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Conversational Dominance as a Feature of Interactional Fluency in L1 Finnish and L2 English Interaction: A Mixed Methods Study

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This thesis investigates the interactional fluency of both first language (L1) and second language (L2) speech in dialogue interactions, specifically through the concept of conversational dominance. The study examines how the symmetry or asymmetry of language proficiency between two speakers, as well as the language of the interaction (L1 Finnish and L2 English), is connected to the quantity and distribution of participation in dialogue conversations.

The study aimed to expand the existing research on L2 fluency that has mostly focused on monologic data, by examining pair interactions, as well as researching the relationship between L1 and L2 fluency. The study utilized a mixed methods approach, which combines both qualitative and quantitative aspects of data analysis. The data set consisted of 50 recorded pair interactions between advanced learners of English, each pair engaging in two problem-solving tasks, one in Finnish (L1) and one in English (L2). Conversational dominance was operationalized using various measures, such as number of words, number of turns, participation percentage, and average turn length. The participants' L2 proficiency was assessed using the LexTALE vocabulary test.

The research found that the pairs with more symmetrical L2 proficiency levels (LexTALE scores) tended to have more quantitatively balanced L2 conversations, whereas pairs that were more asymmetrical in terms of LexTALE scores were found to have less balanced interactions, often with the more proficient speaker taking the role of the more dominant speaker. Furthermore, a link between L1 and L2 conversations was discovered, with the conversational roles of the more dominant and less dominant speaker usually staying on the same speaker in both L1 and L2 interactions, suggesting consistency in conversational dominance across languages.

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Abbreviations

CEFR = The Common European Framework of Reference for Languages

FCE = First Certificate in English

IC = interactional competence

L1 = first language

L2 = second language

LexTALE = Lexical Test for Advanced Learners of English

SLA = Second Language Acquisition

1 Introduction

When inspecting a conversation, who leads and who follows can reveal more than expected. Aspects such as the quantity of speech and turns, and how they are distributed in a conversation, can reveal a deeper understanding of the interactional dynamics between speakers. This thesis explores second language (L2) speech fluency through the lens of conversational dominance in dialogic settings. Conversational dominance in this study is approached through the dimension of quantitative dominance, which is measured through the number of words spoken, number of turns taken, participation percentage, and average turn length. This present study examines how an L2 speaker's proficiency level, as well as the language of the interaction, are connected to conversational dominance in both first language (L1) (Finnish) and L2 (English) conversations. Interactional fluency, defined by McCarthy (2010, 1) as the joint production of the flow of conversation between speakers, is a key focus of this study, with conversational dominance viewed as a measurable element of it.

This study aims to add to the existing research on L2 fluency, which has largely focused on monologic data, by examining dialogic interactions, as well as researching the relationship between L1 and L2 fluency. Although some research has been conducted on the effects of L1 fluency on L2 fluency (Peltonen 2018, Derwing et al. 2009, De Jong et al. 2015), the topic calls for more research. This thesis focuses on the less frequently studied dialogic setting by examining the relationship between the symmetry or asymmetry of speakers' proficiency levels, as well as the language of the interaction, in connection to conversational dominance. The data of the study includes 50 dialogues, in which a pair of L1 Finnish speakers complete a problem-solving task. 25 dialogues are in Finnish, which is the participants' L1, and 25 dialogues are in English, the participants' L2. Lemhöfer and Broersma's (2012) Lexical Test for Advanced Learners of English (LexTALE) test was used to assess the participants' lexical competence, which was viewed as an indicator of their English proficiency.

The research questions for this study are the following:

1. To what extent does the symmetry or asymmetry of speakers' LexTALE scores connect to conversational dominance in L2 English dialogue interactions?

2. How does the language of the interaction connect to conversational dominance in L1 Finnish and L2 English dialogues among the same speakers?

In Sections 2.1 and 2.2, the definitions of speech fluency and interactional fluency are examined. Section 2.3 introduces the relationship of L1 and L2 fluency and presents previous research on the topic. In Section 3, the balance in interaction is examined, starting from the point of view of interactional competence in Section 3.1. In Section 3.2, the concept of conversational dominance is introduced and discussed, along with relevant studies. Materials and methods are presented in Section 4: firstly, the research questions in Section 4.1, secondly, the participants in Section 4.2, thirdly, the data collection is described in Section 4.3, and finally, in Section 4.4, the process of data analysis is reported. The results of the study are presented and discussed in Section 5. The connection between symmetry or asymmetry in speakers' L2 proficiency and L2 conversational dominance is examined in Section 5.1 and its subsections, while in Section 5.2, the connection between language of the interaction and conversational dominance is explored. Lastly, Section 6 concludes the study.

2 Speech fluency

In this section, the main concepts concerning speech fluency, especially in dialogue settings, are introduced and discussed. In Section 2.1, the focus is solely on defining speech fluency. Then in Section 2.2, due to the present study focusing on dialogic data, definitions of interactional fluency are discussed alongside previous studies on the topic. As both L1 and L2 speech fluency are examined in this study, Section 2.3 presents and discusses previous studies that investigate the relationship between fluency in L1 and fluency in L2.

2.1 Defining speech fluency

Becoming competent in using a second language is the predominant goal for many second language learners (Van Os, De Jong, and Bosker 2020, 1184). As pointed out by Lennon (1990, 391), oral proficiency can be divided into components such as *appropriateness*, *idiomaticness*, and *syntactic complexity*. *Fluency*, which is the component that is most central for this study, differs from these other elements in that it is "purely a performance phenomenon", and cannot be allotted to linguistic knowledge, while the other components can (ibid.). This unique component of L2 oral proficiency is at the of heart of second language (L2) learning as well as Second Language Acquisition (SLA) research, as efficient communication in the L2 is one of the primary goals for L2 learners (Peltonen 2020, 1).

Fluency as a term can be defined in numerous ways depending on the context. Lennon (1990, 388) famously divided fluency into two senses: *a broad* and *a narrow sense*. In its most broad definition, fluency can be thought of as the highest level of oral proficiency in general: when describing someone as fluent in a second language, they usually are thought to perform on a native-like level (Lennon 1990, 389). This type of a definition is usually used in everyday language, and it is ambiguous, as it seems to indicate that all native speakers of a language speak in a similar manner and that all of them speak "fluently" (ibid.). This is why out of the two, the narrow definition is used in research settings. Lennon (ibid.) describes the narrow sense of fluency as "one, presumably isolatable, component of oral proficiency", reducing fluency into one separate element of proficiency instead of using it as an umbrella term. Tavakoli and Hunter (2018) have since refined these definitions of fluency by introducing a hierarchical framework of four approaches to defining fluency. At the *very broad* level, fluency is seen as synonymous with general L2 proficiency or mastery, whereas at the *broad* level, fluency is viewed as the ability to speak and communicate confidently and effectively

(Tavakoli and Hunter 2018, 343). The third level is *narrow*, and it relates to "ease, flow and continuity of speech" and distances fluency from complexity and accuracy, and the last level, a *very narrow* level of fluency is often used in fluency research settings as it allows the objective measuring of speech fluency through the aspects of speed, silence, and repair (ibid.). Skehan (1998) later grouped together the dimensions of *complexity*, *accuracy* and fluency and thus introduced the CAF model, which defines fluency as "the ability to produce the L2 with native-like rapidity, pausing, hesitation, or reformulation" (Housen, Kuiken, and Vedder 2012, 2). Since then, the CAF model and its definition for fluency has been widely used (for more on CAF, see Housen, Kuiken, and Vedder 2012). The dimensions of accuracy and complexity are not discussed further due to the present study's focus on fluency.

In addition to the division by Lennon (1990), an influential division into three senses was presented by Segalowitz (2010). Segalowitz (2010, 48) divided fluency into three senses, labeled *cognitive fluency*, *utterance fluency*, and *perceived fluency*. Cognitive fluency refers to the speaker's competence to efficiently operate the underlying cognitive processes, lexical search, and planning utterances, for example, that are needed for producing speech (ibid.). According to Segalowitz (ibid.), cognitive fluency is "the fluency that a speaker possesses", as all those cognitive processes comprise the cognitive system which then "itself exhibits fluency in how efficiently and fluidly it is able to carry out this mobilization and integration of processes." Utterance fluency, on the other hand, refers to the fluency-related features of utterances: the features are reflections of the speaker's cognitive fluency (Segalowitz 2010, 52). Perceived fluency ties together cognitive and utterance fluency, as it refers to the interpretations that listeners create about the speakers' cognitive fluency "based on their perceptions of their utterance fluency" (ibid.). As examining spoken interaction is the focal point of this study, utterance fluency is the most relevant sense of the three.

Chambers (1997) set out to define fluency through using only temporal variables. These variables, such as speech rate and pauses, can be identified, and quantified empirically, and therefore when used in the context of defining fluency, make the definition more precise and easier to grasp (Chambers 1997, 538). This kind of a definition with quantifiable variables is advantageous also in L2 teaching and learning, as it is more concrete compared to other more ambiguous definitions. Chambers' definition of fluency is also based on the notion that fluency depends on automaticity: the more the production processes turn automatic, the more

fluency develops (Chambers 1997, 537). Segalowitz (2010, 75) also states that "automaticity enhances the fluidity and efficiency of underlying cognitive processing", meaning that automaticity enhances cognitive fluency. However, for L2 learners, these processes may never be fully automatic (Chambers 1997, 537). Chambers (ibid.) also states that especially in the case of grammatical encoding, the automatization process is only gradual. A study by Favreau and Segalowitz (1983) examined how automaticity differed in L2 speakers with different fluency levels. They found that automaticity differentiated the more fluent L2 speakers from less fluent L2 speakers (ibid.). As the processes behind finding the correct vocabulary and word-order, for example, become automatic, the learner can focus on other planning tasks, which makes the speech less "choppy" and therefore more fluent (Chambers 1997, 537–538). Viewing fluency through the aspect of pauses, Chambers (1997, 543) concluded that when comparing L2 speakers and L1 speakers, the L2 speakers do not actually pause longer than L1 speakers but in the case that an L2 speaker has a greater pausing time in their speech, it is due to the speaker producing more pauses. L2 speakers thus produce shorter turns (ibid.). When inspecting these findings in relation to the present study, it could thus be hypothesized that the participants with higher proficiency levels would also produce longer speech units and therefore have a longer average turn length, which can be considered an indicator of higher fluency in an interactive setting.

2.2 Interactional fluency

L2 speech fluency has been a widely studied topic in the field of SLA for decades, but it has mainly focused on monologues (Tavakoli 2016, 135). As everyday language is more commonly constructed of dialogic conversations rather than monologues, more research on L2 speech fluency in dialogue interactions and dialogic task types is needed (Tavakoli 2016; Peltonen 2017). This gap is what this study aims to address by examining dialogic interactions through the lens of conversational dominance. Interactional fluency consists of not only the speakers' individual fluency (the quality of speech within each speakers' own turn), but also the interaction with the other speaker and the maintaining of fluency between turns in the conversation (ibid.).

As mentioned in Section 2.1, becoming a competent language user is the main goal of L2 education for many, and because of that, learners aspire to be orally fluent not only in monologue contexts but during interaction as well (Van Os, De Jong, and Bosker 2020,

1184). When examining fluency in an interactive dialogue setting, it has become apparent that how fluent the conversation is does not only consist of each individual's own performance but also of how the participants interact and perform together (McCarthy 2010; Peltonen 2017). Because of the reciprocal nature of conversation, the speakers must manage the interaction collectively, which involves, for example, having to construct and manage topics as well as managing turns during interaction (Galaczi and Taylor 2018, 226). For this collective aspect of fluency, McCarthy (2010, 1) introduced the concept of *confluence*, defining it as "the joint production of flow by more than one speaker." McCarthy's (2010) introduction of confluence was exceptional, as defining fluency in an interactional context had not been done successfully before (Peltonen 2020, 29). Peltonen (2020, 30) states that the term confluence is comparable to *interactional fluency*, and in her dissertation focusing on both individual and interactional aspects of L2 speech fluency, Peltonen (2020) was one of the first to systematically operationalize interactional fluency.

Peltonen (2017) studied fluency in pair interactions in a mixed method study, which focused on both temporal (individual) and interactional fluency measures. With these measures, the study centered on the differences and correlations between temporal fluency, interactional fluency, and fluency resources. The participants of the study were 42 Finnish L2 learners of English: Group 1 (G1) consisted of 16 ninth graders, and Group 2 (G2) consisted of 26 upper secondary students in their second year. The task appointed to the participants was a communicative problem-solving task in pairs, identical to the task used in this present study: ranking certain items into an order of importance. The study showed that when examined individually, the G2 participants were more fluent, and that also in terms of interactional fluency, the G2 participants were more fluent overall (Peltonen 2017, 10). On an individual level, G2 participants were more fluent in three temporal fluency measures: speech rate, silent pauses per minute, and the mean lengths of silent pauses, and with interactional fluency, the G2 participants were particularly more fluent from the point of view of turn pauses: there were fewer of them, and they were also shorter (ibid.). As the task in Peltonen's 2017 study as well as the participants' L1s and L2s are the same as in this present study, the findings of the study are especially intriguing and appropriate to examine alongside the findings of this present study. The additional angle provided by the present study is that interactional fluency can also be examined from the participants' L1 productions, which extends Peltonen's 2017 study.

Sato (2014) examined the constructs of individual and interactional oral fluency in his study by examining Canadian and American raters' perceptions of Japanese learners of English's speech fluency, in both a dialogic setting as well as in an individual setting. The participants taking part of the performing part of the study consisted of 56 Japanese university level learners of English. The participants rating the learners' speech fluency were four native English speakers, two Canadian and two American raters. The raters were all specialized in the field of applied linguistics. First, the L2 learner participants each completed an individual picture-description task. This resulted in individual speech samples. After the individual tasks, the participants then completed paired decision-making tasks, in which they needed to communicate with each other. Each pair had three minutes to discuss and come up with a decision concerning the task at hand, which resulted in dialogic speech samples. Both the individual and dialogic speech samples were transcribed. Next, in Phase 1, the verbal protocol method was used to gather perceptions of fluency from the raters. They each listened to 16 individual speech samples and speech samples from eight pairs, and they were then directed to discuss these samples together from the aspect of fluency. After the discussions, the verbal protocol data were used to investigate the construct of interactional oral fluency, and it was used to create a 4-band scale with descriptors. In Phase 2, a training session for the raters was conducted, and the raters were instructed to score some additional samples on a 1 to 7 scale based on the 4-band scales developed in Phase 1. The raters then assessed 112 individual and interactional samples. Through quantitative analyses, it was discovered that how participants performed in individual contexts was only weakly suggestive of how they performed in interactional settings (Sato 2014, 88). Sato concluded that the constructs might be "fundamentally different", and that the best approach to interactional oral fluency in dialogue is to view it as a "joint performance" between speakers (Sato 2014, 88). These results highlight the fact that interactional fluency differs from monologue fluency, and research on different aspects of interactional fluency is needed.

2.3   Fluency in the L1 and L2

As has been mentioned, interactional fluency in itself is still quite scarcely researched. Thus, research concerning the relationship between L1 interactional fluency and L2 interactional fluency is rare. Therefore, in this section, previous studies on the relationship between L1 speech fluency and L2 speech fluency are discussed from the point of view of monologue fluency.

Gao and Sun (2024) conducted a meta-analysis focusing on the relationship between learners' L1 and L2 utterance fluency. The study consisted of 16 studies with 137 effect sizes and 714 participants. The primary studies for the meta-analysis were identified through database, ancestry, journal, and backward searches. The inclusion criteria required the studies to focus on dimensions of utterance fluency and to use objective measures of it, elicit L1 and L2 speech data from the same speaker, and focus on the performance of L2 learners, amongst other requirements. The screening process resulted in the identification of 16 eligible studies, and a three-level modeling approach was applied for the analysis. It is notable that all studies examined in Gao and Sun's (2014) study were based on monologic data, since the tasks performed in the studies were all either open or closed monologic tasks.

Gao and Sun (2024, 12) concluded that their results supported the claim that plenty of fluency-related characteristics in a speaker's L2 speech can also be observed in their L1 speech. This also supports De Jong et al.'s (2013) findings from their study on linguistic knowledge and processing skills relating to L2 speaking fluency. De Jong et al. (2013, 913) deduced that measures which are related to a speaker's personal speaking style or personality characteristics could be expected to transfer from a speaker's L1 to their L2. In addition to the aforementioned results, Gao and Sun (2024, 12) found that there are significant correlations between L1 and L2 in all dimensions of fluency (ibid.). The strongest L1–L2 associations were found in pausing behaviors, specifically with silent pause rate and duration, and they suggest that "at least not all pausing behaviors of learners should be downgraded or regarded as a sign of lacking L2 proficiency" (ibid.). This makes their findings also significant in terms of L2 fluency assessment.

De Jong et al.'s (2015) study was one of the studies included in Gao and Sun's (2024) meta-analysis. De Jong et al. (2015) studied whether it would be advantageous to adjust L2 measures of oral fluency for L1 fluency behavior to indicate L2-specific processing. This was done by focusing on L2 utterance fluency and operationalizing it in uncorrected measures as well as corrected measures. The corrected measures were adjusted for L1 behavior. These measures were compared and then related to a measure of L2 proficiency, which in this study's case was vocabulary knowledge, to see whether "the corrected measures better reflect L2 cognitive fluency as indicators of L2 speaking proficiency" (De Jong et al. 2015, 225). The participants in the study were L1 English and L1 Turkish speakers with Dutch as their

L2, as this kind of a setting made it possible to explore potential differences in the relationship between L1 and L2 fluency behavior, since English is typologically close and Turkish is typologically distant from Dutch (De Jong et al. 2015, 225–226). The participants performed eight very similar tasks in both their L1 and L2 for the results to be as comparable as possible. The high number of tasks provided a large amount of data from each participant in both languages, which made the measuring of L2 fluency – which is related to L2 proficiency – and L1 fluency – which reflects personal speaking style – possible. De Jong et al. (2015, 236) found that to a certain degree, all fluency measures could be predicted from L1 fluency behavior. They also concluded that the use of corrected measures of L2 fluency would be beneficial when studying L2 speaking (De Jong et al. 2015, 239). Despite De Jong et al. (2015) using monologic tasks and the present study using dialogic tasks, the results are very relevant for this present study, as they suggest that individual differences in L1 fluency influence L2 performance. The results therefore support the notion that fluency in one language can influence fluency in another.

Peltonen (2018) examined possible links between L1 and L2 fluency in a mixed methods study. The data consisted of monologue speech samples in L1 and L2 from 42 participants. The participants were Finnish learners of English, and 17 of them were in their 9th year of compulsory education while 25 of them were in their second year of upper secondary school. The monologue speech samples comprised of picture descriptions in L1 and L2, and the samples were analyzed for 13 measures that captured different aspects of fluency. Peltonen (2018, 687) found that several aspects of especially L2 temporal fluency were related to L1 fluency. In addition to most temporal aspects of L2 fluency correlating with corresponding L1 measures, they could also to some extent be predicted from them (Peltonen 2018, 689). The study also emphasized the advantages of using quantitative methods alongside qualitative methods while investigating connections between L1 and L2 fluency (ibid.). These results are exceptionally relevant to the present study as Peltonen's (2018) study focused on Finnish L2 learners of English similarly as the present study, and as the present study is also a mixed methods study.

To explore the relationship between L1 and L2 fluency from the point of view of cross-linguistic similarities and differences, Derwing et al. (2009) conducted a longitudinal study of L2 fluency behavior. The participants were L1 Slavic and L1 Mandarin learners of English

that had immigrated to Canada. The participants completed narrative tasks (picture-based tasks, like in this present study), which were recorded. The same tasks were completed in intervals: 2 months, 10 months, and 1 year after the participants had arrived in Canada. While examining temporal measures, such as speech rate, Derwing et al. (2009, 553) found that a relationship between the L1 and L2 could be found in both learner groups at two months, but at ten months and at 1 year, a relationship between L1 and L2 could only be found in the L1 Slavic group. Derwing et al. hypothesized that the reason for this difference could be the structural properties of the L1, and in this case, "the Slavic speakers benefited from the structural parallels between their L1 and English" (ibid.). Although Derwing et al. (2009, 554) concluded that based on this study, a straightforward relationship between L1 and L2 fluency cannot be assumed, the results present a possibility for a connection between L1 and L2 fluency to exist.

Like Derwing et al. (2009), Huensch and Tracy-Ventura (2017) conducted a longitudinal study to examine to what extent can L1 fluency behavior, cross-linguistic differences, and proficiency predict L2 fluency behavior over a period of time. The participants in the study were L1 English speakers studying either French (25 participants) or Spanish (24 participants) in a university in the United Kingdom. Their degrees required them to spend an academic year abroad: L2 Spanish learners in either Spain or Mexico, and L2 French learners in France. The participants performed narration tasks in their L2 before and after their residence abroad. They also completed the narration task once in their L1. In addition to the L1 English participants, 18 L1 Spanish and ten L1 French speakers of the same age as the L2 participants took part in the study, completing the narration tasks in their L1 to make the cross-linguistic comparison possible. The results showed substantial improvements in the L2 proficiency and L2 fluency of both learner groups during their residence abroad (Huensch and Tracy-Ventura 2017, 774). There were positive correlations between L1 and L2 fluency measures, particularly in mean syllable duration, which is a measure of articulation rate, and the number of silent pauses per second, suggesting a relationship between L1 and L2 fluency (Huensch and Tracy-Ventura 2017, 773). Although Huensch and Tracy-Ventura's (2017) study focused on monologic performances while this present study examines interactional fluency, the results offer insights into how cross-linguistic differences and individual proficiency levels contribute to the development of L2 fluency over time.

In this section, the concept of speech fluency was examined. It was concluded that interactional fluency, which is the focus of this present study, involves both individual fluency and the interactional flow between speakers (McCarthy 2010; Peltonen 2017). Linking the information presented in Section 2 to the research questions of this study, Chambers' (1997, 543) findings suggest that speakers may produce more pauses and shorter turns in L2 than L1, and that fluency develops with automaticity. The research presented in this section indicates a strong relationship between L1 and L2 fluency, with many fluency-related features transferring between languages, particularly temporal aspects such as pausing (De Jong et al. 2013; Gao and Sun 2024). This present study contributes to speech fluency research by examining dialogic data, as opposed to the more commonly studied monologic data. It also extends previous research on L1–L2 connections to the less frequently studied dialogic setting, investigating how conversational dominance transfers between a speaker's L1 and L2. The following section, Section 3, will introduce and discuss interactional competence and conversational dominance in greater detail.

3 Balance in interaction

In this section, the concepts of interactional competence (IC) and conversational dominance are discussed. First, IC is defined and previous studies on the concept are presented in Section 3.1. Secondly, in Section 3.2, conversational dominance and its dimensions are presented and discussed, alongside previous research on the topic.

3.1 Interactional competence

As is the case with defining speech fluency, defining IC is also a complex task. The versatile nature of IC makes it challenging to define without oversimplifying the concept. Kramsch (1986) was the first to use the term IC in her paper in which she discussed the goals, as well as the means to fulfill these goals, of L2 education. While examining the concept of successful interaction, Kramsch noted that it presupposes "the construction of a shared internal context or "sphere of inter-subjectivity" that is built through the collaborative efforts of the interactional partners" (Kramsch 1986, 367). Pekarek Doehler (2021, 24) describes IC as "an ability to act conjointly with others", and notes that it includes such abilities as managing the social interaction through, for example, turn-taking, starting or ending a conversation, and agreeing and disagreeing with others in a conversation, in ways that are appropriate within the context of the interaction. She states that IC is constructed by both the aforementioned capability to comprehend the interactional context of the conversation as well as the relevant, expected practices within it (ibid.) This notion of defining IC as the ability to operate conjointly with other people is supported also by He and Young (1998, 7), who state that IC is "co-constructed by all participants in an interactive practice". It can therefore be concluded that one of the main principles of IC is being able to co-construct the social interaction with the other participants in the interaction, and as this present study focuses on how dialogic conversations are constructed, the concept of IC is extremely important to this study.

Galaczi and Taylor (2018) examined the concept of IC from a range of perspectives. In their article, they presented multiple of the influences that have shaped the theoretical conceptualizations of IC through time, as well as illustrated how IC is operationalized in tests and assessment scales. Similarly to the previously mentioned definitions, Galaczi and Taylor composed a definition which suggests that IC is "the ability to co-construct interaction in a purposeful and meaningful way, taking into account sociocultural and pragmatic dimensions

of the speech situation and event" (Galaczi and Taylor 2018, 226). Alike Pekarek Doehler (2021), Galaczi and Taylor (2018) propose that IC is supported by aspects such as turn-taking and beginning and ending a conversation. Galaczi and Taylor (2018, 226) classified these aspects into categories of "*topic management, turn management, interactive listening, breakdown repair* and *non-verbal or visual behaviours*" (emphasis as in original). These aspects are resources that the interlocutors can take advantage of during the interaction, both as speakers and as listeners. In this present study, the focus is on the aspect of turn management, as conversational dominance is operationalized as the number of turns as well as how much a participant participates in the conversation during their turn. Peltonen (2020, 31) suggests that as interactional fluency resembles the dimension of turn management, IC can be considered as one aspect of broader interactional competence. Thus, the aspect of turn-taking can be highlighted as a link between IC and interactional fluency.

In addition to the conclusion that IC is a construct that is comprised by all participants in an interaction instead of being just individual ability, and that it includes interactional resources, such as topic and turn management, Galaczi and Taylor (2018, 220–221) concluded that IC also comprises of the element of "awareness of the roles of the individuals in the interaction and the context". This aspect is especially interesting from the point of view of this present study, as it supposes that there are some distinctive roles that participants in an interaction have, and that they are aware of them. As this present study investigates the quantity of how much each participant speaks, it can be then deducted that the participant that participates more is the more dominant one in the interaction. Therefore, this present study regards that the participants can take the more dominant and passive roles in the dialogic interactions. This notion by Galaczi and Taylor (2018) is hence very relevant for this study.

Participant roles were examined in a study by Galaczi (2008), which focused on interactional competence from the point of view of peer-peer pair interactions in a speaking test. The participants of the study were 30 pairs of the First Certificate in English (FCE) speaking test takers. The pairs' FCE tests were first transcribed, and then through conversation analysis methods, the transcriptions of the pair discussions were analyzed, during which the focus was on *topical sequences* and their form. Topical sequences in this study were defined as sequences of talk that referred to a certain visual prompt given to the test takers during the FCE test, and everything that related to that specific prompt was part of one topical sequence

(Galaczi 2008, 96). The analysis focused on aspects such as turn-taking, sequencing, and topic organization, and how each participant used these features in their dialogues. Based on this, four roles were classified: *collaborative*, *noncollaborative*, *dominant*, and *passive* (ibid.; emphasis added). Each participant was assigned a role during the analysis on a turn-by-turn basis, and it was shown by the analysis that in most cases the roles remained the same throughout the whole test (ibid.). From these roles and how they were divided within the pairs, four distinct patterns of interaction emerged: *collaborative*, *parallel*, *asymmetrical*, and *blend* (ibid.; emphasis added). One of the most important findings from the study was that features of conversational dominance were distributed differently for the different kind of pairs: for collaborative pairs, the most prominent feature of conversational dominance was sequential dominance, for parallel pairs it was participatory dominance, and for asymmetrical pairs it was quantitative dominance (Galaczi 2008, 98). These different types of dominance come from Itakura (2001b) and are explained further in Section 3.2. The findings from Galaczi (2008) are extremely intriguing from the aspect of this present study, as this study inspects quantitative dominance within pairs and aims to find which participants are more dominant than the other. One of the angles of this study is to examine whether the proficiency level of the participants (as indicated by their LexTALE vocabulary test scores) connects to the role of the more dominant speaker. The LexTALE vocabulary test by Lemhöfer and Broersma (2012) is discussed in more detail in Section 4.2. Based on the findings by Galaczi (2008, 96), it can be hypothesized that the role of the more dominant participant stays on the same participants in both the L1 and L2 conversations.

A recent paper by Sbranna, Cangemi, and Grice (2020) focused on the possibility of quantifying L2 interactional competence. It tested a method for "quantification and visualization of interaction management on L2 data" (Sbranna, Cangemi, and Grice 2020, 383). In their study, Sbranna, Cangemi, and Grice (2020, 392) used interactional fluency as an indicator for interactional competence and measured it through the turn-taking system. The L2 data came from a corpus of L1 and L2 interactions, in which the participants were 40 L1 Italian speakers with German as their L2. The participants were divided into pairs based on their L2 proficiency levels, and the corpus consists of 40 dialogues in Italian, the participants' L1, and 40 dialogues in German, their L2. The dialogues were elicited by using the Map Task, in which one of the participants took the role of an instruction giver and the other the role of an instruction follower. They both had a map with landmarks, but the instruction giver also

had a route drawn across the landmarks. The goal of the task was to "co-operate so that the instruction follower can reproduce the route on their map thanks to the instructions given by the partner" (Sbranna, Cangemi, and Grice 2020, 393). The task also had a problem-solving aspect: some landmarks were different in the maps, which the participants did not know beforehand. Like the task in the present study, the Map Task elicits spontaneous speech, and it can be used for all proficiency levels. The task was first completed in the L1 and then in the L2, and the participants kept the same roles in both tasks. Similarly to the present study, Sbranna, Cangemi, and Grice (2020) also used the LexTALE test to assess lexical competence. As the L2 in the study was German, they used the German version of the test.

The data were annotated and extracted, manually corrected, and then a "figure depicting each speaker's contribution to the interaction as it develops over time" was generated with a Praat script (Sbranna, Cangemi, and Grice 2020, 394). As the data were analyzed, it was found that the learners that were more proficient in the L2 were able to "maintain the natural interactional rhythm they have in L1 in their L2" (Sbranna, Cangemi, and Grice 2020, 401–402). The more proficient learners displayed interactional fluency patterns in the L2 that were more similar to the patterns they produced while speaking their L1 (Sbranna, Cangemi, and Grice 2020, 398). The L2 interactional patterns started to become like the patterns in the learners' L1 in pairs that had a B2 or higher level of L2 competence (ibid.). The pairs with a lower level of L2 competence had significantly different interactional patterns in their L1 and L2 interactions (ibid.). The results therefore suggested that due to enhanced automatization of L2 cognitive processes, as a learner's proficiency level in the L2 improves, the learner's ability to manage the interactional flow of a L2 conversation becomes more like how they manage the interactional flow in their L1 (Sbranna, Cangemi, and Grice 2020, 396). The results of this study are relevant to the present study, as both studies use quantitative research methods to study both L1 and L2 pair interactions and the interactional patterns in them, as well as how L2 proficiency is connected to turn-taking behavior.

3.2   Conversational dominance

Although the concept of conversational dominance has been researched to some extent, the exact term and definition are quite new. Previous research has largely focused on dominance in conversations from the aspect of gender and how it connects to how the dominance between speakers is distributed (e.g. West and Garcia 1988, Tannen 1994, Zimmermann and

West 1996, Itakura 2001a, Pakzadian and Tootkaboni 2018). The term *conversational dominance* was introduced by Itakura in a 2001 paper, in which he defines it as "one speaker's tendency to control the other speaker's conversational actions over the course of an interaction" (Itakura 2001b, 1862). This definition highlights the fact that instead of being a marker of speaker intent, conversational dominance is a marker of the "interactional effects of controlling actions during conversation" (ibid.). This present study views conversational dominance as a key element of interactional fluency, exploring how the tendency of one speaker to control the other speaker's conversational actions impacts the overall flow and management of a dialogue.

According to Itakura (ibid.), conversational dominance is a multi-dimensional construct, which consists of three dimensions: sequential dominance, participatory dominance, and quantitative dominance. *Sequential dominance* is seen as one speaker's tendency to control the other regarding the direction of the interaction, whereas *participatory dominance* is seen as one speaker's tendency to restrict the other's speaking rights, particularly via overlap and interruption (ibid.). Finally, *quantitative dominance* is seen as the quantity of the participants' contribution to the interaction, which is realized as the number of words spoken by each participant (ibid.). In addition to the number of words, average turn length is also an appropriate measure of quantitative dominance (Itakura 2001b, 1870). Itakura (ibid.) stated that as a speaker is initially entitled to only one turn, after which other speakers are entitled to start speaking, by holding on and not giving up the turn, a speaker can restrict others' right to start speaking. This then forces the other speakers to remain silent and to the role of the listeners, which gives the role of the dominant participant to the speaker (ibid.). As the present study utilized the measures of the number of words spoken as well as the participation percentage, number of turns and the average turn length of each participant, the dimension of quantitative dominance is the most relevant for the present study.

Quantitative dominance is calculated by how much each speaker contributes to the discussion (Itakura 2001b, 1863). According to Itakura (ibid.), the main measure of quantitative dominance is the number of words spoken. The person that contributes a greater number of words in the conversation can be considered to control the other person, as the person speaking less is forced to be a listener for the majority of the conversation (ibid.). In this present study, the number of words spoken by each participant was also examined from the

aspect of the total number of words spoken in the interaction. This was done by creating and utilizing the measure of *participation percentage*. Instead of focusing on an absolute measure like word count, participation percentage reveals each speaker's contribution as a share of the whole conversation, which makes it a valuable tool in research focusing on pair interaction (for more on participation percentage, see Section 4.4). This present study therefore strengthened the measures of quantitative dominance, adding a new aspect to it.

This section established the foundation for the present study by defining key concepts related to balance in interaction. The definitions of IC by Galaczi and Taylor (2018, 226), Pekarek Doehler (2021, 24), and He and Young (1998, 7), among others, were discussed. One of the studies described concerning IC and interactional fluency was Sbranna, Cangemi, and Grice's (2020) study. Their findings showed that in their study, proficient L2 learners often maintained their L1 interaction patterns in L2 conversations, showing interactional fluency as one aspect of IC (Sbranna, Cangemi, and Grice 2020, 401–402). Conversational dominance and quantitative dominance were defined according to Itakura (2001b), and the measures of quantitative dominance were introduced: number of words spoken, number of turns taken, average turn length, and participation percentage. Next, in Section 4, the materials and methods of the present study are examined.

4 Materials and Methods

In this section, the present study is described. In Section 4.1, the research questions of the study are presented. In Section 4.2, information concerning the participants of the study is provided. In Section 4.3, the processes of the data collection and preparation are presented, and finally, in Section 4.4, the methods used in the data analysis are explained.

4.1 Research questions

As explained in Section 3.2, the quantitative dimension of conversational dominance can be calculated by the number of words spoken, number of turns taken, the average turn length, and participation percentage of each participant in a conversation. Therefore, in these research questions, conversational dominance is quantified through these measures. The research questions are the following:

1. To what extent does the symmetry or asymmetry of speakers' LexTALE scores connect to conversational dominance in L2 English dialogue interactions?

2. How does the language of the interaction connect to conversational dominance in L1 Finnish and L2 English dialogues among the same speakers?

4.2 Participants

The participants of this study were 50 university students studying English either as a major or a minor subject. The data used in this study were originally collected for a larger research project called Fluency and Disfluency Features in L2 Speech (FDF2) in the University of Turku. The project will be presented in more detail in Section 4.3. Prior to participating in the study, the participants were asked to fill out a background questionnaire, from which background information relevant to the research was collected. 43 of the participants were studying English as their major subject, and seven as their minor subject. Although the participants were from different subject levels, the proficiency levels between major and minor participants were similar and were therefore comparable. All the participants' reported L1 was Finnish, which is ideal for the present study, as it enables the comparison between L1 Finnish and L2 English interactions. Five participants reported that they also use an additional home language: one participant reported English and Czech as their home languages, English was reported as a home language by two participants, Russian was reported as a home

language by one participant, and Swedish was reported as a home language by one participant.

All the participants had an extensive history of studying English already before starting university: the reported number of years that the participants had studied English before beginning their university studies ranged from seven to 13 years. The average number of prior English studies was 10 years. The age of the participants ranged between 18 and 40 years, 22 years being the average age.

Prior to taking part in the discussion part of the study, the participants each carried out a Lexical Test for Advanced Learners of English (LexTALE) test (Lemhöfer and Broersma, 2012). LexTALE is a standardized test used to assess vocabulary knowledge, and it was specifically made for L2 English speakers (ibid.). LexTALE provides the test taker with a LexTALE score, which can range from 0–100. Higher scores indicate higher levels of proficiency. Although LexTALE focuses on vocabulary knowledge, in a 2012 study it was found that it also "correlated substantially with a measure of general English proficiency" (Lemhöfer and Broersma 2012, 325). The LexTALE scores for the sample in this study ranged from 65 to 98.75, the mean score being 86.33. The LexTALE scores can be used as indicators for the levels of the Common European Framework of Reference for Languages (CEFR) (Council of Europe 2001). A LexTALE score of 80–100 indicates the CEFR level C1/C2, a score of 60–80 indicates the level B2, and a score below 59 indicates the level of B1 and lower (Lemhöfer and Broersma 2012, 341). Of the participants in the present study, 13 participants had LexTALE scores between 60 and 80, meaning their CEFR level was B2. 37 participants, therefore most of the participants, had a score of 80–100, their CEFR levels thus being C1/C2. Level B2 is a level for Basic Users, while level C1/C2 is considered as a level for Proficient Users (Council of Europe 2001, 23). This shows that the participants of the study were highly proficient in English.

Most participants reported that they were on their first year of university level English studies. Seven participants had studied English in the university level for one year, three participants for three years, one for half a year, and the rest 39 participants were on their first year of studying English in the university. The pairs were formed randomly, but as most participants were studying on the same year, it is probable that the participants were familiar with each other. How well the participants knew each other is not known, as this aspect was not part of

the questionnaire. How familiar the participants were with each other might have affected how and how much they spoke during the interactions, and therefore affected the quantitative dominance of the conversations, as well.

The handling of data and personal information were carefully considered from the perspective of research ethics. Prior to getting access to any data, I signed a Data User Agreement. In the agreement I was given information and instructions on how to safely handle the data. The data I was given access to was only the data set used in this study, not the full data set for the FDF2 project. As the video recordings of the conversations were not needed for the purposes of this study, I was only given access to the audio files. To protect the participants' privacy and anonymity, the background information collected from the participants did not include any identifiable information. In the data, no personal information is shared. In all the data and during the whole process of conducting this study, the participants were identified only by participant numbers. All participants signed a consent form before the collection of data, and included in the form was a privacy notice filled with information on how the participants' personal information would be handled, how the data would be used and what it would be used for. In addition, participating in the data collection was completely optional, and the participants had the right to withdraw from participating in the data collection.

4.3 Data collection

As briefly mentioned in Section 4.2, the data utilized in this study were originally collected for the Fluency and Disfluency Features in L2 Speech (FDF2) project, which was conducted in the Department of English at the University of Turku. The project was funded by the Research Council of Finland (2020–2024, decision number 331903). The data consist of recordings of dialogic interactions, in which a pair of participants discuss a problem-solving task. The data consist of 50 recorded audio files in total: 25 of the recordings are in English and 25 in Finnish. In addition to the recordings, transcriptions of the audio files were also utilized in the present study. The transcriptions were prepared and cross-checked by two MA level students of English, followed by checks by a postdoctoral researcher working in the FDF2 project.

The participants each first completed a LexTALE test and an online questionnaire focusing on background information, as mentioned in Section 4.2. The spoken data were collected by research assistants in the form of recordings and videotapes, but since the videotapes were not

necessary for the scope of this present study, they were not utilized. The paired format was used for collecting the interactional data. While examining interactional fluency especially from the point of view of conversational dominance, it is important that the task format itself affects the symmetricity and quantity of participation as little as possible. Galaczi (2008) examined peer–peer interaction in a speaking test, and although the study focused on testing, the findings can be generalized to language research settings, as well. One of the advantages of the peer–peer pair format is that the interaction during the task is controlled largely by just the participants (Galaczi 2008, 91). While the researcher has control of the test as a whole, they do not participate in the task itself, and the participants are in control of the interaction during the task (ibid.). Contrasting to the interview format, which tends to result in asymmetrical participation, the paired format provides more opportunity for a more symmetrical participation and therefore interaction (ibid.). As the present study is interested in the quantity of participation by each participant, it is profitable to use data that utilized the paired format. Additionally, the peer–peer paired task formats can provide contexts that might be plausible in real life, as communication between L2 English speakers is increasingly common (Sato 2014, 83). Therefore, the findings of a study with a peer–peer paired task format, such as the present study, could be to some extent generalized outside of the research setting.

The participants performed two problem-solving tasks in pairs. They were given short instructions for each task by the research assistant present. One of the tasks was performed in the participants' L1 and the other in their L2. In the tasks, the participants needed to discuss how they would rank certain items in two different scenarios: if they were on a desert island or if they had done an emergency landing on the Moon. The tasks can be seen in Appendices 1 and 2. All pairs completed both tasks, some had the desert island scenario as their L1 task and the Moon landing scenario as their L2 task, and for some pairs, the scenarios and languages were the other way around. Some pairs also started with the desert task, and some started with the Moon task. In other words, a counterbalanced design was used in the data collection. For both scenarios, the participants were shown 16 items as drawings on a piece of paper, and the items needed to be ranked in an order of importance, from most important to least important item. The participants had two minutes for individual pre-test planning before the start of the pair task. The time given for the pair discussions was about six minutes, and the participants were only interrupted once, when they had a minute left to discuss the task.

Other than that minor interruption, the participants themselves were in charge of the conversations. The use of a problem-solving task type was beneficial for this present study as these kind of tasks with brief instructions can evoke 'good interaction', meaning co-constructed interaction in which speakers attend to each other's turns and create turns that fit the other speaker's turn (Berggren et al. 2023, 11). As this study examines quantitative dominance, it was appropriate for the task used in the data collection to elicit co-constructed conversations.

4.4   Data analysis

As presented in Section 4.3, the data for the present study consist of 50 dialogue recordings between L2 English speakers that worked on a problem-solving task together. All the participants were given the same instructions, and no specific roles for the tasks were assigned. These factors allowed the participants to decide for themselves how much or how little they would like to speak during the task. As the time for all the discussions was fixed, the differences between the number of turns were dependent on the participants: they could determine how many turns they produced. These aspects support the suitability of this data set for the present study.

Further details on the fluency measures examined in the present study as well as how they were operationalized are given next. Altogether, 14 measures of fluency were used to analyze the data in the present study. These measures and their operationalizations are presented in Table 1 below.

Table 1. Fluency measures and their operationalizations

Measure	Operationalization
Number of words in L1	Number of words spoken by each participant in the L1 conversation (counted manually).
Number of words in L2	Number of words spoken by each participant in the L2 conversation (counted manually).
Total number of words in L1	Sum of words spoken by both participants in the L1 conversation.
Total number of words in L2	Sum of words spoken by both participants in the L2 conversation.
Participation percentage in L1	(Words spoken by participant in L1 / total number of words in L1) × 100.
Participation percentage in L2	(Words spoken by participant in L2 / total number of words in L2) × 100.
Number of turns in L1	Number of turns taken by each participant in the L1 conversation (counted manually).
Number of turns in L2	Number of turns taken by each participant in the L2 conversation (counted manually).
Total number of turns in L1	Sum of turns taken by both participants in the L1 conversation.
Total number of turns in L2	Sum of turns taken by both participants in the L2 conversation.
Average turn length	Total number of spoken words divided by the number of turns (following Nitta and Nakatsuhara 2014, 155).
Difference in LexTALE scores	Subtraction of the lower LexTALE score within a pair from the higher LexTALE score.
Difference in participation percentages	Subtraction of the lower participation percentage within a pair from the higher participation percentage.
Difference in average turn lengths	Subtraction of the lower average turn length within a pair from the higher average turn length.

First, the number of words by each participant in both L2 and L1 conversations were counted manually from the transcriptions of the discussions. All 50 discussion transcriptions were on individual Word-documents. In the transcriptions, the participants were marked as participant A and participant B. The words were first counted line by line and the number of words were marked on the transcription documents, and then on an Excel sheet. Then the total number of words spoken by both participants in the conversation were counted. These numbers were then marked in an Excel-sheet.

The following rules for the word counting were applied. Only full words were counted: false starts, meaning words that were cut off mid-utterance, were not counted as words. Corrections

were counted, as in these cases, the full words were produced. Contractions, such as *you're,* were counted as one word. Discourse markers, such as *yeah* and *mm*, were counted as words. In the case of indistinct words in the transcriptions, first the recording was listened to, to try to clarify the missing word. If the indistinct word could not be deciphered, it was not counted as a word.

To examine quantitative dominance with a relative measure in addition to the number of words produced, the measure of *participation percentage* was created. Both the number of words spoken by each speaker as well as the total number of words spoken by both participants in a conversation were calculated. The participation percentage was then calculated by dividing the number of words spoken by a participant with the total number of words spoken in the conversation by both participants and multiplying the result by 100. The measure of participation percentage is relative, meaning that it depends on the amount of each participant's contribution to the interaction within the context of the total amount of contribution. This calculation was systematically done for all participants and both L2 and L1 conversations.

The number of turns were also counted manually. Crookes (1990, 185) defines a turn as "one or more streams of speech bounded by speech of another". Although this definition was the basis for what was constituted as a turn in this present study, some alterations to it were made. The definition by Crookes (ibid.) does not consider any overlapping speech by an interlocutor as being part of a turn, but this aspect was recognized in the definition of a turn for this analysis, and listener responses were included in a speaking turn when counting the number of turns in the conversations. Duncan (1974, 162), in his study examining the structure of turns in pair interactions, found that listener responses may be encountered in a speaking turn. According to Duncan (1974, 166) as well as White (1989, 59), conversation can be seen as having two channels operating simultaneously: the "main" channel, which is the one that the speaker uses to get their message across, and the "back" channel, which the listener uses to give information to the speaker without claiming the floor. These backchannel behaviors can be, for example, nods or head shakes as well as vocalizations such as *mhm* and *yeah* (Duncan 1974, 162). In the data used in this study, the L2 backchannels were identical to the backchannels mentioned by Duncan (ibid.), and in the L1 conversations, speakers used backchannels such as *juu*, *jep*, *kyllä*, *nimenomaan*, *just niin*, and *totta*. These backchannels do

not make up an entire speaking turn or make a claim of the turn, as stated by Duncan (1974, 166), and therefore were counted into being a part of the "main" speaker's turn.

After counting the number of words and turns in the conversations, the average turn lengths were calculated. This was done based on the formula by Nitta and Nakatsuhara (2014, 155): "the total number of produced words divided by the number of turns". Each participant's average turn length in both L1 and L2 discussions were calculated using the formula, and the average turn lengths were marked into an Excel-sheet.

To examine how the symmetry or asymmetry of the participants' LexTALE scores were connected to their conversational dominance in the L2 conversations, the differences between the participants' LexTALE scores were calculated. While it is possible for the LexTALE scores to be converted into CEFR levels, it gives only a rough estimation of the participant's level. In the case of the data in the present study, after converting the LexTALE scores to CEFR levels, the level is either B2 or C1/C2 for every participant. For the purposes of this study's analysis, a more fine-grained way of examining the connections between proficiency and conversational dominance was needed. As the range of potential LexTALE scores within the CEFR levels (for example, the C1/C2 level) is quite high, the LexTALE scores work better for the analysis in this study. The differences between the participation percentages within pairs, as well as the differences between average turn lengths within pairs were also calculated. These were done in the same manner as the LexTALE score difference calculations and marked into the Excel-sheet.

To answer the first research question, the pairs were divided into three groups based on how similar the pairs' LexTALE scores were. This division was made so that it was possible to examine whether the symmetry or asymmetry of LexTALE scores within the pairs was connected to the participants' conversational dominance. Group 1 (G1) consisted of nine pairs that were the most symmetrical pairs in the study, meaning they were the pairs in which the participants had the most similar LexTALE scores between them. In G1, the difference in LexTALE scores between the participants were between 0 and 5 points. The LexTALE scores ranged from 75 to 95 points. Group 2 (G2) consisted of nine pairs with a 5.5-to-15-point difference in LexTALE scores, and the LexTALE scores ranged from 77.5 to 98.75 points. Group 3 (G3) consisted of seven pairs which were the least symmetrical pairs in the study and therefore had the least similar LexTALE scores between the participants. The differences in

scores were between 15.25 and 26.25 points, and the LexTALE scores ranged from 65 and 98.75 points.

A mixed method approach was used for analyzing the data. As stated by Dörnyei (2007, 45), the mixed methods approach combines quantitative and qualitative research methods, and with this multifaceted approach, a deeper understanding of the researched phenomena can be reached. The mixed methods approach in this present study utilizes the strategy of data transformation, in which usually qualitative data is converted into quantitative data, but which can also be done the other way around (Dörnyei 2007, 269). In this study, qualitative data is transformed into quantitative data. This is done by converting an aspect of qualitative data, in the case of this study, the words in a conversation, into quantitative data, in the form of the number of words and turns in a conversation. The numbers were then statistically analyzed. The Shapiro-Wilk test of normality was conducted to see whether the data followed normal distribution. For the variables that followed normal distribution, meaning that the p-value of the Shapiro-Wilk test was greater than 0.05, the statistical measure of Pearson's correlation coefficient was used. For non-normally distributed variables, meaning variables which had a p-value of less than 0.05, Spearman's rank correlation coefficient was utilized. Plonsky and Oswald's (2014, 889) guidelines were used to interpret the strength of correlations: correlation coefficients close to .25 were considered small, .40 were considered medium, and .60 were considered large correlation coefficients.

5   Results and Discussion

In this section, the results of the study are presented and discussed. Firstly, in Section 5.1, the first research question is examined. Secondly, in Section 5.2, the second research question is discussed and answered.

5.1   Connection between symmetry or asymmetry in speakers' LexTALE scores and L2 conversational dominance

In this section, the research question "*To what extent does the symmetry or asymmetry of speakers' LexTALE scores connect to conversational dominance in L2 English dialogue interactions?*" is answered. In the subsections below, the measures of number of words spoken and participation percentages are examined in Sections 5.1.1–5.1.3, and the measures of number of turns and average turn lengths are examined in Sections 5.1.4–5.1.6. As explained in Section 4.4, the results were investigated by groups: G1 is examined in Sections 5.1.1 and 5.1.4, G2 in Sections 5.1.2 and 5.1.5, and G3 in Sections 5.1.3 and 5.1.6.

While examining the overview of all the pairs, it was found that the pairs that had a bigger difference between the participants' LexTALE scores also had a larger difference in the participation percentages. To look at the relationship between the LexTALE scores and participation percentages through statistical measures, Pearson's correlation coefficient was calculated. The results are shown in Table 2 below.

Table 2. Correlation between asymmetry in LexTALE scores and the difference in participation percentages

Variable 1	Variable 2	N	Pearson Correlation (r)	Sig. (2-tailed)
Difference in LexTALE scores between speakers	Difference in L2 participation percentage between speakers	25	.409*	.042

*. Correlation is significant at the 0.05 level (2-tailed).
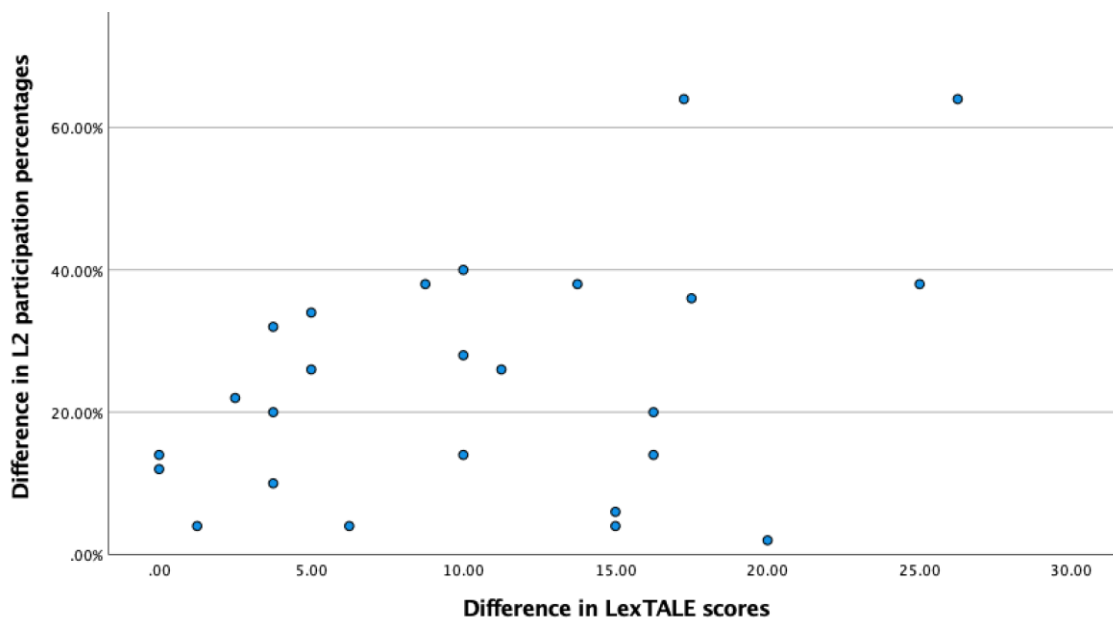
Figure 1. Scatter plot of correlation between differences in L2 participation percentages and the differences in LexTALE scores

The results ($r = 0.409$, p = 0.042) suggest that as the difference in LexTALE scores between the speakers increased, there tended to be an increase in the difference in the participation percentages, as well. This relationship was statistically significant, and with a correlation coefficient of 0.409, the relationship can be considered moderately strong (Plonsky and Oswald 2014, 889). These results are illustrated in the scatter plot above in Figure 1. To delve deeper into the relationship between the LexTALE scores and participation percentages, all pairs were examined separately. Groups were then formed based on symmetries and asymmetries in LexTALE scores between pairs. These groups are examined next.

5.1.1 Group 1: Number of words and participation percentages

G1 consisted of pairs 2, 6, 7, 11, 12, 16, 21, 23 and 24. They were the pairs with the most symmetrical LexTALE scores in the data: the differences in LexTALE scores ranged from 0 to 5 points. The differences in participation percentages ranged from 4% to 34%. The average difference in participation percentage for G1 was 19%. Below in Table 3, the number of words produced, the L2 participation percentages of the participants, as well as the difference between each pair's LexTALE scores can be seen.

Table 3. Number of words and L2 participation percentages in Group 1

Pair number	Participant code	LexTALE score	Difference in LexTALE scores within pair	Number of words in L2	Participation percentage in L2
2	46	88.75	3.75	294	55%
2	48	92.5	3.75	245	45%
6	81	88.75	1.25	524	52%
6	57	87.5	1.25	477	48%
7	62	90	5	290	37%
7	77	95	5	500	63%
11	75	78.75	0	515	43%
11	26	78.75	0	672	57%
12	74	90	5	369	33%
12	28	95	5	751	67%
16	27	78.75	3.75	679	66%
16	34	75	3.75	357	34%
21	6	95	3.75	615	60%
21	4	91.25	3.75	416	40%
23	80	90	2.5	444	61%
23	82	87.5	2.5	286	39%
24	40	92.5	0	435	56%
24	76	92.5	0	337	44%

Pair 6 had the most quantitatively balanced L2 conversation from G1. Participant 81 produced 52% of the words in the conversation (524 words), and participant 57 contributed 48% of the words in the conversation (477 words). The pair's LexTALE scores were 88.75 and 87.5 points, and therefore they were also one of the most symmetrical pairs of the group, with a LexTALE difference of 1.25 points. Pairs 2, 24, and 11 were the other most quantitatively balanced pairs in G1, with the participation percentages of 55% and 45%, 56% and 44%, and 57% and 43%, respectively. Interestingly, participants in pairs 11 and 24 had symmetrical LexTALE scores: participants in pair 11 both had a LexTALE score of 78.75 points, and in pair 24, 92.5 points. The asymmetry of LexTALE scores in pair 2 was 3.75 points, the scores being 88.75 and 92.5 points. Thus, of all the pairs in G1, three of the four most equally participating pairs were also the pairs with the most symmetrical LexTALE scores.

Pair 12 was the most unequally participating pair of G1, with participant 28 producing 67% of the words in the conversation (751 words) and participant 74 producing 33% of the words (369 words). The second and third most unequally participating pairs were pairs 16 and 7, with the participation percentages of 66% and 34%, and 63% and 37%, respectively. Notably, these pairs were the ones with the biggest differences between the participants' LexTALE scores in G1. Pair 12, with the most imbalanced participation percentages, had a 5-point LexTALE score difference, as well as pair 7, and pair 16 had a difference of 3.75 points. Interestingly, pairs 12 and 7 consisted of participants with some of the highest LexTALE scores in the study. In Peltonen's (2017, 10) study on interactional fluency, G2 (more proficient, upper secondary school students) were found to perform more fluent interactions than G1 (less proficient, ninth grade students). Based on these results, it could be hypothesized that in this study, the more proficient participants – the participants with the higher LexTALE scores – would be the more dominant L2 speakers. In the case of G1, this hypothesis was mostly supported. In pair 12 and 7's conversations, the quantitative dominance was not balanced between the speakers, but one speaker dominated the conversation. The more dominant speaker was the one with the higher LexTALE score.

Between the most balanced and imbalanced pairs were pairs 21 and 23. They had participation percentages of 60% and 40%, and 61% and 39%, and their LexTALE score differences were 3.75 and 2.5 points, respectively. Although the LexTALE scores between the pairs in G1 were all small, there still appeared to be a general pattern of pairs with more symmetrical LexTALE scores producing more quantitatively balanced L2 conversations, and pairs with the biggest LexTALE score differences within the group producing the least quantitatively balanced L2 conversations.

5.1.2 Group 2: Number of words and participation percentages

The pairs within G2 were pair numbers 1, 5, 8, 9, 10, 13, 17, 19, and 20. The LexTALE scores of the participants differed from 77.5 points to 98.75 points, and their LexTALE score differences were between 6.25 and 15 points. G2 pairs were therefore moderately asymmetrical regarding the LexTALE scores. Table 4 below displays the participants' LexTALE scores, differences in the scores between pair members, the number of words produced, and participation percentages in L2 discussions.

Table 4. Number of words and L2 participation percentages in Group 2

Pair number	Participant code	LexTALE score	Difference in LexTALE scores within pair	Number of words in L2	Participation percentage in L2
1	45	83.75	8.75	719	69%
1	47	92.5	8.75	316	31%
5	30	98.75	15	744	52%
5	58	83.75	15	690	48%
8	61	77.5	11.25	441	63%
8	63	88.75	11.25	260	37%
9	66	82.5	10	837	70%
9	69	92.5	10	360	30%
10	67	95	13.75	583	69%
10	65	81.25	13.75	266	31%
13	32	92.5	6.25	347	52%
13	41	86.25	6.25	325	48%
17	29	91.25	10	629	64%
17	38	81.25	10	354	36%
19	37	78.75	10	302	43%
19	25	88.75	10	408	57%
20	12	82.5	15	542	53%
20	19	97.5	15	473	47%

Pairs 5 and 13 were the most equally participating pairs of G2. Participant 30 from pair 5 and participant 32 from pair 13 produced 52% of each pair's words in their L2 discussions, whereas participant 58 from pair 5 and participant 41 from pair 13 produced 48% of the speech in the conversations. The participants from pair 13 had the most symmetrical LexTALE scores in G2: with participant 32's LexTALE score being 92.5 and participant 41's score being 86.25 points, the difference was only 6.25 points. Therefore, like within G1, the pair with the most equal LexTALE scores was also one of the pairs that participated most equally in the L2 conversation. Notably, however, pair 5 had a LexTALE score difference of 15 points, which was the biggest difference between scores in G2. Participant 30 had a very high LexTALE score of 98.75, and participant 58 had a score of 83.75 points. Despite the difference in LexTALE scores, the conversation between these participants was extremely balanced: participant 30 contributed 52% of the words in the conversation, while participant

58 spoke 48% of the words. Therefore, from these G2 data, a connection between the symmetry of LexTALE scores and near-equal conversational dominance cannot be deduced.

The next most quantitatively balanced L2 conversations were produced by pair numbers 20 and 19. Their participation percentages were 53% and 47%, and 57% and 43%, respectively, and their LexTALE score differences were 15 and 10 points. Participant 12 from pair 20 had a LexTALE score of 82.5 points and participated a little more than participant 19, who had a LexTALE score of 97.5 points. In pair 19, the participant with a higher LexTALE score was more dominant. In pair 8, participant 61 with a LexTALE score of 77.5 points produced 63% (441 words) of the speech in the conversation, whereas participant 63 with a LexTALE score of 88.75 points produced 37% (260 words) of the speech in the conversation.

The most quantitatively imbalanced L2 conversations in G2 were produced by pairs 9, 1, and 10. Pair 9 participated in the L2 conversation in the most imbalanced manner. Participant 66 produced 837 words in the conversation, which was 70% of the total words produced in their conversation. Participant 69 participated with 360 words, which was 30% of the words spoken in their conversation. The more quantitatively dominant participant, participant 66, had a LexTALE score of 82.5 points, which was 10 points lower than participant 69's 92.5-point score. In other words, the less proficient participant was more dominant in the conversation. In contrast, in the two other pairs, the more proficient speaker also dominated the conversation. Pairs 1 and 10 both had participation percentages of 69% and 31% within them. Participant 45 of pair 1 was the less dominant speaker and had a LexTALE score that was 8.75 points lower than participant 47's, who dominated the conversation. In pair 10, participant 67 with a LexTALE score of 90 points had the role of the more dominant speaker in the conversation, whereas participant 65 with a LexTALE score of 81.25, 13.75 points lower than participant 67, had the role of the less dominant participant. Therefore, these data from G2 were inconclusive regarding the first research question, as the distribution of dominance differed between symmetrical and asymmetrical pairs. These results suggest that while a difference in LexTALE scores can be a factor in how much speakers participate in L2 conversations, the difference does not always correlate directly with conversational dominance.

5.1.3 Group 3: Number of words and participation percentages

G3 consisted of the least symmetrical pairs concerning LexTALE scores. The seven pairs
included in this group had all a LexTALE score difference of at least 16.25 points, with the
largest difference being 26.25 points. The number of words produced by the participants in
G3 ranged from 102 to 734 words in the L2 conversations. The participation percentages
ranged from 18% to 82%. The data from G3 is presented below in Table 5.

Table 5. Number of words and L2 participation percentages in Group 3

Pair number	Participant code	LexTALE score	Difference in LexTALE scores within pair	Number of words in L2	Participation percentage in L2
3	53	78.75	17.5	323	32%
3	55	96.25	17.5	678	68%
4	54	92.5	16.25	437	57%
4	51	76.25	16.25	329	43%
14	72	65	25	331	31%
14	71	90	25	734	69%
15	78	72.5	26.25	465	82%
15	73	98.75	26.25	102	18%
18	36	75	16.25	593	60%
18	42	91.25	16.25	388	40%
22	56	68.75	20	383	49%
22	50	88.75	20	395	51%
25	9	88.75	17.25	579	82%
25	10	72.5	17.25	130	18%

Within the pairs in G3, the amount of contribution to the L2 conversations was generally
imbalanced. As the group consisted of the pairs with the most asymmetrical LexTALE scores,
this finding was unsurprising: a connection between the asymmetry of LexTALE scores and
quantitative dominance was expected.

With participation percentages of 51% and 49%, pair 22 was the most equally participating
pair in G3. The LexTALE scores of the participants differed by 20 points: participant 56 had a
LexTALE score of 68.75 points and produced 49% of the words in the conversation, whereas
participant 50 had a score of 88.75 points and participated by speaking 51% of the words in

the conversation. In addition to being the most equally participating pair of G3, pair 22 was the most equally participating pair out of all the pairs in the L2 data. In the case of this pair, the significant asymmetry in LexTALE scores did not result in asymmetry of dominance, but in an extremely balanced interaction.

Within many pairs in G3, the person dominating the conversation spoke visibly more than the less dominant participant. For example, participant 9 of pair 25 spoke 82% of the words in their conversation, while participant 10 spoke only 18% of the words. Their LexTALE scores differed by 17.25 points: participant 9 had a score of 88.75 points, and participant 10 a score of 71.5 points. In this case, the participant with a higher LexTALE score was the more dominant participant in the conversation. In contrast, within pair 15, participant 73 with a LexTALE score of 98.75 points produced 18% of the words in the conversation, while participant 78, with a LexTALE score of 72.5 points, spoke 82% of the words in the conversation, clearly being the more dominant one. In this case, the LexTALE score difference was the biggest from all the pairs in the study, 26.25 points, and the participant with a lower score was clearly the more quantitatively dominant participant. Therefore, in G3, the asymmetries in LexTALE scores were the highest, and the asymmetries in dominance were the most significant, as well. The role of the dominant speaker tended to fall on the more proficient speaker, as this was the case in five out of seven pairs.

5.1.4 Group 1: Number of turns and average turn lengths in L2

In this section, the connection between symmetry or asymmetry of LexTALE scores between participants and L2 conversational dominance is examined through the measures of number of turns and average turn lengths. This continues to answer the first research question, which focuses on a possible connection between L2 conversational dominance and symmetry or asymmetry of LexTALE scores.

First, the correlation between difference in average turn lengths in L2 and difference in LexTALE scores were calculated. Both variables followed normal distribution, which is why Pearson's correlation coefficient was used. The results can be seen in Table 6 below. The correlation coefficient was 0.238, which indicates a weak positive relationship between differences in LexTALE scores and differences in average turn lengths, but the p-value was 0.252, meaning the correlation was not statistically significant. The scatter plot illustrating these results can be found in Figure 2 below.

Table 6. Correlation between asymmetry in LexTALE scores and the difference in average turn lengths

Variable 1	Variable 2	N	Pearson Correlation (*r*)	Sig. (2-tailed)
Difference in LexTALE scores between speakers	Difference in average turn lengths in L2	25	.238	.252
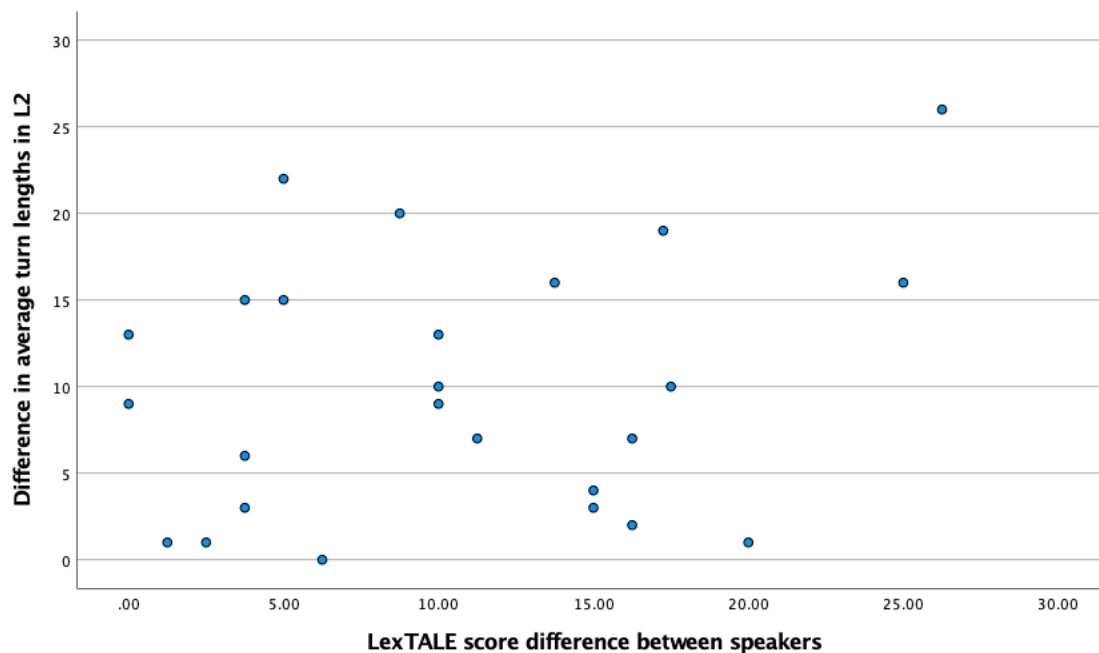
Figure 2. Scatter plot of correlation between differences in L2 average turn lengths and the differences in LexTALE scores

As mentioned in Section 5.2.1, G1 was the group with the most symmetrical LexTALE scores. As seen below in Table 7, in G1, the number of turns spoken by a participant ranged from 12 to 29 turns in the L2 conversations. The average number of turns in the L2 conversations was 22. Although the number of turns differed between the pairs, the number of turns within the pairs were in all cases either identical or the other pair member had one more turn than the other participant. For G1, the average turn length per participant in the L2 conversations ranged from 12 to 34 words per turn. The overall average turn length was 20 words per turn. The differences between average turn lengths in a pair ranged from a one-word difference to a 16-word difference.

Table 7. Number of turns and average turn lengths in L2 for Group 1

Pair number	Participant code	LexTALE score	Difference in LexTALE score within pair	Number of turns in L2	Average turn length in L2 (words/turns)	Difference in average turn length within pair
2	46	88.75	3.75	13	23	3
2	48	92.5	3.75	12	20	3
6	81	88.75	1.25	27	19	1
6	57	87.5	1.25	27	18	1
7	62	90	5	16	18	15
7	77	95	5	15	33	15
11	75	78.75	0	28	18	7
11	26	78.75	0	27	25	7
12	74	90	5	28	13	14
12	28	95	5	28	27	14
16	27	78.75	3.75	20	34	16
16	34	75	3.75	20	18	16
21	6	95	3.75	29	21	7
21	4	91.25	3.75	29	14	7
23	80	90	2.5	22	20	8
23	82	87.5	2.5	23	12	8
24	40	92.5	0	19	23	4
24	76	92.5	0	18	19	4

In terms of average turn lengths, the most balanced pairs in G1 were pairs 6, 2, and 24. The average turn lengths between these pairs differed by one, three, and four words, respectively. The participants in these pairs therefore had very balanced turns, and neither speaker took a significantly more dominant role in the L2 conversation. Pair 24 was one of the two pairs that were identical regarding the LexTALE scores, and pair 6 had a 1.25-point difference in scores. These were then extremely symmetrical pairs that had very balanced conversations. Pair 2 also participated in a very balanced manner. They had a LexTALE difference of 3.75 points, which in the context of this group is a larger difference, but in a context outside of the division into groups, is a very small difference.

The biggest difference between average turn lengths in G1 was within pair 16. Participant 27 had an average turn length of 34 words per turn, whereas participant 34 spoke on average 18

words per turn. Participant 27, with a LexTALE score of 78.75, therefore dominated the L2 conversation by speaking more words during their turn than participant 34, with a score of 75, although the number of turns was the same for both participants.

In addition to pair 16, pairs 7 and 12 also had a significant difference between their average turn lengths. While participant 77 of pair 7 spoke on average 33 words per turn, participant 62 spoke 18 words per turn. In pair 12, the difference between average turn lengths was 14 words: participant 28 had an average turn length of 27 words per turn, and participant 74's average turn length was 13 words per turn. It can then be concluded that within these pairs, despite an equal and a near-equal number of turns, one speaker consistently spoke more during their turns than the other speaker, and thus had a more dominant role in the discussion. This corresponds with the results in Section 5.1.1, as the same pairs that had the biggest differences in participation percentages were also the ones with the biggest differences in average turn lengths. Within these pairs, the LexTALE differences were also the largest in G1, although it needs to be considered that the differences were still very small, as they were only 5 points.

5.1.5 Group 2: Number of turns and average turn lengths in L2

As mentioned in Section 4.4, G2 was constructed of the pairs with moderately asymmetrical LexTALE scores. The number of turns spoken by a participant ranged from 18 to 37 turns. The average number of turns was 26 turns by a participant. The average turn lengths then again ranged from 8 to 42 words per turn. The overall average turn length in the L2 conversations was 19 words per turn, and the difference between average turn lengths within pairs ranged from a one-word difference to a 23-word difference. These measures are presented in Table 8 below.

Table 8. Number of turns and average turn lengths in L2 for Group 2

Pair number	Participant code	LexTALE score	Difference in LexTALE score within pair	Number of turns in L2	Average turn length in L2 (words/turns)	Difference in average turn length within pair
1	45	83.75	8.75	20	36	20
1	47	92.5	8.75	20	16	20
5	30	98.75	15	28	27	3
5	58	83.75	15	29	24	3
8	61	77.5	11.25	35	13	5
8	63	88.75	11.25	33	8	5
9	66	82.5	10	20	42	23
9	69	92.5	10	19	19	23
10	67	95	13.75	30	19	9
10	65	81.25	13.75	27	10	9
13	32	92.5	6.25	18	19	1
13	41	86.25	6.25	18	18	1
17	29	91.25	10	23	27	11
17	38	81.25	10	22	16	11
19	37	78.75	10	28	11	4
19	25	88.75	10	28	15	4
20	12	82.5	15	37	15	2
20	19	97.5	15	36	13	2

Comparing G2 to G1, the range for the number of turns is much greater. The participants tended to take more turns, and the turns tended to be shorter. The differences in average turn lengths between pair members were on average similar to G1, but the largest differences between average turn lengths were larger in G2 than in G1.

In some pairs, the dominance of the other participant could be clearly seen from the average turn lengths. For example, in pair 9's L2 conversation, participant 66 spoke on average 42 words per turn, whereas participant 69 spoke only 19 words per turn. Similarly, in pair 1's L2 conversation, participant 45 averaged 36 words per turn, and participant 47 spoke 16 words per turn on average. Within both pairs, the more dominant participant was the one with the lower LexTALE score. As per the results of studies by Favreau and Segalowitz (1983) and Chambers (1997), it could have been anticipated that the participant with a higher LexTALE

score and thus supposed higher proficiency, would have a more automatized speech production process and thus a longer average turn length. Here, this hypothesis was not supported. Yet again, it needs to be considered that these participants are all highly proficient in the L2, and although the LexTALE scores differ between participants, the scores are overall still high.

5.1.6 Group 3: Number of turns and average turn lengths in L2

As previously mentioned, G3 consisted of the most asymmetrical pairs from the data. The number of turns in L2 conversations produced by G3 participants varied from 12 to 37 turns. The average turn lengths varied from 6 to 45 words spoken by a participant in a turn. The average turn length for G3 was 19 words per turn. The differences between average turn lengths ranged from a one-word difference to a 34-word difference. These numbers can be seen in Table 9 below.

Table 9. Number of turns and average turn lengths in L2 for Group 3

Pair number	Participant code	LexTALE score	Difference in LexTALE score within pair	Number of turns in L2	Average turn length in L2 (words/turns)	Difference in average turn length within pair
3	53	78.75	17.5	37	9	10
3	55	96.25	17.5	36	19	10
4	54	92.5	16.25	35	12	2
4	51	76.25	16.25	34	10	2
14	72	65	25	22	15	18
14	71	90	25	22	33	18
15	78	72.5	26.25	21	22	16
15	73	98.75	26.25	18	6	16
18	36	75	16.25	17	35	12
18	42	91.25	16.24	17	23	12
22	56	68.75	20	27	14	1
22	50	88.75	20	27	15	1
25	9	88.75	17.25	13	45	34
25	10	72.5	17.25	12	11	34

Comparing G3 to the other groups, it was found that G3 had the biggest range between the number of turns in the L2 conversations. There was also the most variation in the average turn lengths within pairs in G3 compared to the other groups. The biggest difference in average turn length within pairs was found in pair 25, in which participant 9 spoke on average 45-word long turns, and participant 10's turns were averagely only 11 words long.

In all but two pairs in G3, the participant with a higher LexTALE score was also the one with a longer average turn length. Therefore, these participants quantitatively dominated the L2 discussions, and in most cases the difference in average turn length was substantial, indicating a significant difference in dominance. For example, participant 71 of pair 14 with a LexTALE score of 90 had an average turn length of 33 words per turn, while participant 72 had a LexTALE score of 65 and an average turn length of 15 words per turn. Similarly, within pair 25, the average turn lengths were 45 and 11 words per turn, the more dominant speaker being participant 9 with a LexTALE score of 88.75 and the less dominant speaker being participant 10 with a score of 72.5.

Pairs 15 and 18 were exceptions in how the dominance was distributed among the participants. Participant 73 of pair 15 had one of the highest LexTALE scores in the study (98.75) but had an average turn length of only 6 words per turn. This was an extremely short average turn length compared to not only to the other participants in G3 but to the participants in the whole data set, as well. As pair 15 had the biggest LexTALE score difference in the study, participant 78 had a LexTALE score of 72.5. This participant had an average turn length of 22 words per turn, which is above average when compared to the other participants' average turn lengths in G3. In pair 18, participant 36 with a LexTALE score of 75 had an average turn length of 35 words per turn, and participant 42 with a LexTALE score of 91.25 had an average turn length of 23 words per turn.

Based on these findings, it can be concluded that there was a connection between the symmetry and asymmetry of LexTALE scores and conversational dominance. A statistically significant, medium positive correlation ($r = 0.409$, $p = 0.042$) was found between the difference in LexTALE scores and the difference in participation percentages, suggesting that larger differences in LexTALE scores tended to correlate with larger differences in participation percentages. G3 was the most asymmetrical group of pairs concerning LexTALE, and the differences between average turn lengths within the pairs in that group

tended to be larger than in other groups. The other two groups performed in a similar manner: the differences in average turn lengths were smaller than in G3, although they were slightly smaller in G1 than G2. Thus, the symmetrical pairs (G1) tended to participate in the most balanced manner, with the most equally distributed conversational dominance.

5.2 Connection between language of the interaction and conversational dominance

This section answers the second research question, which is "*How does the language of the interaction connect to conversational dominance in L1 Finnish and L2 English dialogues among the same speakers?*". Firstly, the question is inspected through the measures of number of words and participation percentages in Section 5.2.1, and secondly, it is explored through the measure of number of turns and average turn lengths in Section 5.2.2.

5.2.1 Number of words and participation percentages across L1 and L2 conversations

Quantitative dominance across the L1 and L2 conversations was first examined through the measure of number of words produced by each participant. The correlation between each participant's number of spoken words in the L1 and L2 discussions was calculated, and the results are presented in Table 10 below.

Table 10. Correlation between number of words in L1 and L2 conversations

Variable 1	Variable 2	N	Pearson Correlation (*r*)	Sig. (2-tailed)
Number of words in L1	Number of words in L2	50	.764**	<.001

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient between the number of words spoken in the L1 and L2 conversations was 0.764 with a p-value of <.001. As Plonsky and Oswald (2014, 889) have suggested *r*s close to .60 to be strong correlation coefficients, the *r* of 0.764 can be stated to be a very strong correlation. The positive correlation suggests a strong linear relationship between the number of words spoken by a participant in the L2 and L1 conversations. This relationship is illustrated in the scatter plot in Figure 3 below.
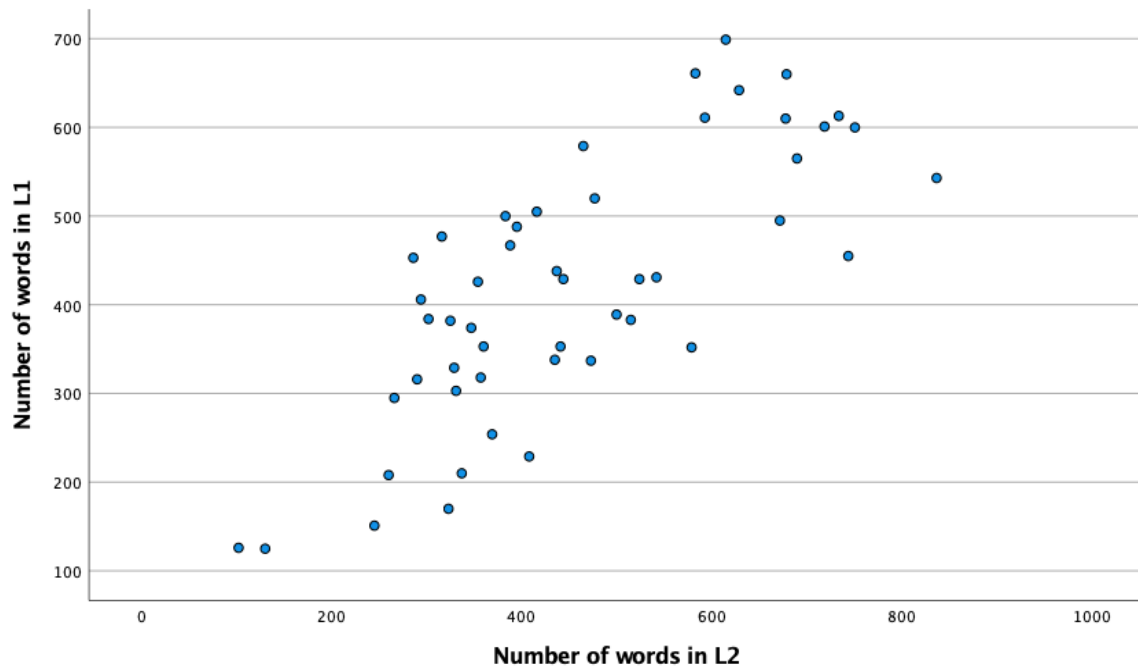
Figure 3. Scatter plot of correlation between number of words in L2 and L1 conversations

As seen in Figure 3, as the number of words produced in the L2 conversations increased, the number of words produced in the L1 conversations tended to increase as well, and vice versa. As this study utilized participation percentages in addition to the measure of number of words produced, Pearson's correlation coefficient for each participant's participation percentages in L2 and L1 was also calculated. In Table 11 below, the correlation between the two variables can be seen. The correlation is illustrated in the scatter plot in Figure 4.

Table 11. Correlation between participation percentages in L1 and L2 conversations

Variable 1	Variable 2	N	Pearson Correlation (r)	Sig. (2-tailed)
Participation percentage in L1	Participation percentage in L2	50	.857**	<.001

**. Correlation is significant at the 0.01 level (2-tailed).

Scatter plot of correlation between participation percentages in L1 and L2
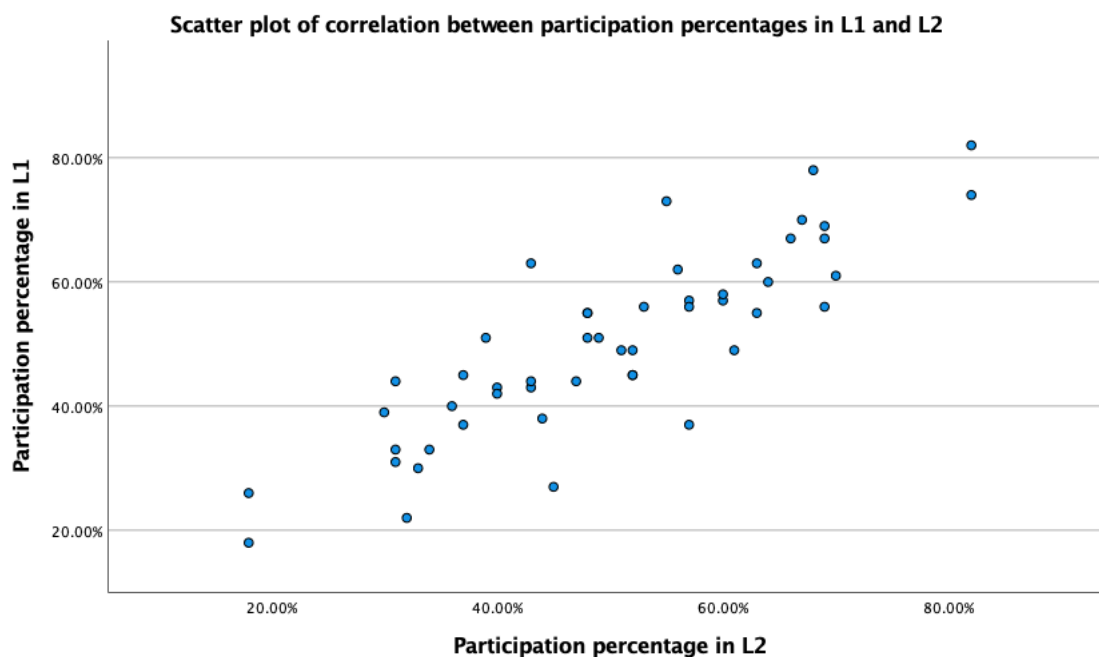
Figure 4. Scatter plot of correlation between participation percentages in L1 and L2 conversations

The results suggest a significant and a very strong positive correlation ($r = 0.857$, p < 0.001) between the participation percentages in L1 and L2 discussions. This shows that the conversational roles of the participants tended to be consistent across both L1 and L2 conversations. Whether a speaker dominated the conversation or spoke less than the other speaker, the amount of participation tended to be similar regardless of the language of interaction. These results support the notion that L1 fluency dimensions and speaking characteristics can shape the way one speaks an L2, and that they can be seen in their L2 speech, which were the findings of Gao and Sun's (2024) study, as well. These results are also in support of the findings of the study by Huensch and Tracy-Ventura (2017, 773). Like this present study, they found positive correlations between L1 and L2 fluency measures (ibid.). Next, the connection between the language of the interaction and conversational dominance is examined in more detail and with examples of participation percentages.

It was found that the role of the more dominant participant tended to stay on the same participant in both conversations. Within only six out of the 25 pairs, the role of the more dominant speaker changed within the pairs, meaning that one speaker dominated the L1 conversation and the other the L2 conversation. Therefore, within 19 pairs, the same participant had a higher participation percentage in both the L1 and L2 conversations, thus

being the more dominant speaker in both discussions. How the participation percentages differed between these pair members is discussed next.

The pairs in which the more dominantly participating speaker switched in the L1 and L2 conversations were pairs number 5, 6, 13, 19, 22, and 23. The participation percentages of these pairs can be seen in Table 12 below.

Table 12. Participation percentages of pairs with a switch in quantitative dominance

Pair number	Participant code	Participation percentage in L1	Participation percentage in L2
5	30	45%	52%
5	58	55%	48%
6	81	45%	52%
6	57	55%	48%
13	32	49%	52%
13	41	51%	48%
19	37	63%	43%
19	25	37%	57%
22	56	51%	49%
22	50	49%	51%
23	80	49%	61%
23	82	51%	39%

It is notable that although the role of the more quantitatively dominant speaker varied within these pairs, the participants still contributed to both conversations quite equally in almost all pairs. Participant 58 of pair 5 produced 55% of the words in the L1 conversation, while participant 30 produced 45% of the words. In the L2 conversation, participant 58's participation percentage was 48%, while participant 30's participation percentage was 52%. Therefore, participant 58 was slightly more dominant in the L1 discussion and participant 30 was very slightly more dominant in the L2 discussion. This was exactly the case for pair 6 as well: the participation percentages were the same as within pair 5 for participants 57 and 81, with participant 57 being the more dominant one in the L1 conversation and participant 81 in the L2 conversation.

Similarly, the participants of pair 22 contributed to both conversations in an extremely equal manner. Participant 56 had a participation percentage of 51% in the L1 and 49% in the L2

conversation, participant 50 then had a participation percentage of 49% in the L1 and 51% in the L2 conversation. Also in pair 13, the contribution to both conversations was extremely equal: the participation percentages for the pair were 51% and 49% for the L1 discussion, and 52% and 48% for the L2 discussion. Therefore, although there was a difference in who produced more words in the two conversations, it was so minimal that it cannot be stated that either participant dominated the conversations, but rather that they participated equally. This strengthens the finding that the role of a more dominant speaker tended to stay on the same speaker regardless of the language of the interaction, as in the pairs that the roles did switch, the difference in dominance was extremely small.

Out of the six aforementioned pairs, pair 19 was the only one that had significant differences in participation percentages in both the L1 and L2 conversations. Participant 37 produced 63% of the words in the L1 conversation, making them the clearly more dominant speaker. The roles were then reversed in the L2 conversation: participant 25, who in the L1 conversation produced only 37% of the words, produced 57% of the words in the L2 conversation, thus becoming the more dominant speaker. Pair 23 also had a clear difference in dominance in the L2 conversation: participant 80 contributed 61% of the words in the discussion, while participant 82 contributed only 39% of the words. However, in the L1 conversation, their contributions were almost exactly equal: participant 80's percentage was 49%, and participant 82's was 51%. Thus, again, neither participant can be said to be more dominant in the L1 conversation. Next, the pairs in which the more dominant speaker stayed the same in both conversations are discussed.

In the remaining 19 pairs, the same speaker spoke more in both conversations. In four pairs, the participation percentages were the exact same within the pairs in both discussions: pairs 4, 8, 10, and 15. Below, in Table 13, the participation percentages of these pairs can be seen.

Table 13. Participation percentages of pairs with identical distribution of quantitative dominance in L1 and L2

Pair number	Participant code	Participation percentage in L1	Participation percentage in L2
4	54	57%	57%
4	51	43%	43%
8	61	63%	63%
8	63	37%	37%
10	67	69%	69%
10	65	31%	31%
15	78	82%	82%
15	73	18%	18%

In pair 4, the more dominant participant spoke 57% of the conversations' words. A more prominent difference in quantitative dominance could be seen in the other three pairs. In pair 8, the more dominant speaker spoke 63% of the words in both conversations, in pair 10 the percentage was 69%, and in pair 15, the more dominant speaker's participation percentage was 82%. These results again support Huensch and Tracy-Ventura's (2017, 773) findings about there being relationship between L1 and L2 fluency. De Jong et al. (2015, 246) stated that to some degree, L2 fluency measures could all be predicted from L1 fluency behavior. As the speaker roles in these pairs stayed the same in both L1 and L2 interactions, the behavior concerning L2 conversational dominance could have been, in these cases, predicted from the L1 conversational dominance.

Nine pairs had a larger difference in quantitative dominance in the L2 conversations than in the L1 conversations, and they were pairs 1, 7, 9, 11, 14, 17, 18, 21, and 25. Their participation percentages are shown in Table 14 below.

Table 14. Participation percentages of pairs with a larger quantitative dominance difference in L2

Pair number	Participant code	Participation percentage in L1	Participation percentage in L2
1	45	56%	69%
1	47	44%	31%
7	62	45%	37%
7	77	55%	63%
9	66	61%	70%
9	69	39%	30%
11	75	44%	43%
11	26	56%	57%
14	72	33%	31%
14	71	67%	69%
17	29	60%	64%
17	28	40%	36%
18	36	57%	60%
18	42	43%	40%
21	6	58%	60%
21	4	42%	40%
25	9	74%	82%
25	10	26%	18%

Within these pairs, there were pairs that had a more equally constructed L1 conversation compared to their L2 conversation, and pairs that had a large difference in participation percentages in the L1 conversations, as well. For example, pair 1 had a less balanced L2 conversation, with the more dominant speaker speaking 69% of the words in the L2 discussion and the less dominant speaking 31% of the words. They had a lot more balanced L1 discussion, in which the speaker that was significantly more dominant in the L2 conversation spoke 56% of the words and the less dominant speaker spoke 44% of the words in the conversation. Pairs 7, 11, 18, and 21 had participation percentages that showed the same participant to be the more quantitatively dominant one in both L2 and L1 conversations, but the differences in dominance were relatively small. In L2 conversations, the more dominant speaker spoke 57% to 63% of the total words of the conversations, leaving the less dominant speaker to contribute 43% to 37% of the words. The L1 conversation were closer to equal contribution: the participation percentages for the more dominant participants were

between 55% and 58% and thus the less dominant participants had percentages between 45% and 42%. A possible explanation for why some participants contributed more equally than the other participant in the L1 conversation could be that these speakers felt more confident in speaking in their L1 than in their L2.

In four pairs, the same participant that was significantly more dominant in the L2 discussion was also significantly more dominant in the L1 discussion. These were pairs 9, 14, 18, and 25. Within these pairs, the participation percentages for the more dominant speakers in L2 conversations varied from 64% to 82%. Therefore, the less dominant speakers of these pairs spoke only between 18% and 36% of the words in the L2 conversations. This pattern continued in the L1 conversations, as well. The more dominant speakers stayed the same in the L1 discussions, and the participation percentages varied from 60% to 74%. The less dominant speakers contributed 26% to 40% of the words in the conversations. The pair with the biggest difference in participation percentages was pair 25, in which participant 9 spoke 82% of the words in the pair's L2 conversation, and 74% of their L1 conversation. Participant 10 was thus the participant with the lowest participation percentages: 18% in the L2 conversation, and 26% in the L1 conversation. These results support the findings by Sbranna, Cangemi, and Grice (2020), as similarly to their findings, the interactional patterns of these speakers were similar in both L1 and L2 conversations. These results thus suggest that a speaker's tendency to be either the dominant or less dominant speaker is likely to transfer from L1 interactions to L2 interactions.

Pairs 2, 3, 12, 16, 20, and 24 had a pattern in which the more dominant speaker was the same in both conversations but was more dominant in the L1 discussion than the L2 discussion. Table 15 below shows the participation percentages for these pairs.

Table 15. Participation percentages of pairs with a larger quantitative dominance difference in L1

Pair number	Participant code	Participation percentage in L1	Participation percentage in L2
2	46	73%	55%
2	48	27%	45%
3	53	22%	32%
3	55	78%	68%
12	74	30%	33%
12	28	70%	67%
16	27	67%	66%
16	34	33%	34%
20	12	56%	53%
20	19	44%	47%
24	40	62%	56%
24	76	38%	44%

For pair 20, both conversations were relatively balanced, although the same speaker could be identified as the slightly more dominant one in both conversations. The participants' participation percentages were 56% and 44% in the L1 and 53% and 47% in L2. In pairs 2 and 24, the more dominant participant in the L1 had participation percentages of 73% and 62% respectively, but the L2 conversations were more equal: the same participants had participation percentages of 55% and 56% respectively. This left the less dominant participants to have participation percentages of 27% and 38% in the L1, and 45% and 44% in the L2.

In three pairs, the more dominant participant clearly dominated both conversations but dominated the L1 even more than the L2 conversation. These were pairs 3, 12, and 16. Within them, the more dominant participant contributed between 67% and 78% of the words in the L1 conversation, and 67% to 68% of the words in the L2 conversation. This left the less dominant speakers participation percentages of 22% to 33% in the L1 discussions and 32% to 33% in the L2 discussions.

The results discussed in this section give support to the notion that there is a connection between the participation percentages and the language of interaction. The findings complement previous research, such as Galaczi's (2008) study in which the conversational

roles of speakers in an L2 conversation were examined. Galaczi's (2008) findings were, that the roles tended to stay the same during the whole conversation. Adding to this research, in this study, the roles of the more dominant and less dominant speaker were found in all pairs in the data, in both L1 and L2 contexts, and it was found that the roles tended to stay the same in both L1 and L2 interactions. Next, in Section 5.2.2, the second research question is inspected through the measures of number of turns and average turn length.

5.2.2 Number of turns and average turn lengths across L1 and L2 conversations

In this section, the connection between quantitative dominance and the language of the interaction is examined through the measures of number of turns and average turn length. The participants with larger numbers of turns, and the participants with longer average turn lengths were interpreted to be the more dominant participants. First, the correlation between the number of turns in L1 and L2 is examined. Second, the correlation between the average turn lengths in L1 and L2 is discussed. Third, the average turn lengths of the participants are examined in more detail.

A positive correlation was found between the number of turns in L1 and L2 conversations ($r = 0.355$, $p = 0.011$). According to Plonsky and Oswald's (2014, 889) thresholds for interpreting the strength of the correlation coefficients, the correlation falls between small and medium correlations. Therefore, although the relationship cannot be stated to be large, based on this correlation, it can be deduced that the participants who took more turns in the L1 discussions tended to take more turns in the L2 discussions, and vice versa. This correlation can be seen below in Table 16, as well as illustrated in Figure 5 below.

Table 16. Correlation between number of turns in L1 and L2 conversations

Variable 1	Variable 2	N	Pearson Correlation (*r*)	Sig. (2-tailed)
Number of turns in L1	Number of turns in L2	50	.355*	.011

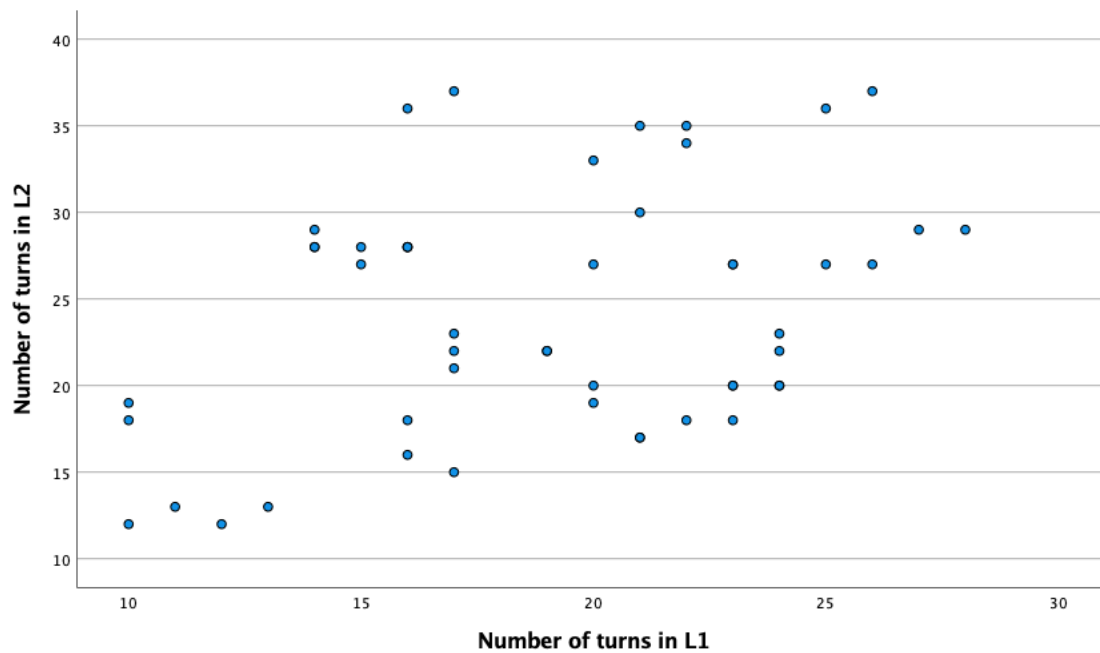*. Correlation is significant at the 0.05 level (2-tailed).

Figure 5. Scatter plot of correlation between number of turns in L1 and L2 conversations

Substantial variation between the participants and their average turn lengths was observed. The average turn lengths in the L1 conversations ranged from 8 to 40 words per turn. In the L2 conversations, the average turn lengths ranged from 6 to 45 words per turn. As the average turn lengths in L2 did not follow normal distribution, Spearman's rank correlation coefficient was calculated. Below, the correlation between average turn lengths in the L1 and L2 conversations can be seen in Table 17, as well as in the scatter plot illustrating the correlation in Figure 6.

Table 17. Correlation between average turn lengths in L1 and L2 conversations

Variable 1	Variable 2	N	Spearman's rho (ρ)	Sig. (2-tailed)
Average turn length in L1	Average turn length in L2	50	.744**	<.001

**. Correlation is significant at the 0.01 level (2-tailed).

Scatter plot of correlation between average turn lengths in L1 and L2 conversations
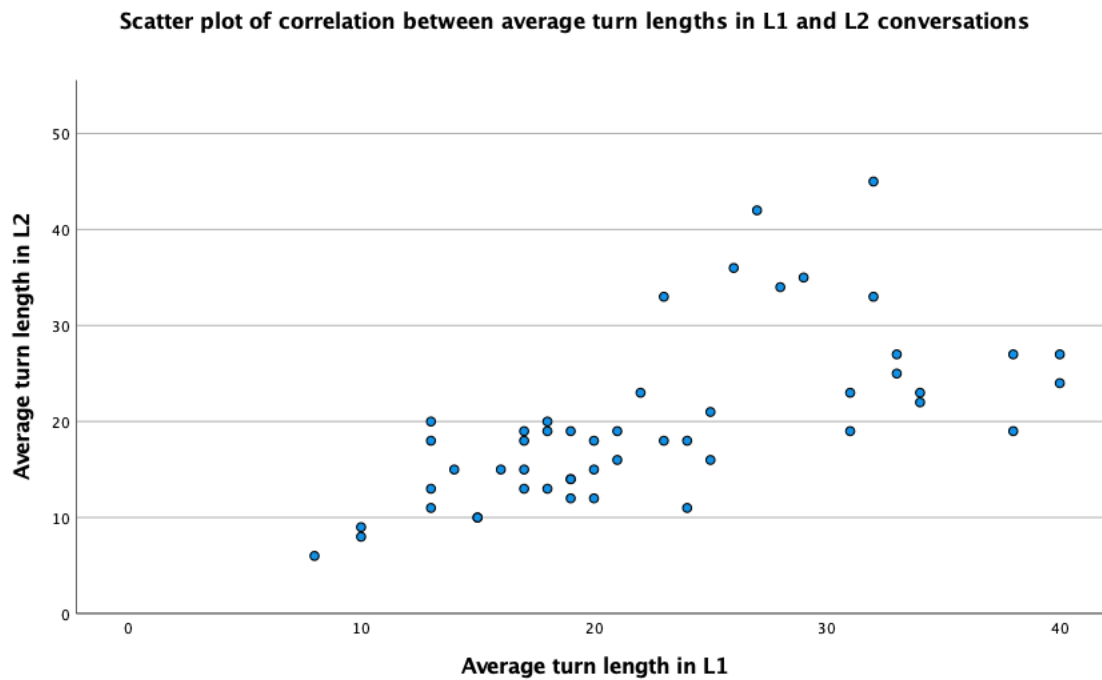

Figure 6. Scatter plot of correlation between average turn lengths in L1 and L2 conversations

The results show a significant and strong positive correlation ($\rho = 0.744$, $p < .001$) between the average turn lengths in L1 and L2 conversations. These results therefore support the findings that the same participants that produced longer turns in the L1 discussions also tended to speak longer turns in the L2 discussions. The statistically significant correlation suggests that this aspect of how dominant a speaker is in their L1 might transfer into their L2 conversations and how quantitatively dominant they are in them. As mentioned previously, this transfer of speaking characteristics from L1 to L2 has been supported also by Gao and Sun (2024, 12), Huensch and Tracy-Ventura (2017, 773), as well as De Jong et al. (2015, 236). Although previous studies have shown this transfer between L1 and L2 fluency features on monologue data, this present study is among the first to show it in a dialogic context.

Next, the average turn lengths of the pairs and how they differed between pairs, participants, and between the languages are discussed. Each participant's average turn lengths, both in L1 and L2 conversations, as well as the differences in average turn lengths within pairs are shown in Table 18 below.

Table 18. Average turn lengths in L1 and L2 and differences of average turn lengths within pairs

Pair number	Participant code	Average turn length in L1	Average turn length in L2	Difference in L1 average turn length within pair	Difference in L2 average turn length within pair
1	45	26	36	5	20
1	47	21	16	5	20
2	46	31	23	18	3
2	48	13	20	18	3
3	53	10	9	28	10
3	55	38	19	28	10
4	54	20	12	5	2
4	51	15	10	5	2
5	30	33	27	7	3
5	58	40	24	7	3
6	81	19	19	4	1
6	57	23	18	4	1
7	62	20	18	3	15
7	77	23	33	3	15
8	61	17	13	7	5
8	63	10	8	7	5
9	66	27	42	9	23
9	69	18	19	9	23
10	67	31	19	16	9
10	65	15	10	16	9
11	75	24	18	9	7
11	26	33	25	9	7
12	74	18	13	22	14
12	28	40	27	22	14
13	32	17	19	0	1
13	41	17	18	0	1
14	72	16	15	16	18
14	71	32	33	16	18
15	78	34	22	26	16
15	73	8	6	26	16
16	27	28	34	15	16
16	34	13	18	15	16
17	29	38	27	13	11

Pair number	Participant code	Average turn length in L1	Average turn length in L2	Difference in L1 average turn length within pair	Difference in L2 average turn length within pair
17	28	25	16	13	11
18	36	29	35	7	12
18	42	22	23	7	12
19	37	24	11	10	4
19	25	14	15	10	4
20	12	17	15	4	2
20	19	13	13	4	2
21	6	25	21	6	7
21	4	19	14	6	7
22	56	19	14	1	1
22	50	20	15	1	1
23	80	18	20	1	8
23	82	19	12	1	8
24	40	34	23	13	4
24	76	21	19	13	4
25	9	32	45	19	34
25	10	13	11	19	34

In most pairs, the speaker that had longer turns in the L1 conversation also had longer turns in the L2 conversation. In 20 out of the 25 pairs, the same speaker had longer average turn lengths in both conversations. This again supports the finding that the role of the more dominant speaker does not tend to change but to stay the same when the language of the interaction changes. These results complement Galaczi's (2008, 96) findings about speaker roles: Galaczi (ibid.) found that the speaker roles during a conversation did not tend to change, and the results of this study suggest that the roles did not tend to change even when the language of the interaction changed.

Out of all pairs, within only four pairs there was a difference in which speaker spoke longer turns in the L1 conversation and which in the L2 conversation. These were pairs 5, 6, 19, and 23. In addition to these pairs, pair 13 had the same average turn lengths in L1, and there was only a one-word difference in their average turn lengths in L2. All these pairs had a switch in quantitative dominance regarding the participation percentages, as well. The differences in

average turn lengths between the participants in these pairs were also quite small: they ranged from 1 to 10 words. Therefore, the average number of words per turn are very similar within these pairs in both L1 and L2 discussions, even though there is a difference in which speaker speaks longer turns in which discussion. Again, this finding is supported by the findings from participation percentages, which were discussed in Section 5.2.1. Although there was a switch in who had the more dominant role in the conversations, the amount of participation was still very similar between the participants. Here again, the average turn lengths were similar between the speakers, suggesting a quantitatively balanced conversation, in which there were not significantly more dominant and less dominant speaker roles.

A general trend for the data set was that most participants produced longer turns in the L1 conversations. This was the case for 35 of the 50 participants. The reason for longer turns in the L1 conversations could be that the participants might have felt more at ease speaking for longer periods of time in their L1, which produced more extended speaking turns. They might not feel as confident speaking long turns in the L2 or might not know exactly how to say what they want to convey in their turn, and the other speaker might then take the turn. These aspects regarding turn-taking in L1 and L2 conversations cannot be examined directly with the existing data set, but they could be further explored in future research. This could be done by, for example, collecting questionnaires or stimulated recall data from the participants.

The findings from the average turn lengths in L1 and L2 discussions, yet again, showed a connection between the conversational dominance roles and the language of the interaction. As was the case with participation percentages, the speaker roles of the more dominant and less dominant speaker could be determined with the measure of average turn lengths, and in the L2 and L1 discussions, the speaker roles tended to stay the same.

6 Conclusion

In this last section, the most important findings of the study are concluded. In addition to this, the strengths and limitations of the present study are presented, as well as some ideas for further research.

This present study investigated conversational dominance in a dialogic setting, examining the connection between LexTALE score symmetry and asymmetry as well as the language of the interaction (L1 Finnish and L2 English) with quantitative dominance. Measures such as the number of words, participation percentage, number of turns, and average turn length were used to quantify conversational dominance.

The research found that the pairs with more symmetrical LexTALE scores tended to have more quantitatively balanced L2 conversations, while pairs with asymmetrical LexTALE scores were found to display less balanced interactions, often with the more proficient speaker dominating the conversation. However, this was not always the case, as in certain pairs, less proficient speakers also dominated the L2 conversations. Furthermore, a link between L1 and L2 conversations was discovered, with the more dominant speaker in one language usually maintaining the same role in the other. This highlights a transfer of speaking characteristics from L1 to L2, indicating consistency in conversational dominance across languages. The study introduced participation percentage as a measure of quantitative dominance, which strengthens the analysis of dialogic interactions. The results from this study can be of help to teachers and educators teaching English as a second language with planning and creating pair tasks for English lessons, and for example, give insight on how to divide a group of students into pairs in a way that benefits everyone.

The study was limited by its focus on advanced English speakers. The participants had high LexTALE scores, and they were university students of English, which restricts the generalizability to other proficiency levels. This presents a possibility for future research: investigating quantitative dominance in L1 and L2 dialogues with more versatility in the proficiency levels. Future research could also take upon investigating the roles of the dominant and less dominant speaker further and look for other patterns of dominance that arise from L1 and L2 pair conversations.

Overall, this study contributed to fluency and interactional competence research by adding participation percentage to the existing measures for quantitative dominance, examining dialogic data, focusing on L1 and L2 data from the same speakers, and extending the research of L1–L2 connections to interactional fluency by building upon previous research that has explored how a speaker's L1 connects to their L2 skills in monologic speech situations and being one of the first to turn the focus on specifically interactional fluency.

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Appendices

Appendix 1 Dialogue Task A in English

STRANDED ON A DESERT ISLAND

You and your pair have been stranded on a desert island in the Pacific. All you have are the clothes that you are wearing. There is a fresh water spring, banana trees and coconut palms on the island.

The pictures show 16 items you may find useful for survival on the island. Your task is to organize all items in the order of usefulness. During the discussion, you should reach an agreement on the order of importance for all items.

Describe the items, discuss them and justify the order of importance.

You can now start preparing for the task by familiarizing yourself with the pictures.

Appendix 2 Dialogue Task B in English

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<p align="center">REACHING THE MOTHER SHIP</p>

You and your pair are on board a spaceship that has, due to mechanical difficulties, crash-landed on the lighted side of the moon. The rough landing has damaged much of the equipment aboard.

In order to survive, you have to walk to the mother ship that is located some 300 kilometers from you. The pictures show 16 items that were left intact after landing.

Your task is to rank all the items in the order of their usefulness for the 300 km trip. During the discussion, you should reach an agreement on the order of importance for all items. Describe the items, discuss them and justify the order of importance.

You can now start preparing for the task by familiarizing yourself with the pictures.

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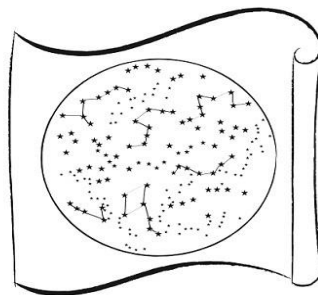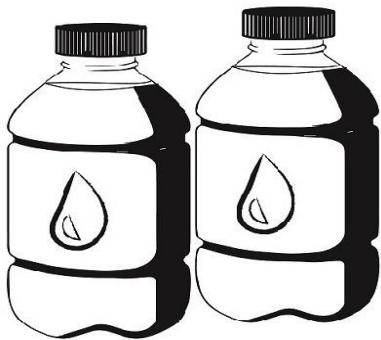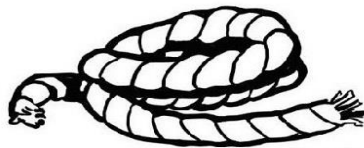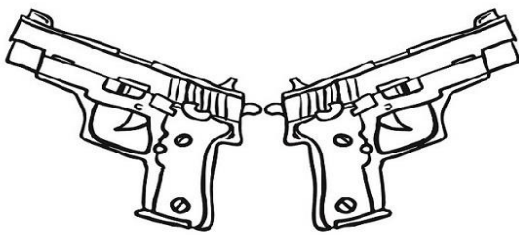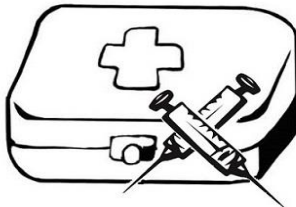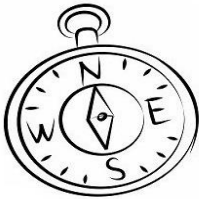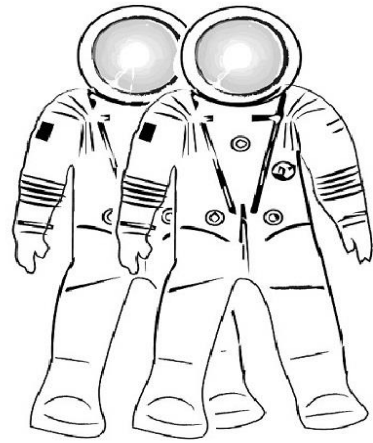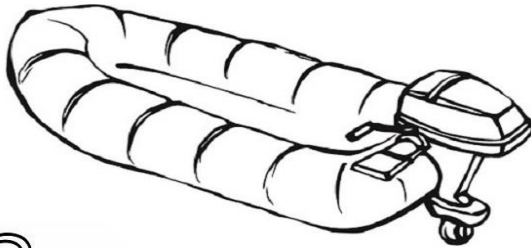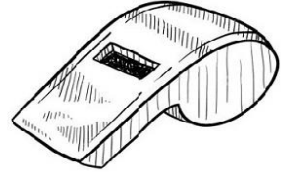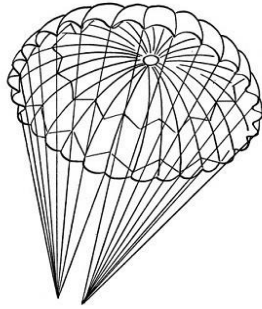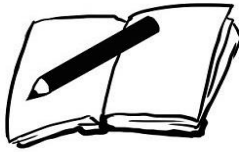
Appendix 3 Finnish Summary

Tämä pro gradu -tutkielma tarkastelee sekä vieraskielisen (L2) että äidinkielisen (L1) puheen sujuvuutta dialogisessa vuorovaikutuksessa keskustelun dominanssin (*conversational dominance*) näkökulmasta. Sillä, missä määrin kumpikin puhuja osallistuu kahden puhujan väliseen keskusteluun, on suuri vaikutus keskustelun kulkuun. Toisen puhujan hallitessa keskustelua hän saattaa tuottaa toiseen puhujaan verrattuna enemmän puhetta tai esimerkiksi pitää puheenvuoroa itsellään sen sijaan, että luovuttaisi puheenvuoron toiselle puhujalle. Tämän tutkimuksen tavoitteena oli selvittää, miten symmetrisyys tai epäsymmetrisyys puhujien L2-englannin kielitaidon välillä sekä vuorovaikutuksessa käytetty kieli (L2-englanti ja L1-suomi) vaikuttavat siihen, miten paljon kukin puhuja ottaa osaa L1- ja L2-keskusteluun. Tutkimus tarkastelee erityisesti, miten L1- ja L2-sujuvuus kytkeytyvät toisiinsa dialogisessa vuorovaikutuksessa, laajentaen aiempaa monologipainotteista tutkimusta.

Tämä tutkimus pyrki selvittämään, miten tutkimuksen osallistujien kielitaito on yhteydessä siihen, kumpi puhujista hallitsee keskustelua. Tutkimus oli monimenetelmällinen, sillä siinä yhdistyivät alkuperäinen kvalitatiivinen data sekä kvantitatiiviset analyysimenetelmät. Keskustelun hallitsemista tutkittiin Itakuran (2001b) kvantitatiivisen dominanssin (*quantitative dominance*) käsitteen avulla. Kvantitatiivista dominanssia mitattiin sanojen lukumäärän, puheenvuorojen lukumäärän, osallistumisprosentin ja puheenvuorojen keskimääräisen pituuden avulla. Näiden mittareiden avulla saatiin selville, kumpi dialogin puhujista määrällisesti dominoi kumpaakin keskustelua. Osallistujien englannin kielen kielitaito mitattiin Lemhöferin ja Broersman (2012) Lexical Test for Advanced Learners of English -sanastotestin (LexTALE) avulla. Pro gradun tutkimuskysymykset ovat seuraavat:

1) Missä määrin puhujien LexTALE-pistemäärien symmetrisyys tai epäsymmetrisyys on yhteydessä keskustelun dominanssiin vieraskielisessä (L2) dialogisessa vuorovaikutuksessa?

2) Miten vuorovaikutuskieli on yhteydessä keskustelun dominanssiin äidinkielisissä (L1) ja vieraskielisissä (L2) dialogeissa samojen puhujien kesken?

Tutkimuksen teoreettisen viitekehyksen pääkäsitteitä ovat puheen sujuvuus (*speech fluency*), keskustelun sujuvuus (*interactional fluency*), vuorovaikutuskompetenssi (*interactional competence*), keskustelun dominanssi (*conversational dominance*) ja kvantitatiivinen

dominanssi (*quantitative dominance*). Näitä käsitellään seuraavaksi esiteltäessä tutkielman teoriaosiota. Tutkielman teoriaosiossa ensimmäisenä käsittelyssä on puheen sujuvuus. Puheen sujuvuus on termi, joka voidaan määritellä monella tavalla. Kuten kielen oppimisen ja opettamisen tutkimuskontekstissa yleensä, myös tässä tutkimuksessa esitellään Lennonin (1990, 388) laajan (*broad sense of fluency*) ja rajatun (*narrow sense of fluency*) sujuvuuden käsitteet, sekä näitä tarkentavat Tavakolin ja Hunterin (2018, 343) käsitteet erittäin laaja (*very broad level of fluency*), laaja (*broad level of fluency*), rajattu (*narrow level of fluency*) ja erittäin rajattu (*very narrow level of fluency*) sujuvuus. Tavakolin ja Hunterin (ibid.) sujuvuuden määritelmät muodostavat hierarkisen viitekehyksen, jossa erittäin laaja sujuvuus nähdään synonyyminä yleiselle kielitaidon tasolle, kun taas erittäin rajattu sujuvuus mahdollistaa puheen sujuvuuden objektiivisen mittauksen muun muassa nopeuden ja hiljaisuuden näkökulmista. Tässä tutkimuksessa hyödynnetään erittäin rajatun sujuvuuden käsitettä. Teoriaosuudessa esitellään myös Segalowitzin (2010, 48) sujuvuuden kolmijako, joka koostuu kognitiivisesta eli prosessoinnin sujuvuudesta (*cognitive fluency*), puhetuotoksen sujuvuudesta (*utterance fluency*) ja havaitusta sujuvuudesta (*perceived fluency*). Tutkimuksen keskittyessä suulliseen vuorovaikutukseen, puhetuotoksen sujuvuuden käsite on tämän tutkimuksen kannalta tärkein.

Seuraavaksi teoriaosuudessa tarkastellaan keskustelun sujuvuutta (*interactional fluency*), äidinkielisen puheen sujuvuuden ja vieraskielisen puheen sujuvuuden suhdetta toisiinsa sekä näihin aiheisiin liittyviä aiempia tutkimuksia. Ensin esitellään McCarthyn (2010, 1) konfluenssin (*confluence*) määritelmä sekä tätä tarkentava Peltosen (2020, 30) keskustelun sujuvuuden (*interactional fluency*) määritelmä. Keskustelun sujuvuus ymmärretään tutkimuksessa puhujien yhteisenä asiana, jossa sujuvuus syntyy pelkästään yksilön suorituksen sijaan osallistujien vuorovaikutuksesta (McCarthy 2010; Peltonen 2017). Tutkielmassa huomioidaan, että keskustelun sujuvuutta äidinkielisen ja vieraskielisen puheen näkökulmasta on tutkittu vasta vähän. Täten äidinkielen vaikutusta vieraan kielen sujuvuuteen esitellään monologipuheen sujuvuuden näkökulmasta. Tutkimuksessa käsitellään muun muassa Gaon ja Sunin (2024) meta-analyysitutkimusta, De Jong ym.:n (2015), Peltosen (2018), Derwing ym.:n (2009) sekä Huenschin ja Tracy-Venturan (2017) tutkimuksia. Tutkimusten tulokset havaitsevat äidinkielisen ja vieraskielisen sujuvuuden välillä vallitsevan suhteen. Tätä tukevat sujuvuuden piirteiden siirtymistä kielien välillä osoittavat tutkimustulokset (De Jong ym. 2013; Gao and Sun 2024).

Seuraavana teoriaosiossa käsitellään vuorovaikutuksen tasapainoa. Ensimmäisenä käsitellään vuorovaikutuskompetenssia (*interactional competence*). Tutkielmassa korostetaan vuorovaikutuskompetenssin monipuolista luonnetta, ja sen määritelmää tutkitaan Kramschin (1986), Pekarek Doehlerin (2021), Hen ja Youngin (1998) sekä Galaczin ja Taylorin (2018) tutkimusten avulla. Vuorovaikutuskompetenssi käsitetään muun muassa kaikkien puhujien yhdessä rakentamana (He and Young 1998, 7) ja kykynä toimia yhdessä muiden kanssa (Pekarek Doehler 2021, 24). Sbrannan, Cangemin ja Gricen (2020) tutkimus nostetaan esille sen keskittyessä määrittelemään kvantitatiivisesti vieraskielistä vuorovaikutuskompetenssia. Tutkimus osoitti, että kielenoppijoiden tapa käsitellä vuorovaikutuksen sujuvuutta vieraskielisessä keskustelussa oli samanlainen kuin äidinkielisessä keskustelussa (Sbranna, Cangemi, and Grice 2020, 396).

Viimeisenä teoriaosioissa käsitellään keskustelun dominanssin (*conversational dominance*) käsitettä. Itakuran (2001b, 1862) luoma käsite määrittelee keskustelun dominanssin yhden puhujan taipumuksena kontrolloida toista puhujaa vuorovaikutuksen aikana. Käsite voidaan jakaa kolmeen ulottuvuuteen, joita ovat perättäinen dominanssi (*sequential dominance*), jossa toinen puhuja kontrolloi sitä, mihin suuntaan vuorovaikutus liikkuu, osallistuva dominanssi (*participatory dominance*), jossa toinen puhuja estää toista puhujaa puhumasta sekä kvantitatiivinen dominanssi (*quantitative dominance*), jossa toinen puhuja tuottaa määrällisesti toista puhujaa enemmän puhetta (ibid.). Näistä tärkein tämän tutkimuksen kannalta on kvantitatiivinen dominanssi. Kvantitatiivista dominanssia voidaan Itakuran mukaan (2001b, 1863) mitata puhuttujen sanojen määrän avulla. Tämän lisäksi Itakura (2001b, 1870) mainitsee kvantitatiivisen dominanssin mittariksi puheenvuorojen keskiarvoisen pituuden. Tässä tutkimuksessa luotiin uusi mittari, osallistumisprosentti, kvantitatiivisen dominanssin mittaukseen. Osallistumisprosentti kertoo puhujan sanojen määrän suhteessa keskustelun koko sanamäärään. Tämä uusi mittari vahvistaa kvantitatiivisen dominanssin tutkimusta luomalla sen mittaamiseen uuden työkalun.

Seuraavaksi tutkielmassa esitellään sen aineisto, osallistujat ja tutkimusmenetelmät. Tutkimuksen aineisto koostuu 50 äänitiedostosta. Tiedostoissa osallistujat keskustelevat pareittain ongelmanratkaisutehtävästä. Osallistujat ottivat osaa kahteen keskusteluun saman parin kanssa. Keskusteluista 25 käytiin suomeksi (L1) ja 25 englanniksi (L2), eli jokainen pari suoritti yhteensä kaksi ongelmanratkaisutehtävää, toisen suomeksi ja toisen englanniksi.

Aineisto koostuu äänitiedostojen lisäksi keskustelujen transkriptioista. Tutkimukseen osallistui 50 englantia pää- tai sivuaineenaan opiskelevaa yliopisto-opiskelijaa. Heidän äidinkielensä oli suomi, ja he suorittivat ennen tutkimukseen osallistumista LexTALE-sanastotestin (Lemhöfer ja Broersma 2012). Testi mittaa sanavarastoa ja sitä voidaan käyttää mittaamaan yleistä englannin kielen kielitaitoa (Lemhöfer ja Broersma 2012, 325). Osallistujien LexTALE-pisteet vaihtelivat 65 ja 98.75 pisteen välillä, ja kaikkien osallistujien LexTALE-pisteiden keskiarvo oli 86.33 pistettä. Tämä osoittaa, että tutkimuksen osallistujien kielitaito oli korkea: LexTALE-pistemäärät 80 ja 100 pisteen välillä viittaavat eurooppalaisen viitekehyksen (*Common European Framework of Reference for Languages*, CEFR) taitavan kielenkäyttäjän tasoon C1/C2 (Council of Europe 2001, 23; Lemhöfer ja Broersma 2012, 341). Tutkimuksen aineisto kerättiin alun perin Turun yliopiston *Sujuvuus ja epäsujuvuuspiirteet vieraan kielen puheessa* eli FDF2-tutkimusprojektia varten (2020–2024). Tutkimusta rahoitti Suomen Akatemia.

Tutkimusaineistona toimivia keskusteluja analysoitiin kvalitatiivisesti, ja ne muunnettiin kvantitatiiviseksi dataksi: sanojen ja puheenvuorojen lukumääriksi, osallistumisprosenteiksi sekä keskimääräisiksi puheen pituuksiksi. Tätä kvantitatiivista dataa käsiteltiin tilastollisin menetelmin. Pearsonin ja Spearmanin korrelaatiokertoimia käytettiin kielitaidon, vuorovaikutuskielen ja keskustelun dominanssin yhteyksien analysointiin. Tuloksia analysoitiin pari- ja ryhmäkohtaisesti.

Tutkimuksen ensimmäinen tutkimuskysymys käsitteli LesTALE-pisteiden symmetrian tai epäsymmetrian yhteyttä keskustelun dominanssiin vieraskielisissä dialogikeskusteluissa. Tutkimus osoitti, että LexTALE-pisteiden erolla sekä osallistumisprosenttien erolla oli tilastollisesti merkitsevä, kohtalainen positiivinen korrelaatio ($r = 0.409$, $p = 0.042$). Tämä viittaa siihen, että suuremmat erot LexTALE-pisteissä korreloivat suurempien osallistumisprosenttien erojen kanssa. Ensimmäistä tutkimuskysymystä tutkittiin sanojen lukumäärien, osallistumisprosenttien, puheenvuorojen määrien ja keskimääräisten puheen pituuksien avulla, ja tuloksia tarkasteltiin jakamalla osallistujaparit ryhmiin. Ryhmässä 1 (G1) parien LexTALE-pisteet olivat symmetrisimmät, ja heidän osallistumisensa keskusteluun oli melko tasapainoista, vaikkakin joissakin pareissa hieman korkeamman LexTALE-pistemäärän omaava osallistuja oli hieman hallitsevampi. Ryhmässä 2 (G2) parien LexTALE-pistemäärien epäsymmetrisyys oli kohtalaista, eikä suoraa korrelaatiota LexTALE-

pistemäärän erojen ja keskustelun dominanssin välillä havaittu. Ryhmässä 3 (G3) osallistujien LexTALE-pisteet olivat kaikista ryhmistä epäsymmetrisimmät, ja keskustelun dominanssissa oli tässä ryhmässä eniten eroja. Taitotasoltaan korkeampi puhuja oli useimmiten keskustelua hallitseva puhuja.

Toinen tutkielman tutkimuskysymyksistä keskittyi vuorovaikutuskielen ja keskustelun dominanssin yhteyteen äidinkielisissä (L1-suomi) ja vieraskielisissä (L2-englanti) parikeskusteluissa. Tutkimuksessa havaittiin vahva positiivinen korrelaatio ($r = 0.857$, p < 0.001) osallistumisprosenteissa L1- ja L2-keskusteluiden välillä. Tämä osoittaa, että puhujien roolit vuorovaikutuksessa pysyivät suhteellisen johdonmukaisena molemmissa kielissä: dominoivan puhujan ja vähemmän dominoivan puhujan roolit jakautuivat puhujien kesken usein samalla tavalla kummassakin keskustelussa. Toisin sanoen puhujat, jotka kvantitatiivisesti dominoivat äidinkielistä keskustelua, dominoivat usein myös vieraskielistä keskustelua ja toisin päin. Kuitenkin joissakin pareissa havaittiin vaihtelua kvantitatiivisen dominanssin suhteen, jolloin dominoivan puhujan rooli vaihteli L1- ja L2-keskustelun välillä. Lisäksi tutkimuksessa havaittiin positiivinen korrelaatio ($r = 0.355$, p = 0.011) puheenvuorojen määrässä L1- ja L2-keskusteluissa, mikä viittaa siihen, että osallistujat, jotka puhuivat toista puhujaa useampia puheenvuoroja äidinkielisessä keskustelussa, puhuivat toista enemmän puheenvuoroja myös vieraskielisessä keskustelussa. Keskimääräisten puheenvuoron pituuksien ja vuorovaikutuskielen välillä havaittiin myös vahva positiivinen korrelaatio (p = 0.744, p < 0.001). Tämä tulos viittaa siihen, että osallistujat, jotka tuottivat pidempiä puheenvuoroja L1-keskusteluissa, olivat taipuvaisia puhumaan pidempiä puheenvuoroja myös L2-keskusteluissa.

Tämän tutkimuksen heikkoutena oli se, että osallistujat olivat kaikki korkean taitotason englannin puhujia. Tämä rajoittaa tutkimuksen tulosten yleistettävyyttä. Tämä kuitenkin avaa mahdollisuuksia tulevaisuuden tutkimukselle: keskustelun dominanssia voitaisiin tarkastella hyödyntämällä laajempaa taitotasojen kirjoa. Tämä tutkimus edisti keskustelun sujuvuuden tieteenalaa luomalla osallistumisprosentin yhdeksi kvantitatiivisen dominanssin mittareista, tarkastelemalla aineistoa, joka koostuu parikeskusteluista monologipuheen sijaan, tutkimalla vieras- ja äidinkielistä aineistoa samoilta puhujilta sekä keskittymällä mahdollisiin kielten välisiin yhteyksiin parivuorovaikutuksessa.