Viktoria Holsey Foss

Foreigner Talk in Norway

A comparative study of speech modifications in L2-L2 English interaction

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Norwegian University of
Science and Technology

Abstract

Previous research has shown that native speakers adjust aspects of their speech and dialogue in response to a less proficient foreign speaker, in what is known as Foreigner Talk (FT). However, less is known about whether non-native speakers make similar adjustments. This study investigates patterns of FT from proficient L2 speakers of English. 6 university students of linguistics were paired with a native speaker (NS) and a non-native speaker (NNS) separately to perform three consecutive tasks: (a) an informal conversation, (b) a word explanation task and (c) a picture description task. The interactions were recorded and transcribed, and utterances coded for rates of modifications to linguistic input and to the structure of conversation. The results show that L2 speakers do modify their speech when speaking to a less proficient interlocutor of the same language, and that the degree of modification varies within different interactional settings. Significant effects were found in the informal conversation, which had the largest numerical differences between the NS directed speech and the NNS directed speech. These findings are a modest contribution to FTD research, but they draw further attention to the L2-speaker and the type of discourse involved in foreigner talk. Non-target qualities of modifications to the conversational structure are also discussed in more detail to give a qualitative portrayal of the negotiation of comprehensible input that happens in a FT discourse.

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Viktoria Holsey Foss

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Introduction

1.1 Background

This study investigates Foreigner Talk Discourse (FTD), in which proficient speakers of a language modify and simplify their speech in order to accommodate a less-proficient L2 speaker in a discourse. Past research on FTD has established that modifications to speech occur at lexical, syntactic, and phonetic levels; for example, speakers are found to produce shorter and less complex utterances, to have slower rate of delivery, exaggerated pronunciation, more pauses, less low-frequency terms, and more (see Ferguson, 1971; 1975; Henzl, 1979; Arthur, Weiner, Culver, Lee, & Thomas, 1980). Others have found more consistent observations of modifications to the interactional structure of conversation, such as asking a larger number of questions, more comprehension and confirmation checks, more clarification requests, and more repetition (Hatch, 1978; Long, 1981; 1983; Brulhart, 1983). Hence, foreigner talk is found to not only include linguistic behavior, but also a complex set of organizational, cognitive and social elements to provide "scaffolding" assistance for the language learner (Hawkings, 1987; in Wesche, 1994). These aspects of modified speech are believed to better facilitate comprehension and learning, motivated by the notion that shorter, grammatically simpler sentences using a more limited vocabulary and expressing simpler ideas are easier to understand (Arthur et al., 1980). Consequently, most research on modified speech has been dedicated to the language acquisition context, focusing either on modifications in the classroom, i.e. Teacher-Talk (TT), or on the context of child-directed speech or Baby Talk (BT). What remains to be addressed in more detail are the speech modifications made *outside* of the classroom, in the other settings where modified speech becomes necessary. What are the goals of foreigner talk in these other settings? What kind of conversational setting elicits most modifications?

Another common feature of FT research is the focus on L1-L2 interaction (i.e. native speakers interacting with non-native speakers) rather than L2-L2 interaction, although few studies give explicit justifications for this choice. It is perhaps motivated by the belief that most instances of foreigner talk are produced by native speakers of the dominant language community in question, and the NS are therefore more relevant; or perhaps that the native speakers of a language serve as a more statistically homogenous group of informants than L2-speakers, whose potentially differing proficiencies make instances of FT less generalizable.

The native speaker focus could also be due to the *native speaker ideal*, i.e. that the NS is considered the best candidate for making grammatical judgments about their own language, and are thus more likely to produce modified speech accordingly. However, FT modifications from non-native speakers might deserve the equal amount of attention, as these speakers just as often find themselves in a discourse with another foreigner, using the language as a lingua franca. In fact, it is even argued that non-native speakers can be *better* at accommodating language to foreigners than native speakers, who as monolingual speakers are not very good at tuning into language variation (Jenkins, 2016). In societies that are becoming consistently more globalized, it is considered an important social skill to be able to adapt to hearers of different languages in different speech situations. This is the case for Norway, with its small language community that frequently participates in global politics and finance, and that is involved with the English language on a near-daily basis. Norwegians, along with other Scandinavians, find themselves in the favorable position of possessing a high proficiency of English, with plenty of opportunities to use the language with both L1 and L2 speakers. Furthermore, the majority of foreign language teachers in Norway are rarely native speakers of the language they are teaching.

The issues stated above support an incentive to further investigate L2 speakers' involvement in foreigner talk, and raise some more important questions: Is foreigner talk limited to native speaker production? To what degree do proficient L2-speakers make modifications to their speech when speaking to foreigners?

1.2 Research questions

The present study aims to investigate the questions above and describe in more detail the nature of foreigner talk within different kinds of interaction. Although a small contribution to FT research, it proposes a foundation for studies of a larger scale and generalizability, which in turn could provide some core assumptions about the L2 speakers that use foreigner talk. 6 proficient students of English were recorded individually in different interactional settings with a less proficient interlocutor, followed by the same procedure with a native interlocutor. A comparison of these recordings was made, and the following research questions were proposed:

1. Across three different kinds of interactive tasks, do the proficient speakers of English make more linguistic adjustments to a NNS than to a NS?
2. Are the adjustments generally more prevalent in a specific task? Which adjustments in which tasks?

2 Literature review

This section aims to provide some insight into the nature of speech modifications and its research, and investigate the possibility that L2-speakers make the same adjustments as L1-speakers. Chapter 2.1 discusses the goals of foreigner talk and speech modifications in different communicative settings, and chapter 2.2 presents the mechanisms of successful communication. A description of common foreigner-talk properties and how they were found are then provided in chapter 2.3, as this serves as motivation for how the present study was conducted and which variables that were chosen. Finally, the question "Can foreigners do foreigner talk", inspired by the study of Milk (1990), is addressed in chapter 2.4, discussing the potential of non-native speakers' ability to make accommodations to less proficient speakers of the same language.

2.1 The goals of Foreigner Talk (FT) and speech modifications

Past research has shown that native speakers consciously and unconsciously modify and simplify their speech when interacting with less proficient speakers of the same language, and that this is motivated by the notion that shorter, grammatically simpler sentences using a more limited vocabulary and expressing simpler ideas are easier to understand (Arthur, Weiner, Culver, Young, Lee & Thomas, 1980, p. 123). These modifications are manifested across different kinds of social settings: There is simplified speech directed at infants, often known as Baby-Talk (BT) or Caregiver Speech; or Teacher Talk (TT), adjustments made by tutors to language learners. Then there is Foreigner Talk (FT), the simplified input native speakers give to less than fully competent speakers or "foreigners" of their language (Krashen, 1981). While BT, TT and FT share many linguistic similarities, a comparison of their functional uses reveals that they are quite different, with BT serving the major function of directing child's behavior, TT that of conveying knowledge and skills to students and facilitate learning, and FT that of exchanging information (Cheng, 1992, p. 18). For example, while adult foreigners may have the linguistic limitations similar to that of a child in the same language, they would not be socially immature and cognitively limited in the same way. Functional differences include an unusually high proportion of imperatives and questions in BT, while FT contains a large percentage of declaratives instead (p. 16). Another functional difference between BT and FT is that NS-NNS conversations between adults tend to include references to the past, present and future, while child-directed speech is more limited to the "here and now" (Hatch, 1978). The difference

between FT and TT may be a cause of some confusion, as the terms are often used interchangeably when foreigner talk is described in the classroom (Gaies, 1977; Hatch, 1978; Brulhart, 1983; Milk, 1990). However, the patterning of TT is constrained by the social rules of the classroom setting, allowing the teachers to only reduce the complexity of their speech within the rules of grammar (Cheng, 1992, p. 17). Nevertheless, most literature concerning speech modifications become relevant when discussing foreigner talk as in the present study. Although BT, TT and FT have different qualities and motivations, and are called different things, they all have in common how they elicit modified language from the native speaker (Milk, 1992, p. 4), and how they act as either explicit or implicit teaching modes (Cheng, 1992, p. 18). In other words, they are all varieties of the same concept, with the common goal to create comprehensible input and facilitate successful communication.

Input refers to the to the linguistic forms (morphemes, words, utterances) – the streams of speech in the air – directed at the nonnative speaker (Long, 1983, p. 127). Krashen's theory of comprehensible input (1980) promoted the idea that understanding the input received is the key to learning a new language, especially when constructing grammar, and that the modifications of native speakers contribute to this comprehensive input. However, after consistent observations of native speakers also making many adjustments to the interactional structure of conversation, it has been argued that the provision of simplified input alone is not the key to comprehension of second language material. Long (1980; 1981; 1983) found that interacting with L2 speakers caused L1 speakers to not only overuse the produce shorter and grammatically simpler clauses and use more high-frequency nouns and verbs; there was also a larger number of questions, more comprehension and confirmation checks, more clarification requests and more repetitions. From these findings, Long (1983) provided a description of fifteen devices that native speakers used to avoid conversational trouble (strategies) and to repair the discourse when trouble occurred (tactics). Hatch (1978) and Long (1981) have both proposed that comprehension is best facilitated by the negotiation of meanings which occurs when native speakers and nonnative speakers are involved in meaningful social interaction (Cheng, 1992, p. 5). Later research in the 1980's and early 1990's has then focused less on the simplification in NS input and more on the negotiation between NS and NNS. Based on the Input Hypothesis, Long defined the Interaction Hypothesis (1996), which has since witnessed a growth in empirical research and developed into a more holistic approach. It is commonly accepted within the SLA literature that there is a robust

connection between interaction – providing learners with a greater amount of comprehensible input – and learning (Varonis & Gass, 1985; Gass & Mackey, 2007, p. 176). The larger approach attempts to describe the processes involved in the learner's exposure to language, including also the production of language and feedback on that production. A similar theory is the Interactive Alignment Hypothesis (Pickering & Garrod, 2004), which bases successful communication on the degree of mental alignment in an interaction, i.e. having the same understanding of the world through linguistic and non-linguistic speech models. The hypothesis describes the cognitive mechanisms behind such an alignment, which will be addressed in the next chapter.

2.2 Mechanisms of successful communication

As introduced in the previous chapter, the goal of different speech modifications is ultimately to aid comprehension to facilitate successful communication. This is particularly the case of Foreigner Talk (FT), where the function of exchanging information is dependent on understanding between speakers. According to the interactive-alignment account (Pickering and Garrod, 2004), a dialogue is successful to the extent that interlocutors come to understand the relevant aspects of the world in the same way as each other; that is, they construct mental models of the situation under discussion, and a successful dialogue occurs when these situation models are the same, or *aligned* (Costa, Pickering & Sorace, 2008, p. 530). Such situation models are thought to include information about people, time, space, causality, and intentionality, and are linked to the tendency for the interlocutors to repeat each other's choices at different linguistic levels, such as words, sounds and grammar. These repetitions represent different levels of *entrainment*: When the interlocutors use the same words, they are lexically entrained; or if they both use for example the passive construction, they would be syntactically entrained (p. 531). Below is an example of lexical repetition in an information-gap-task between a participant speaker (S2) and an interlocutor (S1):

S1:   You have shoes on the chair?
S2:   No, no, no shoes on the chair.
S1:   OK, so you have just the chair.
S2:   I have just the chair.

The content of the text presupposes that the speakers are aligned in a situational model, which is to exchange information about an image. When the interlocutors repeat each other's lexical choices, this also suggests that they are aligned, with their mental lexicons showing similar

patterns of activation (Costa, Pickering & Sorace, 2008, p. 531). Likewise, experiments showing that they repeat each other's grammatical choices then suggest alignment of grammatical representations. In other words, alignment of situation models is largely the result of alignment at other levels of representation (Pickering & Garrod, 2006, p. 204).

An important condition of activation is *priming*, which refers to the automatic mechanism of when an interlocutor hears a particular word or grammatical form (e.g. a passive construction) and activates a mental representation associated with this (Costa, Pickering & Sorace, 2008, p. 531), increasing the chances of the associated word or form being used again. In other words, priming brings about alignment of representations and hence linguistic entrainment. It has been found that speakers are constantly priming each other different linguistic levels, affecting their choice of words, syntactic structures and so on, but also their choices on non-linguistic levels, such as behavior or mimicry (p. 534).

Costa, Pickering and Sorace suggested that foreigner talk could indeed reflect different types of alignment by the L1 speaker. If the native speaker believes a linguistic adjustment could aid the alignment of situation models with the non-native speaker, he or she might simplify speech based on the beliefs of the addressee's level of linguistic competence or based on feedback from the NNS indicating a lack of understanding (2008, p. 545). In both cases, foreigner talk constitutes a form of non-linguistic alignment. However, in some cases, FT may also be partly due to linguistic alignment: If for example the NNS tends to use high frequency words or simple syntax, then the NS is likely to do the same, thus automatically entraining with the linguistic choices made by the NNS (p. 545). In the next chapter we will look closer at these linguistic properties of simplified speech that have been found in previous research.

2.3 Properties of Foreigner Talk

The concept of Foreigner Talk (FT), coined by Charles Ferguson in 1971, was first thought of as an imitation of the way foreigners speak under certain conditions. Ferguson believed that FT samples would be more readily elicited by asking for this kind of imitation than by asking the informant how he would speak to a foreigner (1975, p. 1). Ferguson conducted an informal experiment on his university students, asking them to respond to how they thought speakers of English would say certain sentences in trying to communicate with apparently uneducated non-Europeans (p. 3). From the resulting corpus, participants were found to have a slower rate of delivery, increased loudness, clearer articulation, exaggerated pronunciation, more pauses, more

emphatic stress, shorter utterances, lower syntactic complexity, more avoidance of low frequency items, and even the absence of copula verb 'to be' in the surface structure. Although empirically questionable, Ferguson's study is seen as pioneering for having established conventional features of foreigner talk, which have since been elaborated by other studies with similar findings. Modifications of input have been found in both phonetic, lexical, syntactic properties of FT.

2.3.1 Phonetic properties

The phonetic properties of foreigner talk include slower and louder speech (Ferguson, 1975; Hatch, 1978; Henzl; 1979; Ramamurti, 1980; Gass & Varonis, 1985). These features are often accompanied by a clearer articulation, exaggerated pronunciation and emphatic stress, longer pauses (Ferguson, 1975; Arthur et a., 1980) and fewer reduced contractions, which together should make the native speaker's language easier for the learner to process (Cheng, 1992, p. 35). In some cases, utterances were accompanied by an unusually large number of hand gestures to demonstrate size, shape, direction etc., and pointing to real objects (Hatch, 1978; Ramamurti, 1980).

2.3.2 Lexical properties

The lexical properties of FT include the use of high frequency vocabulary (Hatch, 1978; Henzl, 1979; Arthur et al., 1980; Long, 1980) and avoidance of low frequency lexical items and idiomatic expressions (Henzl, 1979), with substitutions of difficult lexical items made with synonyms or paraphrases (Cheng, 1992, p. 14). In Arthur et al. (1980), the word *plane* was used frequently from airline ticket agents responding to both NS and NNS callers, while the word *aircraft* was used almost exclusively with native callers (p. 119). Similarly, Henzl (1979) found that teachers made a conscious effort to reduce the complexity of their talk by resorting to high frequency nouns and verbs, and simple sentence patterns, in speaking to students of limited language proficiency, but never used words which were not part of the lexicon of the standard variety of language. Since the purpose of teacher talk is to convey information and to teach skills, it tends to be more precise, more expository, and more highly prepositional than ordinary talk (Cheng, 1992, p. 17). Henzl also found that lexical items of narrow semantic fields, which were occurring in NS-NS speech samples, were regularly substituted by more general words in speech to NNS (e.g. 'young gal' became 'woman'; 1979, p. 161). Foreigner talk is also marked by fewer different vocabulary items and more high frequency words manifested in a lower type-

token ratio, i.e., number of unique words divided by total number of words (Long, 1980; Cheng, 1992).

2.3.3 Syntactic properties

In syntax, FT is characterized by shorter utterances (Gaies, 1977; Henzl, 1979; Arthur et al., 1980, Long, 1980; Milk, 1990) that are grammatically less complex (ibid.; Ferguson, 1975; Hatch, 1978). The most marked feature of syntactic simplification for second language learners is the shorter mean length of utterance (MLU) or fewer words per syntactic utterance unit, or t-unit (Cheng, 1992, p. 36). A low MLU is usually accompanied by few complex sentences, meaning less embedded clauses, less modifiers, more one-word utterances and sentence fragments. There are fewer false starts and less repairs (Arthur et. Al, 1980); which could mean that the learner receives more examples of "good" sentences on which to build hypotheses about language structure (Cheng, 1992, p. 36).

Comparing teachers' classroom speech, Gaies (1977) found significant differences in syntactic complexity within six variables: words per t-unit, clauses per t-unit, words per clause, and adjective clauses, adverb clauses and noun clauses per 100 t-units. He also examined differences in talks directed to ESL students at four successive levels and found in all six variables that the language at one level was more complex than at the level immediately below it and less complex than at the level immediately above it (p. 209), showing that teachers consistently adapted their speech according to the level of students.

2.3.4 Interactional properties

As Hatch (1978) and Long (1981) expressed the need for a further focus on modifications and negotiation on a discourse level, later research shifted from the linguistic attributes of modified speech to the modifications of the interactional structure of conversation that serve to avoid conversational trouble and to repair the discourse when trouble occurs (Long, 1983). Examples are, as mentioned earlier, a larger number of questions, more comprehension and confirmation checks, more clarification requests and more repetitions (Hatch, 1978; Long, 1983). More specifically, interlocutors tend to have a more interrogative style (marked by a rising intonation in the end), and frequently use yes/no, or-choice and tag questions (Long, 1983). Both self-repetitions and other-repetitions occur with words and longer phrases, including restatements and expansions (Ramamurti, 1980; Long, 1983). Conversational topics are dealt with simply and briefly (Gaies, 1977; Arthur et al., 1980; Long, 1983; Brulhart, 1983), and tend to involve

content which is physically and/or temporally salient, i.e. oriented to the "here and now". This is manifested in more present (versus non-present) temporal marking of verbs (Gaies, 1977; Long, 1983; Cheng, 1992).

2.3.5 Context

When drawing conclusions about FT, it may be important to take experimental environments and elicitation strategies into consideration, as they can tell us about the settings where foreigner talk has been expected to take place, and what kind of interlocutors that were expected to use it. Whether we look at foreigner talk inside or outside of the classroom, previous experiments have been conducted in varying degrees of controlled environments. Some investigations have been secondary, using introspective judgements of what native speakers think they would do in an imaginary situation (Ferguson, 1975); others have looked at NS-NNS conversation in natural settings (Ramamurti, 1980); many have involved arranged conversations in quasi-laboratory conditions (Arthur et al, 1980; Long, 1980; Gass & Varonis, 1985), or have dealt with the classroom speech of teachers instructing students in a second language (Gaies, 1977; Henzl, 1979; Brulhart, 1983; Milk, 1990; Dodu, 2013). In an example of a less controlled 'natural' environment (Ramamurti, 1980), the investigator spoke to strangers at a laundromat, a pizza restaurant and several departments stores, pretending to not understand fast-spoken American English and shifting between a normal and broken Indian English accent. A more controlled quasi-experimental example from Arthur, Weiner, Culver, Young, Lee & Thomas (1980) featured the recording of speech from ticket agents handling phone reservations for major American airlines when speaking with native and non-native customers. In Gass & Varonis (1985), both NS and NNS conducted phone surveys about nutrition to elicit modified speech from interlocutors found in the phone book. And Long (1980) tested participants in various tasks involving an informal conversation, a vicarious narrative, giving instructions for two communication games and then playing the games, and finally discussing the supposed purpose of the research.

The majority of instances involving modified speech have been found in classroom studies (Gaies, 1977; Hatch, 1978; Henzl, 1979; Brulhart, 1983; Milk, 1990; Cheng, 1992; Dodu, 2013) documenting tutors' modified speech to groups of different ages and proficiencies, as well as in different languages and subjects. The classroom setting seems to determine which properties of FT are more prevalent than others. Henzl's (1979) foreign language instructors in

Czech, German, and English were instructed to produce a narrative to different group levels based on the content of an image. Simplifications were made similar to FT, but there was never an instance of ungrammatical speech (p. 165) as other studies have found (Ferguson; 1975; Ramamurti, 1980). Brulhart (1983) found less or-choice questions and clarification request, expansions, other-repetitions, and confirmation checks in her teachers' classroom speech, indicating that some interactional features found in FT are rarely used in the classroom. Brulhart suggested that FT was ultimately influenced by the classroom setting and a combination of factors: personal style in conjunction with lesson content, methodology, student proficiency level and linguistic background, along with other possible factors (p. 41).

The different findings above have important implications for what is considered as conventional properties of foreigner talk; the linguistic modifications may be the same between FT and TT, but NS-NNS interaction in a classroom is far removed from conversational settings in the real world. This was an important motivation for the main choice of experimental setting in this study, which is conducted with speakers outside of the classroom. The remaining question regards who these speakers are, according to research, and who they could be. This last chapter addresses the question "Can Foreigners do foreigner talk?", posed by Milk (1990).

2.4 Can foreigners do foreigner talk?

As discussed in the introduction, the most common feature of FT research is the focus on the native speaker as an FT interlocutor, and it was speculated which motivations were behind these choices, since little explanation has been explicitly stated in the relevant studies. It may seem a natural choice to investigate native speakers because they represent a common standard of language, making it easier to generalize across a population. Studies have found that in NS-NNS interaction, the L1 speaker is more flexible and has more resources available to monitor the L2-speaker's comprehension than vice versa, and is therefore better placed to judge when a modification is necessary (Costa, Pickering & Sorace, 2008, p. 545). The current rhetoric discusses speech modifications as an "ability" that native speakers have, and by this implicitly states that this ability is limited to native speaker production. That was motivation for Milk's (1990) study of classroom interaction of 14 Peruvian English Teachers and whether they too modified their speech when addressing less proficient students. Results revealed that speech modifications happened systematically on different instructional levels; the speech directed to learners in the classroom was significantly less complex than the teachers were capable of

producing in another setting (p. 1). However, because very few of the teachers who taught beginning classes taught advanced classes, a comparison of the same teacher in different instructional levels could not be made, and a comparison of group means across different instructional levels were made instead. This could have contributed to a high degree of within-group variance generated by differences among individual teachers within each of the instructional level, which probably caused non-significance in one of the variables. A within-groups comparison is applied in the present study to address this problem. Furthermore, Milk admitted that the simplification found in his study could have been attributed to other factors, such as differences in social context between a teaching setting and an interview setting. Nevertheless, Milk suggested the findings provided preliminary evidence that proficient L2 speakers may, "despite possessing 'accents' and occasional syntactic deviations, be effective 'acquisition facilitators', and, thus, potentially effective second language teachers" (Milk, 1990, p. 13).

Milk's study is important as it brings attention to L2 speakers as potential facilitators of comprehensive input, but only in the role of tutors with wide experience in language adaption and instruction with less proficient speakers. What needs more research are the roles and mechanisms of foreigner talk between L2-speakers outside the classroom. Costa, Pickering & Sorace (2008) have argued that the basic alignment mechanisms proposed for dialogues between native speakers should function in dialogues involving L2 speakers. However, they also suggested that these mechanisms will tend to be impaired for L1-L2 dialogues, in part because L2 speakers find making linguistic decisions more effortful, in part because the L1 speaker may be uncertain how to cope with L2 speakers' lack of linguistic knowledge and abilities, and in part because their linguistic differences may impair the process of alignment (p. 551). As for L2-L2 dialogues, there are other factors that may affect the ease of alignment: For example, the existence of cross-linguistic influences from their L1 to L2 should mean that speakers of similar L1s could have more similar activation profiles in their L2s than speakers of dissimilar L1s. If accents are very different, however, the attentional resources needed to decode the message may reduce the success of alignment (p. 549). On the other hand, L2 speakers' speech rates may be more similar to each other than in an L1-L2 dialogue, meaning that they should be able to entrain on the same syllable rate, eventually promoting smooth dialogue (p. 550). The most important constraint of a successful conversation is perhaps the need by both interlocutors to assess each

other's proficiency level. Each person must keep a model of her interlocutor's linguistic knowledge, which uses attentional resources and impairs automatic linguistic alignment (p. 551). This would not be required in the same extent to an L1 addressee. To avoid extensive monitoring, L2 speakers may align on a set of representations (lexical, grammatical, etc.) that they know are shared between them. Considering the role of English as a Lingua Franca, the English that L2 speakers have learned as a second or third language is likely to bear resemblances to each other, especially in terminology. This alignment does not necessarily guarantee that their utterances will be completely accurate, but they are likely to be sufficient for conveying the intended meanings and will promote efficient communication (p. 551). In foreigner talk, this is usually the main ambition.

2.5 Summary

The goal of this section was to provide some insight into the nature of speech modifications and its research, and investigate the possibility that L2-speakers make the same adjustments as L1-speakers. While the goals of speech modifications vary between settings, they share similarities in linguistic properties and have the common goal of aiding comprehensible input and facilitating successful communication. There is a general native speaker bias in the investigations of foreigner talk, and little research of the NNS as a FT interlocutor has been conducted outside the classroom. However, studies of L2-L2 alignment indicate the potential of non-native speakers making accommodations to less proficient speakers of the same language. These factors provide motivation for the current study, in which we investigate and describe the linguistic and interactional modifications made by proficient L2 speakers to less proficient L2 speakers.

3 Method

The purpose of the study was to establish whether the proficient L2 speakers of English made more linguistic accommodations to the NNS than to the NS, and to establish in which task the most accommodations were made. An experiment was conducted in which L2 speakers were recorded when speaking with a native speaker (NS) confederate and a non-native speaker (NNS) confederate in three different tasks: (1) introductory conversation, (2) word explanation task, and (3) picture description task. These tasks are described in chapter 3.3: Tasks and procedures. Around 5 hours of data were recorded and compared with 5 linguistic variables of modified input, namely mean length of utterance (MLU), proportion of embedded clauses, type-token ratio, word frequency, and proportion of present-tense verbs. The individual variables are explained below in chapter 3.4.2. Instances from secondary set of data, modified interaction, have not been quantified due to few and inconsistent appearances in the corpus; they nevertheless provide more detail about the strategies and negotiation between the L2-speakers in the discourse, and are therefore described in the discussion.

3.1 Participants

Six master students of linguistics from the Norwegian University of Science and Technology, aged 20-25, took part in the experiment. Five were Norwegian native speakers, three female and two male, and the last participant was a male German native. All participants were proficient L2 speakers of English, with a C1 or C2 CEFL-level in written English, although the linguistic discipline of their studies varied between English (P1, P2 and P6) and Nordic (P3, P4 and P5) languages. The participants were invited to partake in an experiment involving second language problem-solving, being told that they would be recorded in different tasks with other participants.[1] They were given information about the supposed purpose of the study, the duration, and the different tasks, but they were not told that they would be interacting separately with a NS and NNS, or that their performance would later be compared. Before the experiment, the participants filled out a brief survey[2] about their language background and took a CEFL proficiency level test. In the results and discussion section, each of the participants will be

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[1] See appendix A for information sheet. The project is approved by the Norwegian Centre for Research Data (NSD).
[2] See appendix B.

referred to as P(x), with x being their individual number.

The confederates for this experiment, a native and a non-native speaker, were told all the aspects of the experiment, but asked to act like another participant. The native speaker, henceforth referred to as 'NS', was a female American PhD student, aged 28. The nonnative speaker (NNS) was a Polish male, aged 26, that had lived in Norway for two years but knew little Norwegian. He had a limited proficiency in English, and his speech was heavily accented.

3.2 Study design

The research questions were investigated by testing L2-participants individually in different cooperative problem-solving tasks with an NS confederate and NNS confederate respectively. The participants were recorded in both contexts to be able to make within-participant and within-group comparisons. This is different from other studies with a matched-pairs design, i.e. where conversational groups differed, or not all participants interacted with the same interlocutors (see Long 1980; Milk, 1990). The benefits of such a design is that it makes up for the small number of participants by doubling the observations. Another benefit is the reduction of error variance; i.e., the within-group comparison decreases the chance of individual factors affecting results, since the same individuals participate in the same tasks (Hall, 1998).

The experiments were conducted in three separate sessions, each session with two participants interacting simultaneously with one confederate each, then switching. The participants were placed in different rooms, each room containing either the NS or the NNS. Each participant went through three consecutive tasks with each confederate. These were: (1) introductory conversation, (2) word explanation task, and (3) picture description task. Table 1 below shows a diagram of an example session with two participants.

Table 1

Within-subject design sample

Task	NS	NNS
Task 1: Introduction	P1	P2
Task 2: Word explanation	P1	P2
Task 3: Picture description	P1	P2
Task 1: Introduction	P2	P1
Task 2: Word explanation	P2	P1
Task 3: Picture description	P2	P1

The tasks and interactions were primarily chosen for their interactive nature; all three tasks require a two-way exchange of information, making genuine communicative demands on the participants. While the introductory conversation served as a free discourse interaction which gave participants the time to assess the confederates' language level, task 2 and 3 were to lead to a specific goal or outcome, requiring a verbal exchange of information and the negotiation of meaning between the participants and the confederates (Pica, Kang & Sauro, 2006, p. 302). It is also important to state here that the tasks were chosen not based on their differences, but simply *because* they were different, allowing us to judge the amount of FT based on the use of different interactions.

3.3 Tasks and procedures

3.3.1 Task 1: Introductory conversation.

The participants were individually led into the room where the first confederate sat, with the instruction to meet and greet while the administrator supposedly went to fix something as part of preparation for the experiments. The participants were to believe the confederates were other participants, and that although the recorder was on, this was not part of the actual experiment. The purpose of the introductory conversation was to elicit speech through spontaneous informal interaction, allowing free discourse in a less controlled experimental environment. More importantly, it allowed the participants to assess the confederate's language level. In Ramamurti (1980), interlocutors began to adjust their speech within the first couple of minutes of the

interaction (p. 85). It is also in such informal conversations that Long (1980) found that NSs used a variety of devices presumably intended to facilitate comprehension and participation by the NNS. For example, conversational topics were dealt with simply and briefly compared with those in NS-NS interaction (p. 264), and were often made more salient, i.e. directed towards the participants' immediate surroundings and where they lived. These topics, Long supposed, are usually among the first words which non-native speakers learn to recognize (1983, p. 133).

3.3.2 Task 2: Word explanation.

The word explanation task is based on the cooperative word game, *Alias*, in which a speaker explains a word for the others to guess, without uttering the word itself. Also known as *Taboo*, the game is often used in the foreign language classroom to target vocabulary words or practice communication strategies such as circumlocutions (Chang & Cogswell, 2008). It has also been used to measure working memory and mental control, as the game procures an explanatory setting in which the speakers must divide and control attention by avoiding the key word and monitoring the active schemata of teammates (Hansen & Goldinger, 2009). After being given instructions in the game, the participants were left with a bowl of paper strips, each containing a target word. The participants took turns in explaining words from the bowl without using the words themselves, until the other guessed the correct words. It was not presented as a competition, although they attempted to explain as many words as they could in the 10 minutes they were given. Due to the turn-taking nature of Alias, where the right answer is one word, it is expected that utterances in general will be shorter for this interaction. However, the participants may also use longer utterances with more high frequency terms to explain the key words to the NNS than to the NS, perhaps describing a situation rather than using a synonym, which requires more words. The key words themselves were high frequency terms, selected from an extensive list (Flocabulary[©], 2018) by the NNS confederate prior to the experiment[3]. This was done to ensure that the NNS was familiar with and understood all target words. However, this was no guarantee that he would be able to explain all the words; therefore, the group pairs were told that they could skip words that they didn't know or were too challenging to explain.

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[3] See appendix E for examples.

3.3.3 Task 3: Picture description.

The picture description game was a Spot-the-difference information gap task, which is often used in foreign language education to generate a two-way communication where both partners share and request information, engaging in functional, meaning-focused second language-use and gaining access to input for learning (Pica, Kang & Sauro, 2006, p. 302). The participants were handed envelopes containing each a pair of similar illustrations, and the task was to describe the pictures to each other and ask questions to find the differences between them. Once they believed they had found all the differences, they could look at each other's pictures and start another round of pictures.

Spot-the-difference images have been used as information gap tasks in several studies and were introduced to the SLA research context by Long (1980) in order to address questions of input and interaction. Long found the most significant differences between NS-NS and NS-NNS interaction in the informal conversation and information-gap-tasks, which all required a two-way information exchange. In the tasks, participants used significantly more present temporal marking of verbs with the NNS. It is therefore expected that the participants in the present study will in general use more present-tense verbs in this task compared to the other tasks, by describing and requesting information about the picture. It is also expected, due to the course of the activity, that participants will have longer utterances, spending a longer time describing their picture before switching turns. It is plausible that utterances will be shorter and more of the interrogative kind with the NNS (as found in Long, 1980), perhaps to lighten the load of information as well as ensure that the NNS follows.

The illustrations come from the *Lanternfish ESL*© teacher resource page (2014), with the typical Spot-the-difference content depicting different familiar settings with ordinary objects in different places to elicit prepositions, adjectives and high frequency nouns. Below is an image sample, followed by a resulting description from the participants.

Image 1:

Sample illustration from the Spot-the-difference task
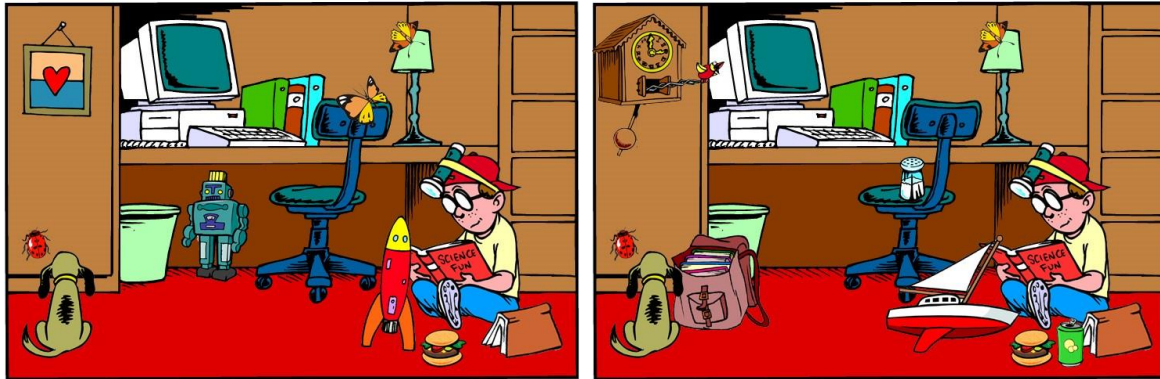
Image 1: A sample illustration from Lanternfish©. Participant P had the left image, and the confederate NS had the image to the right.

Excerpt 1:

P:	OK. Em. There's a bedroom, or an office of sorts, with a red carpet, and, brown walls, and there's a kid in the corner reading "Science fun".
NS:	Yes.
P:	A book, with a torch, strapped to his head.
NS:	Yeah. Uh, there's also another book, next to him, uh, on the floor. Like, kind of upside down.
P:	M-m.
NS:	Um, and a hamburger, next to that as well. And a rocket ship that is orange and red and yellow.
P:	OK, I don't got, I haven't got any rocket ship, I've got a green soda can.

Sample 1: A sample of interaction with the use of image 1. P is sample participant, NS is NS confederate

3.3.4 Interviews.

In pairs, participants were collected after the sessions to answer a few questions about their perceived impression of the tasks, their individual and joined performance, and, ultimately, whether they thought they had spoken differently to the two other participants[4]. To ensure the most genuine responses, the interviews were conducted in an informal setting in the participants' native language, Norwegian[5]. The purpose of the elicited data was to be a qualitative supplement for the findings, as the participants introspective views might provide an interesting perspective.

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[4] See appendix C for interview questions.
[5] An exception is the interview with P1 and P2, which was in English because P1 was German.

3.3.5 Transcription.

Each participant's entire session per confederate is about 20-25 minutes, with an additional 5 minutes from the paired interviews. The administrator's instructions and comments are omitted. The transcription model is in in true verbatim, providing a detailed account of utterances, including verbal cues, false starts and other sounds that appear in a natural discourse. True verbatim is often used by insurance companies for legal purposes, as this kind of transcript can reveal important underlying thought processes in the discourse (Corners, 2015). The limitations of this type of transcription excludes the possibilities of analyzing phonetic properties of speech, such as accent and intonation, that would otherwise be interesting for this kind of study. It does, however, provide description of many other properties of FT.

3.3.6 Pilot test.

A pilot test was conducted before the experiments to assure that the NNS was familiar and prepared for the course of the tasks. It was also to examine how much time was needed for the tasks, how long it took to describe a set of pictures, etc.

3.4 Analysis

The 5 variables were chosen on the basis of common findings in previous research, which will be discussed below. All the modified input data was coded and transferred to an excel sheet where a descriptive analysis was conducted, i.e. measuring the means of variables by participant and by task. Subsequently, the statistical analysis was conducted in R Analysis to further analyze patterns and comparisons from the descriptive data using generalized linear mixed effects models implemented in lme4 (Bates, Maechler, Bolker & Walker, 2014). Poisson regression was used for raw data, logistic regression for proportion data, and linear regression for all other analyses. Reported p-values were estimates provided by the lmerTest package (Kuznetsova, Brokhoff & Christensen, 2016). In other words, R was used in an inferential statistical analysis through which it was attempted to determine whether the patterns were statistically significant; i.e. not merely coincidental ($p<.05$). Below is a description of the different variables used for measuring foreigner talk. The raw data is presented here for the purpose of showing the details of its

quantification and what variable the data was used for[6]. Finally, each of the variables are described.

3.4.1 Raw data

Word count: The word count serves as the base for many of the variables. For each participant and each task, the total number of words uttered were counted with a text content analysis tool from UsingEnglish.com© (2018). The tool registered whole words including non-linguistic markers of approval, thinking and hesitation (e.g. *m-hm*, *hm*, *um*, *er*), and brief responses that signaled approval or understanding (e.g. yeah, yes, no). Counts were therefore computed after removing these minor utterances between turns. Because of the conversational nature of the different interactions, these kinds of responses will be plentiful, and can thus have impact on the results for variables such as the mean length of utterance (MLU) and lexical variation (Type-Token Ratio).

Unique words/word types: a count of all the separate lemmas that occur in a conversation. This is used for the variables measuring word frequency, and type-token ratio as done in Arthur et al. (1980), Long (1980), Cheng (1992) and Biber, Conrad & Leech (2002). The data retrieved from the participant utterances was pasted into a counting tool from WriteWords© (2018) that created a list with all the unique words and the number of their frequency in the discourse. The tool registered all separate words, including non-lexical utterances such as *uh*, *ah*, *em*, etc.; however, these were removed from the list as they were not considered grammatical words in the lexicon.

Utterance count / AS-units. When counting utterances or sentences to assess features such as utterance length or complexity, language pieces are often segmented into either intonational, semantic or syntactic units. The definitions vary among studies; there is for example the intonational *idea unit*, which is separated by a pause, or by a rise or fall in pitch (Chafe, 1980; in Foster, Tonkyn & Wigglesworth, 2000); and there is the *c-unit* (communication unit), which are 'utterances, for example, words, phrases and sentences, grammatical and ungrammatical, which provide referential or pragmatic meaning' (Pica et al. 1989; in Foster et al., 2000). The most commonly used unit is the minimally terminable unit, or *t-unit* (Arthur et al. 1980; Long, 1980;

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[6] A transcription excerpt with subsequent raw data counts is provided in appendix D.

Milk, 1990; Cheng, 1992); A t-unit is defined as 'one main clause plus any subordinate clause or non-clausal structure that is attached to or embedded in it' (Hunt, 1974; in Cheng, 1992, p. 46). According to Foster, Tonkyn & Wigglesworth (2000), these different separations of units lack clear, comprehensible and accessible definitions, and guides on how to identify such units. Additionally, they are inadequate to deal with the fragmentary and complex nature of oral data, particularly that of L2 speakers. Foster et al. (2000) aimed to define a reliable and comprehensively defined unit to assist with the analysis of a variety of recordings of NS and NNS of English, and the Analysis of Speech unit (AS-unit) was considered the most appropriate unit measurement of utterance. An AS-unit is a single speaker's utterance consisting of an independent clause, or a sub-clausal unit, together with any subordinate clause(s) associated with either (Foster et al., 2000, p. 365). So far there are few studies that have applied the AS-unit; however, Moser (2010) challenged the approach of Foster et al. for their emphasis on uses in elliptical language, as language complexity in task-based research has mostly been measured through the amount of subordination occurring in narrative tasks. However, for the present study, the AS-unit is considered adequate to cover both fragmentary language and embedded clauses (which appear as separate variables).[7]

3.4.2 Modified Input

Lexical complexity

Lexical variation: Type-Token Ratio (TTR). This ratio appears from the number of word types divided by the number of words total. A high TTR indicates a large amount of lexical variation, meaning that the speaker uses more different words in a conversation. TTR is usually low in conversation compared to written language because it is spontaneously produced with little time for planning and varying the choice of words. The measurement has often been used to monitor changes in the use of vocabulary items in children with underdeveloped vocabulary and finding difficulties in adults who have suffered a stroke and who consequently exhibit retrieval and naming difficulties (Williamson, 2014). In the case of foreigner talk, Arthur et al. (1980), Long (1980) and Cheng (1992) used TTR to measure lexical variation.

There are two important factors that could affect the TTR: The task contents in the

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[7] For an example of how AS-units and embedded clauses were counted, see appendix D.

picture description is likely to elicit more repetitions, as the participants and the confederates will be describing the same picture with a limited number of objects and details. However, the word description task might elicit more different words when the participants attempt to explain the key word. A significant weakness of type-token ratio is that the ratio inevitably decreases as sample size increases. This will be important to keep in mind when using the TTR variable for the different tasks with different duration, as is done in the present study.

Word frequency: Word frequency is usually the most important variable in research on word processing and memory (Brysbaert & New, 2009). In the present study, word frequency is used to measure whether the participants use more high frequency words with the NNS than with the NS, based on findings in Arthur et al. (1980) and Henzl (1979). The numbers used for the present study come from the SUBTLEXus database made by Brysbaert & New (2009), which is composed of over 50 million words from subtitles from U.S. films and television series. This kind of corpus was chosen because it was based on more realistic spoken-like language, as opposed to gathering data from books, newspapers and magazines. The possible disadvantage of using SUBTLEXus for this present study is that the frequency count is based on conventional American speech and vocabulary, while most of the participants will have been educated in a variety of British English or international English. A log frequency count[8] was chosen to lower the importance of terms that have high frequencies, focusing more on the low frequency words that separated the conversations. That is also why common high frequency function words were removed from the list of word types; these were auxiliary verbs and modals, articles, pronouns, conjunctions, interjections and prepositions. Consequently, the log number will vary somewhere between 5.4954 (log frequency number of the word "do") and 0.301 ("coatings" or "gages").

Syntactic complexity

Mean Length of Utterance (MLU): For each discourse, the total number of words was divided by total number of AS-units to measure the average length of an utterance. The higher the number, the longer is the average utterance of the speaker. Based on the findings by Gaies (1977), Hatch (1978), Henzl (1978), Arthur et al. (1980), Long (1980), Milk (1990) and Cheng

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[8] Lg10WF – a word frequency $\log_{10}$ based on the number of times the word appears in the corpus, i.e. on the total of 51 million words +1

(1992), this number is expected to be lower in utterances to the NNS than utterances to the NS.

Problems have been identified with MLU which arise from its focus on product rather than developmental process (Snow 1996; in Foster et al., 2000). Additionally, MLU has mostly been counted with t-units in previous research, and not AS-units. Although the average number of words per utterance will be higher in AS-units than t-units as more phrases are accepted as utterances, this is not believed to distort the overall differences in length between speakers. For the present study, MLU serves together with the AS-unit count as an adequate measurement for sentence length.

Embedded Clauses: The number of embedded clauses divided by number of AS-units. Embedded clauses are used to measure syntactic complexity (Ferguson, 1975; Gaies, 1977; Hatch, 1978; Henzl, 1978; Arthur et al, 1980; Long, 1980; Cheng, 1992), as embedded clauses are considered more complex grammatical structures involving subordinate conjunctions and relative pronouns. Two types of embedded clauses were included in this count: subordination (adjective, adverb or noun clauses) and coordination (two or more independent clauses combined by conjunctions). If several embedded clauses appeared in the same utterance, they were counted separately.

Linguistic adjustment for interaction

Present tense. The number of present tense verb phrases of the total amount of verb phrases will be counted. Long (1980), Gaies (1982) and Dodu (2013) found an overuse of the verbal present tense in NS-NNS conversation, as a preference of the interlocutor to focus the conversational topics to the present and immediate surroundings, the "here and now". A higher number of present tense verbs indicates this topic orientation, as well as a linguistic simplification, as present tense is thought to be simpler for the NNS in referring to the present space and time. In this respect, the overuse of present tense verb phrases is considered both a linguistic and interactional property of modified input, and will be addressed as such in the present paper.

3.5 Hypotheses

Building on the variables above and the findings in previous studies, the following hypotheses are proposed:

1. The participants are likely to modify and simplify their speech more when addressing the NNS than when addressing the NS. These modifications are manifested as (1) syntactically less complex utterances that are shorter, with fewer embedded clauses; (2) less lexical variation with a higher word frequency, and; (3) more present tense verbs.
2. It is expected that the modifications above will generally be found in all tasks. However, based on the differences in findings according to task and setting in previous research, some of the modifications might be more prevalent in one activity compared to the others.

4 Results

This section describes the results from all three tasks, comparing the participants modifications of linguistic input to the native speaker (NS) and the non-native speaker (NNS). Chapter 4.1 presents a summary of the results with supplemental bar charts. Chapter 4.2 includes tables and descriptions of the count data from each interaction, with standard deviation (z-score). Tables in chapter 4.3 describe the modified input in each interaction, followed by a description of the findings separated by linguistic variable, namely mean length of utterance (MLU), the number of embedded clauses per AS-unit, type-token ratio (TTR), word frequency and the proportion of present tense verb phrases. Each linguistic comparison is reported with the t/z-value from the corresponding statistical test and a p-value to indicate statistical significance (p<.05) (Long, 1980; Milk, 1990; Cheng, 1992). As earlier mentioned, the modified interactional data will not be presented here; it is instead discussed with examples in the next section.

4.1 Results summary

Table 2 features a summary with the average of all participants per task. Overall, there is a general numerical trend in all 5 variables and all interactions that suggest more modifications of speech to the NNS than to the NS; however, the significances of these variables are inconsistent, with major differences according to participant and some differences according to task. The participants who modified speech the most to the nonnative interlocutor were P1 and P5, and those who made the least modifications were P3 and P6. The most modifications overall were found in the introduction, which had the biggest variance between the NS and NNS in mean length of utterance (MLU), embedded clauses and type-token ratio (TTR). Overall, participants also used more Present Tense VPs with the non-native speaker than with the native speaker; this difference was especially pronounced in the introduction and the word explanation task. The proportion of present tense VP's, embedded clauses and type-token ratio is illustrated in figures 1, 2 and 3, respectively.

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Table 2:

The mean of all participants in Task 1: Introductory conversation, Task 2: Word explanation, and Task 3: Picture description

Feature	Task 1		Task 2		Task 3	
	NS	NNS	NS	NNS	NS	NNS
MLU	7.11	6.25	5.51	5.4	6.29	6.03
Embeddings / AS-unit	0.33	0.19	0.28	0.25	0.15	0.13
Type-Token Ratio	0.51	0.49	0.42	0.4	0.35	0.31
Word Frequency	3.66	3.77	3.67	3.72	3.5	3.61
Present VP's / total VP's	0.36	0.89	0.78	0.89	0.92	0.95

Figure 1, 2 and 3:

Bar charts for linguistic variables across tasks, figure 1. Proportion of present tense VP's, 2. Embeddings per AS-unit, and figure 3. Type-token ratio
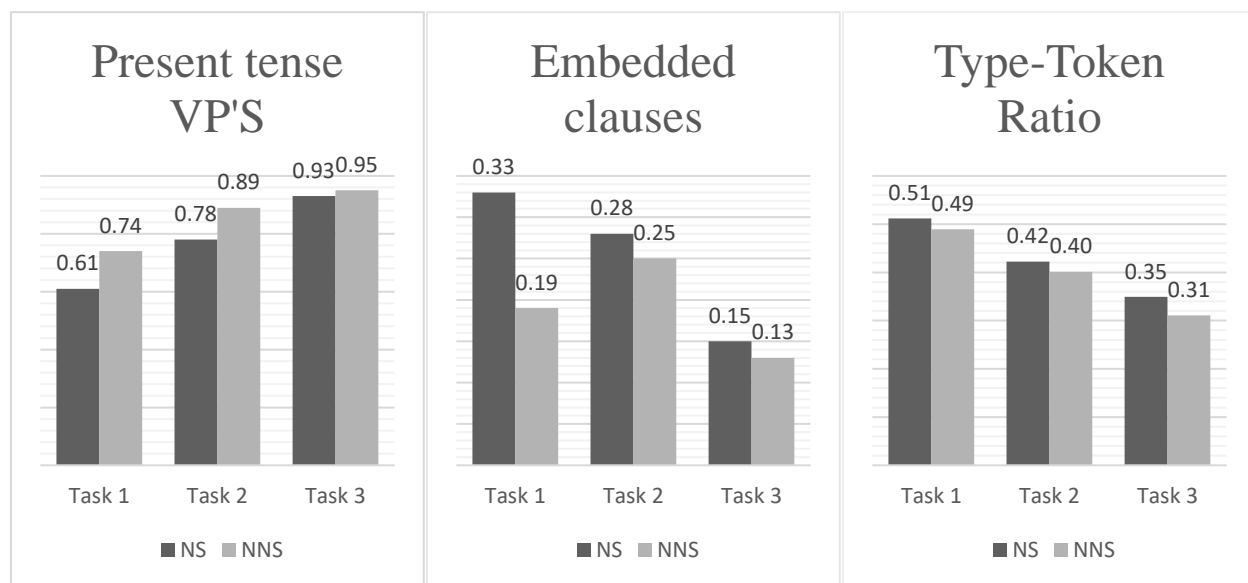
4.2 Count data

Table 3, 4 and 5 show the total count data for each interaction. These raw numbers are used for the variables of modified input in table 6, 7 and 8. The word count is used together with total utterances or AS-units for the mean length of utterance (MLU) variable (words / utterance); it is also used together with unique words to calculate the type-token ratio (unique words / word count); embedded clauses are used together with total utterances (embedded clause / total utterances). Table 3, 4 and 5 also give an overview of the general size of participant utterances.

Table 3:

Count data for Task 1: Introductory Conversation

Count data	P1 NS	P1 NNS	P2 NS	P2 NNS	P3 NS	P3 NNS	P4 NS	P4 NNS	P5 NS	P5 NNS	P6 NS	P6 NNS
Word count	243	199	220	147	157	129	212	229	264	178	275	184
Total utterances	31	26	29	23	29	22	27	33	31	30	46	30
Unique words	138	102	113	86	109	83	106	111	133	98	128	89
Embedded clauses	12	4	8	3	7	5	10	10	17	5	7	4

Table 4:

Count data for Task 2: Word Explanation task

Count data	P1 NS	P1 NNS	P2 NS	P2 NNS	P3 NS	P3 NNS	P4 NS	P4 NNS	P5 NS	P5 NNS	P6 NS	P6 NNS
Word count	395	274	282	316	213	355	374	252	247	413	256	263
Total utterances	59	42	43	63	45	60	57	40	39	80	53	50
Unique words	162	124	134	146	109	149	138	108	113	146	118	113
Embedded clauses	22	10	13	19	12	14	15	15	13	11	7	11

Table 5:

Count data for Task 3: Picture Description

Count data	P1 NS	P1 NNS	P2 NS	P2 NNS	P3 NS	P3 NNS	P4 NS	P4 NNS	P5 NS	P5 NNS	P6 NS	P6 NNS
Word count	591	482	502	617	264	457	407	300	678	576	463	517
Total utterances	90	75	61	86	54	84	65	45	111	97	67	86
Unique words	202	166	188	193	144	169	145	124	220	148	154	162
Embedded clauses	20	8	13	15	6	10	8	10	6	5	13	10

Overall, the participants spoke more in the word explanation task and the picture description task, which is reflected in the higher utterance and word count. This is not surprising, given the nature of the tasks and their duration. However, the number of unique words is not consistent with the number words in task 2 and 3; i.e. one would naturally expect the number of unique words to be higher if the word count is higher. This is also the case for the embedded clause count, which is not consistent with the number of utterances. Already from the count data of the three tasks can we anticipate possible differences in the variables according to interaction.

4.3 Continuous data

The continuous data in tables 6, 7 and 8 demonstrate the lexical and syntactic variables of modified input. As the purpose of the quantification was to measure differences between utterances to NS and NNS, and differences in between tasks, the findings are presented by participant for each of the three tasks. The variables are: the average number of words per AS-unit or mean length of utterance (MLU); the number of embedded clauses per AS-unit; type-token ratio or the type of words divided by total words; the word frequency log count; the proportion of present tense verb phrases of total number of verb phrases. Below the tables, the results are described in both group patterns and individual variation.

Table 6:

Lexical and syntactic variables in Introductory sequence

Feature		P1	P2	P3	P4	P5	P6	Mean	Test statistic	p-value
MLU	NS	8.3	7.1	5.21	8.12	8.4	5.56	6.95	t = 2.99	p < .01
	NNS	7.32	6.23	5.9	6.42	5.33	6.35	6.25		
Embeddings / AS-unit	NS	0.39	0.28	0.24	0.37	0.55	0.15	0.33	t = 2.47	p < .05
	NNS	0.15	0.13	0.23	0.3	0.17	0.13	0.19		
Type-Token Ratio	NS	0.53	0.50	0.65	0.48	0.47	0.44	0.51	t = 1.79	p = .13
	NNS	0.48	0.53	0.60	0.43	0.46	0.43	0.49		
Word Frequency	NS	3.47	3.65	3.66	4.1	3.36	3.87	3.66	t = -1.24	p = .22
	NNS	3.83	3.71	3.35	3.79	3.99	3.86	3.77		
Present VP's / total VP's	NS	0.56	0.37	0.77	0.58	0.73	0.62	0.61	t = -1.67	p = .16
	NNS	0.78	0.83	0.77	0.62	0.64	0.79	0.74		

Table 7:

Lexical and syntactic variables for word explanation task

Feature		P1	P2	P3	P4	P5	P6	Mean	Test statistic	p-value
MLU	NS	6.48	5.4	4.53	6.63	5.72	4.32	5.56	t = 0.70	
	NNS	6.22	5.65	5.08	6.05	4.42	5	5.26		
Embeddings / AS-unit	NS	0.37	0.3	0.27	0.26	0.33	0.13	0.28	t = 0.51	p = .63
	NNS	0.24	0.3	0.23	0.38	0.14	0.22	0.25		
Type-Token Ratio	NS	0.39	0.46	0.48	0.35	0.43	0.43	0.42	t = 0.81	p = .45
	NNS	0.44	0.44	0.39	0.40	0.33	0.40	0.40		
Word Frequency	NS	3.69	3.73	3.47	3.73	3.78	3.60	3.67	t = 0.81	p = .42
	NNS	3.78	3.65	3.62	3.96	3.51	3.94	3.72		
Present VP's / total VP's	NS	0.82	0.71	0.66	0.75	0.82	0.94	0.78	t =-3.54	p < .001
	NNS	0.93	0.78	0.86	0.85	0.97	0.93	0.89		

Table 8:

Lexical and syntactic variables for picture description task

Feature		P1	P2	P3	P4	P5	P6	Mean	Test statistic	p-value
MLU	NS	6.31	7.9	4.98	5.84	5.93	6.78	6.29	t = 1.80	p < .10
	NNS	5.99	7.22	5.2	6.18	5.56	6.05	6.01		
Embeddings / AS-unit	NS	0.22	0.21	0.11	0.12	0.05	0.19	0.15	t = 0.61	p = .57
	NNS	0.11	0.17	0.12	0.22	0.05	0.12	0.13		
Type-Token Ratio	NS	0.32	0.36	0.50	0.33	0.30	0.29	0.35	t = 1.23	p = .27
	NNS	0.33	0.30	0.34	0.39	0.24	0.28	0.31		
Word Frequency	NS	3.46	3.54	3.66	3.41	0.343	3.57	3.5	t = 2.10	p < .05
	NNS	3.6	3.48	3.53	3.7	3.75	3.66	3.61		
Present VP's / total VP's	NS	0.96	0.97	0.82	0.82	1	0.97	0.93	t = 0.70	p = .52
	NNS	0.95	0.92	0.93	0.98	0.98	0.93	0.95		

4.3.1 Mean length of utterance (MLU).

Overall, there was a tendency of the participants to produce slightly longer utterances when speaking with NS than with NNS, but this trend was only marginally significant ($t = 1.80, p <$ .10). Utterances were longer on average during the introduction task than in the other tasks, and significantly higher in the introduction when participants were speaking with NS than when speaking with NNS ($t = 2.99, p < .01$). In the picture description task, MLU was also higher with 4 out of 6 participants speaking to the NNS, but these differences were only marginally significant (t = 1.80, p < .10). Utterances were consistently shorter with the NNS across all tasks with P1 and P5, while P3 and P6 consistently show the opposite results in nearly all the tasks. P2 had the largest average internal difference between NS and NNS. Another notable example includes P5, with a difference of 2.39 less words per utterance with the NNS in the introduction. Utterances were also longer in the Picture Description task than in the Alias task ($t = 3.02, p <$ .01).

4.3.2 Embedded clause: A-S Unit Ratio.

In the total average, there were no significant differences in the use of embedded clauses in utterances addressed to NNS compared to the NS. The group average was slightly higher with the NS in the introduction compared to the other tasks. The internal numerical differences were largest for P1 and P5 in speaking to the NS compared to the NNS, while P3 and P6 used roughly the same percentage with both interlocutors. Consistencies between MLU and the number of

embedded clauses were found in 12/18 observations; that is, the number of embedded clauses was consistently lower with the lower number of MLU with NNS, or consistently higher with the higher MLU with NS.

4.3.3 Type-Token Ratio (TTR).

Across tasks, the type-token ratio was numerically lower when the participants spoke to the NNS than when speaking to the NS, but this difference failed to achieve statistical significance ($t = 1.50$). The TTR was higher in the Introduction task than in the other two tasks ($t = -8.60$, $p < .001$); participants tended to have more lexical variation when speaking with NS than with NNS (5 out of 6), but this difference was not fully significant ($t = 1.79$). P3, P5 and P6 consistently had a lower TTR with the NNS across all tasks. P5 had the highest internal average difference. Type-token ratio was also higher in the Alias task than in the Picture Description task (*t = -4.67, p < .001*).

4.3.4 Word frequency.

Overall, word frequency did not vary significantly depending on interlocutor, but significant differences were found on task-level: While the results who that participants used higher frequency words on average when speaking with NNS than with NS in all tasks, the only significance was found in the picture description task (*t = 2.10, p < .05*). P5 had the biggest internal average difference with a Lg10HF score of .20. Previous research has found consistencies between HF words and a low TTR (Henzl, 1979; Arthur et al., 1980; Long, 1980). In only 7 out of 18 observations did participants have both in the same task with the NNS, but P6 has consistently both in all interactions.

4.3.5 Present tense VP's.

Overall, participants used more Present Tense VPs with the non-native speaker than with the native speaker, regardless of task *(t = -3.00, p < .01).* Participants used more Present Tense VPs, on average, in the word explanation and picture description tasks than in the Introduction. However, differences between utterances to the NS and utterances to the NNS were bigger in the introduction (t = -1.67, p = .16) and significantly in the word description task (t =-3.54, p < .001).

5 Discussion

This discussion addresses the instances of modified input and modified interaction in the results, considering both group patterns and individual variation. The results for syntactic variables (mean length of utterance and proportion of embedded clauses) are discussed together as they are considered to be interrelated in several studies (Gaies, 1977; Henzl, 1979; Arthur et al., 1980; Cheng, 1992). The same applies to the results for lexical variables (type-token ratio and word frequency) (Henzl, 1979; Arthur et al., 1980; Long, 1980). This is followed by a discussion of the proportion of present tense verb phrases, which is considered both a linguistic and interactional modification in the present study. Finally, specific examples from the discourses are selected and discussed in terms of modified interaction.

5.1 Research questions and major findings

The first research question asked whether the participants made more linguistic and interactional adjustments to the NNS than to the NS in the form of simplification. The second question asked whether these adjustments were more prevalent in a specific task. The predictions were that the participants would modify their speech more when addressing the NS, manifested as: (1) syntactically less complex utterances that were shorter, with fewer embedded clauses; (2) less lexical variation with a higher word frequency, and; (3) more present tense verbs. Furthermore, the modifications would occur in all tasks, but some would be more prevalent in one activity compared to the other; although which activity and which properties were not hypothesized. The overall results in this study indicate that the participants did modify their speech more when addressing the NNS; however, the differences were not always significant, making it difficult to conclude that non-native speakers adjust their speech in the same way as native speakers. The most modifications overall were found in the introduction, which had the biggest variance between the NS and NNS in mean length of utterance (MLU), embedded clauses and type-token ratio (TTR). Importantly, the introduction was the shortest discourse; this means that some of the variables that were sensitive to length of discourse, such as type-token ratio, could have been distorted. However, it is also plausible that the introduction could have elicited more modified speech because of its nature as a freer and less governed discourse compared to the other interactions.

The participants who modified speech the most to the nonnative confederate were P1 and

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P5, and those who made the least modifications were P3 and P6. The participants' educational and social background could be possible factors behind the differences between participants; however, it appears that the participants who shared the same linguistic discipline (English or Nordic languages) were not necessarily those who made the most adjustments; neither were the participants who reported to have had more contact with L2 speakers. These inconsistencies suggest that the role of linguistic background needs to be reconsidered in investigating the users of foreigner talk, and more research should be paid to other factors compared to, or in combination with, linguistic background. Participant introspection, for example, could offer interesting perspectives: The participants who were found to make the most adjustments to the NNS both reported in the interviews to have more difficulties speaking to and cooperating with the NNS than with the NS, as opposed to the other participants that found it more difficult and slightly intimidating to speak to the NS because English was her mother tongue.

5.2 Syntactic properties: Mean length of utterance and embedded clauses

The most marked feature of syntactic simplification for second language learners is the shorter mean length of utterance (MLU) or fewer words per utterance (Gaies, 1977; Hatch, 1979; Arthur et al., 1980; Long, 1980; Milk, 1990; Cheng, 1992). The low MLU generally means that there will be few complex sentences, few subordinate clauses, few modifiers, more one-word utterances, more sentence fragments and so on (Cheng, 1992, p. 32). Thus, embedded clauses (EC) are also used to measure syntactic complexity, as embedded clauses tend to be more advanced in syntactic structure, adding complexity to the otherwise elemental SV-clause. The embedded clause count has so appeared in some of the same studies that measure MLU (Ferguson, 1975; Gaies, 1977; Hatch, 1978; Henzl, 1979; Arthur et al, 1980; Long, 1980; Cheng, 1992). Note however that not all studies found significant differences in embedded clauses (Arthur et al., 1980; Long, 1980; Cheng, 1992).

In the present study, participants had slightly longer utterances overall with the NS than with the NNS, although the significance of the results vary by participant and by interaction. As for embedded clauses in the total average, there were no significant differences in utterances addressed to NNS compared to the NS, consistent with the findings of Arthur et al. (1980); Long (1980), and Cheng (1992). The overall MLU results are consistent with the findings of previous research. Gaies (1977) and Milk (1990) both found that found that participants spoke in shorter clauses and used fewer subordinate clauses per T-unit when addressing their students than they

did when speaking to highly proficient interlocutors, with the mean length of T-units increasing according to the level they were teaching. This is important because it shows that modifications happen and vary consistently based on the level of the hearer. This is also what we see in rough terms in the present study.

The longest utterances were found in the introduction; as were the biggest differences between the NS and the NNS. The group average of EC was also slightly higher with the NS in the introduction compared to the other tasks, correlating with the higher MLU. Long (1980; 1983) found a significant difference of MLU in an NS-NS and NS-NNS comparison across six tasks, one of them being an informal conversation. In the type of social discourse in the present study, the goal is to get acquainted by getting general information about the other; where do they come from, what do they study/work, what are their interests, etc. Time is both taken and given to explain details about their life, and short replies can be seen as curt and less contributive to the dialogue. This can explain why utterances were the longest in general in the first task. The conversational focus could also explain why the variance, i.e. the degree of adjustment, was largest here in both MLU and proportion of embedded clauses compared to the other tasks, where the goal was to find the right word or differences as efficiently as possible.

The internal numerical differences in embedded clauses were largest for P1 and P5 in speaking to the NS compared to the NNS, while P3 and P6 used roughly the same percentage with both interlocutors. Additionally, P3 and P6 had on average longer utterances with the NNS in nearly all tasks, the complete opposite of the other participants, whose MLU was longer with the NS in all interactions as expected. One explanation could be that they modified less that the other participants. Another explanation questions whether shorter utterances really are easier to understand. In general, a high value of MLU is accompanied by a corresponding high value in subordination or in coordination (Cheng, 1992, p. 65). However, Cheng's findings were contradictory to these expectations as there was an inconsistency between the two variables, and the number of embedded clauses between groups did not show any significant differences. Cheng concluded that these findings must have been attributed to factors other than subordination and coordination (p. 65), suggesting that shorter utterances are not necessarily easier to process as incompleteness from more fragmented utterances may cause comprehension difficulties (p. 67). However, the dialogue transcriptions from the present study indicate that any comprehension difficulties came either from the NNS's lack of understanding of a specific word

or pronunciation, and not because of fragmented utterances. Furthermore, consistencies *were* found between MLU and embedded clauses in 14 of 18 observations in the present study; that is, if the MLU was higher, the number of embedded clauses per AS-unit was higher; similarly, if the MLU was lower, the embedded clause count was lower. These findings combined suggest that there existed a syntactical simplification among the participants who spoke with shorter utterances to the NNS.

The individual variation within the MLU and embedded clause count could be explained by different linguistic choices of simplification: Perhaps longer utterances were chosen to compensate with less complexity in other forms. Longer utterances could for example mean an application of several HF-words that are less descriptive and precise than a single, more complex low-frequency word could be. The participants who had a lower MLU with the NNS also tended to have more HF words with the NNS, but only in 10/18 observations. Perhaps P3 and P6 did not make any adjustments to the NNS at all. None of the two participants admitted to any differences in their speech. However, some of the findings in the other variables contradict this suggestion, as we can see in tables 5, 6 and 7. For example, P3 has a lower TTR in all three tasks with the NNS, and P6 exhibits a trend of more higher frequency words with the NNS. The differences are small, but they invite us to look further into the connection between results and participant introspection, as in what the participants do and what they think they do.

5.3 Lexical properties: Type-token ratio and word frequency

Past research has found that speech addressed to second language learners is marked by fewer different vocabulary items and more high frequency words manifested in a lower type-token ratio, i.e., number of unique words divided by total number of words (Arthur et al. 1980; Chaudron, 1983: Henzl, 1979). In Arthur et al. (1980), there was a clear tendency for ticket agents to use a more limited vocabulary when addressing non-native callers; the authors argue this is due to the fact that nonnative callers were given a more limited variety of information, and/or due to limited word choices for conveying identical information (p. 119). Henzl (1979) also found this tendency for the foreign language teachers, who manipulated their vocabulary according to their knowledge of the size of vocabulary the students had already mastered (p. 161).

Across tasks in the present study, the type-token ratio was numerically lower when the participants spoke to the NNS than when speaking to the NS, but this difference failed to achieve

statistical significance ($t = 1.79$). Word frequency did not vary significantly depending on interlocutor either; however, significant differences were found at the individual task level. The overall results are consistent the findings of Long (1980) and Cheng (1992), who, although they employed a TTR count in their studies, found no significance in their results. Cheng found differences between the NS and the NNS of the lowest level group, but not between NS and the high level NNS group. Based on these inconsistencies, Cheng argued that it would be hard to conclude that tutors used a more limited vocabulary in talking to NNS students (p. 64). This is not the first analysis that fails to find significant vocabulary differences: As part of his experiment, Long (1980) examined the mean values for three vocabulary-related variables: 1) type-token ratio; 2) average lexical frequency of nouns and verbs; and 3) proportion of copulas in total verbs. The results showed no significant difference between the NS speech to NSs and to NNSs for any of the three variables (Cheng, 1992, p. 64). In agreement with Long, the findings of the current study indicate that the use of limited vocabulary is not indisputable. A speaker's choice of words can also be mediated by factors such as content, purpose, and setting of a conversation. For Cheng's study, the tutors' failure to employ a limited vocabulary may be attributed to the constraint of the material being taught and the prescribed steps of tutoring, which made a high proportion of the vocabulary compulsory (1992, p. 64). This could also have been a factor in the word explanation task and the picture description task, which both have lexical constraints in terms of the key words and picture content. In making syntactic and lexical adjustments, the speaker is faced with constant choice-making, either consciously or unconsciously, in almost every sentence (p. 62). Sometimes the speaker fails to replace a low-frequency word simply because no high-frequency equivalent occurs to him or her at the time of speaking (p. 63). This could also be the case of the participants in the present study. While the participants might to some degree have been able to estimate the degree of adjustment needed to aid comprehension, it would be more difficult to anticipate which words are familiar to the NNS and which words are not. P2 reported in the interview that it was particularly difficult to explain the word "seashell" to the NNS; rather than using specific related synonyms such as "oyster" or "mussels", she attempts to explain the qualities of a seashell without much luck.[9] The NNS's utterances reveal that he did not understand what animal P3 was looking for, showing that the alignment for the discourse was impaired. This could have been caused by the NNS not

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[9] An excerpt of this discourse is found in appendix D.

understanding specific words that gave important information, such as "coatings". In other words, there could have been a misalignment in linguistic representation that caused lack of comprehension.

The TTR was higher in the Introduction task than in the other two tasks (t = -8.60, p < .001), and higher in the Alias task than in the Picture Description task (*t = -4.67, p < .001*); while participants used higher frequency words on average when speaking with NNS than with NS in all tasks, but the results were only significant in the picture description task (*t = 2.10, p < .05*). It is perhaps natural that lexical variation was higher in the introductory conversation, as the interlocutors will talk about many different things and move from topic to topic within the short time frame. The problem with type-token ratio is that it varies with the length of text: longer texts have many more repeated words and therefore a much lower TTR. This has important implications for the results, in which TTR decreases consistently with the amount of utterances. As there were few significant differences overall, it is difficult to infer any important characteristics of lexical variation from the present study. In hindsight, the TTR is perhaps a more valid variable if measured within the same range of utterances and time frame. On a participant level, however, P3, P5 and P6 consistently had a lower TTR with the NNS across all tasks. These patterns suggest that the participants at least to some extent had more repetitions and less lexical variation when speaking to the NNS than speaking to the NS. P5 had the highest internal average difference with both TTT and word frequency, with a Lg10HF score of .20. P5 himself explicitly admitted to using a wider vocabulary with the NS and a more limited vocabulary with the NNS in an attempt to not make things too complicated.

As for word frequency, there is no way of predicting what the participants will talk about. Certain academic topics and places with specific low-frequency terms will appear arbitrarily, which could lower the average word frequency level, simply depending on what the interlocutors want to talk about. There are also the constraints of the task content that could have limited word frequency: All the words in the word explanation task were all HF words, but the frequency level of each word varies nevertheless. The words were distributed at random, but some groups might have received more low frequency words than the others. One of the participants even reported that the words themselves were harder in general in the NNS room than the other, and that he struggled to explain them.

More important limitations of the word frequency count were identified in hindsight: (1) In the case of compounds which in the written form separate the words by a space, each of the words were counted separately, increasing the word count, and most likely increasing the average word frequency level, as the words in separate form are likely more common; (2) the word count did not exclude different words with the same lemma. For example, the word "yellowy" is a lemma of "yellow", but far more uncommon, radically reducing the average frequency level of the conversation; (3) while some word classes were removed before the WF count (auxiliary verbs and modals, articles, pronouns, conjunctions, interjections, and prepositions), and others were kept (verbs, adjectives and adverbs, and nouns), some words were part of both groups. Examples: "well" should perhaps have been removed as it was most likely an interjection, but I could also have been a noun, and was decided to be kept.

Based on the findings in previous research, and the findings and limitations of the present study, it is difficult to conclude anything about the results in lexical modifications. It also means that an eventual consistency between a low TTR and HF words cannot be made, as different count terms were used for the different variables.

5.4 Present tense VPs

The overuse of present tense indicates a strategy to avoid conversational trouble; NS-NNS interaction tends to be oriented to the "here and now," which is manifested in more present (versus non-present) temporal marking of verbs (Gaies, 1982; Long, 1983; Dodu, 2013). A higher number of present tense verbs indicates this topic orientation, as well as a linguistic simplification, since present tense is thought to be simpler for the NNS in referring to the present space and time.

Overall, participants used more Present Tense VPs with the non-native speaker than with the native speaker, regardless of task *(t = -3.00, p < .01),* consistent with the findings of Long (1980), Gaies (1982) and Dodu (2013). Participants used more Present Tense VPs, on average, in the word explanation and picture description tasks than in the Introduction. It was expected that the participants would in general use more present-tense verbs in these interactions; in the word explanation task, the key words had a tendency to be described with reference to common or

hypothetical situations[10]; in the picture description tasks, present tense verbs appear when describing and requesting information about the picture[11]. However, differences between utterances to the NS and utterances to the NNS were bigger in the introduction (t = -1.67, p = .16) and significantly in the word description task (t =-3.54, p < .001). In other words, there was more adjustment in these interactions than in the picture description. A possible explanation could be that the introduction and word description had less constraints in terms of explanatory speech modes, allowing for more adjustments to be made. The choice of tense could be completely arbitrary and dependent on the interlocutor's preferences. Some languages are known to use situational examples to explain something (e.g. *Imagine you're in a car…*). While Long found significant differences across several tasks (1980), when comparing NS and NNS speech in informal conversations alone, he found that the temporal reference markings of verbs were similar in both types of talk, with roughly equivalent use of present and non-present time reference (p. 147). While the content of dialogue was more concerned with present than past or future issues, the proportion of present time reference was only slightly greater than the proportion in NS-NS interaction. This he reasoned was due to that the adult NNS interlocutor's cognitive maturity outweighed their lack of linguistic sophistication in the second language, resulting in their treating approximately the same range of topics in an informal conversation as did NSs (p. 147). Gaies (1982), on the other hand, performed a replication of Long's study (1981) in which the difference (significant at the .001 level) between NS-NS speech and NNS-NS speech was greater. Dodu (2013) also found a significantly higher number of present tense verbs from the teacher talk in his study.

The different findings of present tense verbs across interactions, both from previous research and from the present study, suggest perhaps that the temporal marking is a pervasive speech simplification that appears independently of the task context.

5.5 Other modified interaction

The conversational tactics and strategies that Long (1980; 1981; 1983) labeled modified interaction were evident with all participants in all tasks. There were many examples of

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[10] Example from P4 in task 2: *OK, it's a type of dance, eh, where you turn a lot. And it's, eh, you, you're two people when you're dancing this . . . dance.*
[11] Example from task 3: NNS: *Under, the table, what do you have?* P2: *Uh, on my table I also have a baseball ball, a baseball.*

repetition, restatements, and recasts, as well as decomposition and comprehension checks. The participants did not only make these interactional modifications to the non-native speaker; they also used them together with the native speaker. Furthermore, both confederates themselves used the same modifications with the participants. It became evident that the nature of the word explanation task and the picture description task promoted all interlocutors to apply tactics and strategies to reach their communicative goal. The only interaction that would not be governed by these goals to the same extent was the introduction, which was also the shortest task. The number of different variables of modified interaction were therefore omitted from the total count, with the expectation that the occurrences would be of such a small scale that results would not be significant. However, Long (1980) found a significant amount of modified interaction in all tasks, also in the communication games. Even if no differences were found between NS and NNS, the interactional devices employed in discourse, no matter what kind of discourse, would still be interesting to observe in terms of how meaning is negotiated. Therefore, a selection is chosen from the interactions with the NNS to illustrate with concrete examples of negotiation.

5.5.1 Repetitions

There were many types of self-repetition and other-repetition, as found in Long (1980). Self-repetitions include partial or complete, and exact or semantic repetitions (i.e. paraphrase) of the participant's utterance (Long, 1980; 1983, p. 138). Other-repetitions are defined the same way as self-repetitions, but with the interlocutor repeating the speech partner's utterances instead of his own. In example (1) from the word explanation task, P3 repeats himself three times in similar structures. Native speakers tend to repeat the production of their interlocutors more when they are talking to L2-speakers. In such cases, they are using non-automatic linguistic alignment as an indicator of understanding (Costa, Pickering & Sorace, 2008, p. 545). In (2) and (3), it seems that the participants are repeating the utterances of the NNS as a verbal cue to show understanding. Many of the repetitions in the discourses were close to exact replications, as in (4). This could indicate a linguistic alignment of situation models.

(1) P3:   [picks new word] Oh, hehem, eh. You eat them with the cheeseburger.
    NNS: Yeah? No, the cheeseburger, yeah?
    P3:   Yeah, yeah, you eat them with the cheeseburger.
    NNS: I eat them, yeah?
    P3:   Yeah. [hesitant] yeah, so, so you eat cheeseburger, you have, uh, a certain acces-, accessory.

(2) NNS   And you will be learn the young kids to speaking correctly language . . .
     P4:   Yeah.
     NNS   And the grammar and . . .
     P4:   <u>The grammar</u>, yeah.

(3) NNS   I work here.
     P4:   Ah, <u>you work here</u>?

(4) P5:   And on the right I have . . .
     NNS   And two on the right.
     P5:   <u>And two on the right</u>, yeah.

It has been found that NSs appear not only to incorporate some of the non-native expressions produced by the NNS, but on some occasions they restructure them to make them grammatically correct while still maintaining some of the original meaning, known as recasting (p. 546). In (5) and (6), P2 employs recasting by acknowledging that the NNS' phrases are understood and repeats with a more correct phrase. This kind of negative feedback, which is said to enhance second language learning, is an example of non-linguistic alignment.

(5) NNS   I have board to write, to write something.
     P2:   Yeah, I also have <u>a blackboard</u>, but what is the writing on your blackboard?

(6) NNS   OK. Under, the table, what do you have?
     P2:   Uh, *on* my table I also have a baseball ball, a baseball.
     NNS   Under, yeah?
     P2:   No, on the table.
     NNS   OK. So I have the same. And between the teacher and table it's the, down book.
     P2:   Yeah, <u>a fallen book</u>.

Sometimes, participants will repeat awkward or even ungrammatical phrases from the NNS, as in (7) and (8) because the informational function of the sentence is more important than the right word. Costa, Pickering & Sorace (2008) suggest that the L1 speaker may deliberately entrain on the L2 speaker's choices to a greater extent than would otherwise occur (p. 546). If the L1 speaker is aware of the L2 speaker's difficulties, and if the L2 speaker uses a word or construction, it is much safer to repeat that word or construction than use a different form (p. 546) This would explain why the participants used inappropriate words or mildly ungrammatical constructions.

(7) NNS   You have locker, yeah?
     P2:   Yeah, but . . .
     NNS   Some part to close, you have it?
     P2:   Yeah, the <u>part to close</u>, but it, it's in the end, of the door. Eh, at its, uh, at its side.

(8) P5:   Um. It's kind of, uh, it's gray but you can't see through it, but you can walk through it. Do you
             know what I mean?
    NNS   OK, this will be I know. Eh . . .
    P5:   Yeah.
    NNS   You can't see enough good yeah?
    P5:   Eh you can't <u>see good</u> through it.

5.5.2 Comprehension checks and decompositions

Comprehension checks are defined as any expressions which serve the function of checking the participant's comprehension of the speech partner's previous remarks (Cheng, 1992, p. 47). They are always formed as a question with a rising intonation, and involve repetition of all of all or part of the other's preceding utterance (Long, 1983, p. 137). Comprehension checks show an effort on the part of the native speakers to participants to anticipate and prevent a breakdown in communication (p. 136). In (9), P5 assumes 'frisbee' is a word that the NNS does not know and pursues to explain it immediately. In (10), P6 is referring to a salt shaker, but has either forgotten what the name is, or realizes that it might be too difficult for the NNS and employs a different tactic.

(9) NNS   What do you see on the middle of your . . .
    P5:   The middle I have a frisbee, <u>you know a round, round thing?</u>

(10) P6:   But, next, next to the trashcan I have a chair. A blue chair.
    NNS   M-hm.
    P6:   With a, a salt . . . thing, on it. <u>You know salt and pepper?</u>
    NNS   Yeah, salt and pepper.
    P6:   Yeah. I have the salt on the chair.

Another tactic often employed in FT is decomposition. As seen in Long (1980), P6 employs a strategy for breaking down the conversation or words, such as the compound "lighthouse", into smaller parts to make it easier for the NNS. The NNS realizes that P6 is looking for a compound and attempts with "bulb". However, this fails and P6 attempts a new decomposition with "What do you live in? You live in a home, right?" Decomposition is a common tactic in Alias when a compound word is rare and splitting the word into components makes it easier to guess.

(11) P6:   [picks new word] Um. OK, it's um, it's [clears throat] something to show the boats the way.
    NNS   It's instruction?
    P6:   No, wh-, <u>what's in the, what's, what's in the ceiling?</u> If it's not dark, it's . . .
    NNS   Light.
    P6:   Light.
    NNS   Lightness.
    P6:   Eh. No, it's like two . . .
    NNS   OK.

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P6:      . . . two, um. It's like, um.
NNS      But this is not item, yeah?
P6:      It's like two words, in this word. So the first one is light, and the second one is . . .
NNS      Bulb [pronounced 'boolb']? Bulb?
P6:      No, the second one is something you, uh, you live in.
NNS      You live in, yeah?
P6:      What do you live in?
NNS      [silent]
P6:      You live in a home, yeah?
NNS      OK.
P6:      And then you put those words together.
NNS      Lightness house?
P6:      Lighthouse, yes.
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The examples of above are only some of the strategies employed in the discourse. Other modified interaction such as restatements or expansions, appositives, clarification requests and or-choice questions were also present in a varying degree. More consistent observations of modified input might have been probable if the discourses were longer, particularly the introductory conversation.

5.6 Study limitations and recommendations for future research

There are some important limitations of this study that should be considered. Some that are related to the variables are mentioned in the discussion. A main issue is naturally the size of study; both the number of participants and the amount of data could have been increased. Due to the expected size of the thesis, this was however not appropriate. The sizes of interactions could have been more aligned, which would have allowed more accurate statistical comparisons both between different interaction types and between participants.

The participant backgrounds could also have been more matched for better generalizability. Although the participants were all students of linguistics with a good command of English, they came from different disciplines, has different experiences abroad, etc.

There is also a fundamental disadvantage of the within-subjects' design, which can be referred to as "carryover effects". In general, this means the participation in one condition may affect performance in other conditions, thus creating a confounding extraneous variable that varies with the independent variable (Hall, 1998). P5 and P6, which simultaneously were with the NS and the NNS respectively, both reported that the task-solving was easier and that they felt they performed better the second round, i.e. the second confederate, because they were able to "warm up" their English in the first round. Then there is always the chance that the participants might have discovered the real intention of the experiments, which could have affected their

performance. At some point in the discourse, the NNS confederate reveals more information about the experiment than it would be expected for him to know as a participant. It is possible that the participants could have understood that there would be a comparison of the discourses with a native speaker and a non-native speaker, when the confederate's proficiency level was so different.

Finally, in respect to validity and reliability, several aspects of the data collection and quantification could have been done with more precision than it has been done due to time constraints; the transcription could have been quality-checked by more people, and counts could have been conducted twice.

As recommendations for future research, there are aspects of this study that could be explored in more detail: First and foremost, the study should be replicated in a much larger scale, particularly in consideration to the number of participants. More attention can be given to the informal conversation as a setting for eliciting speech modifications. Despite the less control factor having less control of the discourse, it is a type of research method that provide the most naturalistic responses. In investigating speech modifications with non-native speakers, the participant group could be expanded to include proficient L2 speakers of different levels and different linguistic backgrounds, to measure whether there is what Milk called a *threshold level of proficiency* in a second language, below which appropriate accommodating behavior is not exhibited on a consistent basis (Milk, 1992).

6 Conclusion

The present study aimed to investigate and describe in more detail the nature of foreigner talk within different kinds of interaction. As most previous research has focused on the native speakers, questions were raised to whether foreigner talk was limited to native speaker production, and to what degree proficient L2-speakers could make modifications to *their* speech when speaking to foreigners. While there is some research that is dedicated to the subset of foreigner talk, known as teacher-talk, more questions were raised as to what the goals of foreigner talk would be in settings *outside* the classroom, and what kind of conversational setting that would elicit most modifications. The inquiries were formulated into two research questions that would set the purpose for the present study:

1. Across three different kinds of interactive tasks, do the proficient speakers of English make more linguistic adjustments to a NNS than to a NS?
2. Are the adjustments generally more prevalent in a specific task? Which adjustments in which tasks?

Proficient L2-speakers of English completed an informal conversation, a word explanation task and an information gap task twice with a NS confederate and a NNS confederate separately. Through analyzing mean length of utterance, the proportion of embedded clauses, lexical variation, word frequency and proportion of present tense verbs, it was determined that as a small overall trend, participants made more modifications to the NNS than to the NS. The trend was bigger at the individual task level: the informal conversation elicited more modified speech from the participants than the other tasks, particularly in the mean length of utterances and the proportion of embedded clauses and present tense verbs, while the type-token ratio and word frequency had the smallest interlocutor-confederate differences. These findings could have been attributed to limitations of the study. They suggest nonetheless that L2-speakers do employ speech modifications when interacting with foreigners of less proficiency, although it will be up to future studies to determine to what degree these modifications occur compared to foreigner talk from native speakers. The present study draws further attention to the L2-speaker and the type of discourse involved in foreigner talk, and proposes a foundation for studies of a larger scale and generalizability.

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Appendices

APPENDIX A: Information sheet and consent form

Forespørsel om deltakelse i forskningsprosjektet

"Forskningsprosjekt om problemløsning på andrespråket"

Bakgrunn og formål

Formålet med studien er å observere dialoger og problemløsning mellom forskjellige personer med engelsk som andrespråk (L2-brukere). Prosjektet er et mastergradsstudium ved Institutt for Språk og Litteratur, og vil foregå på både norsk og engelsk.

Vi ser derfor etter mulige deltakere på NTNU som har engelsk som andrespråk på B2-nivå eller høyere.

Hva innebærer deltakelse i studien?

- Spørreundersøkelse om språkbakgrunn
- Kartlegging av språknivå: standardisert test fra *Det felles europeiske rammeverket for språk*
- Samtale/dialog med to forskjellige språkbrukere samt felles løsning av oppgaver (2x15 min): I to omganger vil deltakeren snakke og løse to kreative oppgaver sammen med en annen deltaker. Interaksjonen vil foregå på engelsk, og blir registrert med lydopptak og observasjon.
- Etterintervju (15 min): Spørsmålene vil omhandle deltakerens egne inntrykk og oppfatning av interaksjonen med de andre deltakerne. Intervjuet foregår på norsk og blir registrert med lydopptak.

Total deltakelse vil ta ca 1 time.

Hva skjer med informasjonen om deg?

Alle personopplysninger vil bli behandlet konfidensielt. Spørreundersøkelsen, språktesten samt lydopptakene vil bli anonymisert; deltaker vil ikke kunne bli gjenkjent i endelig publikasjon. I **spørreundersøkelsen** ber vi om bakgrunnsopplysninger som er nødvendig for at resultatene fra undersøkelsen skal kunne brukes. Alle opplysningene som gis vil senere bli behandlet uten direkte gjenkjennende opplysninger. **Språktesten** knyttes med øvrige opplysninger ved kode,

ikke navn. Selve **lydopptakene** av samtaler og intervjuer transkriberes (gjøres om til skrift). Kun autorisert personale har tilgang til opplysningene, som vil lagres atskilt fra øvrige data.

Prosjektet skal etter planen avsluttes 01.06.18. Alt datamateriale anonymiseres til publikasjonen. Opplysninger fra spørreundersøkelse og språktest slettes, samt alle lydopptak.

Frivillig deltakelse
Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert.

Dersom du ønsker å delta eller har spørsmål til studien, ta kontakt med Viktoria Holsey Foss, tlf: 93688299 eller e-post: viktorif@stud.ntnu.no
Veileder er Dave Kush, Førsteamanuensis på Institutt for Språk og Litteratur, Det humanistiske fakultet, NTNU. E-post: dave.kush@ntnu.no

Studien er meldt til Personvernombudet for forskning, NSD - Norsk senter for forskningsdata AS.

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

----
(Signert av prosjektdeltaker, dato)

Bakgrunnsinformasjon for forskningsprosjekt om problemløsning på andrespråket

Tusen takk for at du har sagt ja til å delta i vårt forskningsprosjekt om problemløsning på andrespråket. I dette skjemaet ber vi om bakgrunnsinformasjon som er nødvendig for at resultatene fra undersøkelsen skal kunne brukes. All informasjon du gir her, vil senere bli behandlet uten direkte gjenkjennende opplysninger, og vil bli anonymisert ved prosjektslutt. Det vil ikke være mulig å identifisere deg i resultatene av studien når disse publiseres.

Legg merke til at skjemaet har 3 sider.

Skjemaet leveres direkte til meg eller sendes på e-post til dave.kush@ntnu.no

Med takknemlig hilsen,

Viktoria Foss, mastergradsstudent på NTNU
Dave Kush, Førsteamanuensis ved Institutt for Språk og Litteratur, NTNU

Del A: Personlig informasjon

Fag/Yrke/Linje/Studieretning?: _____

Fødselsår: _____
Kjønn   ☐ Kvinne   ☐ Mann

Deltakerkode:
(Fylles inn av prosjektleder)

Del B: Språklig bakgrunn
Morsmål

Er norsk morsmålet ditt?

☐ Ja ☐ Nei

Hvis ja, har du andre morsmål i tillegg?

     ☐ Ja   ☐ Nei

     Hvis ja, hvilke(t) språk? _____

Hvilke(t) språk bruker dere hjemme? _____

Engelsk og andre fremmedspråk

I **engelsk**, hvordan vurderer du ferdighetene dine på hvert av disse områdene?

	Grunnleggende	Middels	Avansert	Flytende
Lesing				
Skriving				
Snakke				
Lytte				
Totalt				

Har du bodd i, eller hatt lengre opphold i, et land hvor engelsk er hovedspråk?

     ☐ Ja   ☐ Nei

     Hvis ja, hvor lenge varte oppholdet/oppholdene?

     _____

Har du vært på kortere (under 14 dager) reise i et land hvor engelsk er hovedspråk?

     ☐ Ja   ☐ Nei

Har du bodd i, eller hatt lengre opphold i, et land hvor annet enn engelsk er hovedspråk?

     ☐ Ja   ☐ Nei

     Hvis ja, hvor var det, og hvor lenge varte oppholdet/oppholdene?

     _____

Hvilke språk kan du utover morsmålet ditt og engelsk?
(Hvis du ikke snakker andre språk, gå videre)

Språk	Nivå			
	Grunnleggende	Middels	Avansert	Flytende

Tysk				
Fransk				
Spansk				
- angi språk				
- angi språk				

Hvor ofte snakker du engelsk?
hver dag   flere ganger pr uke   et par ganger i uken   av og til   aldri

Hvor ofte lytter du til/hører du engelsk?
hver dag   flere ganger pr uke   et par gagner i uken   av og til   aldri

Hvor ofte leser du tekster på engelsk?
hver dag   flere ganger pr uke   et par ganger i uken   av og til   aldri

Hvor ofte skriver du tekster på engelsk?
hver dag   flere ganger pr uke   et par ganger i uken   av og til   aldri

Hvor ofte snakker du engelsk med personer som ikke har engelsk som morsmål?
hver dag   flere ganger pr uke   et par ganger i uken   av og til   aldri

APPENDIX C: Interview questions

Intervjuspørsmål til L2-deltakerne:

1. Opplevde du noen forskjell i hvordan oppgavene gikk med den første deltakeren i forhold til den andre?
2. Opplevde du noen forskjell i din egen prestasjon / gjennomføring? → Hvordan?
3. Opplevde du noen forskjell i måten du snakket til den første deltakeren i forhold til den andre? → Hvordan?

APPENDIX D: Example raw data count

coordinating conjunction = 1 emb. clause — subordinate clause

P2:   Um, they're white or blue or, and hard, and if you step on them you'll cut yourself . . .

future VP = not present

NNS   It's over us by the . . . No, I can find on the beach, yeah?

P2:   Mm. And if you step on the, they're hard and pointy, and if you step on them you'll cut yourself.

false start (a part of the same AS-unit

NNS   Hmm. This is towers? No?

P2:   [laughs] No no no

NNS   Umbrella, no?

P2:   Nei, no-no-no.

NNS   OK, but it's, I use it when I stay on the beach?

P2:   No, you don't use it, | it is on the beach naturally. | They, um, they . . .

NNS   Which color can be, it's the sea?

P2:   Eh, yeah, they . . .

NNS   It's water, no.

P2:   They [inaudible] creatures who live in the sea, and you can eat them.

NNS   I don't know what is this. It's natural, yeah? It's from the nature.

P2:   Yeah, it's from nature.

NNS   And I can find on the beach? It's a fish, no?

P2:   No, it's not a fish.

infinitive = not present

NNS   It's animal, no?

P2:   Uh, yes, it's an animal, but it's hard to think of them as animals cause mostly we just see, the, hard, coatings [laughs] If I may call that, lying on the beach.

NNS   It's the small, big?

P2:   Uh, they are small, yes, but.

NNS   I don't know what's this.

P2:   OK, I don't know what to do with the-

NNS   We can take the next one, I think.

Count information:

AS-units: 12
Embedded clauses: 12
Verb phrases (VP): 22
(Present tense VP: ~~20~~) 18

Notes:
- Utterances/AS-units are separated by the symbol "|"
- Actions are sealed with brackets
- Only participant utterances are counted
- Notice that minor utterances such as "yes", "no" and "OK" are excluded from the AS-unit count.

APPENDIX E: Example words list for word description task

skate	battery	cash
thief	password	bicycle
spring	electricity	moon
toast	teapot	deep
Roller blades	shallow	nature
half	outside	rescue
Lightbulb	Gingerbread man	chaos
sailboat	spare	safe
Birthday cake	distant	music
pineapple	dangerous	brain
money	knee	skirt
doormat	normal	hook

APPENDIX F: The project's relevance for the teaching profession

Based on personal experiences from the working environment, I conducted the present study to investigate foreigner talk used L2-speakers. Despite focusing on instances of speech modifications outside the classroom, the study is very much relevant to the learning context. Like it was mentioned in the introduction, most foreign language teachers are not native speakers of the language they are teaching. As previous language learners themselves, they have the ability to understand the challenges that learning a new language presents: yet applying this knowledge is not always easy in practice, especially not for new teachers with limited experience with actual students. It is thus helpful to become aware of the modifications that one consciously and unconsciously makes to speech, and what effect such modifications could have on communication and language learning. While there is much SLA research dedicated to speech modifications, they are often conducted within classroom settings. This itself does not a problem; after all, it is in the classroom context that most language teaching happens. However, it is not necessarily where the most language *learning* happens. Very often, the classroom situation presents an artificial setting which is far removed from real life. If there is one thing I have learned from studying foreign language teaching, it is that acquisition happens in a meaningful social context. This provided motivation for the choices of interlocutors and interactional setting in the present study. The knowledge of speech modifications can also be beneficial in the classroom to discuss communicative competence, but also stereotypes in intercultural communication. Students should be aware of the language they apply to less proficient speakers and the judgments about people that are often made because of lack of proficiency. In this regard, I quote Shailja Patel's *Migritude* (2010):

My father speaks Urdu,	Five languages,
Language of dancing peacocks,	Five different worlds
Rosewater fountains –	Yet English
Even its curses are beautiful.	Shrinks
He speaks Hindi,	Him
Suave and melodic,	Down
Earthy Punjabi,	Before white men
Salty rich as saag paneer,	Who think their flat, cold spiky words
Coastal Swahili laced with Arabic.	Make the only reality
He speaks Gujarati,	(*Migritude,* 2010)
Solid ancestral pride	