
German Transcript	**Mia:** Hallo! Ist das der Yoga-Kurs? Ich war noch nie in diesem Fitnessstudio. **Anja:** Ich glaube, dieses Zimmer ist richtig. Bist du hier für den Kurs um 09:00 Uhr „Yoga für Anfänger"? **Mia:** Ja, das ist er! Vielen Dank! **Anja:** Hast du schon mal Yoga gemacht? **Mia:** Ja, ich habe schon früher Yoga gemacht, aber das war vor vielen Jahren. Machst du oft Yoga? **Anja:** Nein, ich mache zum ersten Mal Yoga.	
Follow-up Question	What time is the yoga class at? ○ 08:00 ○ 09:00 ○ 10:00	

Figure 3.5. Implicit instruction example for appropriate use of du in a gym setting

3.1.5.4 Post-test

Immediately following the completion of the instruction component of the training module the participants completed a post-test. The post-test contained the same 17 questions and 55 scenarios as the pre-test described previously.

3.1.5.5 Delayed Post-test

A delayed post-test was administered one week after the instruction module was completed. The same 17 questions and 55 scenarios presented in the pre-test and immediate post-test were used again in the delayed post-test.

3.1.4 CALL Evaluation

The computer-assisted instruction used in the training module, was developed from the ground up for this study. The efficacy of the instruction will be discussed in Chapters 4 and 5. However, it is also important to evaluate the training module as a CALL application using an existing framework. Chapelle's (2001) CALL evaluation criteria were used to inform the development of the training module for the study and will also be used to evaluate the application. This framework was chosen for its robustness in multiple contexts, as found by Jamieson and Chapelle (2010). The framework's criteria are outlined in Table 3.3. The emphasis of the instruction presented within the module is on meaning, with the implicit instruction module providing no metalinguistic/metapragmatic instruction. The explicit instruction module also places the focus on form instead of a focus on forms, as the metapragmatic information presented with each example is short and supplementary to the podcast and follow-up question. Both versions of the module provide opportunities for engagement through reflective questions. This also follows McBride's (2009) recommendation for meaning-focus tasks to accompany podcasts. The module also provides engagement with the language at a beginner level, as the instruction and reflective questions are presented in English, with only the podcast and accompanying captions presented in the target language. The language used within the presented scenarios demonstrates authentic language use,

with dialogue co-written by German NSs. The scenarios are also authentic in the sense that language learners could encounter such social situations easily when travelling abroad in Germany. The podcast delivery method was chosen as it provided participants with the flexibility to complete the training module online and on their own time. This delivery also presented a familiar format and provided both visual and aural stimuli for the participants.

Table 3.3

Evaluation Criteria for a CALL Activity (Chapelle, 2001)

CALL Evaluation Criterion	Description
Language Learning Potential	The degree of opportunity present for beneficial focus on form
Meaning Focus	The extent to which learners' attention is directed toward the meaning of the language
Learner Fit	The amount of opportunity for engagement with language under appropriate conditions given learner characteristics
Authenticity	The degree of correspondence between the learning activity and target language activities of interest to learns out of the classroom
Positive Impact	The positive effects of the CALL activity on those who participate in it
Practicality	The adequacy of resources to support the use of the CALL activity

Additionally, as per the findings by Leier (2011) and Alm (2013) and recommendations by Fernández (2011), videos elements and transcripts were included with the audio clips in the training module. And using the findings from Leier (2011) and Sendag et al. (2018), the total instruction time was kept to a minimum in order to be kept engaging to listeners; on average, the audio clips for each example scenario were 30 seconds or less. As Rosell-Aguilar (2007) noted, appropriate chunking and length is important for podcast development. With the modular build of the instruction, the length and cases of instruction could be tailored and easily turned into an instructional podcast of four to six-minute length.

3.3 Participants

3.2.1 German Native Speakers

The goal of this study was to compare instructional methods on the German address systems for the target population of university-aged L2 German learners. In order to gain a better understanding of address behaviour from their German NS peers, data were collected from students at Universität Hamburg. Since age can influence address behaviour, it was necessary to understand the pragmatic norms of those in a similar demographic group to the University of Calgary participants. All Universität Hamburg participants were students enrolled in a class in the Faculty of Education during the Fall 2019 semester. In total, 65 participants completed the survey, but only data from 33 participants were used to inform the development of the training module. Data that were excluded came from German NNSs or NSs who were raised in a bilingual home[7,8]. Of the 33 participants whose data were used, ten completed a face-to-face interview. The average age of these participants was 26.0 years old, with all participants in the age range of 20-36 years old. Twenty-seven women, five men, and one person with an undisclosed gender completed the survey. All interview participants were women and had an average age of 30.

[7] Pragmatics is a dynamic area, and it is important to include bilingual and NNSs in studies of 'global German', since these speakers may perform like NSs in the real world. Though pragmatic norms are established by all language speakers in a population, for the current study it was important to establish norms from a homogenous group for data collection purposes. The choice to exclude bilingual and NNSs' data was twofold. Firstly, the context in which these participants learned German, e.g., in a second or foreign language context, could impact their response to pragmatic events (Bardovi-Harlig & Dörnyei, 1998). Secondly, pragmatic transfer from a participant's L1 could also impact their responses to pragmatic events (Kasper, 1992). Currently there is limited research on L1 pragmatic transfer for address pronoun choice, but those whose L1 has a T/V address system (e.g., Turkish) may respond differently to pragmatic events than those whose L1 does not (e.g., English).

[8] The decision to exclude bilingual and NNSs could impact the robustness of the data used for analysis and benchmarking. Future research should include the analysis of bilingual and NNS who have spent long periods of time in the target language environment.

3.2.2 German L2 Learners

3.2.2.1 Survey Participants

Only University of Calgary students currently enrolled in an undergraduate German class during the Fall 2019 semester were invited to participate in the survey. A total of 17 participants completed the survey, with twelve female participants and five male participants. The average age was 21, with nine participants enrolled in their second year of undergraduate studies. The first language for twelve participants was English, with 13 participants indicating they spoke a language other than English and German; eight of those participants listed French as another L2. The average length of time these participants had been learning German was two years and ten months. Table 3.4 presents the German language history and self-rated skill proficiency L2 learners who participated in the survey.

Table 3.4
German Language Learning History and Self-rated Proficiency of Fall 2019 Survey Participants

Time Spent Learning German					Self-rated German Skills (4-point scale)			
Level	<1 Year	1-2 Years	3-4 Years	>4 Years	Poor	Good	Very Good	Fluent
200	1	5	0	1	3	4	0	0
300	0	4	2	1	1	4	2	0
400	0	0	1	0	0	1	0	0
500	0	0	0	2	0	1	0	1

3.2.2.2 Training Module Participants

For the training portion of the study, a total of 26 participants completed the pre-test, training module, and immediate post-test, with only 18 participants completing the one-week delayed post-test. The average age of these participants was 22.6, with eight male and 18 female participants completing up to the immediate post-test. Participants were categorized based on the past and current German courses they had taken at the University of Calgary. However, their assigned year/level does not necessarily match with the number of self-reported years they had been learning German. Table 3.5 presents the German language history and self-rated skill proficiency for the 26 learners who completed the training module.

Table 3.5

German Language Learning History and Self-rated Proficiency of Winter 2020 Training Module Participants

Time Spent Learning German					Self-rated German Skills (10-point scale)			
Level	<1 Year	1-2 Years	3-4 Years	>4 Years	Reading	Writing	Listening	Speaking
200	6	3	0	0	4.2	3.1	3.3	3.7
300	0	5	2	2	5.4	4.3	3.8	3.9
400	0	2	0	0	4.0	5.0	3.0	3.5
500	0	2	1	3	5.5	5.7	5.7	6.0

Ten of the 26 participants had completed a study abroad prior to participating in the study. Table 3.6 presents the location and duration of each study abroad.

Table 3.6

Destination and Duration of Study Abroad

Destination	Duration
Augsburg	< 1 month
Berlin	1 - 2 months
Berlin	1 - 2 months
Heidelberg	1 - 2 months
Austria	3 - 6 months
Bavaria	3 - 6 months
Northern Hessen	3 - 6 months
Starnberg, Bavaria	3 - 6 months
Germany	7 - 12 months
Nuremberg	7 - 12 months

3.4 Procedure

3.4.1 Pilot studies

The survey for the NSs was piloted by two German NSs, and the L2 learner survey was piloted by two German NSs and two German NNSs to ensure that the survey could be understood and that it was free of errors. The NNSs were asked to comment on the clarity of directions, flow of the survey, and time taken to complete the survey. Only minor corrections were made to German survey. On average, the English survey took 6.8 minutes to complete and the German survey took 5.3 minutes to complete.

The online training module was piloted by one German NS and one NNS. Similar to the survey, the German NS looked for grammatical errors in the scenarios and the NNS evaluated the ease of use and the module flow. On average the entire training module took 20.9 minutes to

complete. The delayed post-test was not pilot tested, as it contained the same questions as the pre-test and immediate post-test embedded within the training module. The delayed post-test took an average of 4.3 minutes to complete.

3.4.2 Dissemination

The NS survey was disseminated through professors at Universität Hamburg to their students via email. Responses were collected over a three-week period. Recruitment for interviews was done through self-selection after the survey. Interested participants had the opportunity to submit their email address to be contacted about an interview. All ten participants who volunteered to participate for an interview were contacted and interviewed. The interviews lasted between 15-25 minutes each.

The English survey was disseminated through professors at the University of Calgary to their students via email, posted on course management websites (D2L), and posters were put up outside of classrooms used for German lectures. The training module was disseminated using the same channels as the English survey. Participants who completed the training module submitted their email and were contacted directly about the one-week delayed post-test.

3.4.3 Data Collection Period

The data collection period for each phase of the study lasted three weeks, with the NS survey, L2 learner survey, and interview data collection period overlapping. Data from both surveys and the interview were collected during the Fall 2019 semester, and the training module data were collected during the Winter 2020 semester.

Chapter 4

Results

4.1 Data Analysis

Data gathered from the online training modules, including the pre-test, immediate post-test, and one-week delayed post-test were analyzed to yield quantitative results. This chapter will present the results related to each of the research questions addressed in this thesis. For all statistical analyses, SPSS v.26 was used, and an $\alpha = 0.05$ level of significance was applied.

Data from NSs were compared with the L2 learner pre-test data using independent t-tests for each of the 55 tested scenarios. L2 learner pre- and post-test data were compared using mixed ANOVA tests. Finally, interview data were included in Chapter 5 to provide further insights into and substantiate the results of the NS survey presented in this chapter.

Participants' responses, originally recorded on a 100-point scale, were converted to a 10-point scale post-collection. This scaling was done in order to simplify results presentations and grouping. As the *du-Sie* pronoun scale presented here is binary in practice, the theoretical difference between a few points on a 100-point scale is insignificant. The conversion of responses can be seen in Table 4.1. Additionally, based on data collected from NSs, scenarios were coded as a *du* scenario, a *Sie* scenario, or *ambiguous*. All scenarios where the mean of the NS responses fell between 1-3, after scaling, were coded as *du* scenarios. Scenarios with a mean between 8-10 after scaling were coded as *Sie* scenarios. The remaining scenarios were considered *ambiguous*, as there was no clear consensus among the NSs for whether the pronoun to be used in that scenario should be *du* or *Sie*. In total, 29 of the 55 scenarios were *du*-coded, 14 were *Sie*-coded, and 12 were marked as ambiguous.

Table 4.1

Scaling and Coding of Original 100-point Scale Used for Address Judgement Test

Original Value	Scaled Value	Coding
0-9	1	*du*

10-19	2	
20-29	3	
30-39	4	ambiguous
40-49	5	
50-59	6	
60-69	7	
70-79	8	*Sie*
80-89	9	
90-100	10	

A clear example of a *Sie*-coded case is when the participants were asked how they would address a 65-year-old person on the street to ask for directions. Of the responses, 31 out of 33 gave a rating of ten, or maximally *Sie*. For scenarios with blood relatives, all 33 participants gave a rating of one (i.e., maximally *du)*. The scenario in which participants were asked to address a 33-year-old AirBnB host was ambiguous, with 13 responses favouring *Sie*, twelve responses favouring *du*, and eight responses lying halfway between *du* and *Sie*.

4.2 Research Question 1

The first research question is concerned with the differences between the NSs and L2 learners prior to any instruction of the L2 learners. NS data from Universität Hamburg students was gathered via a survey in Fall 2019 and were used as a benchmark for L2 learner pragmatic development. Only L2 learner data from the Winter 2020 training module were statistically analyzed, i.e., L2 learner data from the survey administered in Fall 2019 were not analyzed; these data were merely used to inform the development of the training module.

4.2.1 NSs versus L2 Learners

Data used for analysis and presented here are based on the responses provided by 33 German NSs who completed the survey. Ratings on the address judgement test were in complete agreement, i.e., had a standard deviation of 0.00, in three types of scenarios: when the collocutor was an immediate family member, a child, or a patron in a fitness centre/gym setting. All scenarios in which there was perfect agreement were *du*-coded scenarios; this agreement occurred for 17 (31%) of 55 scenarios on the judgement test.

The pre-test data from the training module for University of Calgary L2 learners were used to compare the pragmatic knowledge between the NSs and L2 learners. The NS data were compared to the L2 learners' pre-test data using an independent t-test. The 26 University of Calgary L2 learners' data were compared with the 33 University of Hamburg NSs' data. The data for all University of Calgary participants are presented here, as none of them had yet participated in the training sessions. In 33 out of 55 presented scenarios, the L2 learners and NSs disagreed, with statistically significant differences between ratings. All t-test results can be found in Table D.1 of Appendix D. Table 4.2 gives the descriptive statistics and t-test results for *du*-coded scenarios with significant differences between the NSs and L2 learners.

Table 4.2

Descriptive Statistics of T-test Results for du-coded Scenarios with Significant Differences Between L2 Learners (n=26) and NSs (n=33)

Scenario	L2 Learners		NSs		t	Sig. (2-tailed)
	Mean	Std. Dev	Mean	Std. Dev		
Mother	2.36	2.628	1.00	0.000	2.981	0.004
Father	2.32	2.495	1.00	0.000	3.048	0.004
Grandmother	5.80	3.640	1.00	0.000	7.597	0.000
Grandfather	5.56	3.664	1.00	0.000	7.170	0.000
Great-grandparent	6.92	3.499	1.00	0.000	9.747	0.000
Aunt	4.44	3.163	1.00	0.000	6.265	0.000
Uncle	4.20	3.227	1.00	0.000	5.712	0.000
Younger Cousin	1.40	1.155	1.00	0.000	1.996	0.051
Older Cousin	2.44	2.485	1.00	0.000	3.339	0.002
Mother-in-law	7.56	3.124	1.36	1.245	10.381	0.000
Father-in-law	7.36	3.226	1.64	1.950	8.382	0.000
Older cousin's partner	5.16	3.375	1.18	0.769	6.568	0.000
Younger cousin's partner	3.80	3.240	1.45	1.716	3.558	0.001
Coworker (Male, Older)	6.32	3.520	3.42	3.072	3.338	0.002
Coworker (Male, Younger)	4.72	3.221	2.88	2.837	2.309	0.025
Coworker (Female, Older)	6.20	3.403	3.36	3.040	3.342	0.001
Coworker (Female, Younger)	4.64	3.108	2.88	2.837	2.247	0.029
Child (9-12)	2.72	2.685	1.00	0.000	3.690	0.001
Teenager (13-16)	3.28	2.792	1.21	0.927	3.984	0.000
Teenager (17-19)	4.76	3.597	1.76	1.969	4.065	0.000
Brother's girlfriend	5.92	3.685	1.52	1.564	6.184	0.000
Gym Employee (aged 21)	6.60	3.686	1.18	0.769	8.234	0.000
Gym Employee (aged 45)	7.80	3.464	1.85	1.698	8.614	0.000
Gym Patron (aged 21)	6.20	3.797	1.00	0.000	7.890	0.000
Gym Patron (aged 45)	7.96	3.247	1.58	1.458	10.057	0.000
Friend's Colleague	5.32	5.32	1.82	1.82	5.068	0.000

Descriptive statistics and t-test results for those *Sie*-coded scenarios with significant differences between L2 learners and NSs are shown in Table 4.3.

Table 4.3

Descriptive Statistics of T-test Results for Sie-Coded Scenarios with Significant Differences Between L2 Learners (n=26) and Nss (n=33)

Scenario	L2 Learners		NSs		t	Sig. (2-tailed)
	Mean	Std. Dev	Mean	Std. Dev		
Uber Driver (Male, Older)	7.88	3.270	9.36	2.044	-2.120	0.038
Uber Driver (Female, Older)	7.92	3.278	9.36	2.044	-2.059	0.044
Uber Driver (Female, Younger)	6.36	3.377	8.21	2.724	-2.312	0.024
Uber Driver (Male, Younger)	6.40	3.379	8.21	2.724	-2.261	0.028
Boss	9.32	1.865	7.79	3.343	2.059	0.044

Differences between the L2 learners and NSs, for all *du*-coded scenarios, are shown in Figure 4.1.

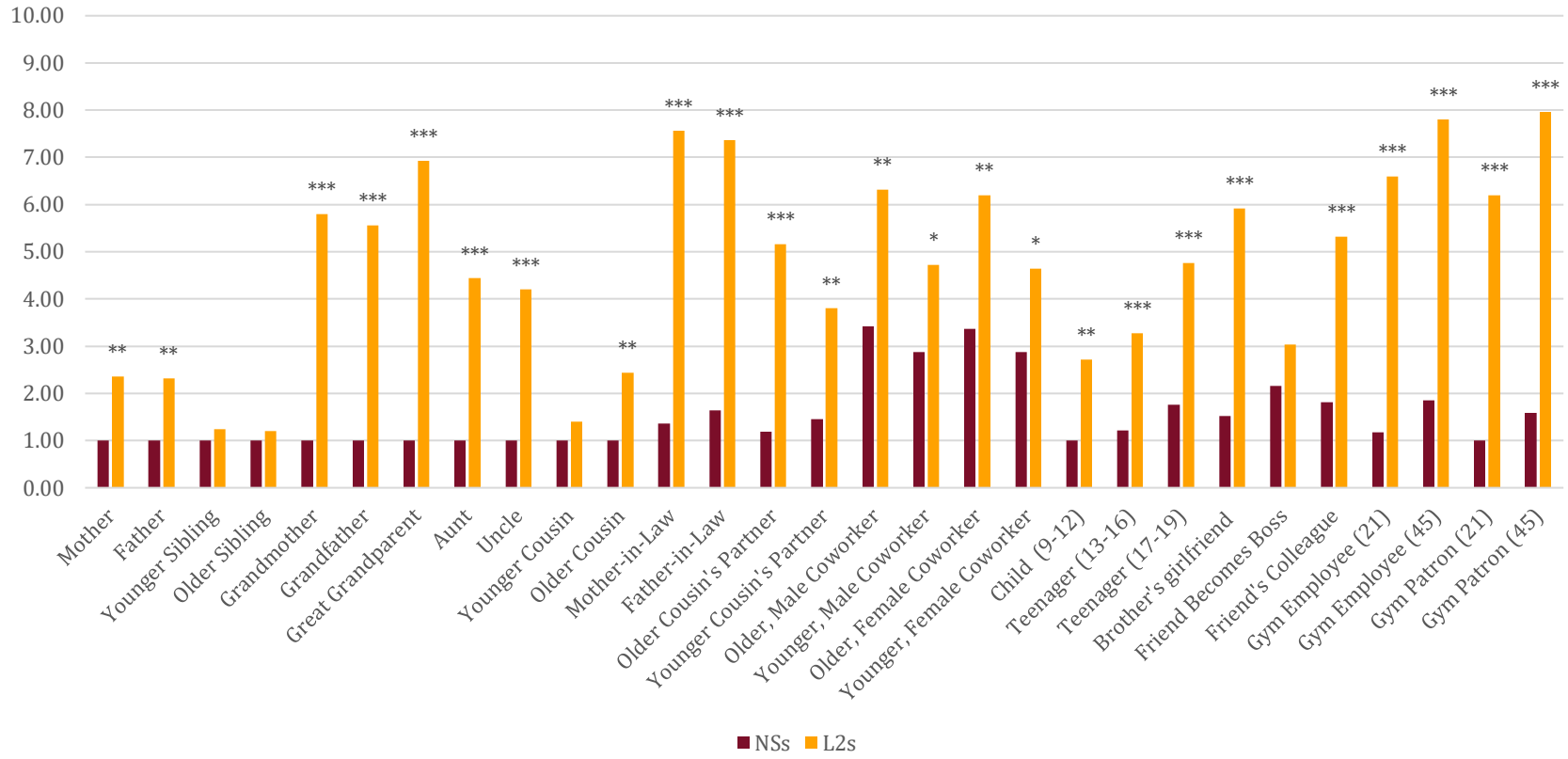


Figure 4.1. All *du*-coded Scenario Ratings for L2 Learners (n=25) and NSs (n=33)
Significant at *p < 0.05; **p < 0.01; ***p < 0.001

Most *du*-coded scenario had significantly different ratings between the NSs and L2 learners; only three *du*-coded scenarios did not have any significant differences: 'Younger Sibling', 'Older Sibling', and 'Younger Cousin'. For all *du*-coded scenarios, L2 learners responded with a higher rating, i.e., less *du*-like than NSs. When there was a significant difference between L2 learners and NSs for *Sie*-coded scenarios, L2 learners typically responded with a lower rating, i.e., less *Sie*-like, than the NSs. However, in the 'Boss' scenario, L2 learners gave a higher rating, closer to *Sie* than the NSs. Only five of 14 *Sie*-coded scenarios had significantly different ratings between the groups. These differences in ratings can be seen in Figure 4.2.

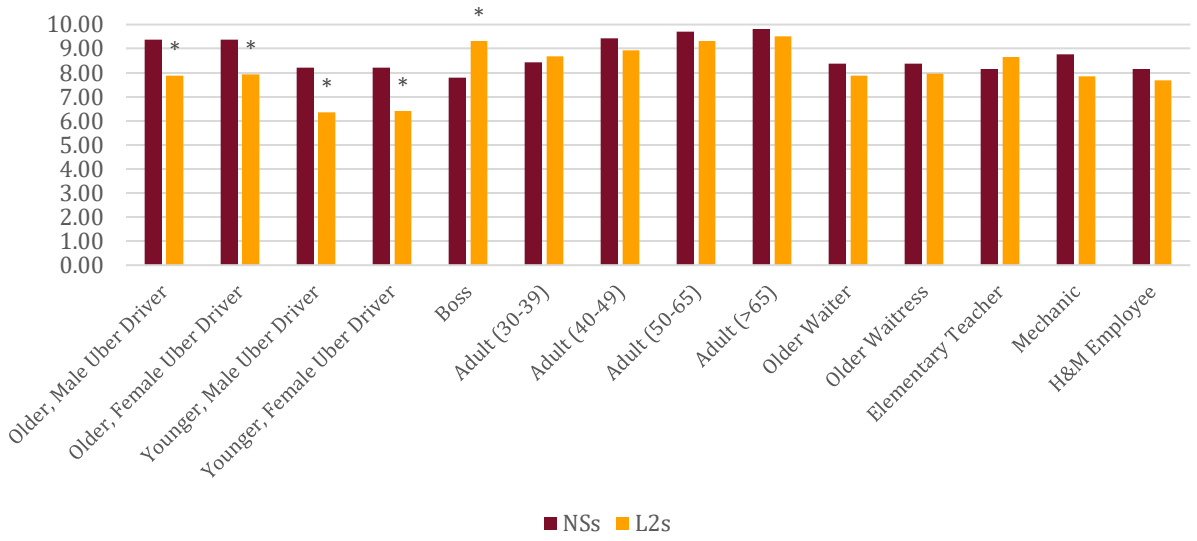


Figure 4.2. Sie-coded scenarios ratings for L2 learners (n=25) and NSs (n=33)
Significant at *p < 0.05; **p < 0.01; ***p < 0.001

Figure 4.3 displays the differences between L2 learner and NS ratings for all ambiguous scenarios.

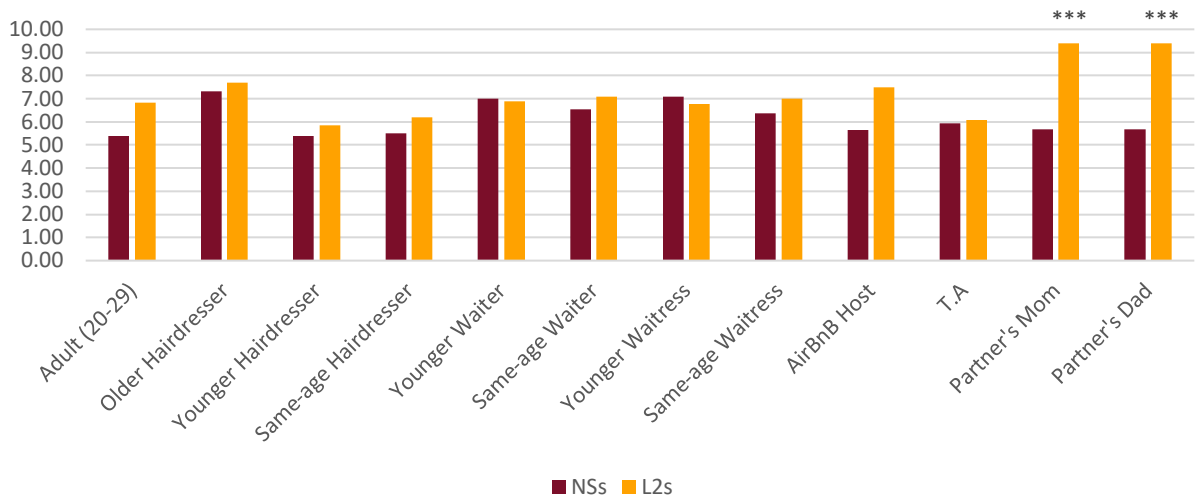


Figure 4.3. Ambiguous scenarios ratings for L2 learners (n=25) and NSs (n=33)
Significant at *p < 0.05; **p < 0.01; ***p < 0.001

4.2.2. Effects of Proficiency and Time Spent Abroad

The participants were divided into two groups, those who had studied abroad in a German-speaking country and those who had not. A t-test was run on the pre-test data from both groups to determine if there were significant differences. Overall, when comparing the means of *du*-coded scenarios and *Sie*-coded scenarios, there were no significant differences between the groups, as seen in Table 4.4.

Table 4.4

T-test Results for Comparison of Pre-Test Results Between Study Abroad (n=9) and At-home Group (n=17)

Case	Group	Mean	Std. Dev	t	Sig. (2-tailed)
du	Study Abroad	4.41	1.38	-0.679	0.503
	At Home	4.85	1.64		
Sie	Study Abroad	8.34	1.53	0.371	0.714
	At Home	7.99	2.62		

However, individual t-tests for each scenario revealed that there were two scenarios in which the study-abroad and at-home groups had significantly different pre-test results. In both scenarios, seen in Table 4.5, the study-abroad group gave lower ratings, which is closer to native-like address use of *du* than the at-home group.

Table 4.5

T-test Results for Comparison of Pre-test results Between Study abroad (n=9) and At-home Group (n=17)

Scenario	Group	Mean	Std. Dev	t	Sig. (2-tailed)
Mother-in-law	Study Abroad	5.44	3.64	-2.592	0.016
	At Home	8.47	2.32		
Father-in-law	Study Abroad	5.44	3.64	-2.206	0.037
	At Home	8.18	2.62		

Additionally, two bivariate correlation analyses were run. For the first analysis looked for a correlation between the duration spent abroad and pre-test ratings[9]. The second analysis compared participants self-rated German skills and year of study[10] and pre-test ratings. No correlations were found for either test.

4.2.3 Summary

When comparing the NS survey ratings and L2 learner pre-test ratings, significant differences were observed in 33 of 55 tested scenarios. The majority of disagreement, 25 of 33 scenarios, was seen in with *du*-coded scenarios, with only five *Sie*-coded and two ambiguous scenarios having significantly different ratings between the groups. Time spent abroad, and language proficiency level, did not appear to impact the L2 learners' ratings on the pre-test.

[9] Participants who had not studied abroad were assigned a study abroad duration of '0'.

[10] Prior to the pre-test participants rated their skills in reading, writing, listening, and reading out of 10. The year of study was assigned based on the current or previous German courses they had taken at the University of Calgary.

4.3 Research Question 2

The NS data analyzed in Research Question 1 were used as a baseline to determine if there was pragmatic development for L2 learners. Learners were considered to have made pragmatic knowledge gains if their ratings on the immediate post-test and one-week delayed post-test shifted significantly towards NS ratings, thus becoming more native-like. For this reason, scenarios coded as *ambiguous* were not used to measure pragmatic development, as native-like address choice was not established for these scenarios[11]. The second research question is concerned with comparing the implicit instruction (II) and explicit instruction (EI) treatment groups in terms of pragmatic development.

The primary independent variable was the type of instruction received by a learner (i.e., implicit or explicit). The possible effects of additional independent variables, e.g., self-rated German skills, are briefly addressed. The dependent variables for the analyses are the participants' address judgement ratings for the tested scenarios.

4.3.1 Immediate Post-test

A total of 26 L2 German learners at the University of Calgary completed the pre-test, online training module, and post-test. In order to understand each treatment group's development towards native-like address use, the mean of all a participants' ratings to *du*-coded scenarios was calculated and used in a mixed 2x2 ANOVA. The same procedure was done for the *Sie* scenarios. Table 4.6 shows that only the EI group made gains towards native-like address, and only for *du*-coded scenarios. Pragmatic development for the EI group approaches significance for the *Sie*-coded scenarios.

[11] An example of an *ambiguous* scenario is that of the 32-year old AirBnB host. From the NSs, there were 13 *Sie*-like ratings, 12 *du*-like ratings, and 8 ratings in the middle between *du* and *Sie*. In this case, there is no discernible address choice against which to compare L2 learners' ratings and subsequently their pragmatic development.

Table 4.6

Descriptive Statistics and 2x2 Mixed ANOVA Results for du- and Sie-coded Scenarios for Implicit (n=14) and Explicit (n=12) Treatment Groups

Treatment Group	Coding	Test	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.
Implicit	du	Pre	4.50	1.43	-0.133	0.340	0.699
		Post	4.63	1.32			
	Sie	Pre	8.08	2.00	-0.168	0.383	0.664
		Post	8.24	2.02			
Explicit	du	Pre	4.93	1.69	**1.224***	**0.367**	**0.003**
		Post	3.71	1.96			
	Sie	Pre	8.15	2.65	-0.732	0.414	0.090
		Post	8.88	0.94			

To analyze pragmatic development from the pre-test to the post-test for each treatment group, a 2x2 mixed ANOVA was run on all 26 responses. There was one between-subject factor with 2 levels (i.e., implicit and explicit instruction) and one within-subject factor of 2 levels (i.e., pre-test and post-test). Table 4.7 presents the 12 of the 13 scenarios in which there was significant group by time interaction for the EI group. The 13th scenario was coded as ambiguous. All results for the EI group are available in Table D.2 in Appendix D.

Table 4.7

Descriptive Statistics and 2x2 Mixed ANOVA Results for Scenarios with Significant Group by Time Interaction for EI Group (n=12)

Coding	Scenario	Test	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.
du	Grandmother	Pre	6.17	3.950	2.667	0.912	0.007
		Post	3.50	4.011			
	Great Grandparent	Pre	6.17	3.689	2.417	1.111	0.040
		Post	3.75	3.957			
	Mother-in-law	Pre	7.42	3.088	1.500	0.704	0.044
		Post	5.92	4.144			
	Coworker (Female, Younger)	Pre	4.83	3.857	1.583	0.725	0.039
		Post	3.25	3.545			
	Gym Employee (Aged 21)	Pre	6.83	3.689	4.167	0.977	0.000
		Post	2.67	3.447			
	Gym Employee (Aged 45)	Pre	8.58	2.575	4.500	0.961	0.000
		Post	4.08	4.033			
	Gym Patron (Aged 21)	Pre	6.17	3.786	4.500	0.961	0.000
		Post	2.25	2.701			

	Gym Patron (Aged 45)	Pre Post	7.92 4.25	3.147 4.115	-3.667	1.011	0.001
Sie	Uber Driver (Female, Older)	Pre Post	8.00 9.58	3.357 0.793	-1.583	0.733	0.041
	Uber Driver (Female, Younger)	Pre Post	6.83 8.25	3.881 3.441	-1.417	0.592	0.003
	Uber Driver (Male, Younger)	Pre Post	6.83 8.17	3.881 3.433	-1.333	0.599	0.003
	Waiter (Older)	Pre Post	7.67 9.25	3.284 1.055	-1.583	0.760	0.048

In Table 4.8, all eight *du*-coded scenarios, learners' address choice significantly decreased, i.e., their judgements moved towards *du* and native-like address use. Similarly, in the four *Sie*-coded scenarios, learners' address choice significantly changed towards *Sie* and native-like address use.

Less pragmatic development was observed in the II group, with only two out of 55 scenarios showing significant group by time interaction. Both scenarios, shown in Table 4.8, were coded as *Sie* scenarios, and L2 learners' address choice increased in the direction of *Sie* and native-like address use.

Table 4.8

Descriptive Statistics and 2x2 Mixed ANOVA Results for Scenarios with Significant Group by Time Interaction for II Group (n=14)

Coding	Scenario	Test	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.
Sie	Uber Driver (Female, Younger)	Pre Post	5.86 7.79	2.878 3.043	-1.929*	0.592	0.003
	Uber Driver (Male, Younger)	Pre Post	5.79 7.79	2.860 3.043	-2.000*	0.599	0.003

4.3.2 Delayed Post-test

A one-week delayed post-test was administered after the training module, and 18 out of the original 26 participants completed the delayed post-test, with 11 II participants and seven EI participants completing the delayed post-test. A second set of analyses were completed to assess pragmatic development among the three tests for the smaller groups, i.e., between the pre-test and

immediate post-test, between the pre-test and delayed post-test, and between the immediate post-test and delayed post-test.

Similar to the analysis comparing the pre-test and post-test results, the means of all *du*- and *Sie*- coded scenarios were taken for each participant and compared between the treatment groups. A 2x3 ANOVA was run with one between-subject factor of two levels (i.e., implicit and explicit instruction), and one within-subject factor of three levels (i.e., pre-test, post-test, delayed post-test). Table 4.9 presents the descriptive statistics for all three tests for the participants who completed the delayed post-test.

Table 4.9

Descriptive Statistics of 2x3 Mixed ANOVA for Means of du- and Sie-Coded Scenarios for II (n=11) and EI (n=7) Groups

Group	Coding	Test	Mean	Std. Dev
Implicit	*du*	Pre	4.62	1.36
		Post	4.67	1.30
		Delayed	5.03	1.13
	Sie	Pre	8.14	1.96
		Post	8.35	2.06
		Delayed	8.41	1.33
Explicit	*du*	Pre	5.08	1.97
		Post	4.28	2.34
		Delayed	3.67	2.22
	Sie	Pre	7.83	3.40
		Post	8.93	0.99
		Delayed	7.19	2.39

Table 4.10 shows statistically significant development between the pre-test and delayed post-test for *du*-coded scenarios for participants in the EI group.

Table 4.10

Group by Time Interaction of 2x3 Mixed ANOVA for Means of du- and Sie-coded Scenarios for II (n=11) and EI (n=7) Groups

Group	Coding	Comparison	Mean Difference (I-J)	Std. Error	Sig.
Implicit	*du*	Pre -> Post	-0.053	0.399	0.895
		Pre -> Delayed	-0.411	0.431	0.354
		Post -> Delayed	-0.357	0.354	0.327
	Sie	Pre -> Post	-0.214	0.507	0.678
		Pre -> Delayed	-0.214	0.507	0.678
		Post -> Delayed	-0.058	0.448	0.898

Explicit	*du*	Pre -> Post	0.803	0.500	0.128
		Pre -> Delayed	**1.414***	**0.540**	**0.019**
		Post -> Delayed	0.611	0.443	0.187
	Sie	Pre -> Post	-1.102	0.636	0.102
		Pre -> Delayed	0.633	0.624	0.326
		Post -> Delayed	**1.735***	**0.562**	**0.007**

Note: Significance indicated by * and bolding.

Significant change was also observed for this group between the immediate post-test and the delayed post-test for *Sie*-coded scenarios. Table 4.10 shows pragmatic development for the *du*-coded scenarios, with participants' rating decreasing towards *du* and towards native-like address choice. However, for the *Sie*-coded scenarios, there was significant change, but not in the direction of native-like address use. Participants' ratings significantly decreased between the immediate post-test and delayed post-test, signifying a shift away from *Sie*, and away from native-like address use.

4.3.3 Delayed Post-test: Implicit Instruction

In only two scenarios were statistically significant changes observed among the pre-test, post-test, or the delayed post-test for participants in the II group. Table 4.11 gives the descriptive statistics for these two scenarios. All results for the II group are available in Table D.3.2 in Appendix D.

Table 4.11

Descriptive Statistics of 2x3 Mixed ANOVA for Scenarios with Significant Group by Time Interactions for II (n=11) Group

Coding	Scenario	Test	Mean	Std. Dev.
Sie	Uber Driver (Female, Younger)	Pre	5.82	2.562
		Post	8.18	2.822
		Delayed	6.00	3.464
	Uber Driver (Male, Younger)	Pre	5.82	2.562
		Post	8.18	2.822
		Delayed	5.82	3.459

In Table 4.12, the group by time interaction of the 2x3 mixed ANOVA are presented for the same scenarios shown in Table 4.11.

Table 4.12

Significant Group by Time Interaction of 2x3 Mixed ANOVA for Scenarios for II (n=11) Group

Coding	Scenario	Comparison	Mean Difference (I-J)	Std. Error	Sig.
Sie	Uber Driver (Female, Younger)	**Pre -> Post**	**-2.364***	**0.740**	**0.006**
		Pre -> Delayed	-0.182	0.841	0.832
		Post -> Delayed	2.182	1.054	0.055
	Uber Driver (Male, Younger)	**Pre -> Post**	**-2.364***	**0.761**	**0.007**
		Pre -> Delayed	0.000	0.842	1.000
		Post -> Delayed	**2.364***	**1.045**	**0.038**

Note: Significance indicated by * and bolding.

In both scenarios with a younger Uber driver, the participants' ratings significantly increased and moved towards native-like *Sie* use on the immediate post-test. A significant difference is observed between the immediate post-test and delayed post-test for the younger, male Uber Driver scenario, and a change approaching significance for the younger, female Uber Driver scenario. These changes in ratings come from the participants reverting back to ratings similar to those on the pre-test. From the post-test to the delayed post-test, participants' ratings decreased and moved away from the native-like choice of *Sie*.

4.3.4 Delayed Post-test: Explicit Instruction

Compared to the II treatment group, more significant changes were observed for the EI group between tests, when considering the delayed post-test results. In 19 scenarios, statistically significant changes were observed among the pre-test, post-test and delayed post-test for the EI treatment group. All results for the EI group are available in Table D.3.1 in Appendix D. For some scenarios, significant changes were observed in more than one test comparison. Table 4.13 presents the scenarios in which statistically significant changes were observed between the pre-test and the immediate post-test.

Table 4.13

Descriptive Statistics of 2x3 Mixed ANOVA for Scenarios with Significant Group by Time Interaction for EI (n=7) Group, Pre-test to Immediate Post-test

Coding	Scenario	Test	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.
du	Mother	Pre	3.00	3.416	-2.000	0.818	0.026
		Post	5.00	4.690			
		Delayed	3.43	4.158			
	Father	Pre	2.43	2.992	-2.429	0.991	0.026
		Post	4.86	4.811			
		Delayed	3.29	3.946			
	Gym Employee (Aged 21)	Pre	7.14	3.625	3.571	1.317	0.015
		Post	3.57	4.392			
		Delayed	3.29	3.592			
	Gym Employee (Aged 45)	Pre	8.29	3.251	4.857	1.230	0.001
		Post	3.43	4.158			
		Delayed	3.14	3.671			
	Gym Patron (Aged 21)	Pre	7.14	3.625	4.286	1.353	0.006
		Post	2.86	3.485			
		Delayed	2.86	3.185			
	Gym Patron (Aged 45)	Pre	8.14	3.237	4.571	1.290	0.003
		Post	3.57	4.392			
		Delayed	3.14	3.671			
	Friend's Colleague	Pre	3.43	3.409	2.429	1.136	0.048
		Post	1.00	0.000			
		Delayed	3.43	3.599			
Sie	Uber Driver (Male, Older)	Pre	7.14	4.220	-2.571	1.093	0.032
		Post	9.71	0.756			
		Delayed	7.14	4.220			
	Uber Driver (Female, Older)	Pre	7.14	4.220	-2.429	1.107	0.043
		Post	9.57	0.787			
		Delayed	7.14	4.220			
	Waiter (Older)	Pre	7.00	4.163	-2.571	1.133	0.037
		Post	9.57	0.787			
		Delayed	5.14	3.976			
	Waitress (Older)	Pre	7.14	4.220	-2.571	1.158	0.041
		Post	9.71	0.756			
		Delayed	5.57	4.353			

For two scenarios, address choice moved away from native-like address behaviour. For the scenarios involving immediate family members, i.e., 'Mother' and 'Father', the L2 learners initially gave native-like (i.e., *du*) ratings on the pre-test before moving away from native-like address choice on the immediate post-test. However, for the nine other *du*- or *Sie*-coded scenarios presented in Table 4.13, pragmatic development, with address behaviour moving towards that of

NSs, was observed. Participant ratings decreased between the pre-test and post-test for all *du*-coded scenarios, signifying a shift towards *du*- and native-like address use. For all *Sie*-coded scenarios, participant ratings significantly increased on the post-test, showing pragmatic development and preference for the *Sie* address. The scenario with a 'Friend's Colleague' is worth highlighting, as all L2 learners responded with a rating of 1, or 'maximally *du*', and is one of only two scenarios[12] where the participants were in perfect agreement about address choice.

Evidence of backsliding is present in Table 4.13 and supported by the immediate post-test to delayed post-test comparison presented in Table 4.14.

Table 4.14

Descriptive Statistics of 2x3 Mixed ANOVA for Scenarios with Significant Group by Time Interaction for EI (n=7) Group, Immediate Post-test to One-week Delayed Post-test

Case	Scenario	Test	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.
Sie	Uber Driver (Male, Older)	Pre	7.14	4.220	2.571*	1.204	0.048
		Post	9.71	0.756			
		Delayed	7.14	4.220			
	Uber Driver (Female, Older)	Pre	7.14	4.220	-2.429*	1.107	0.043
		Post	9.57	0.787			
		Delayed	7.14	4.220			
	Uber Driver (Female, Younger)	Pre	7.14	4.220	3.571*	1.321	0.016
		Post	8.43	3.359			
		Delayed	5.00	3.651			
	Waiter (Older)	Pre	7.00	4.163	4.429*	1.217	0.002
		Post	9.57	0.787			
		Delayed	5.14	3.976			
	Waitress (Older)	Pre	7.14	4.220	4.143*	1.246	0.004
		Post	9.71	0.756			
		Delayed	5.57	4.353			

Initially, participants showed pragmatic development towards native-like address choice from the pre-test to immediate post-test, before reverting back to ratings similar to those seen on the pre-test. This is most clearly seen in the Uber driver and waitstaff scenarios from Table 4.13 and 4.14. Table 4.13 shows participants making significant development towards native-like address

[12] The other instance when participants were in perfect agreement was for the EI group on the immediate post-test for the 'Stranger: Adult 65 and Older' scenario.

choice, but Table 4.14 shows a significant reversion to pre-test ratings, with the ratings moving away from native-like behaviour. Other examples of backsliding are present in Table 4.13, but not all regression seen between the post-test and delayed post-test are significant; an example of this is seen in the 'Friend's Colleague' scenario.

An opposite trend can also be seen in several of the scenarios, with learners demonstrating u-shaped behaviour. Participants initially moved away from native-like address behaviour on the immediate post-test before correcting and reverting back towards their pre-test and more native-like address choice on the delayed post-test. Both the parental scenarios, i.e., 'Mother' and 'Father', demonstrate this trend. L2 learners exhibited *du*- and native-like address behaviour on the pre-test before significantly shifting away from native-like behaviour on the immediate post-test. The learners then corrected themselves, though not with significance, with decreased ratings and a move back to *du*-like address choice.

Finally, Table 4.13 and Table 4.15 together show more robust pragmatic gains for some scenarios, with Table 4.15 presenting the comparison of pre-test and delayed post-test results.

Table 4.15

Descriptive Statistics of 2x3 Mixed ANOVA for Scenarios with Significant Group by Time Interaction for EI (n=7) Group, Pre-test to One-week Delayed Post-test

Coding	Scenario	Test	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.
du	Older Sibling	Pre	1.43	0.787	-1.714*	0.780	0.043
		Post	2.71	3.302			
		Delayed	3.14	3.761			
	Younger Cousin's Partner	Pre	5.29	4.192	3.286*	1.062	0.007
		Post	4.57	4.117			
		Delayed	2.00	1.826			
	Teenager (17-19)	Pre	5.43	4.158	2.571*	1.036	0.025
		Post	3.29	3.302			
		Delayed	2.86	3.338			
	Gym Employee (Aged 21)	Pre	7.14	3.625	3.857*	1.342	0.011
		Post	3.57	4.392			
		Delayed	3.29	3.592			
	Gym Employee (Aged 45)	Pre	8.29	3.251	5.143*	1.354	0.002
		Post	3.43	4.158			
		Delayed	3.14	3.671			
		Pre	7.14	3.625	4.286*	1.534	0.013

	Gym Patron (Aged 21)	Post Delayed	2.86 2.86	3.485 3.185			
	Gym Patron (Aged 45)	Pre Post Delayed	8.14 2.86 2.86	3.625 3.485 3.185	5.000*	1.291	0.001
	Coworker (Male, Younger)	Pre Post Delayed	5.86 6.00 4.57	4.562 4.690 3.409	2.143*	0.796	0.016
	Coworker (Female, Younger)	Pre Post Delayed	5.86 4.43 3.71	4.562 4.315 3.147	2.143*	0.810	0.018
Sie	H&M Employee	Pre Post Delayed	8.43 6.29 6.00	3.309 3.988 3.742	2.429*	0.903	0.016

For all scenarios in the gym context (e.g., gym patron or gym employee), participants' ratings decreased significantly from the pre-test to immediate post-test, with the decrease being sustained on the delayed post-test. This decrease in rating demonstrates a shift towards native-like *du* use for all four scenarios. A similar trend can be seen for other scenarios, with participants' ratings decreasing both on the immediate post-test and again on the delayed post-test. In the 'Younger Cousin's Partner' scenario, participants' ratings decreased between the pre-test and delayed post-test significantly, with a shift towards native-like *du* use. This trend was similarly observed with the 'Teenager (17-19)' scenario. Participants' initial ratings dropped between the pre-test and immediate post-test and again, significantly, between the post-test and delayed post-test. This represents a shift in the direction towards native-like *du* use. This also holds for both scenarios involving younger coworkers. Participants showed significant progress towards native-like *du* use in both scenarios.

Two scenarios demonstrate the opposite trend, with participants moving away from native-like address behaviour with each subsequent test. In both the 'Older Sibling' and 'H&M Employee' scenarios, ratings shifted away from the native-like behaviour between the pre-test and the post-test and again, this time significantly, between the post-test and delayed post-test. For the 'Older Sibling' scenario, ratings increased, with address choice becoming less *du*- and native-like over

time; ratings for the 'H&M Employee' decreased, demonstrating a shift away from native-like *Sie* use over time.

As described above, a trend emerged with *Sie* scenarios listed in Tables 4.13 through 4.15. In each scenario, address use progressed towards native-like use between the pre-test and post-test, but there was a significant reversion between the post-test and delayed post-test away from native-like use. For each of these scenarios, participants progressed towards *Sie* on the post-test but significantly moved away from *Sie* and towards *du* on the delayed post-test.

All scenarios listed in Table 4.13 through 4.15, i.e., those with significant rating changes, are presented in Figure 4.4.

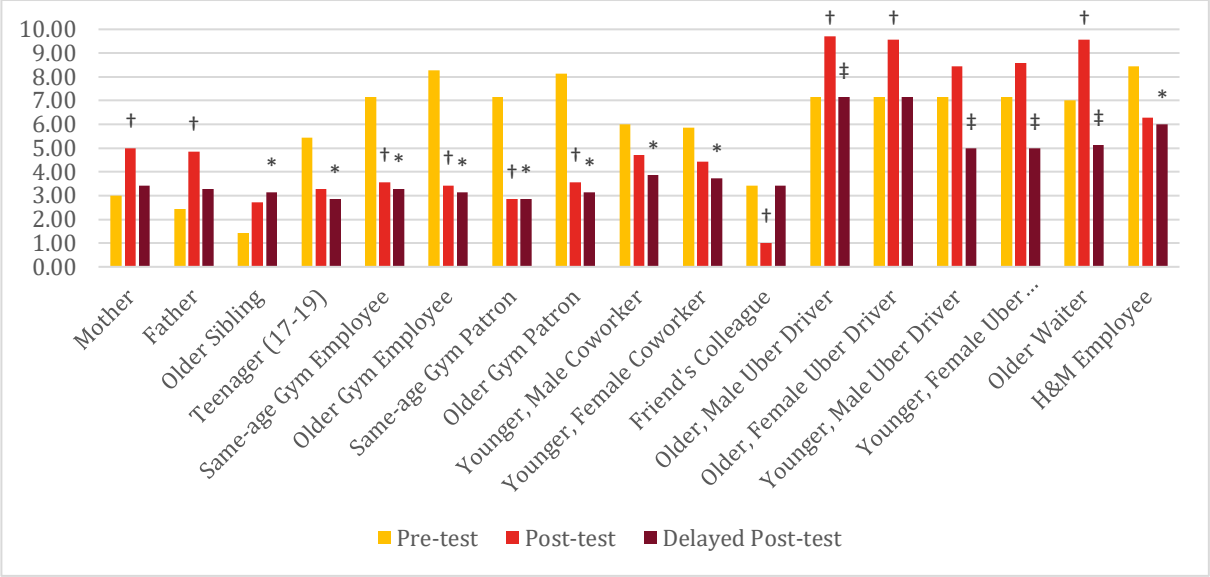


Figure 4.4. Scenarios where significant changes occurred among tests for the explicit treatment group. Significance, at $p < 0.05$, is denoted between tests by:

† between pre-test and immediate post-test
* between pre-test and delayed post-test
‡ between immediate and delayed post-test

4.3.5 Summary

The means of *du*- and *Sie*-coded scenarios were compared and revealed that overall, only the EI group showed pragmatic development, and only for *du*-coded cases. Analysis of individual scenarios using a mixed 2x2 ANOVA, with pre-test and post-test data, showed that EI participants moved towards native-like address behaviour for eight *du* and four *Sie* scenarios. The II group only

showed similar development for two *Sie* scenarios. Using a mixed 2x3 ANOVA, the delayed post-test data were compared to the other tests. This analysis revealed significant differences among tests for the EI group. Backsliding was evident for both groups, but more so for the EI group. However, sustained pragmatic development was seen in four scenarios related to the gym for the EI group. No robust learning gains were observed for the II group.

Chapter 5

Discussion

5.1 Introduction

The goal of this study was to compare the efficacy of implicit and explicit instruction on the development of sociopragmatic knowledge in L2 German learners. To evaluate learning gains, L2 learner behaviour was compared to a NS baseline for the same scenarios, with learning gains evident if the L2 learners' ratings became significantly more similar to that of NSs. An additional goal of this study was to add to the body of literature on German NS address behaviour, specifically for the university-aged group, for a broader variety of scenarios than have been included in previous studies. This chapter will summarize and interpret the main results. Pedagogical implications and limitations of the study will also be discussed.

5.2 Research Question 1: NS and L2 Learner Address Behaviour

The first research question was concerned with the comparison of L2 learners' address behaviour with that of German NSs. For the purposes of the current study, NSs were surveyed to establish a baseline for pragmatic development of L2 learners. The L2 learner data from the pre-test were compared with the survey data from the NSs. Additionally, correlations between L2 learner proficiency and time spent abroad with native-like address behaviour were investigated.

5.2.1 Native Speaker Consensus

Address ratings for 55 scenarios were gathered from students at Universität Hamburg. Only 17 of 55 scenarios received a perfect consensus, such as those involving immediate family, by blood or marriage. Other scenarios with perfect agreement were those where the participant had to address a child or a 21-year-old gym patron. Many scenarios (e.g., older Uber drivers) achieved a high level of consensus among NSs, and a subset of the scenarios (i.e., 12 out of 55) were quite divisive, with no clear address choice for such a scenario. This disagreement within the ratings from

the Universität Hamburg group was to be expected. These contentious scenarios were often either with a collocutor close in age to participant or when there was decreased social distance with the collocutor. For example, addressing a partner's parents when meeting them for the first time or asking a stranger in their 20s for directions.

Address agreement among NSs seems to be dependent on a number of factors, such as the speaker's age, location, and what address system(s) they subscribe to. An interview participant, from Universität Hamburg, added that they consider demeanor when deciding to use *du* or *Sie* with a stranger, asking themselves "How does [their] face look? Does it look like someone who would chat on the street?" Recall that there are two address systems, with each prescribing a different unmarked (i.e., default) address. Subscribers to a system with an unmarked V, denoted A1 (Delisle, 1986), consider their social distance to a collocutor when choosing which address to use. One Universität Hamburg student described their approach to interactions through the lens of social distance and use of *Sie*: "my experience is that there [are] not so [many] uncomfortable situations if there is something like this [social] distance with *Sie."* But those who subscribe to a system with an unmarked T, denoted A2 (Delisle, 1986), look for solidarity with their collocutors and use that to determine appropriate address. Another Universität Hamburg participant described:

"It's a combination of both [solidarity and social distance]– you stick to *du* and say *du* to people that you share something with no matter what it is, be it the room or the company, your working team or something"

A third participant did not cite solidarity as a motivating factor for their address choice, but they had a strong preference for *du* over *Sie*.

"It's a social distance between me and a waitress, but I will say *du*. I don't like the *Sie.* This is why I like the English context – it is always 'you' and makes everything easier… and sometimes I will just [use *du*], but if I'm unsure I will ask [to use *du*] first."

For subscribers to both systems, the relative age of the collocutor to the speaker appears to be an important factor (Krentzenbacher et al., 2006). All interview participants cited the atmosphere or context as a contributing factor, with the demographics of the people in that context playing an important role; one participant elaborated: "if it is a place with younger people I would use *du* and they would use *du* too, but, for example, in a restaurant, when it is chicer or more expensive, then I would use *Sie*." Another participant based their address choice on the behaviour of others: "when I go to a restaurant or a store, I see how the others behave first."

Perfect agreement among NSs about address choice seems uncommon outside of friends and family. Gerndt (2008) surveyed NSs from the Northern Hesse region of Germany, with 88% of participants being over the age of 30 and all participants being between 18 to 75. Her results showed consensus for scenarios with blood and by-marriage family members (e.g., 'Brother-in-Law', 'Partner of Cousin') and for some professional contexts (e.g., 'Bus Driver', 'Medical Specialist', 'Town/Bank Employee'). Other scenarios that saw a high or perfect level of agreement were those involving older strangers (e.g., 'Person (40-60)', 'Person (>60)') or close friends (e.g., 'Colleague of Friend', 'Work Friend Promoted to Supervisor'). Blood (2018) surveyed 14 NSs with an average age of 24. The six scenarios she gathered data on were more elaborate than Gerndt's (2008), and NSs were only in agreement about how to address a new classmate, an older worker at a bakery, and a child. A scenario involving addressing a child's parent and an acquaintance from a party both saw a high degree on consensus. Barron's (2006) survey had 34 NSs, with an average age of 25.6, from Universität Hamburg respond to six scenarios. These were again more elaborate than Gerndt's (2008) but different from Blood's (2018). In this survey, perfect agreement was reached for three scenarios, one with the participant's uncle, another with their boss, and a third with a classmate. A fourth scenario involving a priest had a high level of agreement among participants. Krentzenbacher et al. (2006) surveyed NSs, ranging in age from 21-81, from Mannheim, Leipzig, and Vienna. The only scenario in which all participants agreed was that of addressing their parents.

One Universität Hamburg interview participant, originally from southern Germany, noted that when they go to a restaurant in Hamburg, it might be socially acceptable to address a waiter with *du*, but it would be considered impolite where they came from: "[in southern Germany] you say *Sie* to whoever you don't know, and when you hear someone say *du* you know they have a relationship with each other."

So, while scenarios involving close family members and strangers might be clear cut, other social situations can become pragmatically challenging, especially when the lines between familiarity and otherness are blurred. All Universität Hamburg interviewees had encountered situations where they were unsure of what address to use and mentioned their use of avoidance strategies. Social events at conferences can be tricky, as described by one Universität Hamburg participant. In this context, you might meet academics with whom you would use *Sie* with in a more formal setting, but you might be introduced to them with *du* at the social event. Though if you were to talk with them during conference sessions, *Sie* would probably be more appropriate, with the participant describing "in this situation, or in front of other people around you keep the [social] distance".

Research on the German T/V address system has demonstrated that there is disagreement even among NSs, in theory, with multiple address systems described (Delisle, 1986; Hickey, 2003), and in practice (Blood, 2018; Clyne et al., 2009; Gerndt, 2008; Krentzenbacher et al., 2006). These differences appear to not only regional, but also impacted by the ages of the collocutors (Gerndt, 2008; Clyne et al., 2009; Krentzenbacher et al., 2006). Krentzenbacher et al. (2006) observed regional differences when participants were asked about how they would address their partner's parents. Participants from Vienna showed the most preference for informal address, followed by those in Mannheim. Participants from Leipzig preferred to use the formal *Sie* with their partner's parents. Again, younger participants tended to respond with *du* more often than older participants (Krentzenbacher et al., 2006). Younger Germans NSs are more significantly more likely to address

a same-age or younger stranger with *du* than a NS above the age of 30 (Clyne et al., 2009). Similar to other surveys, Clyne et al. (2009) found great disparity in regard to address in the workplace, with two-thirds preferring *Sie* with a supervisor and *du* with a colleague. There were again regional differences observed, with those in Vienna preferring *du* more so than participants in Mannheim and Leipzig (Krentzenbacher et al., 2006). Many Universität Hamburg students gave more informal rating for workplace colleagues on the survey, with several interview participants commenting on how hierarchical structure affects address behaviour. The interviewees described how colleagues at their "level" are usually addressed informally, but anyone above them is addressed formally. A Universität Hamburg student conducting research with a professor described using *Sie* with their professor, even when being invited to their home for dinner and meeting the professor's family: "he calls us our first names, but *Sie.*"

While most of the surveyed scenarios used in the current study were taken from Gerndt (2008), deviations from her results were observed in the Hamburg population. Of the 96 scenarios Gerndt tested, only 17 achieved perfect agreement among NSs. Results from the current study are consistent with previous research, as NSs ratings were more aligned for those scenarios involving family. Gerndt's (2008) results showed consensus in scenarios such as 'Partner of Cousin', 'Strangers Older than 40', 'Friend Promoted to Boss'; however, this was not the case with the Hamburg NSs. And while the results from Hamburg NSs trended towards agreement for the same pronouns identified in Gerndt (2008), this finding was not universal. She also found similar results, with her group of participants in agreement that *du* is the appropriate pronoun to address blood and by-marriage relatives and children (Gerndt 2008).

While mutually exclusive systems have been described based on the unmarked, or default, pronoun, language use in practice cannot be as clearly defined as the address systems. Both Krentzenbacher et al. (2006) and Gerndt (2008) observed disagreement among German NSs in their address choices in various scenarios. Universität Hamburg interviewees subscribed to

elements of both Delisle's (1986) A1 and A2 systems, with participants citing slightly more aspects of address choice relating to the solidarity described by the A2 system. Both the survey and interview data collected from Universität Hamburg participants supports Hickey's (2003) discussion of the uncertainty experienced by NSs and how the dichotomous address systems proposed may not perfectly describe or guide address behaviour. While some Universität Hamburg participants preferred to maintain social distance with all individuals in a professional capacity by using *Sie*, others were much more willing to use *du* during the same scenarios (e.g., at the hairdresser, with waitstaff).

5.2.2 L2 Learner Consensus

The judgement tests given to University of Calgary students covered more scenarios than previous studies with L2 learners. On the judgement test, participants were given a sliding scale with *du* at one end and *Sie* at the other. The slider position represented the likelihood of the participant addressing the specified collocutor with *du* or *Sie*. A rating of 1 is considered 'maximally *du*', with the participant using *du* 100% of the time with the collocutor; similarly, a rating of 10 is considered 'maximally *Sie*'. Within the University of Calgary L2 learner population, none of the 55 tested scenarios had complete rating (i.e., address) agreement at the time of the pre-test. These results were expected for more ambiguous scenarios, such as interacting with hairdressers, but it is surprising to see variation in address behaviour for straightforward scenarios such as interactions with immediate family members. See Figure 5.1 for the variation in L2 learner ratings to scenarios with blood and by-marriage family members on the pre-test. For all scenarios presented in Figure 5.1, NSs gave a rating of close to or exactly 1.0.

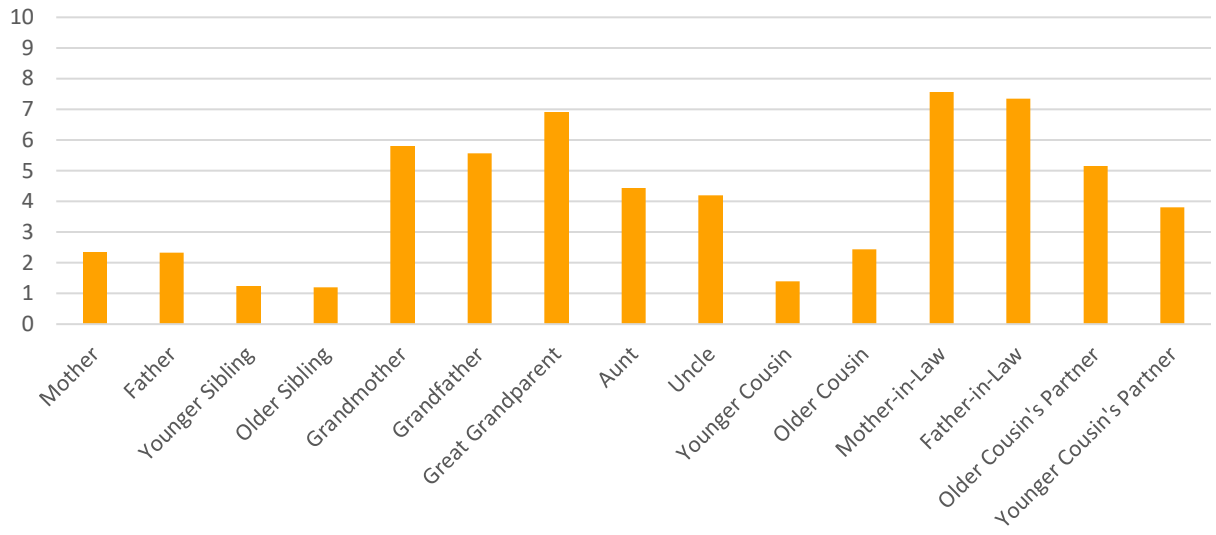


Figure 5.1. Address behaviour of L2 learners for scenarios with family members.

It has been well established in the context of peer-peer interactions that learners struggle with the choice and, at times randomly choose, between the three second-person German pronouns (Belz, 2007; Belz & Kinginger, 2003; Gonzalez-Iloret, 2008; McCourt, 2009; Van Compernolle et al., 2011). In complex hypothetical scenarios, i.e., those outside of the classroom peer-peer context, L2 learners continue to show a lack of consistency in their address choice. In other studies, looking at the development of address behaviour, either through instruction or time spent abroad, it was uncommon for L2 learners to show consistent address behaviour on pre-test scenarios (Barron, 2006; Blood, 2018; Hassall, 2013; Kuepper & Feryok, 2020). As such, the results of the current studies are in line with these findings.

5.2.3 Comparison of NSs and L2 Learners

Results from the survey given to Universität Hamburg participants and the pre-test given to University of Calgary students show a high level of disagreement between the two groups. Even in scenarios thought to be straightforward and covered in introductory German instruction, such as those involving family members, the L2 learners' responses were significantly different from those of native speakers. While these scenarios were thought to be straightforward, and all received universal or consistent *du* responses from NSs, there was a range of responses given by the L2

learners. For older, more distant, or those related by marriage, the L2 learners chose more *Sie*-like responses. See Figure 5.2 for a comparison of responses between the groups to scenarios with family members.

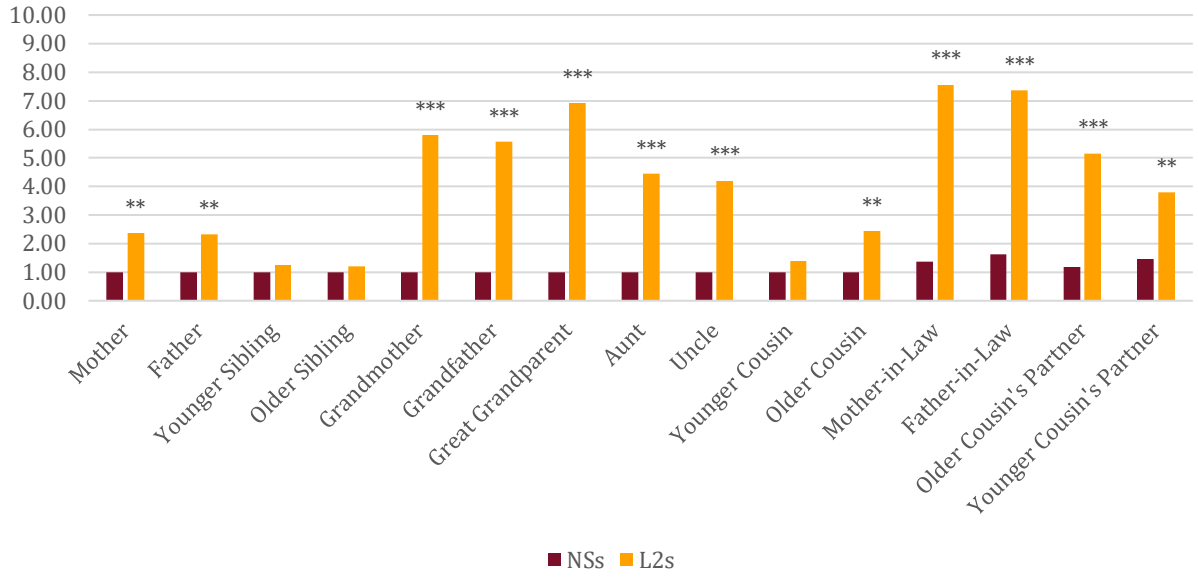


Figure 5.2. NS and L2 learner responses to scenarios with family members.

Significant at *p < 0.05; **p < 0.01; ***p < 0.001

Conversely, for some scenarios (e.g., with Uber drivers) where NSs leaned heavily towards the use of *Sie*, L2 learners' responses were less *Sie*-like. This can be seen in Figure 5.3. The fitness centre situation presents an interesting case where NSs agreed that it was a situation requiring *du*, but the L2 learners leaned heavily towards *Sie*. Similarly, when NSs favoured informal address in the workplace, for both older and younger colleagues, L2 learners gave higher ratings to indicate less *du*-like behaviour.

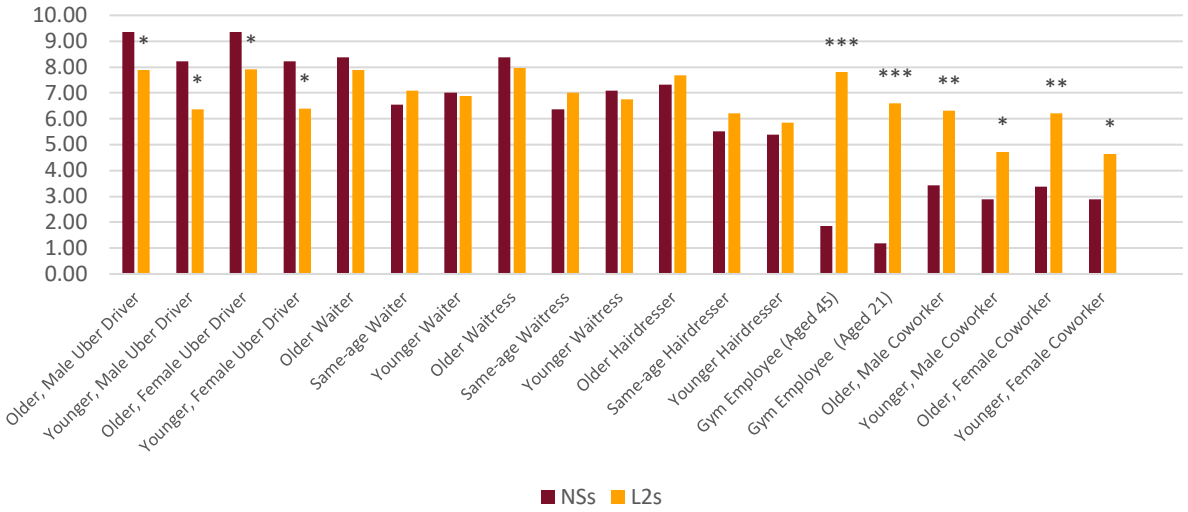


Figure 5.3. NS and L2 learner responses to service sector and work scenarios.

Significant at *p < 0.05; **p < 0.01; ***p < 0.001

Given the lack of address control observed in the L2 learner group in peer-peer conversation (Belz & Kinginger, 2003; McCourt, 2009; Van Compernolle et al., 2011), it was expected that there would be not only little consensus between the L2 learners, but also significant divergence between learners and NSs. For scenarios outside of the classroom and peer-peer context, previous literature has shown L2 learners to have disparate address behaviour from NSs (Barron, 2006; Blood, 2018;); a similar disparity was expected and found in this study. It is important to note that only some studies have used German NS data as a baseline from which to evaluate L2 learner pragmatic development (Barron, 2006; Blood 2018). Additionally, the limited number of pragmatic events used for judgement tests in this small set of studies can be problematic. The scenarios presented are vastly different between the studies, with a tendency to neglect quotidian pragmatic events, such as interactions with family (Blood 2018), or provide

complicated scenario descriptions[13,14]. And while non-native German speakers may be unlikely to address their immediate family members in German, it is arguably important for L2 learners' knowledge of address systems to apply to a landscape of pragmatic events.

In the case of Barron's (2006) judgement test, with six relatively clear scenarios, the majority of learners favoured the pronoun also selected by the majority of NSs for each of the tested scenarios. However, this did not hold for all scenarios tested by Blood (2018), many of which involved decisions about multiple speakers for a given scenario. For example, a university-based scenario involving students that had universal agreement among NSs[15], where the appropriate pronoun was *du*, saw the majority (55.6%) of L2 learners select *Sie* as the most appropriate pronoun. Given the large number of tested scenarios in the current study, both trends were seen. For familial situations, there was a high degree of unanimity among NSs using *du*, but the majority of L2 learners displayed *Sie*-like address behaviour. Similarly, when interacting with gym staff, NSs prefer *du*, unlike the L2 learners who displayed more *Sie*-like behaviour. For other interactions with strangers in the service industry, L2 learner ratings were more aligned with NSs' ratings. In scenarios with uber drivers, waitstaff, or hairdressers, L2 learners displayed behaviour that was approaching or already *Sie*-like. With Uber drivers and waitstaff, this behaviour is generally in line with NSs' use of *Sie*.

5.2.4 Effects of Proficiency and Study Abroad

As part of the training module, participants self-rated their four core German skills, i.e., reading, writing, listening, and speaking. They also listed their formal German education history

[13] Scenario 4: You have been frequenting the same bakery for several weeks and the lady at the counter now recognises you and often exchanges pleasantries with you when you visit the bakery. She is about 50 years old and has a daughter who sometimes works at the bakery after school. Do you call the older woman *du* or *Sie*? Do you call the younger woman *du* or *Sie*? (Blood, 2018, p.130).

[14] Scenario 1: Following being knocked off his/ her bike by car driven by priest, student refuses priest's offer to bring him/her to hospital (Barron, 2013, p. 72).

[15] Scenario 1: You are eating lunch in the university cafeteria when one of your classmates sits down across the table from you and greets you. The classmate is about your age but you are not personally acquainted with them (Blood, 2018, p. 130).

and the length of time they had spent learning German. For those who spent time abroad, they were asked to indicate the location and duration of their study abroad. The formal education responses were used to classify students into four groups corresponding to academic levels at the University of Calgary (i.e., first year through fourth year). A correlation analysis was completed using the skill self-ratings and formal education groupings of each participant and their pre-test address ratings. Another bivariate correlation analysis was completed using the duration of time spent abroad and the pre-test address ratings. There were no correlations found between self-rated language skills or academic level of German and pre-test address ratings. Similarly, no correlation was found between time spent studying German abroad and pre-test address ratings.

These results align with broader research showing that students at all academic levels of German struggle with applying the T/V address system for contexts outside the classroom. Studies looking at address behaviour of L2 learners of French found that students across academic years similarly struggled with appropriate address choice (Latimer, 2015; McCourt, 2009; Van Compernolle et al., 2011). Beginner and intermediate German learners have also been shown to lack awareness of the T/V address system to a similar degree (Kuepper & Feryok, 2020). The lack of advantage seen by L2 learners in the current study who had spent time abroad is not unexpected. Several studies have looked at address development during study abroad, with results showing students may not learn incidentally in this environment, during short- or long-term stays (Blood, 2018; Barron, 2006; Hassall, 2013). So, it would be expected that pre-test scores of University of Calgary students would not differ between those who had and had not studied abroad.

5.3 Research Question 2: Effects of Implicit and Explicit Instruction

5.3.1 Explicit Instruction of L2 Learners

Results from the immediate post-test were analyzed in two ways. Prior to analysis, and guided by NS ratings, clear-cut scenarios were grouped and coded as a *du*-scenario, *Sie*-scenario, or *ambiguous*. Means of the NSs ratings that fell between 1-3, on a 10-point scale, were coded as a *du*-

scenario and those that fell between 8-10 were coded as a *Sie*-scenario. The remaining scenarios were labelled as *ambiguous*. The first analysis looked at the pragmatic development of each treatment group according to the grouping of scenarios, i.e., whether development occurred on the scale of all *du* or all *Sie* scenarios. A second, and more granular, analysis was completed looking at pragmatic development for each individual scenario. When considering all *du* or *Sie* scenarios together, only the explicit treatment group showed pragmatic development in the direction of native-like address behaviour, and this only occurred for *du* scenarios. Similar findings emerged from the analysis of the delayed post-test ratings. Only the explicit treatment group showed pragmatic development; this time, there was development between the pre-test and delayed post-test for *du* scenarios.

When considering individual scenarios, the explicit treatment group showed significant change between the pre-test and immediate post-test for 13 of 55 scenarios. There was movement towards native-like address behaviour for eight *du*-coded[16] and four *Sie*-coded[17] scenarios; the thirteenth scenario was coded as ambiguous and pragmatic development is not considered in this case. All scenarios where significant development was observed presented similar situations as those covered by the training module. For example, the 'Family' instruction, a young woman is addressing her aunt and grandmother informally. While ratings for 'Aunt' did decrease towards *du*-like address use, the change was not significant. The training module also had an example at the gym, and all four gym scenarios tested showed significant development towards native-like address behaviour. Similarly, an example with a taxi driver being address formally was used in the training module. In three out of four tested scenarios, learners moved towards native-like and formal address use with Uber drivers; progress towards native-like address behaviour was approaching significance for the fourth scenario.

[16] Grandmother, Great-grandparent, Mother-in-law, Coworker (Female, Younger), Gym Employee (Aged 21), Gym Employee (Aged 45), Gym Patron (Aged 21), Gym Patron (45)
[17] Uber Driver (Female, Older), Uber Driver (Female, Younger), Uber Driver (Male, Younger), Waiter (Older)

It is important to note that not all participants completed the delayed post-test[18]. When considering the delayed post-test and smaller participant sample, significant changes were observed for 23 of 55 scenarios. However, not all changes represented pragmatic development toward native-like performance, with four trends emerging. Backsliding, where participants made progress towards native-like address behaviour on the immediate post-test before reverting to their post-test ratings on the delayed post-test, was evident in six scenarios: one *du*-coded and five *Sie*-coded [19]. In two *du*-coded scenarios, L2 learners moved away from native-like address use on the immediate post-test before reverting back to more appropriate *du*-like address behaviour on the delayed post-test [20]. For another two scenarios, this time one *du*-coded and one *Sie*-coded, learners moved away from native-like address behaviour with each subsequent post-test[21]. Finally, in eight *du*-coded scenarios, learners progressed towards native-like address use on each subsequent post-test [22]. Of these eight scenarios that saw more robust pragmatic development, six scenarios were addressed by the training module. In the training module, coworkers were observed addressing each other informally, and strangers in the gym greeted each other informally. Overall, sustained pragmatic development was observed for eight scenarios, with backsliding occurring for six other scenarios.

5.3.2 Implicit Instruction of L2 Learners

Pragmatic development for the implicit group was observed between the pre-test and immediate post-test for two of the 55 scenarios, with both being *Sie*-coded scenarios with younger Uber drivers. A similar example was covered by the training module, with a passenger and taxi

[18] Initially, 12 participants in the explicit treatment group completed the pre-test, training module, and immediate post-test, but only seven completed the one-week delayed post-test.

[19] Friend's Colleague, Uber Driver (Male, Older), Uber Driver (Female, Older), Uber Driver (Female, Younger), Waiter (Older), Waitress (Older)

[20] Mother, Father

[21] Older Sibling, H&M Employee

[22] Younger Cousin's Partner, Coworker (Male, Younger), Coworker (Female, Younger), Teenager (Aged 17-19), Gym Employee (Aged 21), Gym Employee (Aged 45), Gym Patron (Aged 21), Gym Patron (Aged 45)

driver addressing each other formally. Similar to the explicit treatment group, not all implicit group participants completed the delayed post-test[23]. When considering the delayed post-test ratings, significant differences were observed among the tests for two *Sie*-coded scenarios. However, pragmatic development did not occur for either scenario. Similar to the explicit group trend, there was backsliding for the *Sie*-coded scenarios with Uber drivers. So, while minimal pragmatic was development was seen on the immediate post-test, sustained development on the delayed post-test was not observed for the implicit instruction group.

5.3.3. Backsliding

Backsliding was observed in both treatment groups between the pre-test and the delayed post-test. In this study, backsliding is considered to have occurred when pragmatic development is observed between the pre-test and immediate post-test, with learners reverting back to their original *du* or *Sie* ratings, i.e., away from native-like address behaviour, on the delayed post-test. Figure 5.4 presents all instances of backsliding. Both the EI and II groups are represented, with the II group shown by diagonal patterning. Examples of this can be seen in the cases of younger Uber drivers for both the implicit and explicit instruction groups. As demonstrated for both groups, these scenarios, learners initially showed development towards *Sie*- and native-like address behaviour on the immediate post-test. However, the learners regressed away from *Sie*- and native-like address behaviour on the delayed post-test, by giving ratings similar to those of the post-test.

[23] 14 participants completed the pre-test, training module, and immediate post-test; 11 participants completed the one-week delayed post-test

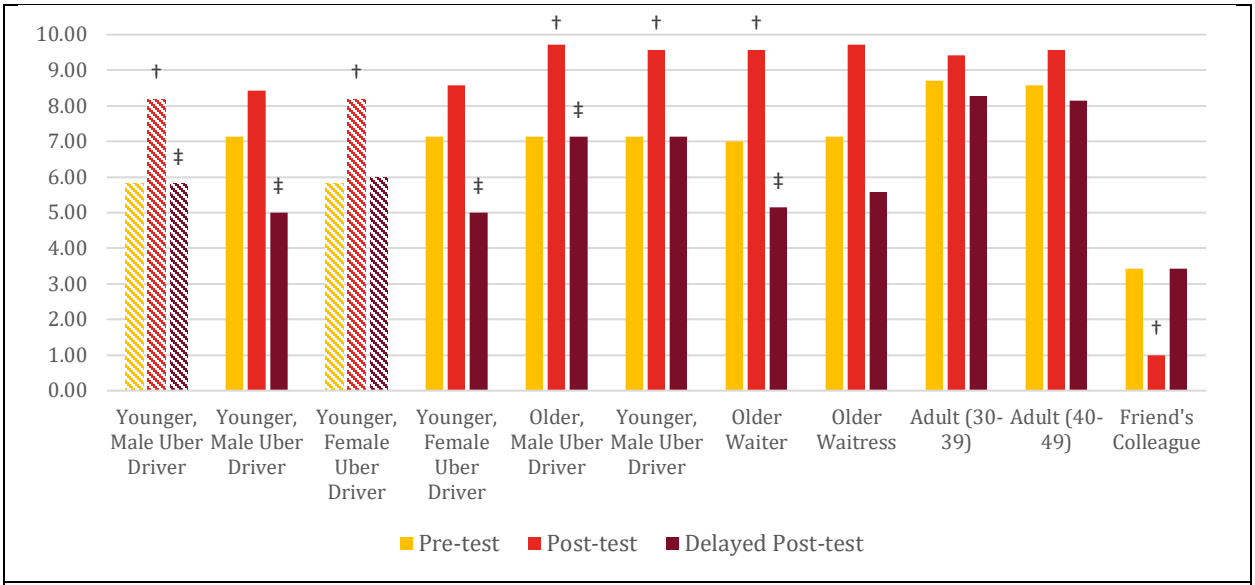


Figure 5.4. Backsliding between immediate and delayed post-test for both implicit (diagonal) and explicit (solid) treatment groups. Significance, at $p < 0.05$, is denoted between tests by:

† between pre-test and immediate post-test
* between pre-test and delayed post-test
‡ between immediate and delayed post-test

5.3.3 Instructional Treatments in Literature

In the larger body of literature comparing implicit and explicit instruction for L2 learners, explicit instruction tends to be more effective than implicit instruction. This also holds in the area of pragmatics, with explicit treatment groups often out-performing implicit groups, as demonstrated in Taguchi's (2015b) meta-analysis. The results of the current study are in line with the trend, with the explicit treatment group showing significant pragmatic development in the direction of native-like address use for many more scenarios than the implicit treatment group. While previous research on T/V address instruction conditions is limited, the few studies available have only provided support for the efficacy of explicit instruction for pragmatic development (Kuepper & Feryok, 2020; Van Compernolle, 2011; Van Compernolle et al. 2016). In these studies, CB(P)I, a form of explicit instruction, was used to instruct learners on T/V address systems[24] with instruction focusing on concepts of sociopragmatics. Unlike these studies however, the current study's explicit

[24] The three studies focused on German, French, and Spanish address systems, respectively.

instruction was not concept-based, participants spent less time on instruction, and the participants were tested on many more scenarios.

While no studies have addressed implicit instruction of T/V address systems, the inefficacy observed in the current study is not unexpected. Even with participants in the implicit treatment group being required to answer a post-scenario distractor question, necessitating the learners to attend to the content of the scenario, and the pronominal forms salience being increased, it is possible that even awareness at the level of noticing did not take place. In studies on L2 pragmatics where implicit and explicit instructional conditions were equally effective, structured practice was used following instruction. This practice, as part of the implicit treatment, usually took the form of a production task, which encouraged learners to attend to target forms and deeper processing (Taguchi, 2015b).

The backsliding between the immediate post-test and one-week delayed post-test, seen in both the implicit and explicit treatment groups, was also not unexpected. This regression has been seen in other studies looking at pragmatic development for T/V address systems (Belz, 2007; Belz & Kinginger, 2003; Gonzalez-Iloret, 2008; Kuepper & Feryok, 2020). In studies only observing address behaviour, where participants are given explicit feedback to use a certain address by a language partner, L2 learners continued to show a lack of pragmatic control and vacillated between addresses, at times randomly (Belz, 2007; Belz & Kinginger, 2003; Gonzalez-Iloret, 2008). Interview data from Kuepper and Feryok (2020) found that in situations where participants were unsure of the appropriate address, they reverted to whichever address they used in the past, prior to instruction.

There were no correlations found between self-rated skill levels, years of German studied, and pragmatic development. This suggests that learners do not need to be of higher proficiency before being introduced to instruction on address and address systems. Kuepper and Feryok (2020) instructed both beginner and intermediate learners on the German address system, and

both groups of learners had similar amounts of pragmatic development. Similarly, there was no correlation found between time spent studying abroad and pragmatic development. This could suggest that students are not picking up this knowledge implicitly or incidentally while abroad and that dedicated instruction may still be required for these students. Studies that have looked at address development during study abroad have only seen minor pragmatic development. (Blood, 2018; Barron, 2006; Hassall, 2013). For this reason, it was not expected that learners who participated in study abroad would be more advanced or make more learning gains, in terms of native-like address behaviour, than their colleagues.

5.4 Limitations

5.4.1 Sliding Scale

On the pre-test, immediate post-test, and delayed post-test, participants were given a slider with *du* on one end and *Sie* on the other (see Figure 3.1 in Chapter 3). Instructions and an example were given prior to each test to provide clarification on the instrument. Participants were told that the slider position indicated how likely they were to address a given person with *du* or *Sie,* i.e., a slider position closer to *Sie* than *du* meant they were more likely to use *Sie* in the described scenario, but there may be instances where *du* is also appropriate. The choice to use a sliding scale to gather traditionally binary data was a double-edged sword. One advantage of the slider was its ability to represent variability and nuance of scenarios, and additionally capturing a confidence rating for each address choice. Interview data collected from NSs suggested that whole categories of individuals cannot be put into a single box; for example, waitstaff and shopkeepers may be addressed differently depending on the environment and context. However, a potential drawback of the slider is its susceptibility to mixed interpretation or confusion, especially in an online survey format where clarification cannot be provided. While the gathered data suggests that many of the participants understood the slider, no qualitative data were gathered along with the slider values to ensure the data's validity. The lack of consensus observed in NSs ratings, compared to some other

studies, is likely a function of this sliding scale. Additionally, the participants were not shown the slider value during the test, e.g., if the slider's position was at '75'. If this instrument were to be used again, it is recommended that this value be shown to participants. Even though participants gave equivalent ratings in expected scenarios, it may have helped them better judge their ratings in relation to other scenarios instead of eyeballing the slider position.

5.4.2 Training Length and Tasks

Backsliding was observed in both treatment groups between the pre-test and the delayed post-test, with learners making pragmatic gains on the immediate post-test before reverting back to their original address on the delayed post-test (see Figure 5.4). The backsliding observed in the current study could suggest that the training module did not provide robust enough instruction for the learners to make long-term knowledge gains. One reason for this could be due to the brevity of the training or lack of production activities with the training. Conceptual knowledge gains for T/V address systems have been observed in studies that utilized lengthy training under explicit conditions (Kuepper & Feryok, 2020; Van Compernolle, 2011; Van Compernolle et al., 2016). In the broader area of pragmatics, robust results (i.e., results still present on a delayed post-test), are often seen when instruction time approaches 2.5 hours and a communicative task is used as part of the instruction (Taguchi, 2015b). This approach of long duration instruction paired with production activities is robust enough that additional practice incorporated into instruction has not been found to yield significantly different learning gains (Tateyama, 2007; Tateyama, 2009). However, this minimum threshold of instruction time or structured practice has not yet been established for instruction of address forms. Communicative tasks were not used in the training in the current study in order for the instruction to be accessible and practical for learners in first- or second-semester German. The instruction time was also kept short to increase the feasibility of incorporating the instruction into classroom instruction time or during homework.

5.4.3 NS Baseline

Prior to the instruction of L2 learners at the University of Calgary, data were gathered for 55 scenarios from German NSs at Universität Hamburg. These data were gathered due to the lack of available NS data from a similar age group to the L2 learners for a wide range of social situations. While some data are available, they are for a limited number of very specific scenarios (Blood, 2018; Barron, 2006). In order to provide concrete examples for the training module and judge broader pragmatic development of L2 learners, more NS data were required. While the data gathered were subject to the limitation of the slider described above, the use of NS for benchmarking can also be problematic. Röver (2011) describes several problems with using NS norms to judge L2 pragmatic development. Firstly, not all pragmatic language features have a high degree of NS agreement. Matsumura (2001) observed instability in English NSs' sociopragmatics judgements when they were used as a baseline from which to evaluate Japanese ESL students' development. Instability and disagreement are common for address judgement, with a speaker's age and location playing a role in their address choices. Röver (2011) also points out that NSs cannot be considered a homogenous group. Individuals from eastern Germany may air on the side of formality more than those from west German or Austria due to historical influence (Krentzenbacher et al., 2006). Older adults also tend to be more formal (Clyne et al., 2009; Gerndt, 2008; Krentzenbacher et al., 2006). For the current study, it was necessary to gather data from NSs at a similar age and in a similar context (i.e., university students) as the University of Calgary L2 learners, but it is important to note that the address behaviour of students from Hamburg is not representative of students across Germany. Finally, Röver (2011) comments that NS norms may not apply to L2 learners, and that learners might need to "follow foreigner-specific norms" (p. 475). This possibility was not explored in the current study, and it is possible that NSs would use different addresses with NNSs. It would be worthwhile in future work to understand the expectations of NSs for NNSs in terms of address behaviour.

5.5 Implications

The main goal of this study was to explore the efficacy of two instructional conditions for instructing L2 German learners on address pronouns. Due to the time constraints already faced by the classroom, it was a secondary goal for the instruction studied to present a minimal time burden, be easily accessible (e.g., by being online), and appropriate for all levels of language learners. The two instructional conditions compared were an explicit condition, in which learners received brief metapragmatic instruction, and an implicit condition, where learners where not given additional instruction. Results showed sustained pragmatic development for participants in the explicit instruction group. Some of the scenarios where learners show sustained learning gains were related to examples used in the instruction.

These results support the conclusion that pragmatic development is possible with limited instruction time[25], making it feasible to introduce this type of instruction into the classroom without a significant time burden. Additionally, since L2 learners from all levels of German participated in the study, it is possible that this type of instruction could be used across L2 German courses, from beginner to advanced. Students who had participated in a German study abroad were also part of the study. Correlational analysis found no links between those who had studied abroad, or higher proficiency learners, and more native-like address behaviour on the pre-test. This suggests that learners at all levels of German and those who participate in study abroad could benefit from further instruction on address pronouns. The results of the pre-test also show that all L2 learners struggle with even straightforward social scenarios such as addressing family members. Finally, this study introduces support that address pronouns can be taught in a CALL environment.

[25] The instruction module took on average 20.9 minutes to complete; this time included both the pre-test and post-test, which each took approximately 5 minutes.

5.6 Conclusion

5.6.1 Summary

This novel study compared implicit and explicit conditions for instruction of L2 German learners on the German T/V address system. It was one of a handful of studies looking at instructional methods for T/V address systems, and it was novel in its testing of an implicit instructional condition. Additionally, the surveying of address behaviour of a concentrated age group of German NSs for a broader array of social situations provided a much-needed contribution to literature. The results of the instruction of L2 learners showed that the explicit instructional condition was more effective in terms of immediate and sustained pragmatic development than the implicit condition. Time spent studying abroad and higher language proficiency did not appear to be advantageous in terms of achieving native-like address behaviour pre- or post-instruction.

5.6.2 Future Work

In future work, improvements to the implicit instructional condition in the current study could be made to determine if implicit instruction could be a feasible method to teach L2 learners about German address. For example, production activities could be incorporated in the instruction to encourage deeper processing. Similarly, the efficacy of corrective feedback could be tested with this language feature. Another option would be to develop a chat-bot that participants of different proficiency levels could interact with, with the chat-bot providing implicit feedback. Finally, immersive and/or virtual environments seem like a natural learning environment for address terms; this technology would allow participants to experience pragmatic events outside of the peer-peer and student-instructor situations found in the classroom.

The work of surveying address behaviour of university-aged German NSs could be extended, with university students from different regions of Germany participating. This could shed light on the regional difference in address behaviour for younger Germans, and it would provide

better insight than previous studies through the use of the expansive 55-scenario survey used in the current study.

References

Abrams, Z. (2013). Say what?! L2 sociopragmatic competence in CMC: Skill transfer and development. *Calico Journal*, *30*(3), 423-445. doi: 10.1558/cj.30.3.423-445

Ajabshir, Z. F. (2019). The effect of synchronous and asynchronous computer-mediated communication (CMC) on EFL learners' pragmatic competence. *Computers in Human Behavior*, *92*, 169-177. doi: 10.1016/j.chb.2018.11.015

Akakura, M. (2012). Evaluating the effectiveness of explicit instruction on implicit and explicit L2 knowledge. *Language Teaching Research*, *16*(1), 9-37. doi: 10.1177/1362168811423339

Alm, A. (2013). Extensive listening 2.0 with foreign language podcasts. *Innovation in Language Learning and Teaching*, *7*(3), 266-280. doi: 10.1080/17501229.2013.836207

Asaei, R., & Rezvani, E. (2015). The effect of explicit vs. implicit instruction on Iranian EFL learners' use of collocations in L2 writing. *Journal of Applied Linguistics and Language Research*, *2*(3), 1-22.

Badjadi, N. E. I. (2016). A meta-analysis of the effects of instructional tasks on L2 pragmatics comprehension and production. In S. F. Tang & L. Logonnathan (Eds.), *Assessment for learning within and beyond the classroom* (pp. 241–268). Springer. doi: 10.1007/978-981-10-0908-2_21

Bailey, A. A., & Brandl, A. (2012, August). Incorporating pronunciation in the first-year Spanish classroom: An early intervention. In *Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference* (pp. 207-223).

Bamanger, E. M., & Alhassan, R. A. (2015). Exploring podcasting in English as a foreign language learners' writing performance. *Journal of Education and Practice*, *6*(11), 63-74.

Bardovi-Harlig, K. (1996). Pragmatics and language teaching: Bringing pragmatics and pedagogy together. In L. F. Bouton (Ed.), *Pragmatics and language learning,* (pp. 21-39). Division of English as an International Language.

Bardovi-Harlig, K. (2012). Pragmatics in second language acquisition. In S. M. Gass & A. Mackey, *Routledge handbook of second language acquisition* (pp. 165-180). Routledge.

Bardovi-Harlig, K. (2017). Acquisition of pragmatics. In S. Loewen & M. Sato (Eds.), *Handbook of instructed SLA* (pp. 224–245). Routledge.

Bardovi-Harlig, K. (2020). Pedagogical linguistics: A view from L2 pragmatics. *Pedagogical Linguistics*, *1*(1), 44-65. doi: 10.1075/pl.19013.bar

Bardovi-Harlig, K., & Dörnyei, Z. (1998). Do language learners recognize pragmatic violations? Pragmatic versus grammatical awareness in instructed L2 learning. *Tesol Quarterly*, *32*(2), 233-259. doi: 10.2307/3587583

Barron, A. (2006). Learning to say 'you' in German: The acquisition of sociolinguistic competence in a study abroad context. In M. DuFon & E. Churchill (Eds.), *Language learners in study abroad contexts*, (pp. 59-88). Multilingual Matters. doi: 10.21832/9781853598531-007

Bella, S. (2011). Mitigation and politeness in Greek invitation refusals: Effects of length of residence in the target community and intensity of interaction on non-native speakers' performance. *Journal of Pragmatics*, *43*(6), 1718-1740. doi: 10.1016/j.pragma.2010.11.005

Belz, J. A. (2007). The role of computer mediation in the instruction and development of L2 pragmatic competence. *Annual Review of Applied Linguistics*, *27*, 45–75. doi: 10.1017/S0267190508070037

Belz, J. A., & Kinginger, C. (2003). Discourse options and the development of pragmatic competence by classroom learners of German: The case of address forms. *Language learning*, *53*(4), 591-647. doi: 10.1046/j.1467-9922.2003.00238.x

Besch, W. (1994). Hierarchie und höflichkeit in der deutschen sprache. In J. Kohnen, H. Solms, & K. Wegera (Eds.), *Brücken schlagen… "Weit draußen auf eigenen Füßen" festschrift für Fernand Hoffman,* (pp. 383). Peter Lang D. doi: 10.3726/978-3-653-01936-0

Bird-Soto, N., & Rengel, P. (2009). Podcasting and the intermediate-level Spanish classroom. In R. Oxford & J. Oxford (Eds.), *Second language teaching and learning in the net generation*, (pp. 101-109). University of Hawai'I , National Foreign Language Resource Center. doi: 10.4018/978-1-60960-141-6.ch011

Blood, R. (2018). "When you speak to a police officer and (call them) du": Examining the impact of short-term study abroad on Australian students' awareness of address forms in German. *Study Abroad Research in Second Language Acquisition and International Education*, *3*(1), 117-143. doi: 10.1075/sar.17004.blo

Braun, F. (1988). *Terms of address: problems of patterns and usage in various languages and cultures.* Mouton de Gruyter. doi: 10.1017/S0022226700014572

Brown, J.D., 2001. Six types of pragmatics tests in two different contexts. In Rose, K., Kasper, G. (Eds.), *Pragmatics in language teaching,* (pp. 301-325). Cambridge University Press. doi: 10.1177/0265532210394633

Brown, J. D., & Ahn, R. C. (2011). Variables that affect the dependability of L2 pragmatics tests. *Journal of Pragmatics*, *43*(1), 198-217. doi: 10.1016/j.pragma.2010.07.026

Brown, R., & Gilman, A. (1960). The pronouns of power and solidarity. In Sebeok, T. A. (Ed.), *Style in language,* (pp. 253-276). MIT Press.

Chapelle, C.A., 2001. *Computer applications in second language acquisition*. Cambridge University Press. doi: 10.1017/CBO9781139524681

Chen, Y. (2009). Learner Perceptions of Instruction in L2 Pragmatics. *English Language Teaching*, *2*(4), 154-161. doi: 10.5539/elt.v2n4p154

Cirillo, V. (2012). The pragmatics of virtual environments. Compliment responses in second life. *Lingue e Linguaggi*, *7*, 37-58. doi: 10.1285/i22390359v7p37

Clyne, M. (1995). *The German language in a changing Europe*. Cambridge University Press.

Clyne, M., Norrby, C., & Warren, J. (2009). *Language and human relations: Styles of address in contemporary language*. Cambridge University Press. doi: 10.1017/CBO9780511576690

Cohen, A. D. (2008). Teaching and assessing L2 pragmatics: What can we expect from learners?. *Language Teaching*, *41*(2), 213-235. doi: 10.1017/S0261444807004880

Cohen, A. D. (2020). Considerations in assessing pragmatic appropriateness in spoken language. *Language Teaching, 53*(2), 183-202. doi:10.1017/S0261444819000156

Crystal, D. (1997). *The Cambridge encyclopedia of language* (2nd ed.). Cambridge University Press.

Culpeper, J., Mackey, A., & Taguchi, N. (2018). *Second language pragmatics: From theory to research*. Routledge.

Cummins, J. (2009). Bilingual and immersion programs. In M. Long & C. Doughty (Eds.), *The handbook of language teaching* (pp. 159–181). John Wiley & Sons, Ltd.

Cunningham, D. J. (2016). Request modification in synchronous computer-mediated communication: The role of focused instruction. *The Modern Language Journal*, *100*(2), 484-507. doi: 10.1111/modl.12332

DeKeyser, R. M. (1995). Learning second language grammar rules: An experiment with a miniature linguistic system. *Studies in Second Language Acquisition*, *17*(3), 379–410.

Delisle, H. H. (1986). Intimacy, solidarity and distance: The pronouns of address in German. *Die Unterrichtspraxis/Teaching German*, *19*(1), 4-15.

Ellis, R. (1994). A theory of instructed second language acquisition. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 79-114). Academic Press.

Ellis, R. (2009). *Implicit and explicit knowledge in second language learning, testing and teaching* (Vol. 42). Multilingual Matters. doi: 10.21832/9781847691767

Ellis, R. (2015). Form-focused instruction and the measurement of implicit and explicit L2 knowledge. In R. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp. 417-441). John Benjamins. doi: /10.1075/sibil.48.17ell

Ellis, R., Loewen, S., & Erlam, R. (2006). Implicit and explicit corrective feedback and the acquisition of L2 grammar. *Studies in Second Language Acquisition*, *28*(2), 339-368. doi: 10.1017/S0272263106060141

Eslami, Z. R., Mirzaei, A., & Dini, S. (2015). The role of asynchronous computer mediated communication in the instruction and development of EFL learners' pragmatic competence. *System*, *48*, 99-111. doi: 10.1016/j.system.2014.09.008

Faramarzi, S., Tabrizi, H. H., & Chalak, A. (2019). The effect of vodcasting tasks on EFL listening comprehension progress in an online program. *International Journal of Instruction*, *12*(1), 1263-1280.

Fernández, C. (2011). Four L2 learning objectives to guide podcast design. In B.R. Facer & M. Abdous (Eds.), *Academic podcasting and mobile assisted language learning: Applications and outcomes* (pp. 21-36). IGI Global. doi: 10.4018/978-1-60960-141-6.ch002

Fukuya, Y. J., & Zhang, Y. (2002). Effects of recasts of EFL learners' acquisition of pragmalinguistic conventions of request. *University of Hawai'i Second Langauge Studies Paper 21*(1) 1-47.

Gerndt, J. L. (2008). *Addressing variation: Second-person pronouns in modern standard German* (Doctoral dissertation, Purdue University).

Gonzales, A. (2013). Development of politeness strategies in participatory online environments. In N. Taguchi & J. Sykes (Eds.), *Technology in interlanguage pragmatics research and teaching* (pp. 101-120). John Benjamins. doi: 10.1075/lllt.36.06gon

González-Lloret, M. (2008). Computer-mediated learning of L2 pragmatics. In E. A. Soler & A. Martinez-Flor (Eds.), *Investigating pragmatics in foreign language learning, teaching and testing* (pp. 114-132). Multilingual Matters doi: 10.21832/9781847690869

Hampel, R. (2006). Rethinking task design for the digital age: A framework for language teaching and learning in a synchronous online environment. *ReCALL*, *18*(1), 105-121. doi: 10.1017/S0958344006000711

Hassall, T. (2013). Pragmatic development during short-term study abroad: The case of address terms in Indonesian. *Journal of Pragmatics*, *55*, 1-17. doi: 10.1016/j.pragma.2013.05.003

Hassaskhah, J., & Ebrahimi, H. (2015). A study of EFL learners' (meta) pragmatic learning through explicit (teacher explanation) and implicit (foreign film) interventions: The case of compliment. *Journal of Language Teaching and Research*, *6*(2), 292-301. doi: 10.17507/jltr.0602.08

Hickey, R. (2003). The German address system: Binary and scalar at once. In I. Taavitsainen & A. H. Jucker (Eds.), *Diachronic perspectives on address term systems* (pp. 401-425). John Benjamins. doi: 10.1075/pbns.107

Holden, C., & Sykes, J. M. (2013). Complex L2 pragmatic feedback via place-based mobile games. In N. Taguchi & J.M. Sykes (Eds.), *Technology in interlanguage pragmatics research and teaching* (pp. 155-184). John Benjamins. doi: 10.1075/lllt.36.09hol

Hubbard, P. (2006). Evaluating CALL software. In L. Ducate & N. Arnold (Eds.), *Calling on CALL: From theory and research to new directions in foreign language teaching* (pp. 313-338). CALICO.

Hulstijn, J. H. (2005). Theoretical and empirical issues in the study of implicit and explicit second-language learning: Introduction. *Studies in Second Language Acquisition*, *27*(2), 129-140.

Jamieson, J., & Chapelle, C. A. (2010). Evaluating CALL use across multiple contexts. *System*, *38*(3), 357-369. doi: 10.1017/S0272263105050084

Joseph, J. E. (1989). Review of the book *Terms of Address: Problems of Patterns and Usage in Various Languages and Cultures*. *Linguistic Society of America, 65*(4), p. 852-857. Retrieved from https://www.jstor.org/stable/414945

Kasper, G. (1992). Pragmatic transfer. *Second Language Research, 8*(3), 203-231. doi: 10.1177/026765839200800303

Khodabandeh, F. (2016). Comparing the effects of four instructional treatments on EFL students' achievement in writing classified ads. *English Language Teaching*, *9*(3), 139-152. doi: 10.5539/elt.v9n3p139

Kim, H. (2016). An investigation into EFL learners' perception towards L2 pragmatic instruction. *Theory and Practice in Language Studies*, *6*(3), 452-462. doi: 10.17507/tpls.0603.02

Kissling, E. M. (2013). Teaching pronunciation: Is explicit phonetics instruction beneficial for FL learners?. *The Modern Language Journal*, *97*(3), 720-744. doi: 10.1111/j.1540-4781.2013.12029.x

Kondo, S. (2008). Effects on pragmatic development through awareness-raising instruction: Refusals by Japanese EFL learners. In E. A. Soler & A. Martinez-Flor (Eds.), *Investigating pragmatics in foreign language learning, teaching and testing* (pp. 153-177). Multilingual Matters.

Kretzenbacher, H. L., Clyne, M., & Schüpbach, D. (2006). Pronominal address in German: Rules, anarchy and embarrassment potential. *Australian Review of Applied Linguistics*, *29*(2), 17-1. doi: 10.1075/aral.29.2.02kre

Kuepper, M. C., & Feryok, A. (2019). Concept-based pragmatics instruction: Teaching German address pronouns to New Zealand tertiary students. *Language and Sociocultural Theory*, *6*(2), 158-183. doi: 10.1558/lst.37359

Latimer, S. C. (2015). *The effect of cultural competence on the acquisition of French T/V pronouns* (Master's thesis, Purdue University).

Lee, L. (2009). Promoting intercultural exchanges with blogs and podcasting: A study of Spanish–American telecollaboration. *Computer Assisted Language Learning*, *22*(5), 425-443. doi: 10.1080/09588220903345184

Leech, G. N. (1983). *Principles of pragmatics*. London: Longman.

Leier, V. (2011). A podcast project in the German programme of the University of Canterbury, New Zealand. *EuroCALL Review*, *19*, 18.

Liu, C. N. (2007). *Pragmatics in foreign language instruction: the effects of pedagogical intervention and technology on the development of EFL learners' realization of "request"* (Unpublished doctoral thesis, Texas A & M University).

Matsumura, S. (2001). Learning the rules for offering advice: A quantitative approach to second language socialization. *Language Learning*, *51*(4), 635-679. doi: 10.1111/0023-8333.00170

McBride, K. (2009). Podcasts and second language learning. In L. B. Abraham & L. Williams (Eds.), *Electronic discourse in language learning and language teaching* (pp. 153-167). John Benjamins. doi: 10.1075/lllt.25.12mcb

McConachy, T., & Hata, K. (2013). Addressing textbook representations of pragmatics and culture. *ELT journal*, *67*(3), 294-301. doi: 10.1093/elt/cct017

McCourt, C. A. (2009). *Pragmatic variation among learners of French in real-time chat communication*. In R. Oxford & J. Oxford, (Eds.), Second Language teaching and learning in the net-generation (pp. 141-151). University of Hawai'i, National Foreign Language Resource Center.

McMurry, B. L., Williams, D. D., Rich, P. J., & Hartshorn, K. J. (2016). An evaluation framework for CALL. *TESL-EJ*, *20*(2), 1-31.

Mishan, F. (2004). Authenticating corpora for language learning: a problem and its resolution. *ELT Journal*, *58*(3), 219-227. doi: 10.1093/elt/58.3.219

Nemati, M., Rezaee, A. A., & Hajmalek, M. M. (2016). Employing acceptability judgement tasks to assess pragmatic awareness. *The European Journal of Applied Linguistics and TEFL*, *5*(1), 171-193.

Nguyen, T. T. M., Pham, T. H., & Pham, M. T. (2012). The relative effects of explicit and implicit form-focused instruction on the development of L2 pragmatic competence. *Journal of Pragmatics*, *44*(4), 416-434. doi: 10.1016/j.pragma.2012.01.003

Niezgoda, K., & Röver, C. (2001). Pragmatic and grammatical awareness: A function of the learning environment? In K. Rose & G. Kasper (Eds.), *Pragmatics in language teaching* (pp. 63-79). Cambridge University Press. doi: 10.1111/j.0023-8333.2006.00348.x

Norrby, C., & Warren, J. (2012). Address practices and social relationships in European languages. *Language and Linguistics Compass*, *6*(4), 225-235. doi: 10.1002/lnc3.331

Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, *50*(3), 417-528. doi: 10.1111/0023-8333.00136

Peltekov, P. (2017). *The effectiveness of implicit and explicit instruction on German l2 learners' pronunciation* (Unpublished master's thesis, University of Calgary).

Podcast Insights. (2020, October 06). *2020 podcast stats & facts.* https://www.podcastinsights.com/podcast-statistics/

Qin, T. (2018). *Computerized dynamic assessment of L2 Chinese implicature comprehension* [Unpublished doctoral dissertation]. Carnegie Mellon University.

Rafieyan, V. (2016). Effect of "focus on form" versus "focus on forms" pragmatic instruction on development of pragmatic comprehension and production. *Journal of Education and Practice*, *7*(20), 41-48.

Rose, K. R. (2005). On the effects of instruction in second language pragmatics. *System*, *33*(3), 385-399. doi: 10.1016/j.system.2005.06.003

Rosell-Aguilar, F. (2007). Top of the pods—In search of a podcasting "podagogy" for language learning. *Computer Assisted language learning*, *20*(5), 471-492. doi: 10.1080/09588220701746047

Rosell-Aguilar, F. (2017). State of the app: A taxonomy and framework for evaluating language learning mobile applications. *CALICO Journal*, *34*(2), 243-258. doi: 10.1558/cj.27623

Röver, C. (2006). Validation of a web-based test of ESL pragmalinguistics. *Language Testing*, *23*(2), 229–256. doi: 10.1191/0265532206lt329oa

Röver, C. (2011). Testing of second language pragmatics: Past and future. *Language Testing*, *28*(4), 463-481. doi: 10.1177/0265532210394633

Röver, C. (2013). Technology and tests of L2 pragmatics. In N. Taguchi & J.M. Sykes (Eds.), *Technology in interlanguage pragmatics research and teaching* (pp. 215-233). John Benjamins. doi: 10.1075/lllt.36

Saito, K., Suzukida, Y., & Sun, H. (2019). Aptitude, experience, and second language pronunciation proficiency development in classroom settings: a longitudinal study. *Studies in Second Language Acquisition*, *41*(1), 201-225. doi:10.1017/S0272263117000432

Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, *11*(2), 129-158.

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 1-63). Second Language Teaching & Curriculum Centre, University of Hawai'i.

Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3-32). Cambridge University Press. doi: 10.1017/CBO9781139524780.003

Şendağ, S., Gedik, N., & Toker, S. (2018). Impact of repetitive listening, listening-aid and podcast length on EFL podcast listening. *Computers & Education*, *125*, 273-283. doi: 10.1016/j.compedu.2018.06.019

Shively, R. L. (2011). L2 pragmatic development in study abroad: A longitudinal study of Spanish service encounters. *Journal of Pragmatics*, *43*(6), 1818-1835. doi: 10.1016/j.pragma.2010.10.030

Siegal, M. (1996). The role of learner subjectivity in second language sociolinguistic competency: Western women learning Japanese. *Applied linguistics*, *17*(3), 356-382. doi: 10.1093/applin/17.3.356

Spada, N., & Tomita, Y. (2010). Interactions between type of instruction and type of language feature: A meta-analysis. *Language learning*, *60*(2), 263-308. doi: 10.1111/j.1467-9922.2010.00562.x

Sykes, J. M. (2013). Multiuser virtual environments: Learner apologies in Spanish. In N. Taguchi & J.M. Sykes (Eds.), Technology in interlanguage pragmatics research and teaching (pp. 71–100). John Benjamins. doi: 10.1075/lllt.36.05syk

Taguchi, N. (2008). The role of learning environment in the development of pragmatic comprehension: A comparison of gains between EFL and ESL learners. *Studies in Second Language Acquisition*, *30*(4), 423-452. doi: 10.1017/S0272263108080716

Taguchi, N. (2011). Pragmatic development as a dynamic, complex process: General patterns and case histories. *The Modern Language Journal*, *95*(4), 605-627. doi: 10.1111/j.1540-4781.2011.01246.x

Taguchi, N. (2015a). "Contextually" speaking: A survey of pragmatic learning abroad, in class, and online. *System*, *48*, 3-20. doi: 10.1016/j.system.2014.09.001

Taguchi, N. (2015b). Instructed pragmatics at a glance: Where instructional studies were, are, and should be going. *Language Teaching*, *48*(1), 1-50. doi: 10.1017/S0261444814000263

Takahashi, S. (2001). The role of input enhancement in developing pragmatic competence. In G. Kasper & K. R. Rose (Eds.), *Pragmatics in language teaching* (pp. 171-199). Cambridge University Press. doi: 10.17509/ijal.v7i2.8136

Takimoto, M. (2006). The effects of explicit feedback on the development of pragmatic proficiency. *Language Teaching Research*, *10*(4), 393-417. doi: 10.1191/1362168806lr198oa

Tateyama, Y. (2001). *Explicit and implicit teaching of pragmatic routines: Japanese sumimasen* In G. Kasper & K. R. Rose (Eds.), *Pragmatics in language teaching* (pp. 200-222). Cambridge University Press.

Tateyama, Y. (2007). The effects of instruction on pragmatic awareness. In K. Bradford-Watts (Ed.), *JALT 2006 Conference Proceedings*. (pp. 1189–1200).

Tateyama, Y. (2009). Requesting in Japanese: The effect of instruction on JFL learners' pragmatic competence. In N. Taguchi (Ed.), *Pragmatic competence* (pp. 129-166). Mouton de Gruyter.

Van Compernolle, R. A. (2011). Developing second language sociopragmatic knowledge through concept-based instruction: A microgenetic case study. *Journal of Pragmatics*, *43*(13), 3267-3283. doi: 10.1558/lst.29542

Van Compernolle, R. A., Gomez–Laich, M. P., & Weber, A. (2016). Teaching L2 Spanish sociopragmatics through concepts: A classroom-based study. *The Modern Language Journal*, *100*(1), 341-361. doi: 10.1111/modl.12318

Van Compernolle, R. A., & Henery, A. (2014). Instructed concept appropriation and L2 pragmatic development in the classroom. *Language Learning*, *64*(3), 549-578. doi: 10.1111/lang.12054

Van Compernolle, R. A., Williams, L., & McCourt, C. (2011). A corpus-driven study of second-person pronoun variation in L2 French synchronous computer-mediated communication. *Intercultural Pragmatics*, *8*(1), 67-91. doi: 10.1515/IPRG.2011.003

Villada, E. G. (2009). CALL evaluation for early foreign language learning: A review of the literature and a framework for evaluation. *CALICO Journal*, *26*(2), 363. doi: 10.1558/cj.v26i2.363-389

Willis, D. & Willis, J. (1996) Consciousness-raising activities. Retrieved September 10, 2020 from http://www.willis-elt.co.uk/documents/7c-r.doc

Winchatz, M. (2001). Social meanings in German interactions: An ethnographic analysis of the second-person pronoun Sie. *Research on Language and Social Interaction, 34*(3), 337-369. doi: 10.1207/S15327973RLSI34-3_3

Appendix A

A.1 German Native Speaker Consent Form, Background Questionnaire and Survey[26]

Name der Versuchsleiterin, Fachbereich, Institut, & E-Mail:
Caitlin Ryan, M.A. Studentin School of Languages, Linguistics, Literatures and Cultures, cjryan@ucalgary.ca

Projekttitel: Second-person Address Usage of German Speakers (Adressverwendung von deutschsprachigen Personen.)

gefördert durch: Social Sciences and Humanities Research Council of Canada

Diese Einwilligungserklärung, die Sie in Kopie erhalten, ist nur ein Teil der gesamten "Einwilligung nach erfolgter Aufklärung" (Informed Consent). Wenn Sie Einzelheiten zu irgendeinem der im Folgenden aufgeführten Punkte oder zu hier nicht erwähnten Informationen erfahren möchten, dürfen Sie jederzeit nachfragen. Bitte nehmen Sie sich die Zeit, dieses Dokument sorgfältig durchzulesen und sämtliche Begleitinformationen zu erfassen.

Diese Forschungsstudie wurde durch die gemeinsame Forschungsethikkommission der Fachbereiche der Universität Calgary (The University of Calgary Conjoint Faculties Research Ethics Board) genehmigt.

Der Zweck dieser Studie ist es, unser Wissen darüber zu erweitern, wie sich deutsche Muttersprachler entscheiden, welche Pronomen in sozialen Kontexten verwendet werden sollen. Die Ergebnisse der Studie werden unser Verständnis der besonderen Probleme beim Erlernen einer Fremdsprache zu verbessern und können uns dabei helfen, bessere Lehrmethoden und -materialien für Fremdsprachenlerner zu entwickeln. Sie wurden als Teilnehmer ausgewählt, weil Sie deutscher Muttersprachler sind. Sie werden darum gebeten, an einer Studie zum deutschen Pronomensystem teilzunehmen. Vorher füllen Sie einen Fragebogen aus. Sollten Sie zustimmen, am Experiment teilzunehmen, werden wir die folgenden persönlichen Daten von Ihnen erfragen:

- Ihr Geschlecht und Alter
- Ihren Beruf/Ihr Studienfach
- Ihre Muttersprache

    - Ich stimme zu
    - Ich stimme nicht zu

Was passiert mit meinen Daten?

Die Versuchsleiterin erhebt Ihre persönlichen Daten und Ihre Antworten in der Studie. Die persönlichen Daten werden im Internet erfasst. Diese Fragebögen werden verschlossen aufbewahrt und sind nur der Versuchsleiterin und ihrer Betreuerin zugänglich. Ihre Antworten werden anonymisiert (z.B. Versuchspersonennummer VP01) gespeichert. Ihre persönlichen Daten werden

[26] The survey was delivered using the online platform Qualtrics Experience Management: https://www.qualtrics.com/

nur dazu verwendet, um das Durchschnittsalter aller Teilnehmer und die Anzahl von Männern und Frauen, die an der Studie teilnahmen, zu ermitteln. Nur zusammenfassende Informationen über ganze Gruppen werden in möglichen Präsentationen oder Publikationen der Ergebnisse aufgeführt werden.

Die Teilnahme ist komplett freiwillig und vertraulich. Sie können Ihre Teilnahme verweigern und jederzeit Ihre Teilnahme widerrufen. In diesem Fall werden alle Daten, die von Ihnen erhoben wurden, gelöscht. Natürlich ist dies für Sie kostenlos.

Sollten Sie weitere Fragen haben oder Erläuterungen bezüglich dieses Forschungsprojekts und Ihrer Teilnahme daran benötigen, bitte wenden Sie sich an:

Caitlin Ryan M.A. Studentin School of Languages, Linguistics, Literatures and Cultures
E-Mail: cjryan@ucalgary.ca

Sollten Sie Beschwerden äußern wollen, über die Art und Weise, wie Sie als Teilnehmer behandelt wurden, bitte kontaktieren Sie einen Ethics Resource Officer, Research Services Office, University of Calgary unter 001-403-220-3782; email cfreb@ucalgary.ca.

Wenn Sie auf "Ich stimme zu" klicken, bestätigen Sie, 1) dass Sie die Ihnen gegebenen Erläuterungen zum Experiment zu Ihrer Zufriedenheit verstanden haben, und 2) dass Sie einwilligen, an der Studie teilzunehmen.

In keinem Fall abbedingt dies Ihre gesetzlichen Rechte, noch entbindet dies die Forscher, Finanzierer, oder beteiligten Institutionen von ihrer gesetzlichen und professionellen Verantwortung. Es steht Ihnen frei, Ihre Teilnahme am Forschungsprojekt jederzeit zu widerrufen. Bitte fragen Sie uns (auch während der Studie) falls Unklarheiten bestehen oder auftreten.

- Ich stimme zu
- Ich stimme nicht zu

Bitte beantworten Sie die folgenden Fragen.

1. Geschlecht? _____

2. Alter? _____

3. Ausbildung? _____

4. Studienfach? _____

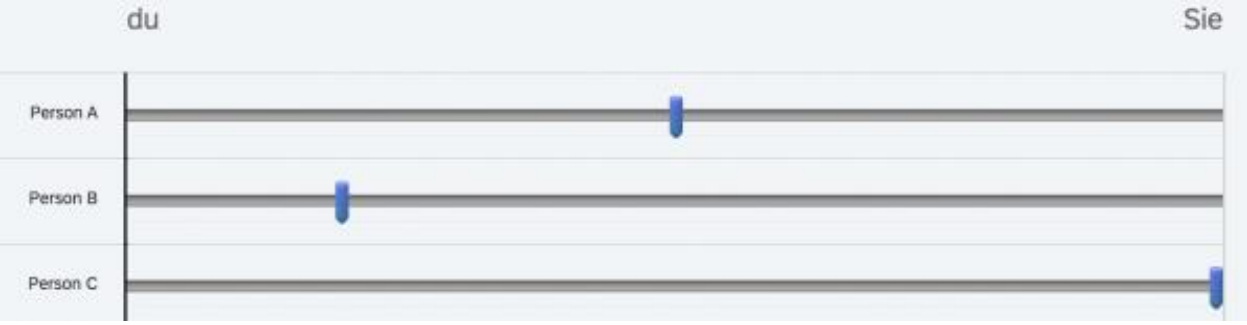
5. Muttersprache(n)?
   - Deutsch
   - Deutsch und eine andere Sprache (Bitte listen Sie Ihre Muttersprache(n) auf) _____
   - Eine andere Sprache (Bitte listen Sie Ihre Muttersprache(n) auf) _____

6. Wenn Deutsch nicht Ihre Muttersprache, wie lange haben Sie schon auf Deutsch studiert/gearbeitet? _____

7. Woher kommen Sie (Stadt, Land)? _____

In den folgenden Fragen wird ein Schieberegler verwendet, um ein Spektrum zwischen ***du*** und ***Sie*** darzustellen. Die Antworten geben an, wie wahrscheinlich es ist, dass Sie eine bestimmte Person mit einem der beiden Pronomen ansprechen.

z.B. Wenn die X in der Mitte ist, würden Sie die Person gleich häufig mit ***du*** und ***Sie*** anrufen.
z.B. Wie reden Sie Personen A, B, und C individuell an? (du / Sie)



Wie reden Sie Ihre Familienmitglieder und Verwandtschaft <u>individuell</u> an? (du/Sie)

	du	**Sie**
Mutter		
Vater		
Jüngere Geschwister		
Ältere Geschwister		
Großmutter		
Großvater		
Urgroßmutter		
Urgroßvater		
Tante		
Onkel		
Jüngerer Cousin		
Älterer Cousin		
Schwiegermutter		
Schwiegervater		
PartnerIn jüngerer Cousins		
PartnerIn älterer Cousins		

Wie reden Sie die folgenden Personen an? (du/Sie)

	du	**Sie**
Busfahrer		
- männlich, älter als Sie		
- weiblich, älter als Sie		
- männlich, jünger als Sie		
- weiblich, jünger als Sie		
FriseurIn		
- älter als Sie		
- jünger als Sie		
- gleich alt		
Kellner		
- älter als Sie		
- jünger als Sie		
- gleich alt		
Kellnerin		
- älter als Sie		
- jünger als Sie		
- gleich alt		
ChefIn		
Kollege		
- älter als Sie		
- jünger als Sie		
Kollegin		
- älter als Sie		
- jünger als Sie		

Sie sind in einem fremden Ort und brauchen Informationen. Sie halten an einer Straßenecke und fragen eine/n Fremde/n, wo ein bestimmtes Restaurant ist. Wie reden Sie die folgenden Leute an?

	du	**Sie**
Kind *im Alter zwischen 9-12*		
Teenager *im Alter zwischen 13-16*		
Teenager *im Alter zwischen 17 - 19*		
Erwachsene/r *im Alter zwischen 20 - 29*		
Erwachsene/r *im Alter zwischen 30 - 39*		
Erwachsene/r *im Alter zwischen 40 - 49*		
Erwachsene/r *im Alter zwischen 50 - 65*		
Erwachsene/r *älter als 65*		

Sie sind in einem neuen Fitnessstudio und möchten jemanden fragen, wo sich der Wasserbrunne befindet. Wie reden Sie die folgenden Leute an?

	du	**Sie**
Fitnessstudiobesucher/in *21 Jahre alt*		
Fitnessstudiobesucher/in *45 Jahre alt*		
Fitnesstudiomitarbeiter/in *21 Jahre alt*		
Fitnessstudiomitarbeiter/in *45 Jahre alt*		

Sie lernen die Freundin Ihres Bruders <u>zum ersten Mal</u> kennen. Die Freundin ist 34 Jahre alt.

	du	**Sie**
Wie reden Sie die Freundin an?		

Sie sind 22 Jahre alt und lernen die Familie Ihres Partners/Ihrer Partnerin zum ersten Mal kennen. Wie reden Sie die Eltern individuell an?

	du	**Sie**
Die Mutter		
Der Vater		

Eine gute Freundin von Ihnen wurde befördert und ist jetzt Ihre direkte Vorgesetzte.

	du	**Sie**
Wie reden Sie die Freundin bei der Arbeit an?		

Sie sehen Ihren ehemaligen Klassenlehrer aus der Grundschule im Supermarkt.

	du	**Sie**
Wie reden Sie den Lehrer an?		

Sie bringen Ihr Auto zur Werkstatt.

	du	**Sie**
Wie reden Sie den Mechaniker an?		

Sie gehen in Hamburg einkaufen.

	du	**Sie**
Wie reden Sie die VerkäuferIn bei H&M an?		

Sie sind auf einer Party von einer guten Freundin. Sie lernen eine Arbeitskollegin Ihrer Freundin kennen.

	du	**Sie**
Wie reden Sie diese Person an?		

Sie machen Urlaub und übernachten in einem AirBnB. Sie sprechen mit einem 32-jährigen Gastgeber.

	du	**Sie**
Wie reden Sie diese Person an?		

Nach dem Ablauf des Semesters treffen Sie Ihren Lehrassistenten im Supermarkt.

	du	**Sie**
Wie reden Sie ihn an?		

Haben Sie jemanden mit dem falschen zweite-Person Pronomen angeredet (du/Sie/ihr)?

- Ja (bitte erklären Sie) _____
- Vielleicht (bitte erklären Sie) _____
- Nein

Haben Sie schon einmal absichtlich vermieden, jemanden mit einem Pronomen (du/Sie/ihr) anzureden?

- Ja (bitte erklären Sie) _____
- Nein

Waren Sie sich schon einmal unsicher, wie Sie eine Person anreden sollten?

- Ja (bitte erklären Sie) _____
- Nein

A.2 German L2 Learner Consent Form, Background Questionnaire and Survey[27]

Contact Information of Researcher:
Caitlin Ryan, M.A. Student School of Languages, Linguistics, Literatures and Cultures, cjryan@ucalgary.ca

Project Title: Second-person Address Usage of German Speakers

Sponsor: Social Sciences and Humanities Research Council of Canada

Consent
The University of Calgary Conjoint Faculties Research Ethics Board and the Concordia University University Human Research Ethics Committee have approved this research study. The purpose of the study is to enrich our understanding of second-person address usage in German. We are gathering the data as part of a project investigating address usage of native speakers and secondlanguage (L2) learners of German. You will be asked to complete a few tasks for this study. Once you have signed this consent form, you will be asked to complete a survey that asks about your background and your language learning history. You will then take an online survey that asks you to choose which second-person pronoun you would use in a given scenario. The survey should take approximately 10-15 minutes. At the end of the survey, you will be paid $5. You may refuse to participate in parts of the study, or you may refuse to participate altogether. You may withdraw from the study at any time without penalty, and you will be paid for having participated in a given task even if you decide to withdraw from the study before you have completed all of the tasks. Your participation--or lack thereof--will have no effect on any mark that you may receive in your current German courses or in any courses you take in the future. Any responses that you give will be anonymous. Please click on "I agree" if you allow us to collect your survey responses and if you agree that others may view your answers in the future. If you click on "I disagree", there is no need for you to continue.

- I agree
- I disagree

Data Confidentiality
Participation in this study is completely voluntary and confidential. You are free to discontinue participation at any time during the study. If you decide to withdraw from the study, we will delete any data gathered up to that point. You will have two weeks to contact Caitlin if you wish to withdraw your data from the study. Even if you withdraw you will still be paid $5 for participating in the study. We will present the data in the form of conference presentations and research papers. We may use answers to survey questions in future studies, but your name will never be attached to the data. Only the researcher listed below will have access to the raw data you provide. Although data will mostly be presented in aggregate, if I do single out your data, you will only be referred to by a pseudonym.

FOR ANY COMMENTS OR QUERIES FEEL FREE TO CONTACT: Caitlin Ryan, School of Languages, Linguistics, Literatures and Cultures, University of Calgary cjryan@ucalgary.ca If you have any

[27] The survey was delivered using the online platform Qualtrics Experience Management: https://www.qualtrics.com/

concerns about the way you have been treated as a participant, please contact the Research Ethics Analyst, Research Services, University of Calgary at (403) 220-4283/220-6289; e-mail cfreb@ucalgary.ca

Please click below if you agree to participate.

- I agree
- I disagree

What is your gender?

- Male
- Female
- Other (Please specify) _____
- I prefer not to disclose

What is your age? _____

What is your education level?

- First year undergraduate
- Second year undergraduate
- Third year undergraduate
- Fourth year undergraduate
- Fifth year undergraduate
- Above fifth year undergraduate
- Graduate student
- Other (Please specify) _____

Did you learn German in a formal education setting prior to University? (e.g., high school) If so, please indicate the number of years you spent learning German before University.

- Yes _____
- No

Please list the University of Calgary GERM course(s) you are currently enrolled in for the Winter 2020 semester? (e.g., GERM 333)

_____

Please list all University of Calgary GERM language course(s) you have taken prior to the Winter 2020 semester.

- GERM 202
- GERM 204
- GERM 331
- GERM 333
- GERM 353
- GERM 413
- GERM 415

- GERM 501
- GERM 503
- Other University of Calgary GERM course(s) (Please specify) _____
- Other German course(s) outside of the University of Calgary (Please specify) _____

What is your native/first language?

- English
- French
- Other (Please specify) _____

Do you speak any other languages besides English/your native language and German? If yes, please list each language and how long you have been speaking it for.

- Yes (Please specify) _____
- No

How would you rate your German skills from 1 (Poor) to 10 (Native-like):

- **Reading:** _____
- **Writing:** _____
- **Listing:** _____
- **Speaking:** _____

How often do you use your German, personally or professionally?

- Never
- Sometimes
- About half the time
- Most of the time
- Daily

How many years/months have you been learning German? _____

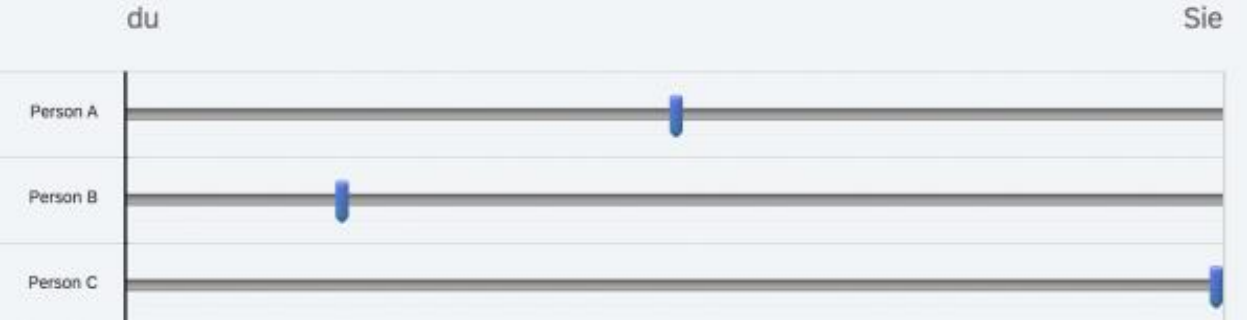
Have you ever studied or lived abroad in a German speaking country? If yes, please indicate where and the duration of your stay.

- Yes (Please specify) _____
- No

The questions below use a slider to represent a spectrum between **du** and **Sie**. Answers represent how likely you are to address a given person with either pronoun.

When the slider is in the middle, you are equally likely to address a person with ***du*** and ***Sie***.

Please see the example below:



Person A: You are equally likely to call this person by ***du*** and ***Sie***.
Person B: You are more likely to call this person by ***du*** but there are some occasions when you may call this person by ***Sie***.
Person C: You always call this person by ***Sie***.

How would you address your respective family members individually? (du/Sie)

	du	**Sie**
Mother		
Father		
Younger Sibling		
Older Sibling		
Grandmother		
Grandfather		
Great-grandparent		
Aunt		
Uncle		
Younger Cousin		
Older Cousin		
Mother-in-law		
Father-in-law		
Older Cousin's Partner		
Younger Cousin's Partner		

How would you address each individual? (du/Sie)

	du	**Sie**
Uber Driver - male, older than you		
- female, older than you		
- *male, younger than you*		
- female, younger than you		
Hairdresser - older than you		
- *younger than you*		
- *same age as you*		
Waiter - older than you		
- *younger than you*		
- *same age as you*		
Waitress - *older than you*		
- *younger than you*		
- *same age as you*		
Boss		
Work Colleague - *male, older than you*		
- *female, older than you*		
- *male, younger than you*		
- *female, younger than you*		

You are in a strange place and need directions. You stop on the side of the road and ask a stranger for directions to a specific restaurant. How do you address the following individuals? (du/Sie)

	du	Sie
Child (aged 9-12)		
Teenager (aged 13-16)		
Teenager (aged 17-19)		
Adult (aged 20-29)		
Adult (aged 30-39)		
Adult (aged 40-49)		
Adult (aged 50-65)		
Adult (older than 65)		

You are at a new gym/fitness studio and you want to ask someone where the water fountain is. How do you address each person?

	du	Sie
Gym Patron (aged 21)		
Gym Patron (aged 45)		
Gym Employee (aged 21)		
Gym Employee (aged 45)		

You meet your brother's girlfriend for the first time. She is 34 years old.

	du	Sie
How do you address her?		

You are 22 years old and you meet your partner's family for the first time. How do you address each parent individually? (du/Sie)

	du	Sie
Partner's Mother		
Partner's Father		

You work together with your best friend at a shop. They recently got promoted to the store manager.

	du	Sie
How do you address your friend at work?		

You see your former homeroom teacher from elementary school.

	du	**Sie**
How do you address him?		

You take your car to the garage to be repaired.

	du	**Sie**
How do you address the mechanic?		

You go shopping in Hamburg at H&M (or similar store).

	du	**Sie**
How do you address the salesperson?		

You are at a good friend's party. You meet your friend's work colleague for the first time.

	du	**Sie**
How do you address this person?		

You are on holiday in Germany and stay at an AirBnB. Your host is 32 years old.

	du	**Sie**
How do you address your host?		

You are an undergraduate student. After the semester is over you see your T.A., who is a graduate student, at the supermarket.

	du	**Sie**
How do you address them?		

Have you ever addressed someone with the incorrect second-person pronoun (du/Sie/ihr)?

- o Yes (Please explain) _____
- o Maybe (Please explain) _____
- o No

Have you ever intentionally avoided addressing someone with a pronoun (du/Sie/ihr)?

- o Yes (Please explain) _____
- o No

Were you ever unsure of how to address someone?

- o Yes (Please explain) _____
- o No

Appendix B

B.1 German Native Speaker Interview Questions

Note: These questions serve as a guide for a follow-up interview following the submission of the online survey administered to German native speakers.

Question Set 1
In *Scenario X,* you listed that you would address this person with **Sie**.

1. What would you think, or what would your reaction be if you were addressed with ***du*** in return?
2. Would you say anything to them? And if so, what would you say?

Question Set 2
In *Scenario Y*, you listed that you would address this person with **du**.

1. What would you think, or what would your reaction be if you were addressed with ***Sie*** in return?
2. Would you say anything to them? And if so, what would you say?

Question Set 3
1. When you are greeted or asked a question in a service setting (e.g. a bar, restaurant, hair dresser, bookstore), how are you typically addressed by the person working there?
2. Would this change depending on the price-point of the store? E.g. If you walk into H&M versus Gucci? McDonald's versus a very expensive restaurant?
3. What about at the doctor's office?
4. The bank?

Question Set 4
1. When you meet someone in a service setting (e.g. a bar, restaurant, hair dresser, bookstore), how do you typically address the person working there?
2. What about at a doctor's office?
3. The bank?

Question Set 5
1. How do you choose between *du* or *Sie* when meeting someone for the first time?
2. Would you consider your choice of *du* or *Sie* to depend more on defining social distance with the person or establishing solidarity?

Question Set 6
1. Have you found yourself in a situation where you were not sure whether or not to use *du* or *Sie*?
2. Why were you unsure?
3. What did you do?
4. Have you ever avoided addressing the person directly, i.e., avoiding using both *du* and *Sie?*

Appendix C

C.1 Explicit Training Module

See Appendix A for questions from the pre-test, post-test, and one-week delayed post-test.

C.1.1 Café[28]

<table>
<tr><td>Scenario Description & Image</td><td colspan="2">Monika is stopping in at a café for breakfast in Hamburg. In this café, there are people socializing, reading, and working. Most people in the café are in their 20s, 30s or 40s.
  </td></tr>
<tr><td>Meta-pragmatic Information</td><td colspan="2">Casual cafés (e.g., Starbucks) and chain restaurants (e.g., McDonald's), where younger adults might hang out are seen as more informal environments. In these places, it can be appropriate to use du between staff and customers.</td></tr>
<tr><td>German Transcript & English Translation</td><td>Barista: Hallo! Was kann ich dir anbieten?

Monika: Welche Muffins has du heute?

Barista: Wir haben Erdbeere, Heidelbeere, und Preiselbeere.

Monika: Was würdest du empfehlen?

Barista: Heidelbeere ist mein Leiblingsmuffin.

Monika: Hört sich gut an! Ich nehme gerne einen davon!</td><td>Barista: Hi! What can I get for you?

Monika: Which muffins do you have today?

Barista: We have strawberry, blueberry, and cranberry.

Monika: What do you recommend?

Barista: Blueberry is my favourite.

Monika: Sounds good! I'll take one!</td></tr>
<tr><td>Follow-up Question</td><td colspan="2">How did the speakers address each other?
○ du
○ Sie
○ Both du and Sie
○ Neither du nor Sie</td></tr>
</table>

[28] Image ID #18059776 [Photograph] *Colourbox*. https://www.colourbox.com/image/staff-serving-customer-in-busy-coffee-shop-image-18059776

C.1.2 Party[29]

Scenario Description & Image	Lena, Martin, and Julia are all students at Uni Hamburg. Lena and Julia are roommates and Julia knows Martin from high school. They all attend the same party on a Friday night.	
Meta-pragmatic Information	When meeting new people around your age, especially in casual social environments like at a bar or a party, it can be considered rude to address them with *Sie*.	
German Transcript & English Translation	**Lena:** Hallo! Wir haben uns ja ewig nicht gesehen! **Martin:** Ja, ich weiß! Wie geht's dir? **Lena:** Sehr gut! Hast du Julia kennengelernt? **Martin:** Nein! Hallo, Julia – ich heiße Martin! Freut mich, dich kennenzulernen! **Julia:** Hallo! Freut mich! Sind Sie auch ein Student an der Universität? **Martin:** Sehe ich schon so alt aus? **Julia:** Nein! Huch! Bist du auch ein Student? **Martin:** Ja! Ich studiere Mathematik, und du? **Julia:** Biologie!	**Lena:** Hey! We haven't seen each other in ages! **Martin:** Yeah, I know! How are you? **Lena:** Very good! Do you know Julia? **Martin:** No! Hi Julia – I'm Martin. Nice to meet you! **Julia:** Hello! Nice to meet you too. Are you [formal] also a student at the University? **Martin:** Do I already look so old? **Julia:** No! Oops! Are you [informal] also a student? **Martin:** Yeah! I study maths. You? **Julia:** Biology!
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[29] Image ID #39502414 [Photograph] *Colourbox.* https://www.colourbox.com/image/double-couple-party-image-39502414

C.1.3 Gym[30]

Scenario Description & Image	It's Mia's first day in a new yoga class, at a gym in Hamburg. Mia isn't sure which studio her yoga class is in, so she asks someone.	
Meta-pragmatic Information	The gym is a uniquely casual environment. In the gym, people of all ages will address each other with *du*, even the gym staff.	
German Transcript & English Translation	**Mia:** Hallo! Ist das der Yoga-Kurs? Ich war noch nie in diesem Fitnessstudio. **Anja:** Ich glaube, dieses Zimmer ist richtig. Bist du hier für den Kurs um 09:00 Uhr „Yoga für Anfänger"? **Mia:** Ja, das ist er! Vielen Dank! **Anja:** Hast du schon mal Yoga gemacht? **Mia:** Ja, ich habe schon früher Yoga gemacht, aber das war vor vielen Jahren. Machst du oft Yoga? **Anja:** Nein, ich mache zum ersten Mal Yoga.	**Mia:** Hello! Is this the yoga class? I haven't been to this gym before. **Anja:** I think that this is the correct room. Are you here for 9:00 o'clock 'Yoga for Begginers'? **Mia:** Yes, that's it! Thank you! **Anja:** Have you done yoga before? **Mia:** Yeah, I have before, but it was many years ago. Do you do yoga often? **Anja:** Nein, this is my first time.
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[30] Image ID #25951183 [Photograph] *Colourbox.* https://www.colourbox.com/image/active-buddies-image-25951183

C.1.4 Office: Coworkers[31]

Scenario Description & Image	Hanna and Andrea are colleagues in a small close-knit office in Hamburg.	
Meta-pragmatic Information	While each office has their own culture, it can be appropriate to address colleagues with *du*.	
German Transcript & English Translation	**Andrea:** Hallo! Wie war dein Wochenende? **Hanna:** Mein Wochenende war gut, sehr entspannend. Ich habe nichts getan! Was hast du gemacht? **Andrea:** Ich bin in das Restaurant gegangen, das du empfohlen hast! Der Käsekuchen war sehr lecker! **Hanna:** Ich bin froh, dass es dir gefallen hat! Ich muss jetzt zu einem Meeting mit meinem Vorgesetzter gehen. Bis später! **Andrea:** Viel Spaß! Wir sehen uns beim Mittagessen!	**Andrea:** Hey! How was your weekend? **Hanna:** My weekend was good, very relaxing. I didn't do anything! What did you do? **Andrea:** I went to the restaurant that you recommended! The cheesecake was very tasty! **Hanna:** I'm glad that you liked it! I have ot go to a meeting with my manager now. Later! **Andrea:** Have fun! See you at lunch!
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[31] Image ID #1053571 [Photograph] *Colourbox*.https://www.colourbox.com/image/colleagues-meeting-at-the-hallways-and-talking-about-the-weekend-work-etc-image-1053571

C.1.5 Office: Boss[32]

Scenario Description & Image	Every month at work, Andrea meets with her direct supervisor Paul.	
Meta-pragmatic Information	Even though *du* may be used between colleagues in an office, typically *Sie* is used between a worker and their boss. However, this too is dependent on the specific work environment and culture.	
German Transcript & English Translation	**Paul:** Guten morgen, Andrea! Wie geht es Ihnen? **Andrea:** Es geht mir gut, danke! Und Ihnen? **Paul:** Gut! Lassen Sie uns Ihr neues Projekt besprechen. **Andrea:** Ja, klar. Was möchten Sie darüber wissen? **Paul:** Können Sie mir ein kurzes Update geben?	**Paul:** Good morning Andrea! How are you? **Andrea:** I'm doing well, thank you! And you? **Paul:** Good! Let us discuss your new project? **Andrea:** Yes, sure! What would you like to know? **Paul:** Can you give me a brief update?
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[32] Image ID #1053702 [Photograph] *Colourbox.* https://www.colourbox.com/image/casual-business-people-at-the-office-image-1053702

C.1.6 Street[33]

Scenario Description & Image	Katrina is in Hamburg and is trying to find a Sunday flea market, but she is lost. She sees a stranger on the street who is a similar age to her and wants to ask for directions.	
Meta-pragmatic Information	While addressing a stranger in public, like on the street or on the bus, it is appropriate to use *Sie* with others who are around your age. It is considered necessary to address anyone older than you with *Sie.*	
German Transcript & English Translation	**Katrina:** Entschuldigung! Können Sie mir helfen! Ich habe mich verlaufen!	**Katrina:** Excuse me! Can you help me? I'm lost!
	Frau: Sicher, kein Problem. Wo wollen Sie hin?	**Woman:** Sure, no problem. Where do you want to go?
	Katrina: Ich suche den Sonntagsmarkt. Wissen Sie, wo der ist?	**Katrina:** I'm looking for the Sunday market. Do you know where that is?
	Frau: Sie sind fast da! Sie müssen rund 1000 Meter geradeaus gehen und dann links abbiegen.	**Woman:** You're almost there! You have to go about 1000 metres ahead and turn left.
	Katrina: Alles klar! Ich danke Ihnen sehr!	**Katrina:** Sounds good! Thank you so much!
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[33] Image ID #39377278 [Photograph] *Colourbox.* https://www.colourbox.com/image/lost-tourist-asking-for-help-from-a-pedestrian-image-39377278

C.1.7 Taxi[34]

Scenario Description & Image	After a long day of sightseeing in Hamburg, Nora decides to take a short taxi ride to her hotel from the UBahn station.	
Meta-pragmatic Information	While there may be some more informal situations, it is generally appropriate to use *Sie* with taxi and bus drivers.	
German Transcript & English Translation	**Taxifahrer:** Guten Abend. Wie geht es Ihnen?	**Driver:** Good evening. How are you?
	Nora: Hallo! Mir geht es gut, danke. Und Ihnen?	**Nora:** Hallo! I'm doing well, and you?
	Taxifahrer: Ich hatte heute Nacht viel zu tun. Woher kommen Sie?	**Driver:** I've had a busy night. Where are you from?
	Nora: Ich komme aus Kanada.	**Nora:** I'm from Canada.
	Taxifahrer: Sehr schön! Ich habe gehört, dass es dort schön ist. Wo kann ich Sie absetzen?	**Driver:** Very nice! I have heard that it is lovely. Where can I drop you?
	Nora: Können Sie mich hier links absetzen?	**Nora:** Can you drop me off on the left?
	Taxifahrer: Klar, kein Problem! Gute Nacht!	**Driver:** Yes, no problem! Good night!
	Nora: Danke schön!	**Nora:** Thank you!
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[34] Image ID #34404521 [Photograph] *Colourbox.* https://www.colourbox.com/image/businesswoman-pointing-on-something-to-driver-in-car-image-34404521

C.1.8 Home[35]

Scenario Description & Image	Stefanie has just returned to Hamburg from a vacation on the coast. She is spending the afternoon with her aunt and grandmother and is excited to tell them about her trip. 
Meta-pragmatic Information	When, as an adult, addressing family members of all ages, it would be appropriate to address them with *du*.
German Transcript & English Translation	**Tante:** Wie hat dir Kroatien gefallen, Stefanie? / **Aunt:** How did you like Croatia, Stefanie? **Stefanie:** Es war so schön. Ich ging zu allen Orten, die du empfohlen hast! / **Stefanie:** It was so nice. I went everywhere that you recommended! **Tante:** Ich bin froh, dass du eine gute Reise hattest! / **Aunt:** I'm glad you had a good trip! **Großmutter:** Wie lange warst du da? / **Grandmother:** How long were you there? **Stefanie:** Ich war zwei Wochen dort. Könnt ihr glauben, wie blau das Wasser auf diesem Bild ist? / **Stefanie:** I was there for two weeks. Can you believe how blue the water is in this picture? **Großmutter:** Schön! / **Grandmother:** Beautiful! **Stefanie:** Oma, ich denke es würde dir auch dort gefallen. Du könntest alle Arten von Meeresfrüchte essen! / **Stefanie:** Oma, I think you'd like it there. You could eat every kind of seafood!
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie

[35] Image ID #31611433 [Photograph] *Colourbox.* https://www.colourbox.com/image/a-teenage-girl-mother-and-grandmother-with-laptop-at-home-image-31611433

C.1.9 University: Classmates[36]

Scenario Description & Image	Anna, Nicole, and Christin are all students in the same math lecture at Uni Hamburg. An assignment is due, and both Anna and Nicole need Christin's help.	
Meta-pragmatic Information	The default address used between classmates in school and university is *du*.	
German Transcript & English Translation	**Anna:** Hast du die Hausaufgaben vom heutigen Unterricht verstanden? **Christin:** Ja das habe ich. Ich kann dir dabei helfen. **Anna:** Super! Vielen Dank! Was hast du bei Frage 1 gemacht? **Christin:** Du musst das Textbuch dafür benutzen. Wir haben letzte Woche ein Beispiel wie dieses gemacht. Erinnerst du dich? ***Ein paar Stunden später…*** **Nicole:** Wir haben keine Ahnung, wie wir diese Hausaufgaben machen sollen! Hast du die geschafft, Christin? **Christin:** Ich habe Anna früher geholfen. Ich kann euch auch helfen Hast du dein Textbuch, Nicole?	**Anna:** Did you understand the homework from today's lecture? **Christin:** Ja, I did. I can help you. **Anna:** Super! Thanks! How did you do #1? **Christin:** You have to use the textbook. We did an example like it last week. Do you remember? ***A couple hours later…*** **Nicole:** We have no idea how we should do this homework. Have you done it, Christin? **Christin:** I helped Anna earlier. I can help you too. Do you have your textbook, Nicole?
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[36] Image ID #10276018 [Photograph] *Colourbox.* https://www.colourbox.com/image/two-university-students-working-on-project-outdoors-together-image-10276018

C.1.10 University: Professor[37]

Scenario Description & Image	Sebastian is taking a History class at Uni Hamburg. He has a paper due soon and meets with his professor to ask a question about it.	
Meta-pragmatic Information	Students should always use *Sie* with a professor unless that professor offers them *du.*	
German Transcript & English Translation	**Professorin:** Hallo Sebastian! Bitte nehmen Sie Platz! Womit kann ich Ihnen dienen?	**Professor:** Hi Sebastian! Please sit down! What can I help you with?
	Sebastian: Könnte ich Ihnen eine Frage zu dem Papier stellen, das wir schreiben müssen?	**Sebastian:** May I ask a question about the paper that we have to write?
	Professorin: Na klar!	**Professor:** Of course!
	Sebastian: Sollten wir nur einen Artikel als Referenz auswählen oder können wir mehrere Artikel auswählen?	**Sebastian:** Should we only choose one article, or can we choose more?
	Professorin: Sie sollten nur einen auswählen.	**Professor:** You should only choose one.
	Sebastian: Okay. Danke schön! Das is alles!	**Sebastian:** Okay. Thank you! That's all.
	Professorin: Wenn Sie weitere Fragen haben, können Sie mir auch eine E-Mail schicken.	**Professor:** When you have another question, you can also e-mail me.
	Sebastian: Alles klar! Vielen Dank!	**Sebastian:** Sounds good! Thank you!
Follow-up Question	How did the speakers address each other? ○ du ○ Sie ○ Both du and Sie ○ Neither du nor Sie	

[37] Image ID #36217381 [Photograph] *Colourbox.* https://www.colourbox.com/image/female-teacher-smiling-near-young-student-with-backpack-in-classroom-image-36217381

C.2 Implicit Training Module

See Appendix A for questions from the pre-test, post-test, and one-week delayed post-test.

C.2.1 Café

Scenario Description & Image	Monika is stopping in at a café for breakfast in Hamburg. In this café, there are people socializing, reading, and working. Most people in the café are in their 20s, 30s or 40s.	
Distractor Question	What would you buy in a cafe? ○ Clothing and accessories ○ Food and drinks ○ Household appliances	
German Transcript & English Translation	**Barista:** Hallo! Was kann ich dir anbieten?	**Barista:** Hi! What can I get for you?
	Monika: Welche Muffins has du heute?	**Monika:** Which muffins do you have today?
	Barista: Wir haben Erdbeere, Heidelbeere, und Preiselbeere.	**Barista:** We have strawberry, blueberry, and cranberry.
	Monika: Was würdest du empfehlen?	**Monika:** What do you recommend?
	Barista: Heidelbeere ist mein Leiblingsmuffin.	**Barista:** Blueberry is my favourite.
	Monika: Hört sich gut an! Ich nehme gerne einen davon!	**Monika:** Sounds good! I'll take one!
Follow-up Question	What type of muffin was recommended to Monika? ○ Cranberry ○ Strawberry ○ Blueberry	

C.2.2 Party

Scenario Description & Image	Lena, Martin, and Julia are all students at Uni Hamburg. Lena and Julia are roommates and Julia knows Martin from high school. They all attend the same party on a Friday night.	
Distractor Question	What might you do at a university party on the weekend? ○ Socialize ○ Study ○ Nap	
German Transcript & English Translation	**Lena:** Hallo! Wir haben uns ja ewig nicht gesehen! **Martin:** Ja, ich weiß! Wie geht's dir? **Lena:** Sehr gut! Hast du Julia kennengelernt? **Martin:** Nein! Hallo, Julia – ich heiße Martin! Freut mich, dich kennenzulernen! **Julia:** Hallo! Freut mich! Sind Sie auch ein Student an der Universität? **Martin:** Sehe ich schon so alt aus? **Julia:** Nein! Huch! Bist du auch ein Student? **Martin:** Ja! Ich studiere Mathematik, und du? **Julia:** Biologie!	**Lena:** Hey! We haven't seen each other in ages! **Martin:** Yeah, I know! How are you? **Lena:** Very good! Do you know Julia? **Martin:** No! Hi Julia – I'm Martin. Nice to meet you! **Julia:** Hello! Nice to meet you too. Are you [formal] also a student at the University? **Martin:** Do I already look so old? **Julia:** No! Oops! Are you [informal] also a student? **Martin:** Yeah! I study maths. You? **Julia:** Biology!
Follow-up Question	What does Martin study? ○ Biology ○ Mathematics ○ Chemistry	

C.2.3 Gym

Scenario Description & Image	It's Mia's first day in a new yoga class, at a gym in Hamburg. Mia isn't sure which studio her yoga class is in, so she asks someone.	
Distractor Question	What would you find in a gym or fitness centre? ○ A sauna or steam room ○ A hair and nail salon ○ A classroom	
German Transcript & English Translation	**Mia:** Hallo! Ist das der Yoga-Kurs? Ich war noch nie in diesem Fitnessstudio. **Anja:** Ich glaube, dieses Zimmer ist richtig. Bist du hier für den Kurs um 09:00 Uhr „Yoga für Anfänger"? **Mia:** Ja, das ist er! Vielen Dank! **Anja:** Hast du schon mal Yoga gemacht? **Mia:** Ja, ich habe schon früher Yoga gemacht, aber das war vor vielen Jahren. Machst du oft Yoga? **Anja:** Nein, ich mache zum ersten Mal Yoga.	**Mia:** Hello! Is this the yoga class? I haven't been to this gym before. **Anja:** I think that this is the correct room. Are you here for 9:00 o'clock 'Yoga for Begginers'? **Mia:** Yes, that's it! Thank you! **Anja:** Have you done yoga before? **Mia:** Yeah, I have before, but it was many years ago. Do you do yoga often? **Anja:** Nein, this is my first time.
Follow-up Question	What time is the yoga class at? ○ 08:00 ○ 09:00 ○ 10:00	

C.2.4 Office: Coworkers

Scenario Description & Image	Hanna and Andrea are colleagues in a small close-knit office in Hamburg.	
Distractor Question	What would be an acceptable outfit for a job interview at an office? ○ A brown paper bag ○ A matching blazer and pair of pants ○ A hockey jersey and foam finger	
German Transcript & English Translation	**Andrea:** Hallo! Wie war dein Wochenende? **Hanna:** Mein Wochenende war gut, sehr entspannend. Ich habe nichts getan! Was hast du gemacht? **Andrea:** Ich bin in das Restaurant gegangen, das du empfohlen hast! Der Käsekuchen war sehr lecker! **Hanna:** Ich bin froh, dass es dir gefallen hat! Ich muss jetzt zu einem Meeting mit meinem Vorgesetzter gehen. Bis später! **Andrea:** Viel Spaß! Wir sehen uns beim Mittagessen!	**Andrea:** Hey! How was your weekend? **Hanna:** My weekend was good, very relaxing. I didn't do anything! What did you do? **Andrea:** I went to the restaurant that you recommended! The cheesecake was very tasty! **Hanna:** I'm glad that you liked it! I have ot go to a meeting with my manager now. Later! **Andrea:** Have fun! See you at lunch!
Follow-up Question	What did Hanna recommend to Andrea? ○ A dessert at a restaurant ○ A movie at the cinema ○ A book at the bookstore	

C.2.5 Office: Boss

Scenario Description & Image	Every month at work, Andrea meets with her direct supervisor Paul.	
Distractor Question	What is something you would NOT talk about in a meeting with your boss? ○ The dates of the upcoming work conference ○ A project you have been working on ○ Your hobbies outside of work	
German Transcript & English Translation	**Paul:** Guten morgen, Andrea! Wie geht es Ihnen? **Andrea:** Es geht mir gut, danke! Und Ihnen? **Paul:** Gut! Lassen Sie uns Ihr neues Projekt besprechen. **Andrea:** Ja, klar. Was möchten Sie darüber wissen? **Paul:** Können Sie mir ein kurzes Update geben?	**Paul:** Good morning Andrea! How are you? **Andrea:** I'm doing well, thank you! And you? **Paul:** Good! Let us discuss your new project? **Andrea:** Yes, sure! What would you like to know? **Paul:** Can you give me a brief update?
Follow-up Question	What does Paul ask Andrea for? ○ A document she has been working on ○ The dates of her vacation ○ An update on her new project	

C.2.6 Street

Scenario Description & Image	Katrina is in Hamburg and is trying to find a Sunday flea market, but she is lost. She sees a stranger on the street who is a similar age to her and wants to ask for directions.	
Distractor Question	What would be most useful for finding your way around a new city? ○ A map ○ Your intuition ○ Another tourist	
German Transcript & English Translation	**Katrina:** Entschuldigung! Können Sie mir helfen! Ich habe mich verlaufen! **Frau:** Sicher, kein Problem. Wo wollen Sie hin? **Katrina:** Ich suche den Sonntagsmarkt. Wissen Sie, wo der ist? **Frau:** Sie sind fast da! Sie müssen rund 1000 Meter geradeaus gehen und dann links abbiegen. **Katrina:** Alles klar! Ich danke Ihnen sehr!	**Katrina:** Excuse me! Can you help me? I'm lost! **Woman:** Sure, no problem. Where do you want to go? **Katrina:** I'm looking for the Sunday market. Do you know where that is? **Woman:** You're almost there! You have to go about 1000 metres ahead and turn left. **Katrina:** Sounds good! Thank you so much!
Follow-up Question	How far away is the market? ○ 0.5 km ○ 1 km ○ 2 km	

C.2.7 Taxi

Scenario Description & Image	After a long day of sightseeing in Hamburg, Nora decides to take a short taxi ride to her hotel from the UBahn station.	
Distractor Question	What modes of transportation might make for the best taxi? o A sedan or SUV o A wheelbarrow or wagon o A bicycle or electric bicycle	
German Transcript & English Translation	**Taxifahrer:** Guten Abend. Wie geht es Ihnen?	**Driver:** Good evening. How are you?
	Nora: Hallo! Mir geht es gut, danke. Und Ihnen?	**Nora:** Hallo! I'm doing well, and you?
	Taxifahrer: Ich hatte heute Nacht viel zu tun. Woher kommen Sie?	**Driver:** I've had a busy night. Where are you from?
	Nora: Ich komme aus Kanada.	**Nora:** I'm from Canada.
	Taxifahrer: Sehr schön! Ich habe gehört, dass es dort schön ist. Wo kann ich Sie absetzen?	**Driver:** Very nice! I have heard that it is lovely. Where can I drop you?
	Nora: Können Sie mich hier links absetzen?	**Nora:** Can you drop me off on the left?
	Taxifahrer: Klar, kein Problem! Gute Nacht!	**Driver:** Yes, no problem! Good night!
	Nora: Danke schön!	**Nora:** Thank you!
Follow-up Question	Where is Nora from? o The United States o Canada o Germany	

C.2.8 Home

Scenario Description & Image	Stefanie has just returned to Hamburg from a vacation on the coast. She is spending the afternoon with her aunt and grandmother and is excited to tell them about her trip.	
Distractor Question	Which country has a coastal region? o Switzerland o Croatia o Austria	
German Transcript & English Translation	**Tante:** Wie hat dir Kroatien gefallen, Stefanie?	**Aunt:** How did you like Croatia, Stefanie?
	Stefanie: Es war so schön. Ich ging zu allen Orten, die du empfohlen hast!	**Stefanie:** It was so nice. I went everywhere that you recommended!
	Tante: Ich bin froh, dass du eine gute Reise hattest!	**Aunt:** I'm glad you had a good trip!
	Großmutter: Wie lange warst du da?	**Grandmother:** How long were you there?
	Stefanie: Ich war zwei Wochen dort. Könnt ihr glauben, wie blau das Wasser auf diesem Bild ist?	**Stefanie:** I was there for two weeks. Can you believe how blue the water is in this picture?
	Großmutter: Schön!	**Grandmother:** Beautiful!
	Stefanie: Oma, ich denke es würde dir auch dort gefallen. Du könntest alle Arten von Meeresfrüchte essen!	**Stefanie:** Oma, I think you'd like it there. You could eat every kind of seafood!
Follow-up Question	Where did Stefanie go on her vacation? o Croatia o Greece o Italy	

C.2.9 University: Classmates

Scenario Description & Image	Anna, Nicole, and Christin are all students in the same math lecture at Uni Hamburg. An assignment is due, and both Anna and Nicole need Christin's help.	
Distractor Question	Which of the follow would NOT be helpful for homework? ○ Asking a friend ○ Using your textbook ○ Watching Netflix	
German Transcript & English Translation	**Anna:** Hast du die Hausaufgaben vom heutigen Unterricht verstanden?	**Anna:** Did you understand the homework from today's lecture?
	Christin: Ja das habe ich. Ich kann dir dabei helfen.	**Christin:** Ja, I did. I can help you.
	Anna: Super! Vielen Dank! Was hast du bei Frage 1 gemacht?	**Anna:** Super! Thanks! How did you do #1?
	Christin: Du musst das Textbuch dafür benutzen. Wir haben letzte Woche ein Beispiel wie dieses gemacht. Erinnerst du dich?	**Christin:** You have to use the textbook. We did an example like it last week. Do you remember?
	Ein paar Stunden später…	***A couple hours later…***
	Nicole: Wir haben keine Ahnung, wie wir diese Hausaufgaben machen sollen! Hast du die geschafft, Christin?	**Nicole:** We have no idea how we should do this homework. Have you done it, Christin?
	Christin: Ich habe Anna früher geholfen. Ich kann euch auch helfen Hast du dein Textbuch, Nicole?	**Christin:** I helped Anna earlier. I can help you too. Do you have your textbook, Nicole?
Follow-up Question	Where was the example for the assignment seen? ○ In the textbook ○ In the lecture ○ On the last assignment	

C.2.10 University: Professor

Scenario Description & Image	Sebastian is taking a History class at Uni Hamburg. He has a paper due soon and meets with his professor to ask a question about it.	
Distractor Question	How might you contact a professor? ○ By carrier pigeon ○ By email ○ By messaging them on Facebook	
German Transcript & English Translation	**Professorin:** Hallo Sebastian! Bitte nehmen Sie Platz! Womit kann ich Ihnen dienen? **Sebastian:** Könnte ich Ihnen eine Frage zu dem Papier stellen, das wir schreiben müssen? **Professorin:** Na klar! **Sebastian:** Sollten wir nur einen Artikel als Referenz auswählen oder können wir mehrere Artikel auswählen? **Professorin:** Sie sollten nur einen auswählen. **Sebastian:** Okay. Danke schön! Das is alles! **Professorin:** Wenn Sie weitere Fragen haben, können Sie mir auch eine E-Mail schicken. **Sebastian:** Alles klar! Vielen Dank!	**Professor:** Hi Sebastian! Please sit down! What can I help you with? **Sebastian:** May I ask a question about the paper that we have to write? **Professor:** Of course! **Sebastian:** Should we only choose one article, or can we choose more? **Professor:** You should only choose one. **Sebastian:** Okay. Thank you! That's all. **Professor:** When you have another question, you can also e-mail me. **Sebastian:** Sounds good! Thank you!
Follow-up Question	How many articles does Sebastian need for the paper? ○ One ○ Two ○ Three	

Appendix D

D.1 T-Test Results

The following table contains the descriptive statistics and t-test results for the comparison of NS survey data with L2 learner pre-test data. In scenarios where significant differences are seen between the groups, the t-value and p-value are bolded.

Table D.1

T-test Results for UCalgary L2 Learner Pre-Test Data (n=26) Versus UHamburg NS Survey Data (n=33)

Scenario	Group	Mean	Std. Dev.	Std. Error Mean	t	Sig. (2-tailed)
Mother	UCalgary	2.36	2.628	0.526	**2.981**	**0.004**
	UHamburg	1.00	0.000	0.000		
Father	UCalgary	2.32	2.495	0.499	**3.048**	**0.004**
	UHamburg	1.00	0.000	0.000		
Younger Sibling	UCalgary	1.24	0.831	0.166	1.665	0.102
	UHamburg	1.00	0.000	0.000		
Older Sibling	UCalgary	1.20	0.764	0.153	1.509	0.137
	UHamburg	1.00	0.000	0.000		
Grandmother	UCalgary	5.80	3.640	0.728	**7.597**	**0.000**
	UHamburg	1.00	0.000	0.000		
Grandfather	UCalgary	5.56	3.664	0.733	**7.170**	**0.000**
	UHamburg	1.00	0.000	0.000		
Great Grandparent	UCalgary	6.92	3.499	0.700	**9.747**	**0.000**
	UHamburg	1.00	0.000	0.000		
Aunt	UCalgary	4.44	3.163	0.633	**6.265**	**0.000**
	UHamburg	1.00	0.000	0.000		
Uncle	UCalgary	4.20	3.227	0.645	**5.712**	**0.000**
	UHamburg	1.00	0.000	0.000		
Younger Cousin	UCalgary	1.40	1.155	0.231	**1.996**	**0.051**
	UHamburg	1.00	0.000	0.000		
Older Cousin	UCalgary	2.44	2.485	0.497	**3.339**	**0.002**
	UHamburg	1.00	0.000	0.000		
Mother-in-Law	UCalgary	7.56	3.124	0.625	**10.381**	**0.000**
	UHamburg	1.36	1.245	0.217		
Father-in-Law	UCalgary	7.36	3.226	0.645	**8.382**	**0.000**
	UHamburg	1.64	1.950	0.339		
Older Cousin's Partner	UCalgary	5.16	3.375	0.675	**6.568**	**0.000**
	UHamburg	1.18	0.769	0.134		

Younger Cousin's Partner	UCalgary	3.80	3.240	0.648	**3.558**	**0.001**
	UHamburg	1.45	1.716	0.299		
Uber Driver (Male, Older)	UCalgary	7.88	3.270	0.654	**-2.120**	**0.038**
	UHamburg	9.36	2.044	0.356		
Uber Driver (Female, Older)	UCalgary	7.92	3.278	0.656	**-2.059**	**0.044**
	UHamburg	9.36	2.044	0.356		
Uber Driver (Male, Younger)	UCalgary	6.36	3.377	0.675	**-2.312**	**0.024**
	UHamburg	8.21	2.724	0.474		
Uber Driver (Female, Younger)	UCalgary	6.40	3.379	0.676	**-2.261**	**0.028**
	UHamburg	8.21	2.724	0.474		
Hairdresser (Older)	UCalgary	7.68	3.326	0.665	0.403	0.688
	UHamburg	7.33	3.179	0.553		
Hairdresser (Younger)	UCalgary	5.84	3.436	0.687	0.499	0.619
	UHamburg	5.39	3.316	0.577		
Hairdresser (Same Age)	UCalgary	6.20	3.617	0.723	0.765	0.447
	UHamburg	5.52	3.183	0.554		
Waiter (Older)	UCalgary	7.88	3.244	0.649	-0.601	0.550
	UHamburg	8.36	2.870	0.500		
Waiter (Younger)	UCalgary	6.88	3.283	0.657	-0.145	0.885
	UHamburg	7.00	2.990	0.520		
Waiter (Same Age)	UCalgary	7.08	3.366	0.673	0.630	0.531
	UHamburg	6.55	3.073	0.535		
Waitress (Older)	UCalgary	7.96	3.221	0.644	-0.503	0.617
	UHamburg	8.36	2.870	0.500		
Waitress (Younger)	UCalgary	6.76	3.382	0.676	-0.400	0.691
	UHamburg	7.09	2.909	0.506		
Waitress (Same Age)	UCalgary	7.00	3.379	0.676	0.745	0.460
	UHamburg	6.36	3.101	0.540		
Boss	UCalgary	9.32	1.865	0.373	**2.059**	**0.044**
	UHamburg	7.79	3.343	0.582		
Coworker (Male, Older)	UCalgary	6.32	3.520	0.704	**3.338**	**0.002**
	UHamburg	3.42	3.072	0.535		
Coworker (Male, Younger)	UCalgary	4.72	3.221	0.644	**2.309**	**0.025**
	UHamburg	2.88	2.837	0.494		
Coworker (Female, Older)	UCalgary	6.20	3.403	0.681	**3.342**	**0.001**
	UHamburg	3.36	3.040	0.529		
	UCalgary	4.64	3.108	0.622	**2.247**	**0.029**

Coworker (Female, Younger)	UHamburg	2.88	2.837	0.494		
Child (9-12)	UCalgary	2.72	2.685	0.537	**3.690**	**0.001**
	UHamburg	1.00	0.000	0.000		
Teenager (13-16)	UCalgary	3.28	2.792	0.558	**3.984**	**0.000**
	UHamburg	1.21	0.927	0.161		
Teenager (17-19)	UCalgary	4.76	3.597	0.719	**4.065**	**0.000**
	UHamburg	1.76	1.969	0.343		
Adult (20s)	UCalgary	6.84	3.508	0.702	1.566	0.123
	UHamburg	5.39	3.464	0.603		
Adult (30s)	UCalgary	8.68	2.704	0.541	0.371	0.712
	UHamburg	8.42	2.525	0.440		
Adult (40s)	UCalgary	8.92	2.581	0.516	-0.923	0.360
	UHamburg	9.42	1.562	0.272		
Adult (50s)	UCalgary	9.32	1.887	0.377	-0.946	0.348
	UHamburg	9.70	1.132	0.197		
Adult (> 65)	UCalgary	9.52	1.806	0.361	-0.854	0.397
	UHamburg	9.82	0.769	0.134		
Brother's Girlfriend	UCalgary	5.92	3.685	0.737	**6.184**	**0.000**
	UHamburg	1.52	1.564	0.272		
Gym Employee (21)	UCalgary	6.60	3.686	0.737	**8.234**	**0.000**
	UHamburg	1.18	0.769	0.134		
Gym Employee (45)	UCalgary	7.80	3.464	0.693	**8.614**	**0.000**
	UHamburg	1.85	1.698	0.296		
Gym Patron (21)	UCalgary	6.20	3.797	0.759	**7.890**	**0.000**
	UHamburg	1.00	0.000	0.000		
Gym Patron (45)	UCalgary	7.96	3.247	0.649	**10.057**	**0.000**
	UHamburg	1.58	1.458	0.254		
Partner's Mother	UCalgary	9.40	1.826	0.365	**4.455**	**0.000**
	UHamburg	5.67	3.870	0.674		
Partner's Father	UCalgary	9.40	1.826	0.365	**4.455**	**0.000**
	UHamburg	5.67	3.870	0.674		
Friend Becomes Boss	UCalgary	3.04	3.089	0.618	1.302	0.198
	UHamburg	2.15	2.108	0.367		
Elementary Teacher	UCalgary	8.64	2.767	0.553	0.609	0.545
	UHamburg	8.15	3.203	0.558		
Mechanic	UCalgary	7.84	3.210	0.642	-1.168	0.248
	UHamburg	8.76	2.762	0.481		

H&M Employee	UCalgary	7.68	3.159	0.632	-0.584	0.562
	UHamburg	8.15	2.959	0.515		
Friend's Colleague	UCalgary	5.32	3.424	0.685	**5.068**	**0.000**
	UHamburg	1.82	1.758	0.306		
AirBnB Host (32)	UCalgary	7.48	3.405	0.681	**1.964**	**0.054**
	UHamburg	5.64	3.638	0.633		
T.A.	UCalgary	6.08	3.605	0.721	0.151	0.881
	UHamburg	5.94	3.445	0.600		

D.2 2x2 ANOVA Results

The following table contains the results for the comparison of pre-test and post-test results for University of Calgary L2 learners who completed the online training module, containing a pre-test, instruction, and an immediate post-test. In scenarios where there are significant group by time interactions, the mean difference, standard error, and p-value are bolded.

Table D.2

Descriptive Statistics and Group by Time Interactions from 2x2 Mixed ANOVA of UCalgary L2 Learner Pre-test and Post-test Data for Participants in Implicit Instructional Condition (n=14) and Explicit Instructional Condition (n=12)

		Explicit					Implicit				
Scenario	Test	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.	Mean	Std. Dev.	Mean Difference (I-J)	Std. Error	Sig.
Mother	Pre-test	3.58	3.315	0.167	0.843	0.845	1.43	1.158	-0.714	0.780	0.369
	Post-test	3.42	3.988				2.14	1.834			
Father	Pre-test	3.25	3.166	-0.083	0.936	0.930	1.64	1.393	-0.571	0.867	0.516
	Post-test	3.33	4.030				2.21	1.847			
Younger Sibling	Pre-test	1.67	1.073	-0.333	0.601	0.584	0.93	0.267	-0.357	0.556	0.527
	Post-test	2.00	2.594				1.29	0.611			
Older Sibling	Pre-test	1.50	1.000	-0.500	0.584	0.400	0.93	0.267	-0.357	0.541	0.515
	Post-test	2.00	2.594				1.29	0.611			
Grandmother	Pre-test	6.17	3.950	**2.667**	**0.912**	**0.007**	5.57	3.345	0.286	0.844	0.738
	Post-test	3.50	4.011				5.29	3.292			
Grandfather	Pre-test	5.58	4.010	2.083	1.087	0.067	5.64	3.365	0.429	1.006	0.674
	Post-test	3.50	3.826				5.21	3.446			
Great Grandparent	Pre-test	6.17	3.689	**2.417**	**1.111**	**0.040**	7.71	3.197	0.786	1.028	0.452
	Post-test	3.75	3.957				6.93	3.751			
Aunt	Pre-test	4.92	3.528	0.583	0.557	0.305	4.14	2.797	0.214	0.515	0.681
	Post-test	4.33	4.271				3.93	2.973			

Uncle	Pre-test	4.92	3.605	0.500	0.745	0.509	3.86	2.958	0.071	0.690	0.918
	Post-test	4.42	4.209				3.79	2.992			
Younger Cousin	Pre-test	1.83	1.586	-0.083	0.662	0.901	1.07	0.267	-0.357	0.613	0.565
	Post-test	1.92	2.575				1.43	0.938			
Older Cousin	Pre-test	2.75	2.800	0.083	0.869	0.924	2.21	2.155	0.214	0.804	0.792
	Post-test	2.67	3.447				2.00	1.664			
Mother-in-Law	Pre-test	7.42	3.088	1.500*	0.704	0.044	7.43	3.298	0.857	0.652	0.201
	Post-test	5.92	4.144				6.57	3.673			
Father-in-Law	Pre-test	6.92	3.288	1.000	0.894	0.274	7.50	3.276	1.000	0.827	0.239
	Post-test	5.92	4.144				6.50	3.653			
Older Cousin's Partner	Pre-test	5.25	3.671	-0.083	0.927	0.929	4.93	3.149	0.214	0.858	0.805
	Post-test	5.33	4.207				4.71	2.701			
Younger Cousin's Partner	Pre-test	4.25	3.720	0.667	0.998	0.510	3.21	2.778	-1.000	0.924	0.290
	Post-test	3.58	3.423				4.21	2.455			
Uber Driver (Male, Older)	Pre-test	8.00	3.357	-1.583	0.830	0.068	7.79	3.191	-0.571	0.768	0.464
	Post-test	9.58	0.793				8.36	2.649			
Uber Driver (Female, Older)	Pre-test	8.00	3.357	**-1.583**	**0.733**	**0.041**	7.86	3.207	-0.143	0.678	0.835
	Post-test	9.58	0.793				8.00	3.187			
Uber Driver (Male, Younger)	Pre-test	6.83	3.881	-1.333	0.647	0.050	5.79	2.860	**-2.000**	**0.599**	**0.003**
	Post-test	8.17	3.433				7.79	3.043			
Uber Driver (Female, Younger)	Pre-test	6.83	3.881	**-1.417**	**0.640**	**0.037**	5.86	2.878	**-1.929**	**0.592**	**0.003**
	Post-test	8.25	3.441				7.79	3.043			
Hairdresser (Older)	Pre-test	8.00	3.357	-1.583	0.810	0.062	7.43	3.275	0.000	0.750	1.000
	Post-test	9.58	0.793				7.43	3.081			
Hairdresser (Younger)	Pre-test	6.08	4.078	-1.083	0.623	0.095	5.50	2.794	-1.071	0.577	0.076
	Post-test	7.17	3.762				6.57	2.980			
Hairdresser (Same Age)	Pre-test	6.08	4.078	-1.083	0.683	0.126	6.14	3.241	-0.429	0.632	0.504
	Post-test	7.17	3.904				6.57	3.031			

Waiter (Older)	Pre-test	7.67	3.284	**-1.583**	**0.760**	**0.048**	8.00	3.211	0.571	0.704	0.425
	Post-test	9.25	1.055				7.43	3.204			
Waiter (Younger)	Pre-test	6.67	3.774	-0.167	0.791	0.835	6.86	2.905	-0.214	0.732	0.772
	Post-test	6.83	3.738				7.07	3.075			
Waiter (Same Age)	Pre-test	6.75	3.841	0.083	0.806	0.918	7.14	3.009	0.000	0.746	1.000
	Post-test	6.67	3.774				7.14	3.134			
Waitress (Older)	Pre-test	7.92	3.315	-1.417	0.787	0.084	8.00	3.138	0.571	0.729	0.441
	Post-test	9.33	1.073				7.43	3.180			
Waitress (Younger)	Pre-test	6.75	3.817	-0.250	0.853	0.772	6.57	3.056	-0.500	0.790	0.533
	Post-test	7.00	3.790				7.07	3.050			
Waitress (Same Age)	Pre-test	6.75	3.957	0.167	0.889	0.853	6.93	2.999	-0.143	0.823	0.864
	Post-test	6.58	3.872				7.07	3.269			
Boss	Pre-test	8.67	2.570	-1.083	0.538	0.055	9.79	0.579	0.214	0.498	0.671
	Post-test	9.75	0.622				9.57	0.646			
Coworker (Male, Older)	Pre-test	6.25	4.025	0.500	1.015	0.627	6.14	3.159	0.143	0.940	0.880
	Post-test	5.75	4.093				6.00	3.113			
Coworker (Male, Younger)	Pre-test	5.00	3.908	1.500	0.738	0.053	4.36	2.499	-0.143	0.683	0.836
	Post-test	3.50	3.778				4.50	2.929			
Coworker (Female, Older)	Pre-test	6.67	3.916	0.750	0.975	0.449	5.93	2.895	-0.143	0.903	0.876
	Post-test	5.92	4.231				6.07	3.174			
Coworker (Female, Younger)	Pre-test	4.83	3.857	**1.583**	**0.725**	**0.039**	4.36	2.307	-0.214	0.671	0.752
	Post-test	3.25	3.545				4.57	2.848			
Child (9-12)	Pre-test	3.00	3.015	1.000	0.889	0.272	2.36	2.373	-0.571	0.823	0.494
	Post-test	2.00	1.595				2.93	3.362			
Teenager (13-16)	Pre-test	3.25	2.768	1.333	0.799	0.108	3.21	2.833	-0.643	0.740	0.393
	Post-test	1.92	1.379				3.86	3.840			
Teenager (17-19)	Pre-test	4.08	3.579	1.417	0.790	0.086	5.14	3.613	-0.286	0.731	0.700
	Post-test	2.67	2.674				5.43	4.090			

Adult (20s)	Pre-test	6.67	3.627	-0.083	1.115	0.941	6.71	3.561	-0.357	1.032	0.732
	Post-test	6.75	3.793				7.07	3.812			
Adult (30s)	Pre-test	8.58	2.968	-0.333	0.576	0.568	8.43	2.766	0.286	0.533	0.597
	Post-test	8.92	1.730				8.14	2.825			
Adult (40s)	Pre-test	8.83	2.623	-0.667	0.539	0.228	8.86	2.598	0.071	0.499	0.887
	Post-test	9.50	1.000				8.79	2.665			
Adult (50s)	Pre-test	8.92	2.575	-0.750	0.544	0.181	9.57	0.938	-0.071	0.503	0.888
	Post-test	9.67	0.651				9.64	0.929			
Adult (> 65)	Pre-test	9.08	2.575	-0.750	0.531	0.171	9.93	0.267	-0.071	0.492	0.886
	Post-test	9.83	0.577				9.93	0.267			
Brother's Girlfriend	Pre-test	0.00	4.033	-0.167	1.145	0.885	0.00	3.589	-1.857	1.060	0.092
	Post-test	0.00	4.181				0.00	2.946			
Gym Employee (21)	Pre-test	6.83	3.689	**4.167**	**0.977**	**0.000**	6.14	3.780	-0.357	0.904	0.696
	Post-test	2.67	3.447				6.50	3.391			
Gym Employee (45)	Pre-test	8.58	2.575	**4.500**	**0.961**	**0.000**	7.07	3.931	-0.286	0.890	0.751
	Post-test	4.08	4.033				7.36	3.028			
Gym Patron (21)	Pre-test	6.17	3.786	**3.917**	**0.971**	**0.000**	6.00	3.903	-0.214	0.899	0.814
	Post-test	2.25	2.701				6.21	3.577			
Gym Patron (45)	Pre-test	7.92	3.147	**-3.667**	**1.011**	**0.001**	7.93	3.339	0.571	0.936	0.547
	Post-test	4.25	4.115				7.36	3.079			
Partner's Mother	Pre-test	9.08	2.575	0.000	0.664	1.000	9.64	0.633	0.071	0.615	0.908
	Post-test	9.08	1.564				9.57	0.756			
Partner's Father	Pre-test	9.00	2.558	-0.250	0.643	0.701	9.71	0.611	0.071	0.596	0.906
	Post-test	9.25	1.485				9.64	0.633			
Friend Becomes Boss	Pre-test	0.00	3.834	-0.833	0.603	0.180	0.00	2.045	-0.643	0.559	0.261
	Post-test	0.00	3.627				0.00	1.748			
Elementary Teacher	Pre-test	8.83	2.588	1.167	0.944	0.228	8.43	2.901	0.286	0.874	0.747
	Post-test	7.67	3.284				8.14	2.568			
Mechanic	Pre-test	7.92	3.370	0.000	0.234	1.000	7.71	3.074	0.143	0.216	0.515

	Post-test	7.92	3.343				7.57	3.180			
H&M Employee	Pre-test	8.00	3.075	1.083	0.735	0.154	7.07	3.407	0.286	0.681	0.678
	Post-test	6.92	3.502				6.79	3.262			
Friend's Colleague	Pre-test	4.33	3.525	1.583	0.816	0.064	6.00	3.187	0.071	0.756	0.925
	Post-test	2.75	3.108				5.93	3.430			
AirBnB Host (32)	Pre-test	6.67	3.892	**-1.917**	**0.713**	**0.013**	7.86	3.060	-0.571	0.660	0.395
	Post-test	8.58	2.610				8.43	2.821			
T.A.	Pre-test	5.25	4.159	-0.333	0.364	0.369	6.57	3.031	-0.429	0.337	0.215
	Post-test	5.58	3.848				7.00	3.088			

D.3 2x3 ANOVA Results

The following tables contains the results for the comparison of pre-test, post-test, and delayed post-test results for University of Calgary L2 learners who completed the online training module and the one-week delayed post-test. In scenarios where significant group by time interactions are seen among tests, the mean difference, standard error, and p-value are bolded. Table D.3.1 presents the results for the explicit instruction treatment group and Table D.3.2 shows the results for the implicit treatment group.

Table D.3.1

Descriptive Statistics and Group by Time Interactions from 2x3 Mixed ANOVA of UCalgary L2 Learner Pre-test, Immediate Post-test, and One-week Delayed Post-test Data for Explicit Instruction Treatment Group

Scenario	Comparison	Mean	Std. Deviation	Comparison	Mean Difference (I-J)	Std. Error	Sig.
Mother	Pre-test	3.00	3.416	**Pre-Test vs. Post-Test**	**-2.000**	**0.818**	**0.026**
	Post-test	5.00	4.690	Pre-Test vs. Delayed Post-Test	-0.429	0.512	0.415
	Delayed Post-test	3.43	4.158	Post-Test vs. Delayed Post-Test	1.571	0.900	0.100
Father	Pre-test	2.43	2.992	**Pre-Test vs. Post-Test**	**-2.429**	**0.991**	**0.026**
	Post-test	4.86	4.811	Pre-Test vs. Delayed Post-Test	-0.857	0.785	0.291
	Delayed Post-test	3.29	3.946	Post-Test vs. Delayed Post-Test	1.571	0.924	0.109
Younger Sibling	Pre-test	1.57	0.976	Pre-Test vs. Post-Test	-1.143	0.873	0.209
	Post-test	2.71	3.302	Pre-Test vs. Delayed Post-Test	0.429	0.272	0.134
	Delayed Post-test	1.14	0.378	Post-Test vs. Delayed Post-Test	1.571	0.811	0.071
Older Sibling	Pre-test	1.43	0.787	Pre-Test vs. Post-Test	-1.286	0.845	0.148
	Post-test	2.71	3.302	**Pre-Test vs. Delayed Post-Test**	**-1.714**	**0.780**	**0.043**
	Delayed Post-test	3.14	3.761	Post-Test vs. Delayed Post-Test	-0.429	1.307	0.747
Grandmother	Pre-test	6.86	4.059	Pre-Test vs. Post-Test	2.000	1.227	0.123
	Post-test	4.86	4.811	Pre-Test vs. Delayed Post-Test	2.000	1.135	0.097
	Delayed Post-test	4.86	4.811	Post-Test vs. Delayed Post-Test	0.000	0.822	1.000
Grandfather	Pre-test	5.86	4.298	Pre-Test vs. Post-Test	1.000	1.520	0.520
	Post-test	4.86	4.525	Pre-Test vs. Delayed Post-Test	1.000	1.444	0.499
	Delayed Post-test	4.86	4.811	Post-Test vs. Delayed Post-Test	0.000	0.938	1.000

Great-grandparent	Pre-test	6.29	3.861	Pre-Test vs. Post-Test	1.429	1.586	0.381
	Post-test	4.86	4.525	Pre-Test vs. Delayed Post-Test	1.429	1.510	0.358
	Delayed Post-test	4.86	4.811	Post-Test vs. Delayed Post-Test	0.000	0.777	1.000
Aunt	Pre-test	4.71	3.90	Pre-Test vs. Post-Test	-0.286	0.708	0.692
	Post-test	5.00	4.69	Pre-Test vs. Delayed Post-Test	1.429	1.123	0.222
	Delayed Post-test	3.29	3.95	Post-Test vs. Delayed Post-Test	1.714	1.052	0.123
Uncle	Pre-test	4.43	3.82	Pre-Test vs. Post-Test	-0.571	1.024	0.584
	Post-test	5.00	4.69	Pre-Test vs. Delayed Post-Test	1.143	1.456	0.444
	Delayed Post-test	3.29	3.95	Post-Test vs. Delayed Post-Test	1.714	1.076	0.131
Younger Cousin	Pre-test	1.86	1.86	Pre-Test vs. Post-Test	-0.714	1.001	0.486
	Post-test	2.57	3.31	Pre-Test vs. Delayed Post-Test	0.714	0.519	0.188
	Delayed Post-test	1.14	0.38	Post-Test vs. Delayed Post-Test	1.429	0.794	0.091
Older Cousin	Pre-test	2.00	1.91	Pre-Test vs. Post-Test	-1.857	0.925	0.062
	Post-test	3.86	4.22	Pre-Test vs. Delayed Post-Test	-1.286	0.856	0.153
	Delayed Post-test	3.29	3.95	Post-Test vs. Delayed Post-Test	0.571	1.204	0.642
Mother-in-Law	Pre-test	8.14	3.24	Pre-Test vs. Post-Test	1.000	1.000	0.332
	Post-test	7.14	4.26	Pre-Test vs. Delayed Post-Test	1.714	1.179	0.165
	Delayed Post-test	6.43	4.04	Post-Test vs. Delayed Post-Test	1.714	1.179	0.165
Father-in-Law	Pre-test	7.29	3.73	Pre-Test vs. Post-Test	0.143	1.302	0.914
	Post-test	7.14	4.26	Pre-Test vs. Delayed Post-Test	0.857	1.463	0.566
	Delayed Post-test	6.43	4.04	Post-Test vs. Delayed Post-Test	0.714	1.389	0.614
Older Cousin's Partner	Pre-test	7.29	3.73	Pre-Test vs. Post-Test	-1.000	1.186	0.412
	Post-test	7.14	4.26	Pre-Test vs. Delayed Post-Test	0.714	1.078	0.517
	Delayed Post-test	6.43	4.04	Post-Test vs. Delayed Post-Test	1.714	0.954	0.091
Younger Cousin's Partner	Pre-test	5.29	4.19	Pre-Test vs. Post-Test	0.714	1.343	0.602
	Post-test	4.57	4.12	**Pre-Test vs. Delayed Post-Test**	**3.286**	**1.062**	**0.007**
	Delayed Post-test	2.00	1.83	**Post-Test vs. Delayed Post-Test**	**2.571**	**1.043**	**0.025**
Uber Driver (Male, Older)	Pre-test	7.14	4.22	**Pre-Test vs. Post-Test**	**-2.571**	**1.093**	**0.032**
	Post-test	9.71	0.76	Pre-Test vs. Delayed Post-Test	0.000	0.522	1.000
	Delayed Post-test	7.14	4.22	**Post-Test vs. Delayed Post-Test**	**2.571**	**1.204**	**0.048**

Uber Driver (Female, Older)	Pre-test	7.14	4.22	**Pre-Test vs. Post-Test**	**-2.429**	**1.107**	**0.043**
	Post-test	9.57	0.79	Pre-Test vs. Delayed Post-Test	0.000	0.642	1.000
	Delayed Post-test	7.14	4.22	Post-Test vs. Delayed Post-Test	2.429	1.276	0.075
Uber Driver (Male, Younger)	Pre-test	7.14	4.22	**Pre-Test vs. Post-Test**	-1.286	0.954	0.197
	Post-test	8.43	3.36	Pre-Test vs. Delayed Post-Test	2.143	1.056	0.059
	Delayed Post-test	5.00	3.65	**Post-Test vs. Delayed Post-Test**	3.429	1.310	0.019
Uber Driver (Female, Younger)	Pre-test	7.14	4.22	**Pre-Test vs. Post-Test**	-1.429	0.927	0.143
	Post-test	8.57	3.36	Pre-Test vs. Delayed Post-Test	2.143	1.054	0.059
	Delayed Post-test	5.00	3.65	**Post-Test vs. Delayed Post-Test**	**3.571**	**1.321**	**0.016**
Hairdresser (Older)	Pre-test	7.14	4.22	**Pre-Test vs. Post-Test**	**-2.714**	**1.189**	**0.036**
	Post-test	9.86	0.38	Pre-Test vs. Delayed Post-Test	1.857	0.921	0.061
	Delayed Post-test	5.29	3.68	**Post-Test vs. Delayed Post-Test**	**4.571**	**1.049**	**0.000**
Hairdresser (Younger)	Pre-test	5.86	4.56	Pre-Test vs. Post-Test	-1.571	1.046	0.152
	Post-test	7.43	3.82	Pre-Test vs. Delayed Post-Test	1.143	1.133	0.328
	Delayed Post-test	4.00	2.94	**Post-Test vs. Delayed Post-Test**	**2.714**	**1.134**	**0.029**
Hairdresser (Same Age)	Pre-test	5.86	4.56	Pre-Test vs. Post-Test	-1.571	1.046	0.152
	Post-test	7.43	4.08	Pre-Test vs. Delayed Post-Test	1.143	1.133	0.328
	Delayed Post-test	4.71	2.98	**Post-Test vs. Delayed Post-Test**	**2.714**	**1.134**	**0.029**
Waiter (Older)	Pre-test	7.00	4.16	**Pre-Test vs. Post-Test**	**-2.571**	**1.133**	**0.037**
	Post-test	9.57	0.79	Pre-Test vs. Delayed Post-Test	1.857	0.933	0.064
	Delayed Post-test	5.14	3.98	**Post-Test vs. Delayed Post-Test**	**4.429**	**1.217**	**0.002**
Waiter (Younger)	Pre-test	7.14	4.22	Pre-Test vs. Post-Test	-0.286	1.233	0.820
	Post-test	7.43	3.82	**Pre-Test vs. Delayed Post-Test**	**3.857**	**0.961**	**0.001**
	Delayed Post-test	3.29	2.98	**Post-Test vs. Delayed Post-Test**	**4.143**	**1.161**	**0.003**
Waiter (Same Age)	Pre-test	7.29	4.31	Pre-Test vs. Post-Test	0.286	1.257	0.823
	Post-test	7.00	3.92	**Pre-Test vs. Delayed Post-Test**	**3.286**	**0.836**	**0.001**
	Delayed Post-test	4.00	3.21	**Post-Test vs. Delayed Post-Test**	**3.000**	**1.243**	**0.028**
Waitress (Older)	Pre-test	7.14	4.22	**Pre-Test vs. Post-Test**	**-2.571**	**1.158**	**0.041**
	Post-test	9.71	0.76	Pre-Test vs. Delayed Post-Test	1.571	0.899	0.099
	Delayed Post-test	5.57	4.35	**Post-Test vs. Delayed Post-Test**	**4.143**	**1.246**	**0.004**

Waitress (Younger)	Pre-test	7.14	4.22	Pre-Test vs. Post-Test	-0.429	1.305	0.747
	Post-test	7.57	3.87	**Pre-Test vs. Delayed Post-Test**	**3.857**	**0.989**	**0.001**
	Delayed Post-test	3.29	2.98	**Post-Test vs. Delayed Post-Test**	**4.286**	**1.240**	**0.003**
Waitress (Same Age)	Pre-test	7.14	4.22	Pre-Test vs. Post-Test	0.286	1.419	0.843
	Post-test	6.86	4.10	Pre-Test vs. Delayed Post-Test	0.286	1.419	0.843
	Delayed Post-test	4.14	3.39	Post-Test vs. Delayed Post-Test	2.714	1.368	0.065
Boss	Pre-test	8.29	3.30	Pre-Test vs. Post-Test	-1.429	0.809	0.097
	Post-test	9.71	0.76	Pre-Test vs. Delayed Post-Test	-1.000	0.871	0.268
	Delayed Post-test	9.29	1.50	Post-Test vs. Delayed Post-Test	0.429	0.297	0.169
Coworker (Male, Older)	Pre-test	5.86	4.56	Pre-Test vs. Post-Test	0.143	1.428	0.922
	Post-test	5.71	4.46	Pre-Test vs. Delayed Post-Test	0.857	0.605	0.176
	Delayed Post-test	5.00	3.92	Post-Test vs. Delayed Post-Test	0.714	1.070	0.514
Coworker (Male, Younger)	Pre-test	6.00	4.69	Pre-Test vs. Post-Test	1.286	1.106	0.262
	Post-test	4.71	4.64	**Pre-Test vs. Delayed Post-Test**	**2.143**	**0.796**	**0.016**
	Delayed Post-test	3.86	3.08	Post-Test vs. Delayed Post-Test	0.857	1.033	0.419
Coworker (Female, Older)	Pre-test	5.86	4.56	Pre-Test vs. Post-Test	-0.143	1.439	0.922
	Post-test	6.00	4.69	**Pre-Test vs. Delayed Post-Test**	1.286	0.597	0.047
	Delayed Post-test	4.57	3.41	Post-Test vs. Delayed Post-Test	1.429	1.110	0.216
Coworker (Female, Younger)	Pre-test	5.86	4.56	Pre-Test vs. Post-Test	1.429	1.085	0.207
	Post-test	4.43	4.31	**Pre-Test vs. Delayed Post-Test**	**2.143**	**0.810**	**0.018**
	Delayed Post-test	3.71	3.15	Post-Test vs. Delayed Post-Test	0.714	1.026	0.496
Child (9-12)	Pre-test	3.71	3.73	Pre-Test vs. Post-Test	1.571	1.402	0.279
	Post-test	2.14	1.86	Pre-Test vs. Delayed Post-Test	2.143	1.100	0.069
	Delayed Post-test	1.57	0.98	Post-Test vs. Delayed Post-Test	0.571	1.152	0.627
Teenager (13-16)	Pre-test	4.00	3.37	Pre-Test vs. Post-Test	2.000	1.247	0.128
	Post-test	2.00	1.53	Pre-Test vs. Delayed Post-Test	1.429	0.771	0.083
	Delayed Post-test	2.57	2.44	Post-Test vs. Delayed Post-Test	-0.571	0.903	0.536
Teenager (17-19)	Pre-test	5.43	4.16	Pre-Test vs. Post-Test	2.143	1.209	0.095
	Post-test	3.29	3.30	**Pre-Test vs. Delayed Post-Test**	**2.571**	**1.036**	**0.025**
	Delayed Post-test	2.86	3.34	Post-Test vs. Delayed Post-Test	0.429	0.771	0.586

Adult 20s	Pre-test	7.29	3.73	Pre-Test vs. Post-Test	-0.143	1.444	0.922
	Post-test	7.43	3.78	Pre-Test vs. Delayed Post-Test	2.714	1.705	0.131
	Delayed Post-test	4.57	4.28	Post-Test vs. Delayed Post-Test	2.857	1.826	0.137
Adult 30s	Pre-test	8.71	3.40	Pre-Test vs. Post-Test	-0.714	0.882	0.430
	Post-test	9.43	0.79	Pre-Test vs. Delayed Post-Test	0.429	1.403	0.764
	Delayed Post-test	8.29	3.40	Post-Test vs. Delayed Post-Test	1.143	1.058	0.296
Adult 40s	Pre-test	8.57	3.36	Pre-Test vs. Post-Test	-1.000	0.850	0.257
	Post-test	9.57	0.79	Pre-Test vs. Delayed Post-Test	0.429	1.341	0.753
	Delayed Post-test	8.14	3.34	Post-Test vs. Delayed Post-Test	1.429	1.020	0.181
Adult 50s	Pre-test	8.57	3.36	Pre-Test vs. Post-Test	-1.000	0.860	0.262
	Post-test	9.57	0.79	Pre-Test vs. Delayed Post-Test	-1.286	0.871	0.160
	Delayed Post-test	9.86	0.38	Post-Test vs. Delayed Post-Test	-0.286	0.426	0.512
Adult > 65	Pre-test	8.57	3.36	Pre-Test vs. Post-Test	-1.143	0.833	0.189
	Post-test	9.71	0.76	Pre-Test vs. Delayed Post-Test	-1.286	0.810	0.132
	Delayed Post-test	9.86	0.38	Post-Test vs. Delayed Post-Test	-0.143	0.227	0.538
Brother's Girlfriend	Pre-test	6.00	4.40	Pre-Test vs. Post-Test	1.000	1.566	0.532
	Post-test	5.00	4.69	Pre-Test vs. Delayed Post-Test	1.286	1.419	0.378
	Delayed Post-test	4.71	4.35	Post-Test vs. Delayed Post-Test	0.286	0.641	0.662
Gym Employee (Aged 21)	Pre-test	7.14	3.63	**Pre-Test vs. Post-Test**	**3.571**	**1.317**	**0.015**
	Post-test	3.57	4.39	**Pre-Test vs. Delayed Post-Test**	**3.857**	**1.342**	**0.011**
	Delayed Post-test	3.29	3.59	Post-Test vs. Delayed Post-Test	0.286	0.931	0.763
Gym Employee (Aged 45)	Pre-test	8.29	3.25	**Pre-Test vs. Post-Test**	**4.857**	**1.230**	**0.001**
	Post-test	3.43	4.16	**Pre-Test vs. Delayed Post-Test**	**5.143**	**1.354**	**0.002**
	Delayed Post-test	3.14	3.67	Post-Test vs. Delayed Post-Test	0.286	0.777	0.718
Gym Patron (Aged 21)	Pre-test	7.14	3.63	**Pre-Test vs. Post-Test**	**4.286**	**1.353**	**0.006**
	Post-test	2.86	3.48	**Pre-Test vs. Delayed Post-Test**	**4.286**	**1.534**	**0.013**
	Delayed Post-test	2.86	3.18	Post-Test vs. Delayed Post-Test	0.00	0.864	1.000
Gym Patron (Aged 45)	Pre-test	8.14	3.24	**Pre-Test vs. Post-Test**	**4.571**	**1.290**	**0.003**
	Post-test	3.57	4.39	**Pre-Test vs. Delayed Post-Test**	**5.000**	**1.291**	**0.001**
	Delayed Post-test	3.14	3.67	Post-Test vs. Delayed Post-Test	0.429	0.827	0.611

Partner's Mother	Pre-test	8.71	3.40	Pre-Test vs. Post-Test	-0.286	0.998	0.778
	Post-test	9.00	1.91	Pre-Test vs. Delayed Post-Test	-0.429	0.972	0.665
	Delayed Post-test	9.14	1.07	Post-Test vs. Delayed Post-Test	-0.143	0.459	0.760
Partner's Father	Pre-test	8.57	3.36	Pre-Test vs. Post-Test	-0.571	0.994	0.573
	Post-test	9.14	1.86	Pre-Test vs. Delayed Post-Test	-0.571	0.967	0.563
	Delayed Post-test	9.14	1.07	Post-Test vs. Delayed Post-Test	0.000	0.397	1.000
Friend Becomes Boss	Pre-test	4.00	4.16	Pre-Test vs. Post-Test	-0.857	0.921	0.366
	Post-test	4.86	3.89	Pre-Test vs. Delayed Post-Test	-1.571	0.925	0.109
	Delayed Post-test	5.57	4.31	Post-Test vs. Delayed Post-Test	-0.714	0.568	0.227
Elementary Teacher	Pre-test	8.57	3.36	Pre-Test vs. Post-Test	0.429	1.241	0.734
	Post-test	8.14	3.29	Pre-Test vs. Delayed Post-Test	0.429	1.438	0.770
	Delayed Post-test	8.14	3.24	Post-Test vs. Delayed Post-Test	0.000	0.713	1.000
Mechanic	Pre-test	7.14	4.22	Pre-Test vs. Post-Test	0.143	0.341	0.681
	Post-test	7.00	4.16	Pre-Test vs. Delayed Post-Test	1.000	0.660	0.149
	Delayed Post-test	6.14	3.89	Post-Test vs. Delayed Post-Test	0.857	0.685	0.229
H&M Employee	Pre-test	8.43	3.31	Pre-Test vs. Post-Test	2.143	1.091	0.067
	Post-test	6.29	3.99	Pre-Test vs. Delayed Post-Test	**2.429**	**0.903**	**0.016**
	Delayed Post-test	6.00	3.74	Post-Test vs. Delayed Post-Test	0.286	0.669	0.675
Friend's Colleague	Pre-test	3.43	3.41	Pre-Test vs. Post-Test	**2.429**	**1.136**	**0.048**
	Post-test	1.00	0.00	Pre-Test vs. Delayed Post-Test	0.000	1.339	1.000
	Delayed Post-test	3.43	3.60	Post-Test vs. Delayed Post-Test	-2.429	1.160	0.053
AirBnB Host (Aged 32)	Pre-test	6.86	4.06	Pre-Test vs. Post-Test	-1.571	0.804	0.068
	Post-test	6.86	4.06	Pre-Test vs. Delayed Post-Test	-1.286	1.188	0.295
	Delayed Post-test	8.14	3.24	Post-Test vs. Delayed Post-Test	0.286	0.861	0.744
T.A.	Pre-test	4.43	4.31	Pre-Test vs. Post-Test	-0.714	0.517	0.186
	Post-test	5.14	4.22	Pre-Test vs. Delayed Post-Test	-1.286	1.370	0.362
	Delayed Post-test	5.71	4.23	Post-Test vs. Delayed Post-Test	-0.571	1.222	0.646

Table D.3.2

Descriptive Statistics and Group by Time Interactions from 2x3 Mixed ANOVA of UCalgary L2 Learner Pre-test, Immediate Post-test, and One-week Delayed Post-test Data for Implicit Instruction Treatment Group

Scenario	Comparison	Mean	Std. Deviation	Comparison	Mean Difference (I-J)	Std. Error	Sig.
Mother	Pre-test	1.55	1.29	Pre-Test vs. Post-Test	-0.909	0.652	0.183
	Post-test	2.45	1.97	Pre-Test vs. Delayed Post-Test	-0.818	0.408	0.062
	Delayed Post-test	2.36	2.25	Post-Test vs. Delayed Post-Test	0.091	0.718	0.901
Father	Pre-test	1.82	1.54	Pre-Test vs. Post-Test	-0.727	0.790	0.371
	Post-test	2.55	1.97	Pre-Test vs. Delayed Post-Test	-0.727	0.626	0.263
	Delayed Post-test	2.55	2.16	Post-Test vs. Delayed Post-Test	0.000	0.737	1.000
Younger Sibling	Pre-test	0.91	0.30	Pre-Test vs. Post-Test	-0.364	0.697	0.609
	Post-test	1.27	0.65	Pre-Test vs. Delayed Post-Test	-0.364	0.217	0.113
	Delayed Post-test	1.27	0.65	Post-Test vs. Delayed Post-Test	0.000	0.647	1.000
Older Sibling	Pre-test	0.91	0.30	Pre-Test vs. Post-Test	-0.364	0.674	0.597
	Post-test	1.27	0.65	Pre-Test vs. Delayed Post-Test	-0.545	0.622	0.394
	Delayed Post-test	1.45	0.93	Post-Test vs. Delayed Post-Test	-0.182	1.043	0.864
Grandmother	Pre-test	6.36	3.11	Pre-Test vs. Post-Test	0.455	0.979	0.649
	Post-test	5.91	3.27	Pre-Test vs. Delayed Post-Test	0.273	0.905	0.767
	Delayed Post-test	6.09	3.36	Post-Test vs. Delayed Post-Test	-0.182	0.656	0.785
Grandfather	Pre-test	6.45	3.11	Pre-Test vs. Post-Test	0.545	1.212	0.659
	Post-test	5.91	3.36	Pre-Test vs. Delayed Post-Test	-0.545	1.212	0.659
	Delayed Post-test	6.27	3.47	Post-Test vs. Delayed Post-Test	-0.182	1.152	0.877
Great-grandparent	Pre-test	7.91	2.77	Pre-Test vs. Post-Test	1.000	1.265	0.441
	Post-test	6.91	3.81	Pre-Test vs. Delayed Post-Test	0.818	1.205	0.507
	Delayed Post-test	7.09	3.08	Post-Test vs. Delayed Post-Test	-0.182	0.620	0.773
Aunt	Pre-test	3.91	2.39	Pre-Test vs. Post-Test	0.455	0.565	0.433
	Post-test	3.45	2.50	Pre-Test vs. Delayed Post-Test	-0.182	0.896	0.842
	Delayed Post-test	4.09	2.26	Post-Test vs. Delayed Post-Test	-0.636	0.839	0.459

Uncle	Pre-test	3.55	2.58	Pre-Test vs. Post-Test	0.182	0.817	0.827
	Post-test	3.36	2.58	Pre-Test vs. Delayed Post-Test	-0.545	1.162	0.645
	Delayed Post-test	4.09	2.43	Post-Test vs. Delayed Post-Test	-0.727	0.858	0.409
Younger Cousin	Pre-test	1.09	0.30	Pre-Test vs. Post-Test	-0.455	0.798	0.577
	Post-test	1.55	1.04	Pre-Test vs. Delayed Post-Test	-0.545	0.414	0.206
	Delayed Post-test	1.64	0.92	Post-Test vs. Delayed Post-Test	-0.091	0.633	0.888
Older Cousin	Pre-test	2.18	2.23	Pre-Test vs. Post-Test	0.091	0.738	0.903
	Post-test	2.09	1.81	Pre-Test vs. Delayed Post-Test	-0.455	0.683	0.515
	Delayed Post-test	2.64	1.86	Post-Test vs. Delayed Post-Test	-0.545	0.961	0.578
Mother-in-Law	Pre-test	6.73	3.41	Pre-Test vs. Post-Test	1.000	0.798	0.228
	Post-test	5.73	3.72	Pre-Test vs. Delayed Post-Test	-0.273	0.940	0.776
	Delayed Post-test	7.00	2.79	Post-Test vs. Delayed Post-Test	-1.273	1.054	0.245
Father-in-Law	Pre-test	6.82	3.40	Pre-Test vs. Post-Test	1.091	1.038	0.309
	Post-test	5.73	3.74	Pre-Test vs. Delayed Post-Test	-0.455	1.167	0.702
	Delayed Post-test	7.27	2.83	Post-Test vs. Delayed Post-Test	-1.545	1.108	0.182
Older Cousin's Partner	Pre-test	5.18	2.68	Pre-Test vs. Post-Test	0.818	0.946	0.400
	Post-test	4.36	2.54	Pre-Test vs. Delayed Post-Test	-0.545	0.860	0.535
	Delayed Post-test	5.73	3.58	Post-Test vs. Delayed Post-Test	-1.364	0.761	0.092
Younger Cousin's Partner	Pre-test	3.64	2.98	Pre-Test vs. Post-Test	-0.364	1.071	0.739
	Post-test	4.00	2.49	Pre-Test vs. Delayed Post-Test	-1.091	0.847	0.216
	Delayed Post-test	4.73	3.55	Post-Test vs. Delayed Post-Test	-0.727	0.832	0.395
Uber Driver (Male, Older)	Pre-test	8.00	2.76	Pre-Test vs. Post-Test	-0.273	0.872	0.759
	Post-test	8.27	3.00	Pre-Test vs. Delayed Post-Test	-0.636	0.417	0.146
	Delayed Post-test	8.64	1.50	Post-Test vs. Delayed Post-Test	-0.364	0.960	0.710
Uber Driver (Female, Older)	Pre-test	8.09	2.77	Pre-Test vs. Post-Test	-0.182	0.883	0.840
	Post-test	8.27	3.00	Pre-Test vs. Delayed Post-Test	-0.727	0.512	0.175
	Delayed Post-test	8.82	1.25	Post-Test vs. Delayed Post-Test	-0.545	1.018	0.600
Uber Driver (Male, Younger)	Pre-test	5.82	2.56	**Pre-Test vs. Post-Test**	**-2.364**	**0.761**	**0.007**
	Post-test	8.18	2.82	Pre-Test vs. Delayed Post-Test	0.000	0.842	1.000
	Delayed Post-test	5.82	3.46	**Post-Test vs. Delayed Post-Test**	**2.364**	**1.045**	**0.038**

Uber Driver (Female, Younger)	Pre-test	5.82	2.56	**Pre-Test vs. Post-Test**	**-2.364**	**0.740**	**0.006**
	Post-test	8.18	2.82	Pre-Test vs. Delayed Post-Test	-0.182	0.841	0.832
	Delayed Post-test	6.00	3.46	Post-Test vs. Delayed Post-Test	2.182	1.054	0.055
Hairdresser (Older)	Pre-test	7.73	3.00	Pre-Test vs. Post-Test	0.091	0.948	0.925
	Post-test	7.64	2.94	Pre-Test vs. Delayed Post-Test	-0.727	0.735	0.337
	Delayed Post-test	8.45	1.57	Post-Test vs. Delayed Post-Test	-0.818	0.837	0.343
Hairdresser (Younger)	Pre-test	5.64	2.42	Pre-Test vs. Post-Test	-1.091	0.733	0.156
	Post-test	6.73	2.97	Pre-Test vs. Delayed Post-Test	-0.818	0.931	0.392
	Delayed Post-test	6.45	3.05	Post-Test vs. Delayed Post-Test	0.273	0.917	0.770
Hairdresser (Same Age)	Pre-test	6.27	3.07	Pre-Test vs. Post-Test	-0.545	0.834	0.522
	Post-test	6.82	3.03	Pre-Test vs. Delayed Post-Test	0.091	0.904	0.921
	Delayed Post-test	6.18	3.06	Post-Test vs. Delayed Post-Test	0.636	0.904	0.492
Waiter (Older)	Pre-test	8.36	2.80	Pre-Test vs. Post-Test	0.727	0.904	0.433
	Post-test	7.64	3.11	Pre-Test vs. Delayed Post-Test	-0.545	0.745	0.474
	Delayed Post-test	8.91	1.22	Post-Test vs. Delayed Post-Test	-1.273	0.971	0.208
Waiter (Younger)	Pre-test	7.18	2.52	Pre-Test vs. Post-Test	-0.091	0.984	0.928
	Post-test	7.27	3.04	Pre-Test vs. Delayed Post-Test	-0.364	0.766	0.642
	Delayed Post-test	7.55	2.66	Post-Test vs. Delayed Post-Test	-0.273	0.926	0.772
Waiter (Same Age)	Pre-test	7.64	2.54	Pre-Test vs. Post-Test	0.182	1.003	0.858
	Post-test	7.45	3.11	Pre-Test vs. Delayed Post-Test	0.091	0.667	0.893
	Delayed Post-test	7.55	2.50	Post-Test vs. Delayed Post-Test	-0.091	0.991	0.928
Waitress (Older)	Pre-test	8.36	2.69	Pre-Test vs. Post-Test	0.636	0.924	0.501
	Post-test	7.73	3.13	Pre-Test vs. Delayed Post-Test	-0.455	0.717	0.535
	Delayed Post-test	8.82	1.33	Post-Test vs. Delayed Post-Test	-1.091	0.994	0.288
Waitress (Younger)	Pre-test	7.00	2.65	Pre-Test vs. Post-Test	-0.091	1.041	0.931
	Post-test	7.09	3.08	Pre-Test vs. Delayed Post-Test	-0.545	0.789	0.499
	Delayed Post-test	7.55	2.88	Post-Test vs. Delayed Post-Test	-0.455	0.989	0.652
Waitress (Same Age)	Pre-test	7.36	2.58	Pre-Test vs. Post-Test	0.000	1.132	1.000
	Post-test	7.36	3.20	Pre-Test vs. Delayed Post-Test	-0.273	0.700	0.702
	Delayed Post-test	7.64	2.62	Post-Test vs. Delayed Post-Test	-0.273	1.091	0.806

Boss	Pre-test	9.73	0.65	Pre-Test vs. Post-Test	0.182	0.646	0.782
	Post-test	9.55	0.69	Pre-Test vs. Delayed Post-Test	-0.091	0.695	0.897
	Delayed Post-test	9.82	0.60	Post-Test vs. Delayed Post-Test	-0.273	0.237	0.267
Coworker (Male, Older)	Pre-test	6.09	2.91	Pre-Test vs. Post-Test	0.182	1.139	0.875
	Post-test	5.91	2.88	Pre-Test vs. Delayed Post-Test	-0.273	0.483	0.580
	Delayed Post-test	6.36	2.54	Post-Test vs. Delayed Post-Test	-0.455	0.853	0.602
Coworker (Male, Younger)	Pre-test	4.55	2.46	Pre-Test vs. Post-Test	-0.182	0.882	0.839
	Post-test	4.73	2.83	Pre-Test vs. Delayed Post-Test	-0.727	0.635	0.269
	Delayed Post-test	5.27	1.74	Post-Test vs. Delayed Post-Test	-0.545	0.824	0.518
Coworker (Female, Older)	Pre-test	6.09	2.81	Pre-Test vs. Post-Test	0.091	1.148	0.938
	Post-test	6.00	2.97	Pre-Test vs. Delayed Post-Test	-0.636	0.477	0.200
	Delayed Post-test	6.73	2.24	Post-Test vs. Delayed Post-Test	-0.727	0.885	0.423
Coworker (Female, Younger)	Pre-test	4.55	2.21	Pre-Test vs. Post-Test	-0.273	0.866	0.757
	Post-test	4.82	2.89	Pre-Test vs. Delayed Post-Test	-0.636	0.646	0.339
	Delayed Post-test	5.18	1.78	Post-Test vs. Delayed Post-Test	-0.364	0.819	0.663
Child (9-12)	Pre-test	2.73	2.57	Pre-Test vs. Post-Test	-0.636	1.119	0.577
	Post-test	3.36	3.70	Pre-Test vs. Delayed Post-Test	-0.545	0.878	0.543
	Delayed Post-test	3.27	3.38	Post-Test vs. Delayed Post-Test	0.091	0.919	0.922
Teenager (13-16)	Pre-test	3.82	2.93	Pre-Test vs. Post-Test	-0.727	0.995	0.475
	Post-test	4.55	4.08	Pre-Test vs. Delayed Post-Test	0.091	0.615	0.884
	Delayed Post-test	3.73	3.58	Post-Test vs. Delayed Post-Test	0.818	0.720	0.273
Teenager (17-19)	Pre-test	5.27	3.52	Pre-Test vs. Post-Test	-0.545	0.964	0.579
	Post-test	5.82	3.95	Pre-Test vs. Delayed Post-Test	0.364	0.827	0.666
	Delayed Post-test	4.91	3.59	Post-Test vs. Delayed Post-Test	0.909	0.615	0.159
Adult 20s	Pre-test	6.91	3.48	Pre-Test vs. Post-Test	-0.545	1.152	0.642
	Post-test	7.45	3.75	Pre-Test vs. Delayed Post-Test	0.000	1.360	1.000
	Delayed Post-test	6.91	3.18	Post-Test vs. Delayed Post-Test	0.545	1.457	0.713
Adult 30s	Pre-test	8.18	3.06	Pre-Test vs. Post-Test	0.182	0.703	0.799
	Post-test	8.00	3.19	Pre-Test vs. Delayed Post-Test	-0.455	1.119	0.690
	Delayed Post-test	8.64	2.20	Post-Test vs. Delayed Post-Test	-0.636	0.844	0.462
Adult 40s	Pre-test	8.55	2.88	Pre-Test vs. Post-Test	0.091	0.678	0.895

	Post-test	8.45	2.94	Pre-Test vs. Delayed Post-Test	-0.818	1.070	0.455
	Delayed Post-test	9.36	1.29	Post-Test vs. Delayed Post-Test	-0.909	0.814	0.281
Adult 50s	Pre-test	9.45	1.04	Pre-Test vs. Post-Test	-0.091	0.686	0.896
	Post-test	9.55	1.04	Pre-Test vs. Delayed Post-Test	-0.182	0.695	0.797
	Delayed Post-test	9.64	0.92	Post-Test vs. Delayed Post-Test	-0.091	0.340	0.793
Adult > 65	Pre-test	9.91	0.30	Pre-Test vs. Post-Test	-0.091	0.665	0.893
	Post-test	10.00	0.00	Pre-Test vs. Delayed Post-Test	0.000	0.646	1.000
	Delayed Post-test	9.91	0.30	Post-Test vs. Delayed Post-Test	0.091	0.181	0.622
Brother's Girlfriend	Pre-test	6.00	3.44	Pre-Test vs. Post-Test	-1.364	1.249	0.291
	Post-test	7.36	2.73	Pre-Test vs. Delayed Post-Test	-0.727	1.132	0.530
	Delayed Post-test	6.73	2.61	Post-Test vs. Delayed Post-Test	0.636	0.511	0.231
Gym Employee (Aged 21)	Pre-test	6.27	3.80	Pre-Test vs. Post-Test	-0.364	1.051	0.734
	Post-test	6.64	3.26	Pre-Test vs. Delayed Post-Test	-0.545	1.070	0.617
	Delayed Post-test	6.82	3.03	Post-Test vs. Delayed Post-Test	-0.182	0.743	0.810
Gym Employee (Aged 45)	Pre-test	7.27	3.93	Pre-Test vs. Post-Test	-0.364	0.981	0.716
	Post-test	7.64	2.94	Pre-Test vs. Delayed Post-Test	-1.636	1.080	0.149
	Delayed Post-test	8.91	1.58	Post-Test vs. Delayed Post-Test	-1.273	0.620	0.057
Gym Patron (Aged 21)	Pre-test	6.09	3.96	Pre-Test vs. Post-Test	-0.182	1.079	0.868
	Post-test	6.27	3.74	Pre-Test vs. Delayed Post-Test	0.000	1.223	1.000
	Delayed Post-test	6.09	3.27	Post-Test vs. Delayed Post-Test	0.182	0.689	0.795
Gym Patron (Aged 45)	Pre-test	8.18	2.96	Pre-Test vs. Post-Test	0.545	1.029	0.603
	Post-test	7.64	3.01	Pre-Test vs. Delayed Post-Test	-0.545	1.030	0.604
	Delayed Post-test	8.73	1.74	Post-Test vs. Delayed Post-Test	-1.091	0.660	0.118
Partner's Mother	Pre-test	9.55	0.69	Pre-Test vs. Post-Test	-0.273	0.796	0.736
	Post-test	9.82	0.40	Pre-Test vs. Delayed Post-Test	0.273	0.776	0.730
	Delayed Post-test	9.27	1.01	Post-Test vs. Delayed Post-Test	0.545	0.366	0.156
Partner's Father	Pre-test	9.64	0.67	Pre-Test vs. Post-Test	-0.091	0.793	0.910
	Post-test	9.73	0.47	Pre-Test vs. Delayed Post-Test	0.091	0.771	0.908
	Delayed Post-test	9.55	0.82	Post-Test vs. Delayed Post-Test	0.182	0.317	0.574
	Pre-test	1.91	1.30	Pre-Test vs. Post-Test	-0.727	0.735	0.337

Friend Becomes Boss	Post-test	2.64	1.36	Pre-Test vs. Delayed Post-Test	-1.273	0.738	0.104
	Delayed Post-test	3.18	1.60	Post-Test vs. Delayed Post-Test	-0.545	0.453	0.246
Elementary Teacher	Pre-test	8.00	3.16	Pre-Test vs. Post-Test	-0.091	0.990	0.928
	Post-test	8.09	2.77	Pre-Test vs. Delayed Post-Test	0.000	1.147	1.000
	Delayed Post-test	8.00	2.76	Post-Test vs. Delayed Post-Test	0.091	0.569	0.875
Mechanic	Pre-test	8.55	2.07	Pre-Test vs. Post-Test	0.273	0.272	0.331
	Post-test	8.27	2.53	Pre-Test vs. Delayed Post-Test	0.455	0.526	0.400
	Delayed Post-test	8.09	1.92	Post-Test vs. Delayed Post-Test	0.182	0.546	0.744
H&M Employee	Pre-test	7.09	3.11	Pre-Test vs. Post-Test	0.364	0.871	0.682
	Post-test	6.73	2.90	Pre-Test vs. Delayed Post-Test	-0.182	0.720	0.804
	Delayed Post-test	7.27	2.65	Post-Test vs. Delayed Post-Test	-0.545	0.534	0.322
Friend's Colleague	Pre-test	6.18	3.19	Pre-Test vs. Post-Test	0.545	0.906	0.556
	Post-test	5.64	3.07	Pre-Test vs. Delayed Post-Test	0.455	1.068	0.676
	Delayed Post-test	5.73	2.15	Post-Test vs. Delayed Post-Test	-0.091	0.925	0.923
AirBnB Host (Aged 32)	Pre-test	8.27	2.61	Pre-Test vs. Post-Test	-0.455	0.642	0.489
	Post-test	8.27	2.61	Pre-Test vs. Delayed Post-Test	-0.636	0.947	0.511
	Delayed Post-test	8.91	1.30	Post-Test vs. Delayed Post-Test	-0.182	0.687	0.795
T.A.	Pre-test	6.45	2.54	Pre-Test vs. Post-Test	-0.364	0.413	0.391
	Post-test	6.82	2.99	Pre-Test vs. Delayed Post-Test	-0.545	1.093	0.624
	Delayed Post-test	7.00	2.83	Post-Test vs. Delayed Post-Test	-0.182	0.975	0.854