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Communication Strategies and Their Role in Interactional Fluency in L1 Finnish and L2 English Dialogues

A Mixed Methods Study of University Students of English

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This thesis uses a mixed methods approach to study communication strategies (CSs) in first language (L1) Finnish and second language (L2) English dialogues. The material used in the study was collected by the Fluency and Disfluency Features in L2 Speech (FDF2) project in the English department at the University of Turku. The participants were 50 university students of English. They were divided into pairs, and they conducted a dialogue concentrating on a problem-solving task both in the L2 and the L1. The task was to discuss 16 items, presented as pictures, and decide their order of importance when stranded on a desert island or being crash-landed on the moon. The participants also took the LexTALE proficiency test.

The focus of this study was to examine the frequency, and similarities and differences in the used CSs in the L1 and L2 dialogues, and to explore how the combinations of CSs were used to support interactional fluency. The CSs were identified and classified using a combination of Poulisse, Bongaerts, and Kellerman's (1984) and Dörnyei and Scott's (1997) taxonomies. The CSs were divided into direct strategies including approximations, all-purpose words, circumlocutions, retrievals, similar-sounding words, translations, word coinages, and code-switches, and interactional strategies including direct and indirect appeals for assistance, and verbal strategy markers. Approximations were further divided into three subcategories.

The quantitative analysis showed that 201 CSs were identified in the L2 dialogues, on average 4.02 per participant, and 169 in the L1, on average 3.38, and this difference was not statistically significant. Approximations were the most frequently used CSs in both languages, with 64 % of the CSs in the L2, respectively 61 % in the L1. Interactional strategies were the second most frequently used CSs, appeals for assistance being the 15 % of the used CS in the L1 and 10 % in the L2 dialogues, and verbal strategy markers adding 6 % to the L2 CSs and 2 % to the L1. Translation only appeared in the L2 dialogues, and in addition, the difference in frequency between the L1 and the L2 was statistically significant with verbal strategy markers. Overall, the frequencies of different CS types were similar across the languages.

The participants were divided into four groups according to the frequency of their CS use in both languages for further analysis. There were six participants in the group where CSs were used equal to or more than the median in both languages. In this group, same CSs appeared in both languages. However, this was not the case with the groups where CSs were used more frequently in one of the languages and less in the other, and there were 11 participants in both groups. This highlights the significance of examining the L1 and the L2 fluency of the same participants. The remaining 22 participants used CSs less frequently than the median in both languages. Finally, the combinations of CSs were explored both in individual and collaborative use. It was found that collaboratively used approximations were typically the repetition of the same approximation. This built cohesion and spared the participants from further negotiation of meaning. Overall, based on this study, CSs have an important role in supporting interactional fluency.

Key words: communication strategies, dialogue, second language fluency, interactional fluency

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CEFR	Common European Framework of Reference for languages
CS	communication strategy
L1	first language
L2	second language

1 Introduction

This thesis focuses on communication strategies (CSs) used in first language (L1) Finnish and second language (L2) English dialogues. CSs are seen as devices used for potentially enhancing fluency in interaction (e.g., Peltonen 2020). Although CSs have been widely researched, the approach to them in a dialogue setting is still rather new. The use of CSs is task specific (Poulisse 1993, 164); therefore, to examine CSs where they naturally occur, in interaction, it is integral to also study them in dialogues. The question of which (un)conscious strategies are used to make speech more fluent is also one of the intriguing questions in fluency research now (Lintunen, Mutta, and Peltonen 2020, 196). This study aims to address the gap in research on CSs by shedding light to their use in dialogue and comparing the CS use in the L1 and the L2. It extends current fluency research examining the connections between L1 and L2 to dialogic data.

The material used in this study was a data set collected by the Fluency and Disfluency Features in L2 Speech (FDF2) project in the University of Turku. The participants were 50 Finnish university students of English. They were divided into pairs, and they conducted a dialogue concentrating on a problem-solving task similar both in the L1 and the L2. The dialogues were recorded and transcribed in the FDF2 project. The analysis was conducted using a mixed methods approach.

The research questions guiding this study are:

1. To what extent do Finnish university students of English use communication strategies in L1 Finnish and L2 English dialogues?

2. What kinds of similarities and differences can be observed in the use of communication strategies between L1 and L2 dialogues

    a) on a group level?

    b) on an individual level?

3. How are combinations of communication strategies used individually and collaboratively to maintain interactional fluency?

Sections 2 and 3 present the theoretical background behind this study. Section 2 concentrates on speech fluency and interactional fluency. The discussed previous studies concentrate on

speech fluency across the L1 and the L2 and fluency in interaction. Section 3 discusses CSs by presenting various definitions and classifications of them. Their identification is explored, and the presented studies concentrate on studies comparing CSs in the L1 and the L2. In Section 4, the material and methods of this study are presented. The research questions, participants in the study, and the data and used methods are discussed in the first three subsections of Section 4. In the final subsection of Section 4, the analysis is explained including the identification and classification of CSs as well as the used quantitative and qualitative methods. Section 5 presents and discusses the results of the study one research question at a time. Section 6 concludes the results.

2 Speech fluency

Section 2 concentrates on speech fluency. Firstly, in Section 2.1, fluency is defined, and the present study is situated within fluency research. Secondly, in Section 2.2, previous research on fluency is presented from the point of view relevant to the present study, that is, research comparing first language (L1) fluency with second language (L2) fluency. Finally, Section 2.3 concentrates on interactional fluency and research conducted on dialogues.

2.1 Defining speech fluency

Fluency as a term can be used in many ways and in different situations. Therefore, it is important to determine what is meant with it. A well-known terminology originates from Lennon (1990, 389) and presents fluency in two senses: *a broad sense*, and *a narrow sense*, where according to the broad sense fluency is viewed as a cover term for oral proficiency, or even for language skills in general, and the narrow sense refers to fluency as a component of oral proficiency. Tavakoli and Hunter (2018, 343) further defined fluency dividing it into very narrow, narrow, broad, and very broad. The very broad approach refers to general proficiency and broad to speaking ability, much like Lennon's broad sense in its range from oral proficiency to language skills (ibid.). The narrow approach refers to the ease and flow of speech, and the very narrow to the measurable aspects of fluency: speed, breakdown, and repair (ibid.)

Furthermore, language proficiency is thought to be composed of three aspects: *complexity*, *accuracy*, and *fluency*, which are also referred to as CAF (Housen and Kuiken 2009, 461), however, this study only focuses on fluency. In addition to terminology, Lennon (2000, 26) also offers a definition of fluency: "the rapid, smooth, accurate, lucid, and efficient translation of thought or communicative intention into language under the temporal constraints of on-line processing". As the broad sense of fluency is ambiguous, research approaches fluency typically with the narrow sense, and using the definition by Tavakoli and Hunter (2018) the approach is typically very narrow. The present study approaches fluency with the narrow sense instead of the very narrow.

Segalowitz (2016, 81) divided fluency into three distinct aspects: *utterance*, *cognitive*, and *perceived fluency*. Utterance fluency refers to fluency which can be observed and measured in speech, whereas cognitive fluency refers to the ease of the cognitive processes that precede the utterance (Segalowitz 2016, 81–82). Perceived fluency differs from these in that it is a

subjective judgement of the speaker's fluency (Segalowitz 2016, 86). Utterance fluency is typically studied with measures of three distinct aspects: breakdown fluency (e.g., pausing), repair fluency (e.g., false starts, and repetition), and speed fluency (e.g., syllables per minute) (Skehan 2009, 512–513). Utterance fluency is the aspect of interest in the present study. More specifically, the theoretical framework behind this study is the Fluency Resources Framework introduced in Peltonen (2020), which combines fluency analysis with the analysis of strategic language use. Peltonen (2020) views two problem-solving mechanisms, *stalling mechanisms* (e.g., repetitions, drawls, and filled pauses) and *communication strategies* (CSs) as fluency resources, which can contribute to enhanced utterance fluency (Peltonen 2020, 24–25). In this study, I concentrate on strategic language use, namely CSs (see Section 3), as resources that can help maintain speech fluency in interaction.

Fluency is traditionally viewed as an individual phenomenon and fluency studies concentrate on monologues. However, McCarthy (2010, 7) introduced the concept of *confluence*, which sees fluency as a shared responsibility for participants, and turn-boundaries as important points reflecting fluency. In other words, the conversational flow is a combined effort instead of a series of individual fluent turns (McCarthy 2010, 9). This is seen in how participants tend to link their utterance with the preceding utterance and how the responsibility to fill silences is shared (McCarthy 2010, 7). Along these lines, Peltonen (2017, 5; 2020) operationalised *interactional fluency* measuring the number and length of turn-pauses, and the number of other-repetitions, and collaborative completions. These are also seen as indicators of interactional fluency in the present study.

2.2 Connections between L1 and L2 speech fluency

Fluency is traditionally studied by comparing non-native speakers' fluency with native speakers' fluency. According to Segalowitz (2016, 83), L2-specific measures in fluency can be obtained with using individual's L1 fluency as a baseline for their L2 fluency. This is also a method which should be used more widely in research (ibid.). Notable studies using this method include De Jong et al. (2015), Huensch and Tracy-Ventura (2017), Peltonen (2018), Duran-Karaoz and Tavakoli (2020), and Gao and Sun (2023). Nevertheless, the focus in these studies is on monologues instead of dialogues. However, there have been results indicating that L2 fluency is connected to L1 fluency, highlighting the need to extend this line of research into dialogic data, as is done in this thesis.

De Jong et al. (2015, 225–226) studied whether L2 fluency measures could be predicted from L1, whether L2 fluency measures that are corrected for L1 fluency predict L2 proficiency better than uncorrected measures, and if there is a difference between the effects of L1 English (N = 29) and L1 Turkish (N = 24) fluency to L2 Dutch fluency. The material consisted of 16 speaking tasks from each participant, eight in both the L1 and the L2, which the researchers transcribed (De Jong et al. 2015, 228–229). The participants also completed a vocabulary test in the L2 (De Jong et al. 2015, 227). Speed fluency was measured with syllable duration, breakdown fluency with silent pause duration and location, and repair fluency with number of repetitions and corrections (De Jong et al. 2015, 236, 239–240). They used further inferential statistics to test for the predictive value of corrected and uncorrected fluency measures and used the results from the vocabulary test to compare proficiency in the L2 (ibid.). They found that L2 fluency could be predicted from L1 fluency to a certain extent, and that corrected fluency measures yield more precise measures than uncorrected (De Jong et al. 2015, 236, 239–240).

More recently, Huensch and Tracy-Ventura (2017, 761) studied the contribution of L1 fluency, proficiency in the L2, and cross-linguistic differences between the L1 and the L2 to predicting L2 fluency. This was studied prior to and after a five months' residence in a country where the L2 was spoken (ibid.). The participants had English as their L1 and French (N = 25) or Spanish (N = 24) as their L2, which they were studying at the university (Huensch and Tracy-Ventura 2017, 762). The material consisted of picture-based narrations once in the L1 and twice in the L2 on two separate occasions, and proficiency test results from an Elicited Imitation Test on both testing occasions (Huensch and Tracy-Ventura 2017, 762–763). The narrations were transcribed, and fluency was studied with the same measures as in De Jong et al. (2015) (Huensch and Tracy-Ventura 2017, 764–765). They found that L1 fluency and cross-linguistic differences contributed to predicting L2 fluency more with higher than lower proficiency subjects (Huensch and Tracy-Ventura 2017, 779–780). This is especially interesting regarding the present study, where the participants are, for the most part, proficient L2 learners.

Peltonen (2018) studied the connection between L1 Finnish and L2 English fluency on two different school levels (N = 42), and further, the connection of L1 and L2 fluency with the use of stalling mechanisms. The material consisted of two different picture-based narrations, first in the L1 and then in the L2 (Peltonen 2018, 680). Temporal fluency was measured with speech rate, articulation rate, mean length of run, and the number, location and length of silent

pauses (Peltonen 2018, 680–681). Stalling mechanisms were examined with the number of filled pauses, drawls, fillers, and repetitions (Peltonen 2018, 681). She found that L2 fluency was connected to L1 fluency, especially regarding temporal fluency measures (Peltonen 2018, 687–688). Similar to Huensch and Tracy-Ventura (2017), Peltonen found that the connections between L1 and L2 fluency correlated more strongly in the group with the higher proficiency level than in the group with the lower proficiency level (ibid.). Regarding stalling mechanisms, Peltonen (2018, 689) found that different mechanisms could be used to fill the same function, and especially the more advanced learners preferred using drawls in the L2.

Examining a different L1–L2 combination Duran-Karaoz and Tavakoli (2020, 677) studied the relationship between L1 Turkish and L2 English fluency (N = 42), and the role of L2 proficiency in their relationship. Like many other studies, their material consisted of picture-based narrations in the L1 and the L2. The participants used the same picture for both languages, and half of them had a different picture, and the order of the languages was counterbalanced (Duran-Karaoz and Tavakoli 2020, 678–679). Proficiency in English was tested using the grammar section of two tests: Oxford Placement Test and Elicited Imitation Test (ibid.). Of the studied speed, breakdown, and repair fluency, they found connections between the L1 and the L2 in breakdown fluency, particularly in pausing, and repair behaviour (Duran-Karaoz and Tavakoli 2020, 687). Several of the participants were on the proficiency level A2, which may have affected their speed fluency (ibid.). In addition to this, they found that the relationship between the L1 and the L2 fluency remained the same across different proficiency levels (Duran-Karaoz and Tavakoli 2020, 688).

Gao and Sun (2023, 644) studied the relationship between L1 Chinese and L2 English fluency among young learners (N = 47). Like Duran-Karaoz and Tavakoli, they were also interested in the role of L2 proficiency in the relationship between the L1 and the L2 fluency (ibid). Gao and Sun (2023, 645) used an adapted speaking test from TOEFL Junior to measure proficiency and a picture narration task from the same source for fluency performance. The same picture narration task was used in the L1 afterwards (ibid.). Similar to previous studies, Gao and Sun (2023, 651–652) found that L1 speaking style may impact L2 fluency. However, of speed, breakdown and repair fluency, they found significant correlations only between L1 and L2 breakdown fluency (2023, 650). Like in Duran-Karaoz and Tavakoli (2020), this could be related to the learners' CEFR proficiency level being A2 and B1, basic users and low-intermediate learners (ibid.).

To summarise, there seem to be connections between L1 and L2 fluency, though it varies in which aspects of fluency the connections are found and how strong they are. High proficiency seems to be related to stronger connections between L1 and L2 fluency, and low proficiency appears to be related especially to one aspect of fluency, the connections between L1 and L2 breakdown fluency. All of these studies show the importance of using L1 fluency as a baseline for L2 fluency. In the present study, this is extended to dialogic data.

2.3 Fluency in interaction

As mentioned previously, L2 fluency is traditionally researched in a monologue setting. This is due to several factors, including the ease of measurement, the predictability of the outcome, and a certain control present in monologues, such as the demands for speech planning (Tavakoli 2016, 136). Nevertheless, spoken language is inherently used in interaction, and though interactional fluency is a relatively new area of research, there are studies concentrating on the interactional aspects of fluency. Notable studies concentrating on fluency in dialogues include Michel (2011), Sato (2014), Tavakoli (2016), and Peltonen (2017). Yet, the approach is typically to compare monologue fluency with dialogue fluency instead of focusing specifically on fluency in dialogues and comparing L1 fluency with L2 fluency. The present study is, therefore, among the first to combine these two lines of research by focusing on fluency in dialogue and comparing L1 and L2 production of the same participants.

Michel (2011, 150–151) studied the effects of task complexity and interaction on oral task performance among L1 Turkish (N = 31) and L1 Moroccan (N = 33) L2 Dutch learners. She used a simple and a complex task and half of the participants performed it in a monologue and half in a dialogue (Michel 2011, 151). Recorded and transcribed task performances were examined for three measures in each complexity, accuracy, and fluency, which were analysed statistically (Michel 2011, 154–155). The participants also performed a written multiple-choice proficiency test and, according to the results, most of them were on an intermediate level of proficiency in the L2 (Michel 2011, 152). Michel found that the participants were more fluent, accurate, and lexically diverse in dialogues than in monologues, though structurally less complex (Michel 2011, 167). She used L1 Dutch speakers (N = 44) for comparison, and they were also more fluent in dialogues than in monologues (ibid.). However, the task complexity only seemed to affect L1 fluency; L1 speakers were slower in their more complex dialogues than in their monologues (Michel 2011, 164).

In addition to utterance fluency, Sato (2014) also studied the perceived fluency of L1 Japanese learners of English (N = 56). He studied how raters perceive fluency in interaction and how generalisable individual fluency measures are on interactional fluency (Sato 2014, 82 –83). The individual task was a picture story narration and the interactional a decision-making task, and the participants had three minutes for planning in both tasks (ibid.). The dialogues were three minutes long and of the monologues, only the first minute was used (ibid.). He found the connection between individual and interactional fluency to be weak and concluded that interactional fluency is best conceptualised as a joint performance (Sato 2014, 88). Notably, Sato also used interaction-specific categories, such as turn-taking and scaffolding while analysing perceived fluency (Sato 2014, 85).

Like Michel (2011), Tavakoli (2016, 142–143) found L2 English learners to be more fluent in dialogues than in monologues. The participants (N = 35) had various L1s, but they were all L2 English learners on proficiency level B2, according to the CEFR (Tavakoli 2016, 139). Tavakoli studied the difference between monologue and dialogue fluency, and the effects of the operationalisation of fluency measures on dialogue fluency (ibid.). Both the monologue and dialogue task were on general everyday topics (Tavakoli 2016, 140). The participants had one minute for planning in both tasks and for the performance, one minute for the monologue and three for the dialogue (ibid.) She raised the question of the problematic role of between-turn silent pauses and to whom they should be allocated (Tavakoli 2016, 143). Whether the between-turn pauses are included and divided between the participants affects the measuring of fluency, and Tavakoli (2016, 144–146) found that it reduces the number of statistically significant differences between the dialogue and monologue fluency, thus, it can be interpreted that the participants were more fluent for some but not all fluency measures in dialogues. Tavakoli (2016, 147–148) also acknowledged that fluency in a dialogue differs from fluency in a monologue, and this can be seen in more filled pauses and fewer repairs, turn-taking, overlap, and negotiating meaning.

In addition to temporal fluency, Peltonen (2017) studied fluency in dialogue, and fluency resources, which were divided into stalling mechanisms, and communication strategies (Peltonen 2017, 4–5). Apart from the more typical fluency measures, there were measures specific for dialogue fluency, namely, turn pauses, other-repetitions, and collaborative completions (ibid.). The participants were L1 Finnish learners of L2 English at two different school levels (N = 42), and the task used for the dialogues concerned problem-solving (ibid.). Not surprisingly, the group consisting of learners with higher proficiency were more fluent

than the group that had studied the L2 for a shorter amount of time (Peltonen 2017, 6). Notable is that this group also used more stalling mechanisms, therefore, it can be concluded, that the use of stalling mechanisms can enhance fluency (ibid.). Regarding CSs, an interesting finding is that no significant differences were found in specific strategy types nor in their frequency between the two groups with different proficiency (Peltonen 2017, 11). This could indicate that CS use is not strongly dependent on proficiency level, which is interesting in regard of the present study, where the participants are advanced learners of the L2. Peltonen (2017) is discussed further in 3.4, in relation to studies on CSs.

Most of the research on fluency has been done on monologues, although recently, there have been some studies on dialogues. Dialogues have their own challenges, e.g., allocating between-turn silent pauses between participants and the interactional aspects of dialogues. In addition to this, fluency has been studied mostly in the L2 without comparison with the L1 of the participants. Studies seem to indicate some correlation between the L1 and L2 fluency.

3 Communication strategies

Communication strategies have several definitions and criteria, and this section concentrates on them. In Section 3.1, I start with examining the need for CSs and continue by presenting important definitions of CSs. In Section 3.2, central typologies of CSs are presented along with the identification methods used for the identification of CSs. Finally, in Section 3.3, previous research on CSs is presented.

3.1 Defining communication strategies

To understand the use of CSs, it is important to start with the process of speaking. According to Levelt's (1989) psycholinguistic model, the speech production process can be divided into three parts: *conceptualization*, *formulation*, and *articulation* (1989, 9). In the first stage, the product is a preverbal message, while in the second stage, formulation yields a phonetic plan, and the last stage results in overt speech (ibid.). Formulation is divided into two parts: *grammatical* and *phonological encoding* (Levelt 1989, 11). Grammatical encoding includes accessing *lemmas* (mental representations of the meanings word have), and phonological encoding is accessing the form of the lemma and specifying how that should be articulated (Levelt 1989, 12). Formulation is the stage where CSs can be of use if problems arise in accessing the required lemma or its form. This also leads to the common interpretation in research that CSs are thought to be the result of insufficient L2 lexical knowledge (Dörnyei and Kormos 1998, 358). However, it is not as simple as this, and according to Lennon (2000, 27), for most people, it is the processing demands that limit fluency, instead of deficient knowledge. This means that the problems of word searching may be connected to vocabulary size but more often the words would be found, were there more time (ibid.). Another point of view to this is that native speakers also have gaps in their vocabulary, and CSs are likewise employed by L1 speakers (Wagner 1984, 167). Both of these views explain why CSs are amply used also in the L1, which highlights the importance to examine them in the L1, even though research typically focuses only on the L2.

CSs have been defined in relation to the level of consciousness in different ways. Færch and Kasper (1980, 57) give two criteria for CSs: *problem-orientedness* and *consciousness*. Problem-orientedness refers to situations where an individual is unable to reach a desired communicative goal without using an additional strategy (Færch and Kasper 1980, 58). To consciousness Færch and Kasper (1980, 60) take a more careful approach and refer to

strategies as “potentially conscious plan[s]”. These two ideas are repeated in one way or another in many later definitions. In addition to providing criteria for CSs, Færch and Kasper (1980, 83–84) also present a fundamental classification for CSs, dividing them into *reduction strategies*, and *achievement strategies*. In reduction strategies something is removed from the intended message, while achievement strategies lead to different solutions in how to convey the intended message (ibid.). This higher-level categorisation is also present in later classifications, which will be discussed in Section 3.2.

The division of CSs into reduction and achievement strategies is also part of the definition of CSs by Poulisse, Bongaerts, and Kellerman (1984), who defined CSs concentrating on achievement strategies. They called them compensatory strategies: “strategies which a language user employs in order to achieve his intended meaning on becoming aware of problems arising during the planning phase of an utterance due to his own linguistic shortcomings” (Poulisse, Bongaerts, and Kellerman 1984, 72). In this definition the problem-orientedness and potential consciousness have taken the form of an awareness of a problem. The awareness extends only to the existence of a problem and not to a potentially conscious decision to use a particular strategy (Poulisse, Bongaerts, and Kellerman 1984, 71–72). With the user’s own linguistic shortcomings, Poulisse, Bongaerts, and Kellerman refer to problems arising within the speaker instead of the interlocutor’s feedback (ibid.).

Tarone (1981, 288–290) presents a three-step criterion for distinguishing between CSs, production strategies, and learning strategies. According to Tarone (1981, 288), firstly, the speaker has a desire to communicate a message. Secondly, the speaker has a belief that the intended structure needed to communicate that message is unavailable (ibid.). And finally, the speaker decides either to abandon the message or to attempt alternate ways to communicate the desired message (ibid.). Tarone further defines CS as “a mutual attempt of two interlocutors to agree on a meaning in situations where requisite meaning structures do not seem to be shared” (ibid.). Production and learning strategies do not include the negotiation of meaning and learning strategies do not fill the first part of the criterion (Tarone 1981, 289–290). In Tarone’s definition, the use of a CS is a speaker’s conscious decision, yet it takes a stand on consciousness reaching only to the decision between message abandonment and the use of achievement strategies. Retrospective data might give more insight into the consciousness of CS use, yet that is not available in the present study. In addition to this, CSs are viewed as a part of both L1 and L2 speech in the present study, and the level of

consciousness in CS use might not be the same across the two languages. These lead to the view of CSs as potentially conscious in the present study.

A later definition is by Dörnyei and Scott (1997) who combined different views on CSs and gave an extended view as their definition: "every potentially intentional attempt to cope with any language-related problem of which the speaker is aware during the course of communication" (Dörnyei and Scott 1997, 179). This definition allows both reduction strategies and achievement strategies, and problems arising from the interlocutor's ability to understand. Though researchers do not always agree on what CSs in specific are, the various definitions have much in common; they all take a stand on problem-orientedness and consciousness. In short, based on the definitions discussed above, in the present study, CSs are regarded as solutions to language-related problems, usually arising in the planning phase of an utterance, and while they can be used intentionally, users may not always be aware of using them.

3.2 Classifications and identification of communication strategies

Like definitions, there are also various typologies of CSs. Tarone's well-known classification has five categories: *paraphrase*, *borrowing*, *appeal for assistance*, *mime*, and *avoidance* (Tarone 1981, 286–287). Paraphrase includes approximations, word coinage, and circumlocution (ibid.). Approximation is the use of a semantically close word when the exact word is unavailable, and it can be a high- or a low-coverage word (ibid.). Word coinage is the invention of a new word, and circumlocution denotes describing the characteristics of the object without using the appropriate structure (ibid.). Borrowing can be a literal translation or a language switch, and avoidance can refer to either topic avoidance or message abandonment (ibid.). These categories have been used as the basis for other categorisations in several studies.

Poulisse, Bongaerts, and Kellerman (1984, 89–90) divide CSs into *interlingual* and *intralingual strategies*, where the interlingual are strategies based on the L1 or any other language than the L2, and intralingual are based on the L2. The interlingual strategies include borrowing, literal translation, and foreignising (ibid.). Borrowing is equal to Tarone's (1981) language switch and is also known as code-switching. Foreignising differs from it so that the borrowed word from the L1 gets the pronunciation of the L2 instead of keeping its original pronunciation (ibid.). Intralingual strategies include approximation, word coinage, description, restructuring, appeals for assistance, and mime (ibid.). Description is equal to

Tarone's (1981) circumlocution. Restructuring refers to a strategy where the message gets a new structure when the original has failed (ibid.). Appeals for assistance can be either direct or indirect requests (ibid.). Willems (1987, 354–355) used a typology combining Tarone (1981) and Poulisse, Bongaerts, and Kellerman (1984), dividing CSs into reduction strategies and achievement strategies, and dividing the latter further into paralinguistic, interlingual, and intralingual strategies. Paralinguistic strategies include mime and other methods that are used instead of speech (ibid.). Interlingual and intralingual strategies follow the description set by Poulisse, Bongaerts, and Kellerman (1984).

In their extended view, Dörnyei and Scott (1997, 197) divide CSs into *direct, indirect*, and *interactional* strategies. Direct strategies are largely like other previous typologies including achievement strategies but there is the addition of the use of all-purpose words, and the use of similar-sounding words (ibid.). All-purpose words are words that can refer to any other word, for example *thing,* and similar sounding words can be either existent or non-existent words that remind the speaker of the lacking word (Dörnyei and Scott 1997, 188–189). Appeals for assistance fall under interactional strategies, and they go into more detail than previous typologies did (Dörnyei and Scott 1997, 197). The difference between Dörnyei and Scott's (1997) view on strategies and other typologies is that Dörnyei and Scott (1997) consider time pressure-related and own- and other-performance problem-related features as part of CSs (ibid.). These include strategic language use such as fillers and repetitions, which are rarely seen as CSs in other typologies, and can be seen as stalling mechanisms (see Section 2).

As with definitions of CSs, the typologies also have much in common. The emphasis can be on various aspects of CSs, but essentially, as the definitions are similar, so are the CSs found with them. Yet, there is enough difference in the operationalising of CSs that all studies are not easily comparable. The categorisation used in the present study is presented in the Material and methods section.

Methods used in the identification of CSs include leaning on the intended meaning hypothesis, introspective procedures, presence of disfluencies, and non-verbal signals (Poulisse, Bongaerts, and Kellerman 1984, 87). The intended meaning hypotheses refers to situations where a similar message is conveyed both in the L1 and in the L2 and can be assumed that the messages should be alike (ibid.). It is also the most suitable identification method in the present study as the tasks used a specific set of items. In introspective procedures the participants are asked to explain their use of CSs in retrospect. This needs to

be done as soon as possible after the test and the participants need to be conscious of their use of CSs (ibid.). It is generally agreed that a retrospective interview is needed to confirm the use of CSs. According to Poulisse (1993, 160), it is in fact impossible to identify CSs unless the speaker admits using them. Nevertheless, it is not as straightforward as this and, according to Dobao (2001, 48), there are only some instances where the speaker's help is crucial. In addition to this, Willems (1987, 352) points out that not all learners can verbalise their use of CSs. This is in line with the approach to CSs as only potentially conscious (see Færch and Kasper 1980). The third of these methods, disfluencies, such as hesitations, pauses, and false starts, can be indicators of problems in the planning phase of speech production, and they may precede the use of CSs (Poulisse, Bongaerts, and Kellerman 1984, 87). However, the approach to disfluencies can also be more complex than this, and as mentioned previously, Dörnyei and Scott (2007) consider some of them as CSs. Non-verbal signals are not frequently considered, and instead a much-used criterion to CSs in research is lexicality: lexical solutions to lexical problems (Dobao 2001, 49). This is mostly due to methodological restraints, but also as non-verbal signals are rarely a part of the studies, excluding them helps to produce comparable results (ibid.). Of these four identification methods both introspective procedures and non-verbal signals were not considered in the present study due to methodological restrictions. This is further explained in Material and methods.

3.3 Previous research on communication strategies

Even though the research on CSs has a long tradition, which can be seen from the history of various taxonomies, there have been few studies comparing CSs used by the same individuals in the L1 and the L2, and CSs are traditionally thought as a part of learner language. Poulisse (1990) studied CSs (called compensatory strategies) in L1 Dutch and L2 English (N = 45). The participants were of three different age groups reflecting their years of study and proficiency levels (Poulisse 1990, 73). She used three tasks in the L2 and one in the L1 and the L2 (Poulisse 1990, 78). The tasks in the L2 were a picture naming or description of 40 pictures, an interview of 20 minutes on everyday subjects by a native speaker, and a story retell in the L2 of five ten-line stories heard in the L1 while seeing pictures of the stories (Poulisse 1990, 79–81). The task performed in both languages was a description of abstract figures and it was conducted first twice in the L1 and then once in the L2 (Poulisse 1990, 82). Retrospective comments were collected right after the interview and the story retell (Poulisse 1990, 83). Poulisse found that the same types of CSs were used much to the same frequency

in both languages, and for a CS type to be present in the L2 task, it had to be present in the L1 task (Poulisse 1990, 160).

Dobao (2001, 51) found that there is not a linear connection between the proficiency level of the learners and the use of CSs. The participants in her study were L1 Spanish or Galician speakers with English as their L2 on three different proficiency levels (N = 15). The tasks included a picture story narration and a photograph description first in the L2 and then in the L1, and a conversation of ten minutes with the researcher in the L2 (Dobao 2001, 47–48). A retrospective interview was conducted after the tasks (ibid.). As the basic level learners used the most CSs, the learners on advanced level used more than the intermediate level learners did (Dobao 2001, 51). This was speculated to be the result of the advanced learners' higher communicative goals to produce more accurate and complex information, and the need to use CSs in accomplishing that (Dobao 2001, 52). This is also intriguing in regard of the present study, as the participants are advanced learners.

Peltonen (2017) studied the use of fluency resources, of which CSs are a part, related to temporal fluency and interactional fluency among Finnish ninth graders and upper secondary school students (N = 42) in L2 English dialogues (introduced in 2.2). One of the two problem-solving tasks (see Appendix 1) used in the present study is the same as the one used by Peltonen (2017). She found that the ninth graders used somewhat more CSs than the upper secondary school students did, but that the differences were not statistically significant (Peltonen 2017, 6). In addition to this, variations within groups were substantial (ibid.). Of the various CS categories, approximation was the largest in both groups (ibid.). The second largest categories with the ninth graders were all-purpose words and transfer, while the second largest category with the more advanced learners was circumlocution (ibid.). Peltonen (2017) also concentrated on four learners, who used CSs frequently. With these she found a common strategy combination to be an all-purpose word or an approximation, and a circumlocution (Peltonen 2017, 7). This offers the closest possible comparison with the present study, with the difference of learners being university students in the present study.

4 Material and methods

In this section, the methodology of the present study is outlined. In Section 4.1, the research questions guiding this study are presented. The participants in the study are presented in Section 4.2, and in 4.3 the material and methods. Section 4.4 presents the quantitative and qualitative methods of analysis.

4.1 Research questions

In this thesis, I examine the communication strategies used in L1 Finnish and L2 English dialogues. CSs are typically considered a phenomenon related to learner language. In the present study, the approach to CSs is a part of natural language use, common both to native speakers and to learners. CSs are also typically studied in monologues. As languages are innately used in interaction, the present study aims to contribute to filling this gap in the research of CSs by focusing on dialogic data. My research questions are:

1. To what extent do Finnish university students of English use communication strategies in L1 Finnish and L2 English dialogues?
2. What kinds of similarities and differences can be observed in the use of communication strategies between L1 and L2 dialogues

   a) on a group level?

   b) on an individual level?
3. How are combinations of communication strategies used individually and collaboratively to maintain interactional fluency?

4.2 Participants

The participants in this study were 50 university students of English who participated in the Fluency and Disfluency Features in L2 Speech (FDF2) project in the English department at the University of Turku, funded by the Research Council of Finland (decision number 331903). Their native language was Finnish, and 43 of them studied English as a major subject and seven as a minor subject. They were mostly first year students of English, while seven of them were second year students, and three had studied English in the university for three years. They reported to have been studying English from 9 to 12 years before entering

university, apart from two participants, who had studied English for 7 and for 13 years. Background information was collected from them, including the before-mentioned data and information about other languages they had studied. They were given participation numbers and none of the collected personal information was identifiable to certain individuals. Their participation was voluntary. The participants had taken the LexTALE (Lexical Test for Advanced Learners of English) (Lemhöfer and Broersma 2012), which measures lexical knowledge and based on that, offers an estimate of proficiency. Their proficiency level according to CEFR (the Common European Framework of Reference for languages) was either B2 or C1/C2, where 13 of the participants were on level B2, and 37 on level C1/C2. According to CEFR, C2 is the highest level, and language users on levels C1 and C2 are proficient language users, whereas on level B2 they are independent language users (Council of Europe 2001, 26). In addition to this, they estimated their language proficiency on a scale from one to five, from weak to excellent, in five categories, which were listening, reading, speech production, discussion, and reading. Relevant to the present study are categories listening, speech production, and discussing, and on average the participants' self-evaluation on these was 3.9. One of the ten participants whose self-evaluation was on average three or less was also on the proficiency level B2 according to the LexTALE results.

4.3 Data collection and preparation

The material used in this study was a data set collected by the FDF2 project in the English department at the University of Turku. The data set chosen for the present study consists of 50 dialogues, half of them in L1 Finnish and half in L2 English. During the data collection, the 50 participants were divided randomly into 25 pairs, who conducted a dialogue concentrating on problem-solving both in the L1 and in the L2. The dialogues consisted of two different yet similar problem-solving tasks (see Appendices 1 and 2). The order of the tasks and languages was counterbalanced. The dialogues were recorded and videotaped, but only the recordings were used in the present study. The videotapes were not necessary for the purpose of the present study, and not using them reduced the identifiable information handled in the study and protected the identity of the participants. The transcriptions were prepared following the guidelines used in projects conducted at the English department, including the FDF2 project (see Appendix 4 for essential transcription conventions). The transcriptions were made and double-checked by two MA level students of English, with an additional final check by the postdoctoral researcher in the FDF2 project.

The participants had two minutes time to prepare before the conversation and six minutes for the actual dialogue. Giving time for planning improves complexity and fluency in the performance (Tavakoli and Skehan 2015, 241). They were presented with 16 images of items before each dialogue, and the images were present also during the dialogues. Some of these items were less common than others to prompt the use of CSs. In the dialogue, the participants were supposed to describe the items, discuss them, and place them in an order of importance in regard of the problem-solving task. They could look at the items while doing this. Picture story narration and picture description are often used methods for eliciting information on CSs. They provide data from pre-selected topics, which facilitates the analysis and enables comparison between subjects (Dobao 2001, 47). The method in the present study can be thought to have been a combination of these two with the added view on interactional fluency. Conversation is less used in eliciting information as it is hard to know when the participants convey their original message and when they are using CSs (Dobao 2001, 48). This hindrance also affected the present study, even though this dialogue was semi-structured in its problem-solving property, as the participants had the specific 16 items to discuss.

4.4 Analysis

The analysis of the data comprised three phases. The first was the identification and classification of CSs. The second phase was the quantitative analysis of the found CSs, and the third was the qualitative analysis.

This study used a mixed methods approach with emphasis on qualitative, so a QUAL + quan study as Dörnyei (2007, 172) puts it. Mixed methods were applied to yield a fuller understanding of the phenomenon, that is to say, both the frequency and the nature of CS use. The use of mixed methods had a development function in this study (Dörnyei 2007, 165). Development here refers to situations where quantitative and qualitative methods are used sequentially, and the results of one are used to inform the development of the other (ibid.). In the present study, the results got with quantitative methods were used to inform sampling decisions in qualitative methods. The sampling can be thought to have been extreme case sampling, as the samples were formed based on maximum use of CSs (Dörnyei 2007, 128).

Firstly, quantitative methods were used to answer the first research question regarding the frequency of CS use, and the second research question concerning the similarities and differences in the CS use. The second part of the second research question and the third question concerning combinations of CSs were answered by categorising participants based

on their use of CSs, and separate groups were formed this way. The third research question was answered using qualitative methods. The CSs in the L2 dialogues were compared with those which the same participants use in the L1 dialogues. Comparing the speech samples of the same speaker in the L1 and the L2 shows how individual tendencies in the L1 influence L2 fluency and this offers new insights into L2 speech fluency (Peltonen 2020, 10). The comparison of the participant's L1 and L2 CSs was also to see which CSs are related to individual tendencies and which possibly to L2 competence. However, as Peltonen found (2017, 11), the use of CSs is not a straightforward indicator of fluency: some do not need strategies, while others do not know how to use them.

The identification of CSs comprised two major methods: using the intended meaning hypothesis and presence of disfluencies (see Section 3.3). The intended meaning hypothesis was the main identification method of CSs in the present study, as there were specific objects the informants were supposed to describe and discuss. This means that it was possible to expect that certain words were used with certain pictures, and the absence of these words could mean that a CS was used instead. The presence of disfluencies was also used as an indicator of possible CS use. Nevertheless, it did not function as well to this purpose as could have been assumed related to its connection with problems appearing in the planning phase of an utterance. This can be due to its success; if hesitations, filled pauses, and such yielded the intended outcome, there was no need for CSs. As there were no possibilities for retrospective procedures in the present study, the absence of this identification method brought its limitations. In this study, I concentrated on achievement strategies. Reduction strategies are by nature more difficult to identify unequivocally than achievement strategies without retrospective interview, and their role is not to enhance fluency as such, therefore, they were outside of interest in the present study.

The classification used in this study was a combination of Poulisse, Bongaerts, and Kellerman's (1984) and Dörnyei and Scott's (1997) taxonomies (see Section 3.2) adapted to this study. The CSs were divided into direct and interactional strategies. This follows Dörnyei and Scott (1997), except that they had indirect strategies in addition to these, and in the present study, only verbal strategy markers were taken from their indirect strategies and added to interactional strategies. Using only achievement strategies follows the classification laid by Poulisse, Bongaerts, and Kellerman (1984). Direct strategies consisted of approximations, all-purpose words, circumlocutions, word coinages, translations, similar-sounding words, retrievals, and code-switches. These were part of the taxonomy by Poulisse, Bongaerts, and

Kellerman's (1984), except for all-purpose words and similar-sounding words, which were added to these in Dörnyei and Scott (1997). Approximations were divided further into superordinate, sister, and cousin concepts due to their high frequency in the present study, and as they were semantically distinct. Interactional strategies included direct and indirect appeals for assistance, and verbal strategy markers. The different CSs with examples from the L2 English and the L1 Finnish dialogues are presented in Table 1.

Table 1 Communication strategies with examples from the data set

Communication strategy	**Description**
Direct strategies	
Approximation	Using a semantically close word to the target word instead of the target word
Superordinate concept	Using a superordinate term instead of the target word, e.g., *flute* for recorder, and *veitsi* for puukko
Sister concept	Using a similar or parallel term to the target word, e.g., *med pack* for first aid kit, and *lääkelaukku* for ensiapupakkaus
Cousin concept	Using a term vaguely related to the target word, e.g., *accordion* for recorder, and *painovoima* for magneettikenttä
All-purpose word	Using a general term suitable for most purposes instead of the target word, e.g., *this thing*, and *toi*
Circumlocution	Describing the target word or its properties, e.g., *the end of the knife* for hilt, and *väline hankkia tota ruokaa* for onki
Word coinage	Creating a non-existent word, e.g., *widening glass* for magnifying glass, and *pelastussoihtu* for hätäsoihtu
Translation	Translating a term from other language than the target language, e.g., *emergency torch* from Finnish *hätäsoihtu* for flare
Similar-sounding word	Using a word that sounds close to the target word, e.g., *record player* for recorder, and *ilmakenttä* for ilmakehä
Code-switch	Speaking in other language than the target language, e.g., ˚*mikä on kiikarit?*˚ for asking a vocabulary question
Retrieval	Saying two or more separate forms while trying to produce the intended word, e.g., *engine (0.) motor* ˚*whatever*˚, and *kaluja (0.) työ- (0.) työvälineitä*
Interactional strategies	
Direct appeal for assistance	Asking the interlocutor what something is, e.g., *what are these (0.) things?*, and *onko tää joku (0.) semmonen?*
Indirect appeal for assistance	Indicating uncertainty regarding a term and expecting a reaction from the interlocutor, e.g., *map (.) of stars or whatever (.) that is?*, and *tää lääkelauk- tai mikä nyt miks tätä sanotaankaan niin tota (1)*
Verbal strategy marker	Implying directly or indirectly uncertainty regarding a term, e.g., *I don't know the exact term*, and ˚*en tiedä (.) mikä se on*˚

After the identification and classification of CSs, the CSs were analysed quantitatively and qualitatively. The frequencies of CSs were presented as raw frequencies as the durations of the dialogues were quite similar, approximately six minutes. During the tasks, the researcher informed the participants when there was one minute left of the time, and all participants started closing their conversation at this point resulting in dialogues of similar lengths. As the data were not normally distributed, the frequencies of CSs in both languages were examined with Wilcoxon signed rank test and descriptive statistics using excel. The division of participants into groups according to their use of CSs was conducted after counting the frequencies. Similarities and differences in CS use was examined on a group level with Spearman's correlation test and descriptive statistics, and on an individual level based on the group division and using descriptive statistics. The third research question was answered using qualitative methods and reporting the findings with examples from the data set. The results are reported in the next section.

5 Results and discussion

In this section, the results are presented by discussing one research question at a time starting from the first question. A mixed methods approach is used. The first two questions are answered using quantitative methods, and the third one using qualitative methods.

5.1 Frequency of communication strategies

The first research question addressed to what extent do Finnish university students of English use communication strategies in L1 Finnish and L2 English dialogues.

The communication strategies in the dialogues were identified and classified as clarified in the previous section. As the data were not normally distributed, a non-parametric Wilcoxon signed rank test was conducted to compare the frequencies of CSs in the L1 and the L2. The results can be seen in Table 2. The difference in frequency is statistically significant in translations, and verbal strategy markers. These are examined further in this section when discussing the frequency of every CS separately.

Table 2 Wilcoxon signed rank test values between the L1 and the L2 CSs, and the mean and standard deviation of the L1 and L2 CSs

Communication strategy	**p-value**	**z-value**	**L1 Mean**	**L2 Mean**	**L1 Standard deviation**	**L2 Standard deviation**
Total number of CSs	**0.128**	**-2.804**	**3.38**	**4.02**	**2.747**	**2.630**
Total number of direct strategies	**0.165**	**-2.515**	**2.80**	**3.38**	**2.010**	**1.989**
Total number of approximations	**0.125**	**-3.128**	**2.06**	**2.56**	**1.376**	**1.643**
Superordinate approximation	0.333	-3.668	1.3	1.6	0.931	1.245
Sister approximation	0.968	-4.441	0.64	0.64	0.631	0.722
Cousin approximation	0.063	-5.922	0.12	0.32	0.328	0.683
All-purpose words	0.528	-5.551	0.26	0.18	0.633	0.482
Circumlocution	0.145	-6.024	0.10	0.22	0.303	0.507
Word coinage	0.766	-6.067	0.06	0.04	0.240	0.198
Translation	0.002*	-6.154	0.0	0.2	0.00	0.404

Similar-sounding words	1.000	-6.139	0.02	0.02	0.141	0.141
Code-switch	0.773	-6.135	0.02	0.04	0.141	0.198
Retrieval	0.078	-5.087	0.28	0.12	0.497	0.385
Total number of interactional strategies	**0.851**	**-4.407**	**0.58**	**0.64**	**0.971**	**1.321**
Direct appeal for assistance	0.374	-5.140	0.34	0.28	0.658	0.809
Indirect appeal for assistance	0.464	-5.691	0.18	0.12	0.388	0.385
Verbal strategy marker	0.042*	-5.980	0.06	0.24	0.240	0.517

*p < 0.05

The frequency of CSs by the subcategories in the whole data set can be seen in Figure 1. There were only four individuals who did not use any CSs in one of their dialogues, two of them in the L1 and two in the L2. This means that all the 50 dialogues contained CSs. In the English dialogues, altogether 201 CSs were identified, whereas in the Finnish dialogues, the number was 169. On an individual level, the median of used CSs in dialogues was four in the L2 and three in the L1. All the identified CSs were used in both languages, except for one, translation, which was only used in the L2 dialogues altogether 10 times.

The most frequently used CS in both languages was the superordinate approximation with 80 occurrences in the L2 and 65 in the L1. The different approximation types were treated as their separate categories in the present study, yet as approximation generally is a category in itself, the difference in frequency was also calculated from approximations in general (see Table 2). Here it was seen that the difference between L1 and L2 was not statistically significant in any of the three approximation categories nor when the approximations were categorised under the same category. The mean of superordinate approximations was 1.6 in the L2 and 1.3 in the L2, the mean of sister approximations 0.64 in both languages, and the mean of cousin approximations 0.32 in the L2 and 0.12 in the L2. The overall number of approximations was 128 in the L2 dialogues, mean 2.56, and 103 in the L1 dialogues, mean 2.06, which means that 64 % of the CSs in the L2 dialogues were approximations, respectively 61 % in the L1 dialogues. This was to be expected as approximation was also the most frequently used CS among younger Finnish learners in Peltonen (2017). Approximations

were so abundant in the data set that there were only six informants who did not use any approximations in one of their dialogues, and four of these were the previously mentioned individuals who did not use any CSs in one their dialogues.

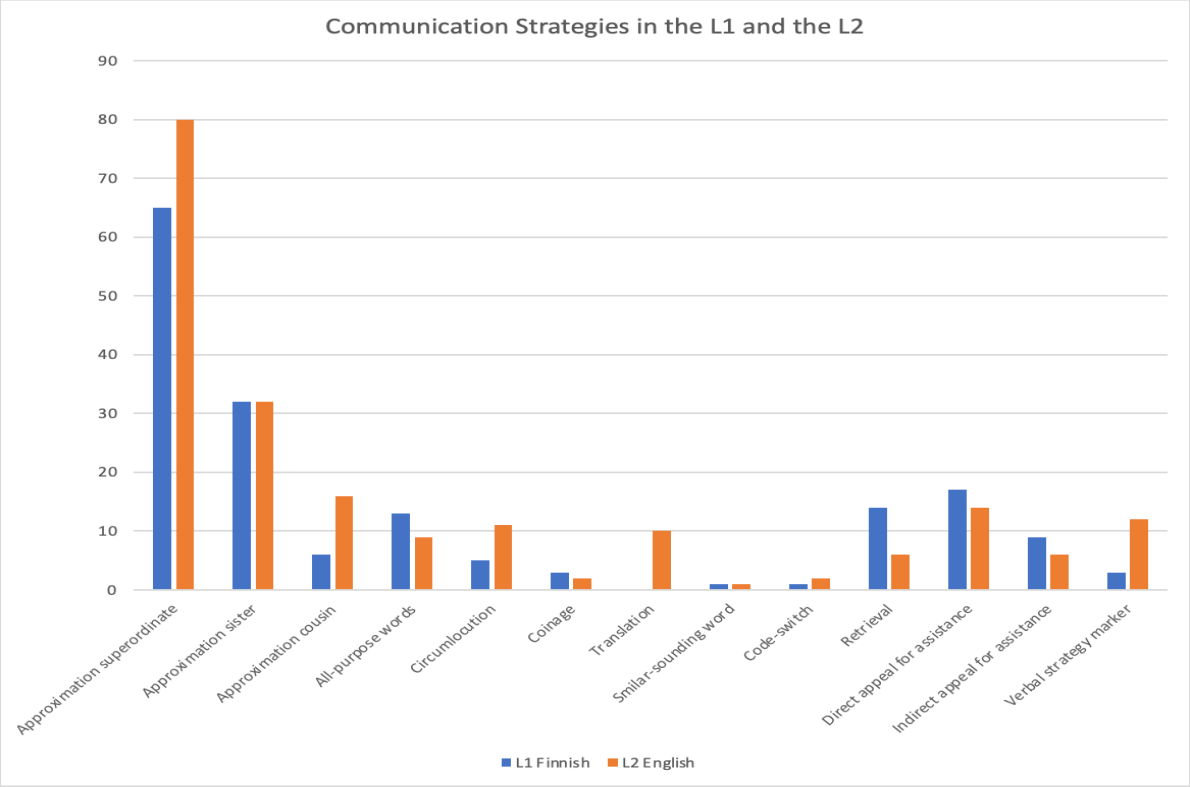

Figure 1 Total frequencies of communication strategies in the L1 and the L2

The second most frequently used CS after superordinate approximation was the sister approximation with 32 occurrences in both languages. Cousin approximation was the third most frequently used CS in the L2 dialogues with 16 occurrences, while in the L1 dialogues they were much less common with only six occurrences. This could be linked to vocabulary size, as the cousin approximations were the only approximations that did not have the same meaning as the target word, despite being in the correct category. There were 11 participants who used cousin approximations in their L2 dialogue, and four of them were on the proficiency level B2, including the only participant who used cousin approximations thrice. However, two of the participants who used cousin approximations used them after their interlocutor on the proficiency level B2 had used them. This indicates that the use of cousin

approximations could be proficiency related, however, it could also be related to the situation, and the sample is too small to lead to any conclusions.

The second most frequently used CS after approximations was direct appeal for assistance with 14 occurrences in the L2 dialogues and 17 in the L1. Indirect appeals for assistance and verbal strategy markers are closely connected to direct appeals for assistance in their function; therefore, they were all categorised under interactional strategies in the present study. Indirect appeals for assistance were used half to the extent of direct appeals for assistance, and they occurred six times in the L2 and nine times in the L1. This means that the appeals for assistance were used more in the L1 dialogues than in the L2, the difference as high as 15.4 % of CSs in the L1 being appeals for assistance, respectively 10 % in the L2. On the other hand, verbal strategy markers were used to a similar extent as direct appeals for assistance in the L2 dialogues, while in the L1 dialogues, they were rare. There were 12 verbal strategy markers in the L2 dialogues, mean 0.24, and only three in the L1, mean 0.06, and this difference was also statistically significant. Nevertheless, when considering the number of interactional strategies altogether, the difference in frequency was not statistically significant between the L2 and L1 dialogues, 32 occurrences in the L2, mean 0.64, respectively 29 in the L1, mean 0.58. Therefore, the participants used interactional strategies to the same extent in the L1 and the L2, however, they preferred to use appeals for assistance in the L1 and verbal strategy markers in the L2.

The rest of the CSs were each used under 6 % of all the CSs in the L2 dialogues, respectively 8 % in the L1 dialogues. Circumlocution was the third most frequently used CS in the L2 dialogues, when approximations and interactional strategies were treated as their own categories. There were 11 occurrences in the L2 dialogues, while only five in the L1 dialogues. Of these nine participants who used circumlocutions in their L2 dialogue two were on the proficiency level B2. Circumlocution was the second largest category of used CSs among the less advanced learners in Peltonen (2017), but even though it can be thought to have been the third largest category in the present study, only 5.5 % of the used CSs in the L2 dialogues were circumlocutions, respectively 3 % in the L1. The learners in the present study were more advanced than the ones in Peltonen (2017), and this might have affected the use of circumlocutions.

In the L1 dialogues, the third most frequently used CS was retrieval with 14 occurrences, mean 0.28, which is 8 % of all the CSs in the L1 dialogues. However, there were only six

occurrences in the L2 dialogues, mean 0.12, 3 % of all CSs in the L2 dialogues. This is the only category where the use is noticeably larger in the L1 than in the L2, yet the difference in frequency is not statistically significant. However, comparison between cross-linguistic differences was not part of the present study, and it is difficult to speculate why some CSs would be more used in the L1 than in the L2. Like retrievals, all-purpose words occurred in the L1 dialogues slightly more frequently than in the L2 dialogues, 12 occurrences in the L1 and nine in the L2. However, this difference is only 7.7 % in the L1 and 4.5 % in the L2, the mean in the L1 0.26, respectively 0.18 in the L2.

When considering CSs as potentially L1-based, translation and code-switch are related to the use of two or more languages. Translation occurred 10 times in the L2 dialogues, mean 0.2. As it did not occur in the L1 dialogues, this difference was statistically significant. The difference between the L1 and the L2 was small in code-switches as it occurred twice in the L2 and once in the L1. Nevertheless, the number of translations accounts for one third of the difference between the overall number of CSs in the L2 and L1 dialogues. The frequency of code-switches is close to the smallest category of CSs, similar-sounding words, which occurred only once in both the L2 and the L1.

There were four dialogues, in which not all the required 16 items were mentioned, these being both dialogues from two pairs of participants. The missing number of items was three in one of the dialogues, two in two dialogues, and one in one dialogue. It is difficult to speculate whether this was the result of the participants forgetting them, or that reduction strategies were implemented, or something else. The absence of target words could have led to fewer CSs in these dialogues than there would have been if all the items had been named, as the number of CSs in three of these dialogues was under the median. However, as the items were missing equally in the L1 and the L2, it did not affect the division of CSs across the two languages.

5.2 Similarities and differences in communication strategy use

The second research question addressed to what kinds of similarities and differences can be observed in the use of communication strategies between L1 and L2 dialogues. It is explored first on a group level, and later, on an individual level. The first part of this question was answered using correlations and statistical methods, and the second part based on the group division using descriptive statistics.

Using the median of the total frequency of CSs, the informants were divided into groups for further analysis. Group 1 (G1) consisted of the informants who used many CSs in both dialogues, more than four in the L2 and more than three in the L1. Group 2 (G2) consisted of informants who used few CSs in the L1 but many in the L2, and Group 3 (G3) vice versa. Group 4 (G4) consisted of the informants who used few CSs in both languages, less than or equal to four in the L2, respectively three in the L1. G1 consisted of six informants, of which four were on the proficiency level B2 according to the LexTALE score. Both G2 and G3 consisted of 11 informants. One informant from both groups was on the proficiency level B2. Lastly, G4 consisted of 22 informants, of which seven were on the proficiency level B2. Qualitative analysis was conducted excluding G4, the informants who used few CSs. The results of the qualitative analysis will be presented in Section 5.3. Furthermore, the second part of the second research question addressing similarities and differences in the CS use on an individual level also used this group division.

The distribution of overall CS use individually can be seen in Figure 2. Each individual represents a dot in the figure and the size of the dot (n) indicates the number of individuals in the same place of the grid. The number of CSs an individual used in their L2 dialogue is displayed on the x axis, and the number of CSs they used in their L1 dialogue on the y axis. As can be seen in the figure, there were a few informants who used CSs noticeably frequently in one language without using them much in the other language, and a larger group who used CSs twice as much in the L2 than in the L1. However, many of the informants used CSs to a similar extent in both languages.

Spearman's correlation test was conducted to see whether there is a correlation between the CS use in the L1 and the L2 on an individual level, and the correlation coefficient of 0.179 and p-value of 0.213 indicate that there is a slight positive correlation, but this is not statistically significant. This means that even though CSs were used nearly as much in the L1 as in the L2 on a group level, these language users did not use them to a similar extent in both languages, and a high number of CSs in the L1 is not a good indicator of a high number in the L2. Nevertheless, G4 shows that nearly half of the participants did not need to use them much in either of the languages, which means that the use of CSs is connected in this group.

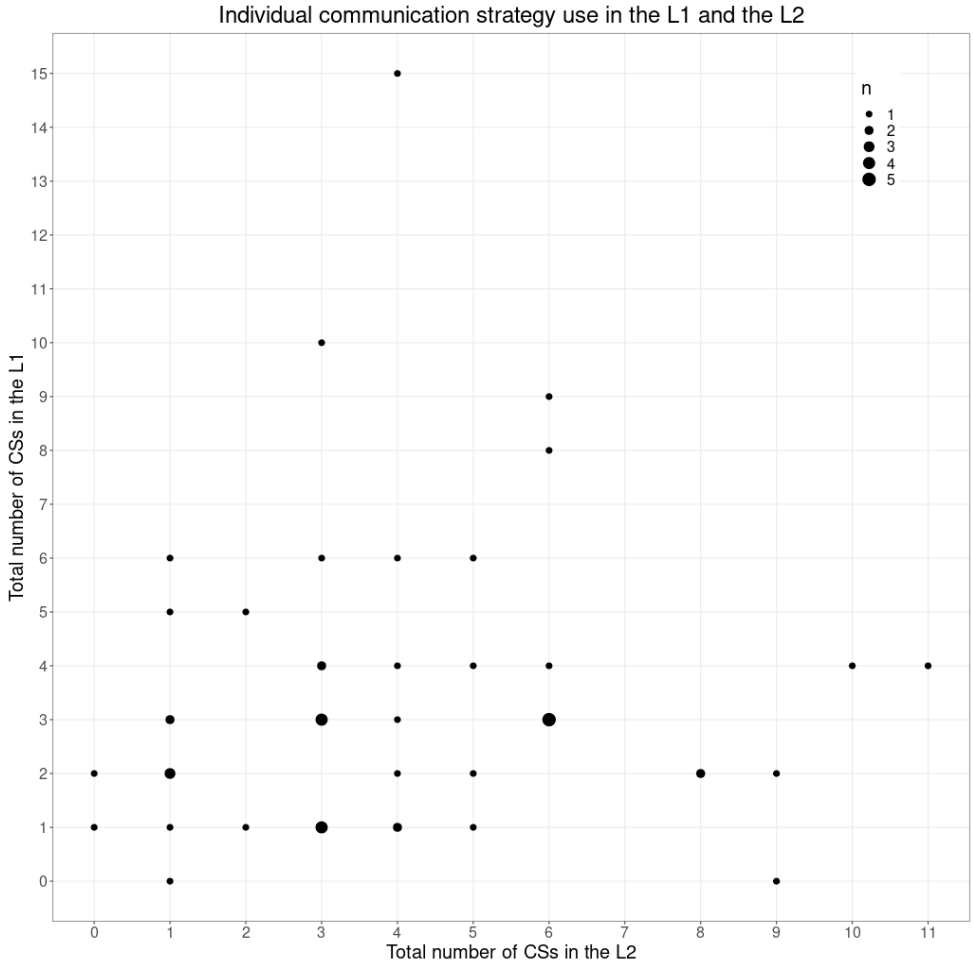

Figure 2 Scatterplot of individual communication strategy use

Another way to examine the similarities and differences in the CS use on a group level is to compare the use or direct strategies and interactional strategies in the languages. Direct strategies consisted of approximations, all-purpose words, circumlocutions, word coinages, translations, similar-sounding words, code-switches, and retrievals, as was seen in Table 1. Interactional strategies consisted of direct and indirect appeals for assistance, and verbal strategy markers. Figure 3 shows the individual use of direct and interactional strategies by languages. In this figure, each individual represents two dots: blue for their L1 dialogue and red for their L2 dialogue. The height on the y axis represents the number or direct strategies the individual has used, and the x axis shows the number of interactional strategies in the specific language of each individual.

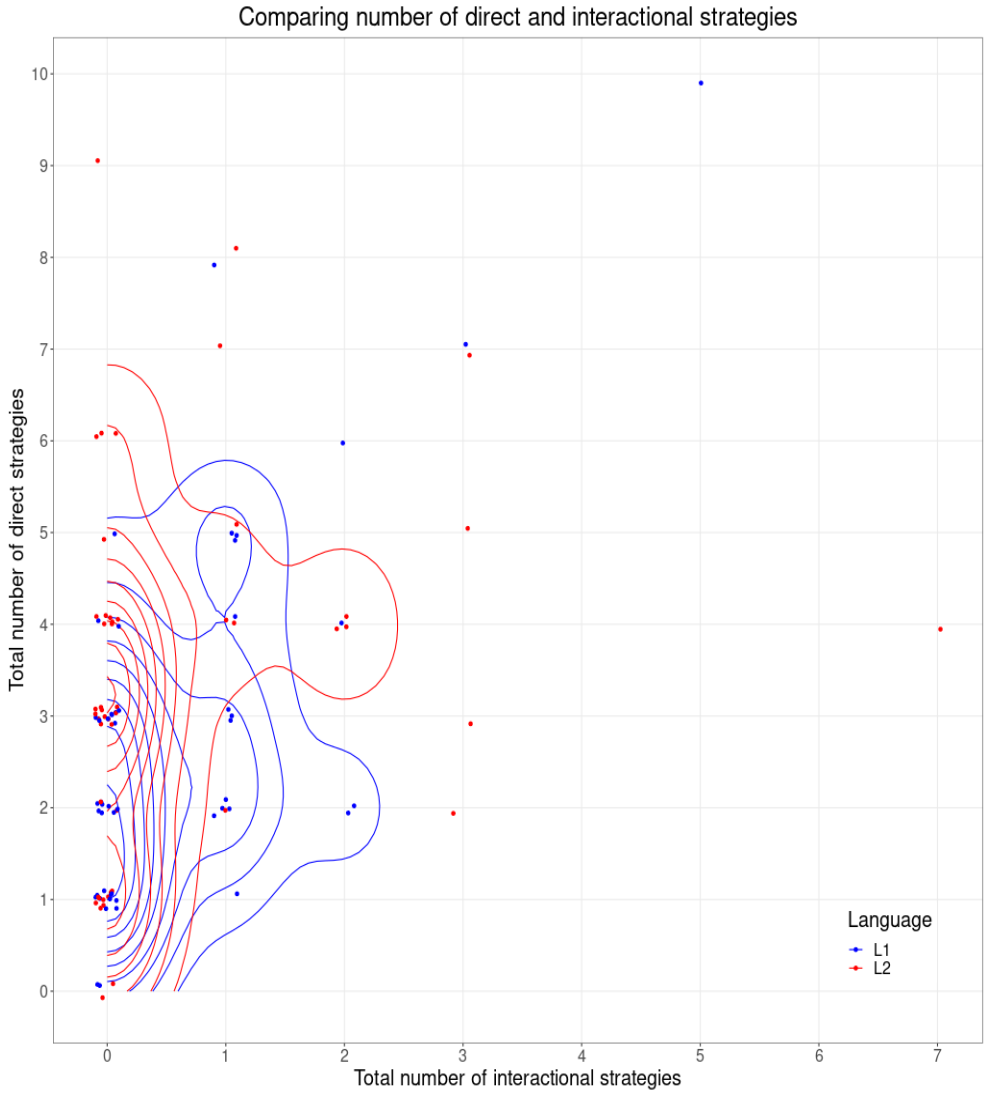

Figure 3 Scatterplot of comparison between direct and interactional strategies in the L1 and the L2

Density estimations in the figure show how the use of interactional strategies in the L2 was connected to the use of direct strategies, and the largest group of interactional strategy users used them twice while using direct strategies four times. In addition to that, for an informant to use an interactional strategy in the L2, they had to use direct strategies at least twice. However, in the L1, the largest group where interactional strategies appeared were those who used direct strategies twice. This indicates that the threshold for using interactional strategies was lower in the L1 than in the L2.

The second part of the second research question addressed to what kinds of similarities and differences can be observed in the use of communication strategies between L1 and L2

dialogues on an individual level. This question was answered going through G1, G2, and G3 separately, starting with G1.

Although CSs were used more than average in both languages in G1, there was variation within the group. Used CSs by G1 can be seen in Table 3, where superordinate, sister, and cousin approximations have been combined into one category called approximation, and interactional strategies is a combination of direct and indirect appeals for assistance, and verbal strategy markers. The two participants who used the most CSs in the L2 were in this group, yet they, in particular, did not use equally many CSs in the L1. The other informants in this group used CSs to a similar extent in both the L2 and the L1. Half of the informants in G1 used more CSs in the L2 than in the L1, and half vice versa. Considering the frequency of CSs in the whole data set, 22 % of the used CSs in the L2 were found within this group, respectively 21 % of the L1 CSs.

Table 3 Comparison of the L1 and L2 CSs in G1 dialogues

L1/L2	Informant	Interlocutor	Total number of CSs	Approximation	All-purpose word	Circumlocution	Translation	Similar-sounding	Code-switch	Retrieval	Interactional strat.
L1	**6**	4	9	7				1			1
L2	**6**	4	6	3	1						2
L1	**36**	42	4	2						1	1
L2	**36**	42	6	3			1				2
L1	**51**	54	8	5						1	2
L2	**51**	54	6	2		1					3
L1	**53**	55	4	1		1					2
L2	**53**	55	10	4		1			1	1	3
L1	**61**	63	4	2	1						1
L2	**61**	63	11	2	2						7
L1	**63**	61	6	3						1	2
L2	**63**	61	5	2		2					1

Considering the categories of the used CSs, the participants in G1 used approximations and interactional strategies in both of their dialogues, however, not all of them equally frequently. Nevertheless, this supports the idea that the use of CSs is connected between the L1 and the L2. However, G1 consisted of only 12 % of the participants. Compared to what Poulisse (1990) found, for a CS type to be present in the L2, it would also occur in the L1, this is mostly true in G1. The smaller categories of CSs were so rare in the dialogues that it was not probable for them to occur in the dialogues of the same individual. Nevertheless, there was a participant who used a circumlocution in both languages, and another one who used an all-purpose word in both. As there were only five circumlocutions in the L1 dialogues and only nine all-purpose words in the L2, both of their appearances in the dialogues of the same individuals could be related to individual tendencies. However, this is not enough to lead to any conclusions. Single instances of CSs belonging to smaller categories were also found in this group.

The interlocutor of each participant is also reported in Table 3. Here can be seen that there was one pair (61–63) where both participants were in G1. There were also participants whose interlocutor was in G2 (pair 36–42) or G3 (pair 51–54 and 53–55). This can be an indicator or the participants' alignment behaviour; interlocutors' tendency to copy each other's language to ease the interactive task (Michel 2011, 147). However, it would require the analysis of every instance of CS of these pairs to determine whether they are indeed connected, and it would still be difficult to understand the complex nuances of the interaction.

In G2, CSs were used more than average in the L2 and less than or equal to average in the L1. The individual use of CSs in G2 can be seen in Table 4, where the division of CSs into categories is the same as in the previous table. The difference in the frequency of CSs between the L2 and the L1 was noticeable. The smallest difference in the number of CSs between the L2 and the L1 was three, and that applied to five of the 11 informants in this group. The largest difference was nine, which was the greatest individual difference in the whole data set. There were only two participants whose difference in the CS use between the two languages was this high, and the other one can be found in G3. 37 % of the used CSs in the L2 in the whole data set was found in G2, respectively 14 % of the CSs in the L1.

Table 4 Comparison of the L1 and L2 CSs in G2 dialogues

L1/L2	Informant	Interlocutor	Total number of CSs	Approximation	All-purpose word	Circumlocution	Word coinage	Translation	Similar-sounding	Code-switch	Retrieval	Interactional strat.
L1	**28**	74	0									
L2	**28**	74	9	6	2							1
L1	**29**	38	3	3								
L2	**29**	38	7	4		1						2
L1	**30**	58	2	2								
L2	**30**	58	5	3								1
L1	**42**	36	2	2								
L2	**42**	36	8	4		1		1		1		1
L1	**47**	45	3	1							1	1
L2	**47**	45	6	4							2	
L1	**62**	77	1	1								
L2	**62**	77	5				1		1			3
L1	**66**	69	2	2								
L2	**66**	69	8	2	1	1		1				3
L1	**67**	65	3	3								
L2	**67**	65	6	3				1				2
L1	**74**	28	3	1		1						1
L2	**74**	28	6	4	1	1						
L1	**75**	26	3	2							1	
L2	**75**	26	6	6								
L1	**80**	82	2	2								
L2	**80**	82	9	9								

Like in G1, there was also a pair (28–74) where both participants were in G2. In addition, there were pairs (45–47 and 80–82) where the other participant was in G2 and the other in G3. This is not the same kind of alignment behaviour that might be seen when both participants

use CSs frequently in the same dialogue, however, it could still be related to alignment behaviour as the dialogues were conducted right after each other.

In addition to the frequency of CSs, used CSs by categories also differed in the L2 and L1 dialogues. Although interactional strategies were the second most frequently used CSs in the data set, none of the participants in G2 used them in both of their dialogues. There were seven participants who used interactional strategies in the L2, and two of them thrice, and two participants who used them in the L1. Approximations occurred more systematically in G2, but as stated previously, among all the participants, there were only six who did not use approximations in one of their dialogues. Nonetheless, there were two individuals in G2 who did not use approximations in one of their dialogues. The other one was one of the four individuals who did not use any CSs in one of their dialogues. Like in G1, there was a participant who used circumlocution in both languages, and another one who used retrieval in both. Like in G1, CSs belonging to smaller categories occurred in single instances.

In G3, CSs were used less than or equal to average in the L2 and more than average in the L1. As the median was 4 in the L2 and 3 in the L1, it was possible for individuals who used the same number of CSs in both of their dialogues to be in this group. There were two participants like this among the 11 participants in this group, and in addition to these, two participants whose difference in the number of used CSs in the L2 and the L1 was only one. The used CSs by G3 can be seen in Table 5. Compared to the CS use of the informants in G2, the difference in frequency between the L2 and the L1 was mostly small in G3. Exception to this were the two participants who used the most CSs in the whole data set in the L1. Like the participants in G1, who used the most CSs in the L2 and just above average in the L1, these participants also used very few CSs in the L2. These seem to be related to individual tendencies and some factors that were not accounted for in the present study, as vocabulary knowledge or proficiency in the L1 is not likely to affect this much. Considering the frequency of CSs in the whole data set, the CSs found within this group accounted for 41 % of CSs in the L1, and 16 % of the occurrences in the L2. The differences in percentages are quite similar to those of G2. However, the two participants alone, who used the most CSs in the L1, accounted for 15 % of all the CSs in the L1.

Table 5 Comparison of the L1 and L2 CSs in G3 dialogues

L1/L2	Informant	Interlocutor	Total number of CSs	Approximation	All-purpose word	Circumlocution	Word coinage	Translation	Code-switch	Retrieval	Interactional strat.
L1	**9**	10	4	3						1	
L2	**9**	10	3	1				1			1
L1	**45**	47	6	2	1		1			1	1
L2	**45**	47	4	2		2					
L1	**50**	56	4	2	2						
L2	**50**	56	4	3	1			1			
L1	**54**	51	5	3		1					1
L2	**54**	51	1	1							
L1	**55**	53	10	3	1		1			2	3
L2	**55**	53	3	3							
L1	**56**	50	6	2	1	1	1				1
L2	**56**	50	1	1							
L1	**57**	81	6	3	3						
L2	**57**	81	2	2							
L1	**71**	72	4	2							2
L2	**71**	72	3	3							
L1	**76**	40	6	2	1				1	1	1
L2	**76**	40	4	4							
L1	**81**	57	15	7	2					1	5
L2	**81**	57	4	4							
L1	**82**	80	4	2						1	1
L2	**82**	80	4	4							

Like in G2, interactional strategies were not used by the same individuals in the L2 and the L1. Nonetheless, an interesting finding related to interactional strategies here is that there was one participant who used them five times in the L1, and such use is most likely an individual

tendency. A similar instance was found in G1, where another individual used interactional strategies seven times in the L2. Nevertheless, these individuals did not use them to a similar extent in both languages, therefore, there were no similarities in the use between the L1 and the L2. In contrast to use of interactional strategies in G3, approximations were used in both languages and to a similar extent. Of the smaller categories of CSs, all-purpose word was the only one which was used by the same individual in both languages. It appeared that the similarities in the use of CSs between the L1 and the L2 were limited to the fact that they were used, and the differences lay both in the frequency and the types of used CSs.

5.3 Combinations of communication strategies

The third research question addressed how combinations of communication strategies are used individually and collaboratively to maintain interactional fluency. Combinations of strategy use were inspected on two levels: individual and collaborative. They are discussed one CSs at a time, starting with the most frequent one.

Approximations appeared in all the dialogues. They were so abundant that nearly all the combinations of CSs featured an approximation. Nevertheless, the majority of approximations were used independently and not as a part of a combination. However, cousin approximations, which were not as easily understood as the target word as superordinate and sister approximations, were accompanied by hesitations or the use of another CS two thirds of the time. Individual use of combinations containing an approximation was limited to combinations with an interactional strategy, and even though some of them did not involve the interlocutor directly, namely, unanswered appeals for assistance and verbal strategy markers, they would have been impossible to use without the interlocutor, and therefore, are not individual use as such. Example 1 is from G3 (pair 57–81), and it shows a cousin approximation (*painovoimaa*) and a verbal strategy marker (*tiedäthän*) indicating that the used word is not correct, but the intended meaning can be understood.

(1) B: [$kompassi$] on aika hyödytön ku siellä ei oo tota (0.) $niinkuin$ (0.)
A: n:
B: niin kun niin kun (0.)
B: **painovoimaa** tai siis niinkun (0.) **_tiedäthän_**
A: jep
B: et se on mun mielestä aika hyödytön (0.) kuten myös tulitikut

English translation

B: $compass$ is pretty useless when there's not well (0.) $like$ (0.)
A: n:
B: like like (0.)
B: **gravity** or like (0.) **_you know_**
A: yep
B: so I think it's pretty useless (0.) like also the matches

It cannot be known from A's answer in the example whether they agree with B on the uselessness of the item or B's explanation to why it would be useless. Nonetheless, it is a good example of how many cousin approximations were found in the dialogues. The collaborative use of approximations, on the other hand, was typically the repetition of the same approximation functioning as an affirmation that the interlocutor accepted the suggested order of the items. This behaviour led to the situation in which approximations were possibly not very good indicators of CS use related to vocabulary deficiencies or not finding the right word. However, using a mutually understood term spared both participants from searching other suitable terms, thus, it can be seen supporting the flow of conversation and enhancing interactional fluency.

Example 2 shows the seamless use of superordinate approximations in deciding on the order of the items. There is a superordinate approximation (*suits*) from both participants subsequently, and a cousin approximation (*oxygen masks*) from A. It features informants from G2 (A, informant 80) and G3 (B, informant 82).

(2) B: the most important probably (.) the **suits**
A: the **suits** and then the (0.) [**oxy]gen** [**mask**]**s** (0.)
B: [o-] [yeah]

According to this frequent pattern, the first appearance of a name for an object was also the name used for it later, especially when it was a superordinate approximation, as was in Example 2. However, this could also happen with cousin approximations, and there was even a case where the cousin approximation was used when the interlocutor did not acknowledge the offered more precise term. Nevertheless, in most cases, the interlocutor did not question the approximation, and approximations were mutually accepted. Example 3 is not a combination of CSs, but a case with a mutually accepted cousin approximation. It shows how

once a referent is established, it is also used later. The word *accordion* is used to describe a recorder. The informants are from G1 (A, informant 36) and G2 (B, informant 42).

(3) B: I think kettle and then (.) definitely the (0.) **accordion**? (0.)
. .
. .
. .
A: but like (.) we definitely won't need an **accordion** *heh*

The second mentioning of this specific item happened much later in the dialogue, but as A had not changed its name, it can be assumed that they accepted it. In this situation, it was possible to assume that neither of the participants knew the exact name for the object. However, there was not a clear way of knowing with superordinate approximations, as can be deduced in Example 2 previously.

The second largest group of CSs after approximations was appeals for assistance. As combinations, there was not a difference in the use of direct and indirect appeals for assistance, therefore, they are treated as one category here. Appeals for assistance were typically used individually and together with an approximation or an all-purpose word. This indicates that they had a strong connection with the feeling of uncertainty regarding the target word, which led to the situation that the example word given with the appeal was an approximation or an all-purpose word. Example 4 features informants from G3 (A, informant 71) and G4 (B, informant 72). First, there is a superordinate approximation (*soihtu*) unrelated to the other CSs. Then, there is a retrieval (highlighted in italics) ending in a sister approximation (*pannu*) and followed by a direct appeal for assistance (*mikä toi on?*). It shows how an approximation was typically next to the appeal for assistance.

(4) A: toi onki ja (0.) **soihtu** (0.) ja toi *ka-* toi ***pannu*** **mikä toi on?** (0.)
B: kat[tila]
A: [kat]tila (.) pannu just se (0.) *ha[ha*]
B: [*heh*]

English translation

A: that fishing rod and (0.) **torch** (0.) and that *ke-* that ***pan*** **what is that?** (0.)
B: ket[tle]
A: [ket]tle (.) pan just that (0.) *ha[ha*]
B: [*heh*]

Collaborative use of combinations featuring an appeal for assistance was rare. Appeals were typically followed by with either assistance or ignorance, and Example 4 shows an appeal followed by assistance. Neither or these reactions required the use of further CSs. Nevertheless, there were some instances, where the appeal for assistance led to a discussion regarding the identification of the object. Example 5 shows a combination of a direct appeal for assistance (highlighted in bold) and an all-purpose word (*semmonen*), followed by a superordinate approximation (*soihtu*) and a circumlocution (highlighted in bold) from the interlocutor. The informants are form G1 (B, informant 51) and G3 (A, informant 54).

(5) B: ja sit [**onko tää**] **joku (0.)** ***semmonen***?
A: [mm]
(0.)
A: *soihtu* [niinku]
B: [nii]
A: °et se-° **sillä voi hälyttää apua sit jos** [**tulee joku**] (0.)
B: [nii just]
A: **lentokone (.) lähellä tai jotain** (0.)

English translation

B: and then [**is this**] **some (0.)** ***like that***?
A: [mm]
(0.)
A: *torch* [like]
B: [yeah]
A: °that it-° **you can call help with it if** [**something comes**]
B: [exactly]
A: **plane (.) near or something** (0.)

Most of the situations containing an appeal for assistance such as this led to a comment on the usefulness of the item, ignoring the appeal. Nonetheless, the participants were supposed to

describe and discuss the items, and that option does not necessarily fill the demand. However, Example 5 shows how that was done with the help of CSs.

After approximations and appeals for assistance, the largest group of CSs in the English dialogues was verbal strategy markers. They were under interactional strategies with appeals for assistance, and like appeals for assistance, verbal strategy markers were typically combined with another CS. However, where appeals for assistance did occur in collaborative use, albeit rarely, verbal strategy markers did not occur in collaborative use. Their use in Finnish dialogues was rare, however, it is featured in Example 1. Example 6 shows the typical use of a verbal strategy marker in an English dialogue; half of the occurrences it was combined with a circumlocution. Other CSs frequently occurring with verbal strategy markers were approximations, all-purpose words and appeals for assistance. The informants in the example are from G1 (A, informant 53) and G3 (B, informant 55), yet CSs are exclusively from informant A. It is a combination of a cousin approximation (*an intercom*), and a direct appeal for assistance (highlighted in bold), followed later by a verbal strategy marker (highlighted in bold), and a circumlocution (highlighted in italics).

(6) A: [so] (0.) **is this *an intercom*?** (0.)
B: yeah or like a: (.) [radio]phone or
A: [inter-]
A: yeah [that's]
B: [it-]
B: I think that
(0.)
A: **I don't know the exact term** but (0.)
A: *so they can* (0.) *I don't know who they can communicate*

This is also an example where the discussants did not agree on a name for an object. Instead of continuing the talk on what the specific item is called, it was henceforth called *intercom*. It is not in the scope of this study to speculate the reasons for the use of CSs; however, it can be seen here that they are more complex than problems in word retrieval or vocabulary deficiencies.

The largest group overall after approximations and appeals for assistance was all-purpose words. They had two basic functions as CSs in the data set: either they behaved like verbal strategy markers and indicated uncertainty regarding the used words, or they behaved like

approximations, giving yet a more general meaning to the word than an approximation would have given. Individual combinations of CSs with an all-purpose word were rare, and when they did appear in combinations, it was with an interactional strategy, and occasionally also with a retrieval. These were situations where the search for a word did not yield the expected result, and an all-purpose word was used as a signal for this. This can be seen in Example 7, which shows the use of an all-purpose word in a similar way to verbal strategy markers. The example is from G3 (informant 54), and it is a combination of a retrieval (highlighted in bold), an all-purpose word (*juttu*), and a direct appeal for assistance (*mikä toi on*).

(7) toi lääke- (0.) **pi- pu- kaa- kaappi** (0.) **pussukka***juttu* **mikä toi on**=

English translation

that medicine **bo- ba- ca- cabinet** (0.) **bag** *thing* **what is that**=

Example 7 is an atypical example in the sense that it is an individually used combination of three different CSs, which was rare. Nearly all of the individual combinations had only two CSs. Example 8 features informants from G3 (pair 57–81) and shows all-purpose words (highlighted in bold) used collaboratively in a similar way as approximations.

(8) A: [sitte **toi**] ihmeen (.) *heh*
B: [joo]
B: kuussa ei oo vettä (0.) [niin] miten me kannetaan **toi tommonen**
A: [jep]
A: niin (0.) [mä aattelin et **tota** ois voinu käy]ttää johonkin suojautumiseen
B: [tai no- emmä kyl tiiä]

English translation

A: [then **that**] what on earth (.) *ha*
B: [$yeah$]
B: there's no water on the moon (0.) [so] how do we carry **that sort of a thing**
A: [yep]
A: yeah (0.) [I thought that **that** could've been u]sed for some protection
B: [or well- I don't actually know]

Despite the inability to name the specific object, using all-purpose words enabled the participants to discuss the usefulness of the object. It is probable that had the participants used more time to name the object, they would have found at least a superordinate approximation, however, that would have cost time and affected fluency. This type of use did not disrupt the conversation, and like approximations, all-purpose words maintained the flow of conversation and enhanced interactional fluency.

Retrieval was the next largest group of CSs. There were several instances in the Finnish dialogues, however, only a few in the English. Less than half of the retrievals occurred in combinations, and they were with an appeal for assistance. All the combinations were individual use. Appeals for assistance following a retrieval were typically unanswered, therefore, they did not lead to following conversation regarding the identification of the object, which might have elicited further CSs. Example 9 shows a combination of a retrieval (highlighted in bold) and an indirect appeal for assistance left unanswered (highlighted in italics). The informants are from G1 (B, informant 54) and G3 (A, informant 54), and the CSs exclusively from informant B.

(9) B: ja myös toi (0.) **veitsi tai puukko** tai *mikä onkaan*
(0.)
A: nii (0.) nii ja sil- (0.) nii no emmä tiiä onks siel jotai (0.)
A: villieläimiä jossain (luo)

English translation

B: and also that (0.) **knife or sheath knife** or *whatever it is*
(0.)
A: yea (0.) yea and wi- (0.) yea well dunno if there's some (0.)
A: wild animals in some (ca)

This example is similar to Example 7, which featured the same kind of pattern with an added all-purpose word. The role of retrievals in maintaining interactional fluency is less straightforward than that of approximations and all-purpose words, however, retrieval possibly gave more information on the object than an approximation would have given, and the combination with an ignored appeal for assistance supports this.

Circumlocutions demonstrated an opposite pattern compared to retrievals: there were only a few instances of circumlocutions in the L1 dialogues, yet in the L2 dialogues it was the largest group after verbal strategy markers. Nearly half of the circumlocutions appeared in combinations, and with one exception, all of them were used collaboratively. Individual use of CS combination featuring a circumlocution can be seen in Example 6. Collaborative use followed a certain pattern, where an appeal for assistance from one informant led to an approximation or a verbal strategy marker followed by a circumlocution from the interlocutor. Therefore, it can be deduced that circumlocutions in collaborative use gave answers to appeals for assistance when the exact term was unavailable, which was explained beforehand with a verbal strategy marker or an approximation. Example 5 shows this situation. Peltonen (2017) found an all-purpose word, or an approximation combined with a circumlocution to be a common combination, and this pattern can somewhat be observed here too. However, in this data set, half of the circumlocutions appeared independently, and the appeal for assistance was as important companion to circumlocutions as were the approximations and verbal strategy markers.

Although word coinages and code-switches were rare, they appeared in combinations. However, they both had only a few occurrences and that helps to understand the use only in these few instances. There were two combinations of CSs involving word coinages in the L1 dialogues. They appeared in individual use and in a similar way as approximations and all-purpose words. There were also two combinations containing code-switches, one in the L1 and one in the L2 dialogues, and both were used individually. They were both accompanied by an appeal for assistance asking what a certain word is. In the L1 dialogue the informant using a code-switch and posing the question answered the question themselves, while in the L2 dialogue, the whole question was posed in the L1, and the answer given by the interlocutor. Lastly, similar-sounding words did not appear in any combinations, but with only two occurrences in the whole data set, this was to be expected.

The more frequently used CSs showed how the combinations of CSs were essential in creating continuity in the conversation. This highlights the important role CSs have in interactional fluency, and this was equally seen in the L1 and the L2. The fact that the CSs were nearly as frequently used in the L1 as in the L2 could also be interpreted so that the advanced learners were nearly on the same level in their L1 as they were in their L2, in regard of CSs. This resembles the results in Huensch and Tracy-Ventura (2017) and Peltonen (2018) where the L2 fluency of the more advanced learners was closer to their L1 fluency than the

less advanced learners'. As the participants in the present study were all advanced learners, this kind or comparison was not possible, yet this shows the importance of using individuals' L1 for comparison when studying second language acquisition.

6 Conclusion

In this final section of the thesis, the most important findings of the study are concluded. The limitations of the study are discussed and directions for future research are suggested.

The aim of this study was to compare the use of communications strategies (CSs) in L1 Finnish and L2 English dialogues. CSs were seen as devices for enhancing interactional fluency. CSs were examined in the dialogues of 50 university students of English, 25 dialogues of approximately six minutes long in both languages. Altogether 201 CSs were identified in the L2 dialogues and 169 in the L1, the classification of CSs following a combination of Poulisse, Bongaerts, and Kellerman (1984), and Dörnyei and Scott (1997). The frequency of the most frequently used CSs was similar in both languages, and approximations accounted for 64 % of the used CSs in the L2, respectively 61 % in the L1. However, there were some CSs where the statistical difference in the frequency between the L1 and the L2 was significant, these being translations, which appeared only in the L2, and verbal strategy markers. Furthermore, the comparison of CS use of the same individual in both languages revealed that a third of the participants used them twice as frequently in one of the languages, either in the L1 or in the L2. This highlights the need to use the L1 production as a comparison to the L2 production of the same participant. This is also a good direction in the study of CSs.

It was seen in several instances that there are more reasons for the use of CSs than vocabulary deficiencies or problems in word retrieval. Alignment behaviour can affect the use of CSs, but it could also be seen that the reasons are more complex. Retrievals were used more in the L1 than in the L2 and, in addition to this, appeals for assistance occurred more frequently in the L1 dialogues than in the L2, although the differences in frequencies were not statistically significant. This also shows that although studying the use of CSs in the L2 speech production yields results, so does studying them in the L1. The difference in frequency of CS use between the two languages might have been greater if the participants had not been advanced learners of the L2, yet it might not have shown that some strategies are more frequently used in the L1 than in the L2. However, in understanding the use of CSs better, it would be good to have participants of various proficiency levels. This way it might be seen how the proficiency level of the L2 affects the difference of CS use across the languages.

Further analysis was conducted on the CS use of the participants who used them more or as frequently as the median in both or either of the languages. There were some indications that the participants who used many CSs in both languages tended to use the same CSs in both languages. However, as there were only six participants under this category, this is not generalisable. In addition to this, eleven participants used CSs more in the L1 than in the L2, and this study was not able to find reasons for this. However, 22, nearly half of the participants did not use CSs frequently in either of their dialogues. It can be thought that their use of CSs was very similar across the languages.

The third research question addressed the individually and collaboratively used combinations of CSs and their role in supporting interactional fluency. Temporal fluency was not studied in the present study, and fluency was approached only from an interactional aspect. Approximations in collaboratively used combinations were typically the repetition of the same approximation. This was found to resemble alignment behaviour and support interactional fluency in creating cohesion. It was also assumed that it reduced time used for further negotiation of meaning. This was likewise assumed of the role of all-purpose words. Appeals for assistance were typically paired with an approximation in individual use. Circumlocutions appeared rarely in the L1, but in the L2, they appeared in a pattern starting from an appeal for assistance which the interlocutor intended to answer without the exact word needed for it. The interlocutor started with an approximation or a verbal strategy marker and continued with a circumlocution. This shows how the use of circumlocutions supported the flow of conversation and built cohesion in showing the interlocutor's willingness to assist.

Finally, it was seen in this study that the use of CSs in the L2 and L1 was somewhat connected among advanced learners of the L2. The used CSs were essentially the same across languages and the frequencies similar in some of the CS types. This indicates that same kinds of CSs are usable in structurally different languages, such as English and Finnish, and the ability to use fluency resources is transferable across languages. Teaching the use of CSs may help learners to achieve better interactional fluency, and their use should also be seen as a positive attribute in the evaluation of fluency.

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Appendices

Appendix 1. Information given to the participants and the items in Task A

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. Information given to the participants and the items in Task B

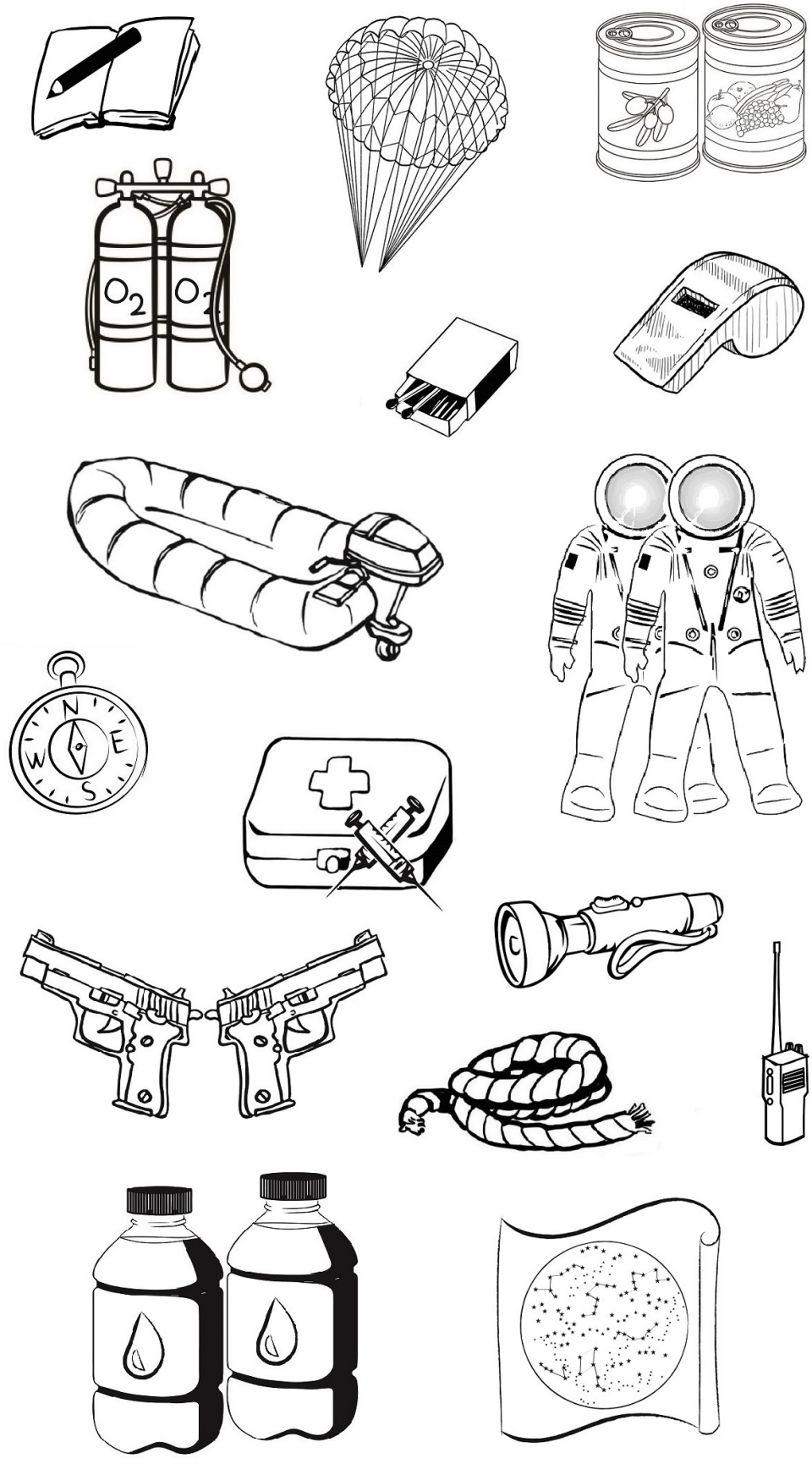
REACHING THE MOTHER SHIP

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.


O2
O2
N
E
S
W

Appendix 3. List of accepted target words, as encountered in the data set

Task A		Task B	
binoculars	kiikarit	canned fruit, canned food	säilykkeet
first aid kit, first aid	ensiapulaatikko, ensiapu, ensiapupakkaus	compass	kompassi
fishing rod	onki, onkivapa	first aid kit, first aid	ensiapupakkaus
flare, emergency flare	hätäsoihtu, hätäraketti	flashlight, torch	taskulamppu
hammer, nails	vasara, nauloja	guns	aseet
kettle, pot	kattila, pata	lifeboat, rubber boat, motorboat	pelastusvene, kumivene, kuminen moottorivene
knife	puukko	matches	tulitikut
lantern	lyhty, öljylamppu, myrskylyhty	notebook, book, logbook, pencil	muistikirja, muistio, muistiinpanovälineet, lokikirja, kirja, kynä, lyijykynä
magnifying glass	suurennuslasi	oxygen, oxygen tanks	happi, happipullot
map, compass	kartta, kompassi	parachute, chute	laskuvarjo
matches	tulitikut, tulitikkurasia	rope	köysi, naru
recorder	nokkahuilu	spacesuits	avaruuspuvut
rope	köysi, naru	star map, stellar map	tähtikartta
sleeping bag	makuupussi	walkie talkie, radiophone	radiopuhelin
tent	teltta	water	vesi
umbrella	sateenvarjo	whistle	pilli, hätäpilli

Appendix 4. Essential transcription conventions

Symbols

:	Colon(s)	Extended or stretched sound, syllable, or word
__	Underlining	Vocalic emphasis
(.)	Micropause	Brief pause of less than 0.25 seconds
(0.)	Short pause	A pause of 0.25–1.00 seconds
( )	Single parentheses	Transcriptionist doubt
?	Question mark	Rising vocal pitch
° °	Degree signs	A passage of talk noticeably softer than surrounding talk
hah	Laugh syllable	A separate laugh syllable (cf. chuckling talk below)
$	Smile voice	Laughing/chuckling talk between markers
-	Hyphen	Halting, abrupt cut off of sound or word. Used for indicating that participants correct something they have said
=	Equal signs	Latching or contiguous utterances, with no interval or overlap
[ ]	Brackets	Speech overlap

Appendix 5. The Finnish summary

Tämän pro gradu -tutkielman aiheena on äidinkielisen (L1) ja vieraskielisen (L2) kommunikaatiostrategioiden käytön vertailu ja niiden vaikutus vuorovaikutuksen sujuvuuteen. Tutkielmassa käsiteltiin kommunikaatiostrategioita englantia yliopistossa opiskelevien suomalaisten vuoropuheluissa. Materiaalina käytettiin Suomen Akatemian rahoittaman Turun yliopiston tutkimusprojektin, *Fluency and Disfluency Features in L2 Speech (FDF2)*, keräämiä aineistoja. Osallistujia oli 50, ja he kävivät ongelmanratkaisuun keskittyvän dialogin saman parin kanssa sekä suomeksi että englanniksi. Molemmissa dialogeissa oli samankaltainen ongelmanratkaisutehtävä, jossa piti keskustella 16:sta kuvana esitetystä esineestä ja asettaa nämä tärkeysjärjestykseen joko autiolla saarella tai pakkolaskun sattuessa kuussa. Ennen dialogia annettiin kaksi minuuttia suunnitteluaikaa, ja dialogiin oli varattu kuusi minuuttia; kuvat ja ohjeistus olivat koko ajan osallistujien nähtävissä. Osallistujat olivat tehneet LexTALE-testin, joka mittaa sanavarastoa, ja tämän perusteella heistä 37 kuului C1/C2- ja 13 B2-tasoille. Tutkimus hyödynsi monimenetelmäistä lähestymistapaa. Tutkimuskysymykset olivat:

1. Missä määrin suomalaiset englannin yliopisto-opiskelijat käyttävät kommunikaatiostrategioita L1 suomen ja L2 englannin dialogeissa?

2. Minkälaisia yhtäläisyyksiä ja eroavaisuuksia on havaittavissa kommunikaatiostrategioiden käytössä L1 ja L2 dialogien välillä
   a) ryhmätasolla?
   b) yksilötasolla?

3. Miten kommunikaatiostrategioiden yhdistelmiä käytetään yksilöllisesti tai yhteistyössä vuorovaikutuksellisen sujuvuuden ylläpitämisessä?

Tutkielman teoriaosuudessa keskityttiin sujuvuuteen sekä kommunikaatiostrategioihin. Sujuvuuden käsitettä avattiin aloittaen Lennonin (1990) jaosta laajaan ja kapeaan määritelmään. Näistä laajalla voidaan kuvata kielitaitoa yleisellä tasolla, kun taas kapea keskittyy sujuvuuteen yksityiskohtaisesti yhtenä suullisen kielitaidon osa-alueena (Lennon 1990, 389). Tutkimuksessa, kuten myös tässä, käytetään tyypillisesti kapeaa määritelmää sujuvuudesta. Sujuvuuden ajatusta laajennettiin sisältämään vuorovaikutuksen sujuvuus. Kun yksilön sujuvuutta tutkittaessa mitataan tyypillisesti temporaalista sujuvuutta, voidaan vuorovaikutuksen sujuvuuteen ajatella sisältyvän sen lisäksi myös koheesiota luovat tekijät.

Näiden ajateltiin viittaavaan sujuvuuteen myös tässä tutkimuksessa. Lisäksi tässä tutkimuksessa käsiteltävien kommunikaatiostrategioiden roolia sujuvuutta tukevana strategisena kielenkäyttönä avattiin viittaamalla Peltosen (2020) ongelmaratkaisukeinojen viitekehykseen, jossa niitä ajatellaan sujuvuuden resursseina. Koska tämän tutkimuksen yhtenä tärkeänä puolena oli vertailla saman yksilön suoritusta äidinkielellä ja vieraalla kielellä, keskityttiin aikaisempien tutkimusten tulosten esittelyssä tutkimuksiin, joissa vertailun kohteena olivat L1 ja L2. Lisäksi kiinnostuksen kohteena olivat tutkimukset, joissa keskiössä olivat dialogit niissä yleisempien monologien sijaan.

Kommunikaatiostrategioiden käsittely aloitettiin niiden määrittelyllä jatkaen niiden luokitteluun ja tunnistamiseen. Määrittely lähti Leveltin (1989) psykolingvistisestä mallista, jossa puheen tuottaminen jaetaan käsitteellistämiseen, muotoiluun ja artikulaatioon (Levelt 1989, 9). Muotoilu jakaantuu kieliopilliseen sekä fonologiseen koodaamiseen, joista kieliopilliseen sisältyy lemmojen (mielessä oleva kuva sanojen merkityksestä) hakeminen (Levelt 1989, 11). Mikäli tässä vaiheessa puheentuotantoa esiintyy ongelmia, voidaan kommunikaatiostrategioita käyttää avuksi. Tästä siirryttiin Færchin ja Kasperin (1980) määritelmään, jossa kommunikaatiostrategian kriteerinä ovat ongelmalähtöisyys ja potentiaalinen tiedostaminen (Færch ja Kasper 1980, 57–58). Lisäksi Færch ja Kasper (1980, 84) jakoivat kommunikaatiostrategiat saavuttamisen ja välttämisen strategioihin. Tämän määritelmän lisäksi käsiteltiin Taronen (1981) ja Poulissen, Bongaertin ja Kellermanin (1984) määritelmät, joissa kriteerit säilyivät enimmäkseen samoina, mutta tiedostamisen kriteeriä pohdittiin.

Kommunikaatiostrategioiden luokittelussa esiteltiin erityisesti Taronen (1981), Poulissen, Bongaertsin ja Kellermanin (1984) sekä Dörnyein ja Scottin (1997) taksonomiat. Taronen (1981) taksonomiassa oli viisi luokkaa, parafraasi (sisältäen approksimaation, sanan keksimisen ja kiertoilmaisun), lainaaminen, avunpyyntö, elekieli ja välttäminen (Tarone 1981, 286–287). Poulisse, Bongaerts ja Kellerman (1984) keskittyivät kommunikaatiostrategioihin saavuttamisen näkökulmasta jättäen välttämiseen liittyvät strategiat taksonomiansa ulkopuolelle. He jakoivat strategiat kielten välisiin ja kielen sisäisiin strategioihin. Kielten välisiin sisältyi lainaaminen (joka tunnetaan myös koodinvaihtona), kääntäminen ja ulkomaalaistaminen (Poulisse, Bongaerts ja Kellerman 1984, 89–90). Kielen sisäisiä strategioita olivat puolestaan approksimaatio, sanan keksiminen, kuvailu (joka tunnetaan myös kiertoilmauksena), uudelleen muotoilu, avunpyyntö ja elekieli (ibid.). Dörnyei ja Scott (1997) jakoivat kommunikaatiostrategiat puolestaan suoriin, epäsuoriin ja

vuorovaikutuksellisiin strategioihin. Suorat strategiat noudattivat pitkälti aikaisempia saavuttamiseen liittyviä strategioita, mutta niissä huomioitiin lisäksi yleiskäyttöiset sanat ja samankuuloiset sanat (Dörnyei ja Scott 1997, 197).

Tässä tutkimuksessa käytetty taksonomia yhdisteli Poulissen, Bongaertsin ja Kellermanin (1984) ja Dörnyein ja Scottin (1997) taksonomiaa, ja kommunikaatiostrategiat jaettiin suoriin ja vuorovaikutuksellisiin strategioihin. Suoriin strategioihin kuuluivat approksimaatio, joka jaettiin edelleen kattotermeihin, sisar- ja serkku-approksimaatioihin, yleiskäyttöiset sanat, kiertoilmaisu, sanan keksiminen, mieleen palauttaminen, kääntäminen, koodinvaihto ja samankuuloiset sanat. Vuovaikutuksellisiin strategioihin kuuluivat suorat ja epäsuorat avunpyynnöt sekä sanalliset strategiamerkit.

Kommunikaatiostrategioiden tunnistamisessa käytetään tarkoitetun merkityksen hypoteesia (*intended meaning hypothesis*), itsereflektiota, epäsujuvuuksien läsnäoloa ja elekieltä. Koska tässä tutkimuksessa ei ollut mahdollisuutta osallistujien haastatteluun, eikä videointia käytetty osallistujien yksityisyyden suojaamiseksi, nämä kaksi tunnistamisen metodia eivät olleet mahdollisia. Keskeisimpänä tunnistamismetodina käytettiin näin ollen tarkoitetun merkityksen hypoteesin metodia. Se soveltui hyvin myös sen ansioista, että jokaisella parilla oli samat tietyt esineet, joista heidän oli määrä keskustella.

Englanninkielisestä aineistosta löytyi yhteensä 201 kommunikaatiostrategiaa ja suomenkielisestä 169. Osallistujat käyttivät keskimäärin neljää strategiaa L2 dialogissa ja kolmea L1 dialogissa. Kaikkia strategioita kääntämistä lukuun ottamatta esiintyi molempien kielisissä dialogeissa. Kattotermi-approksimaatiot olivat eniten käytettyjä kommunikaatiostrategioita molemmissa kielissä, 80 tapauksella L2 dialogeissa ja 65 L1 dialogeissa. Laskettaessa kaikki approksimaatiot yhteen, oli 64 % L2 strategioista ja 61 % L1 strategioista approksimaatioita. Approksimaatioiden lukumäärän suuruus mukailee aikaisempaa tutkimusta (Peltonen 2017). Serkku-approksimaatioita kuitenkin käytettiin L2 dialogeissa selvästi enemmän kuin L1 dialogeissa, 16 L2 dialogeissa ja 6 L1 dialogeissa, ja tämän voisi myös ajatella liittyvän sanavarastoon.

Vuorovaikutukselliset strategiat esiintyivät tiheimmin approksimaatioiden jälkeen. Sekä suoria että epäsuoria avunpyyntöjä esiintyi L1 dialogeissa enemmän kuin L2 dialogeissa, ero niin suuri kuin 15 % strategioista L1 dialogeissa ja 10 % L2 dialogeissa. Molemmissa kielissä suoria avunpyyntöjä esiintyi tiheämmin kuin epäsuoria. Sanallisia strategiamerkkejä esiintyi kuitenkin L2 dialogeissa huomattavasti runsaammin kuin L1 dialogeissa, ja näin ollen

vuorovaikutuksellisia strategioita käytettiin molemmissa kielissä samankaltaisia määriä. Mieleen palauttaminen esiintyi L1 dialogeissa eniten heti suorien avunpyyntöjen jälkeen ja kattoi 8 % esiintyneistä strategioista, mutta L2 dialogeissa se oli yksi harvinaisemmista kattaen 3 % esiintymistä, ja tämä ero tiheydessä oli tilastollisesti merkittävä. Tähän ei kuitenkaan tämä tutkimus pystynyt tarjoamaan mahdollista selitystä. Kiertoilmaisu oli puolestaan käytetyin kommunikaatiostrategia L2 dialogeissa approksimaatioiden ja vuorovaikutuksellisten strategioiden jälkeen, mikä mukailee Peltosen (2017) tutkimusta, jossa se oli toisiksi tiheimmin esiintyvä kommunikaatiostrategia edistyneempien kielenkäyttäjien keskuudessa. Kuitenkin vaikka se oli esiintymiseltään suurimpien kategorioiden joukossa, se kattoi vain alle 6 % esiintyneistä kommunikaatiostrategioista L2 dialogeissa. Yleiskäyttöiset sanat esiintyivät hieman tiheämmin L1 dialogeissa (alle 8 %) kuin L2 dialogeissa (alle 5 %), ja kääntäminen vain L2 dialogeissa ja niissä 10 kertaa, eli 5 % esiintyneistä strategioista. Muiden kommunikaatiostrategioiden esiintyminen oli vähäistä. Lisäksi tutkittiin suorien ja vuorovaikutuksellisten strategioiden käytön eroa. Tässä huomattiin, että niiden käytön kynnys oli matalammalla L1:ssä kuin L2:ssa.

Vertaillen saman osallistujan käyttämiä kommunikaatiostrategioita L1 ja L2 dialogeissa, osallistujat jaettiin neljään ryhmään laadullista tutkimusta varten. G1-ryhmään kuuluivat osallistujat, jotka käyttivät strategioita keskiarvon verran tai enemmän molemmissa kielissä. G2-ryhmään kuuluivat osallistujat, jotka käyttivät strategioita keskiarvon verran tai enemmän L2:ssa ja vähemmän L1:ssä, ja G3 koostui osallistujista, jotka käyttivät keskiarvon verran tai enemmän L1:ssä ja vähemmän L2:ssa. G4 koostui osallistujista, jotka käyttivät vähän molemmissa kielissä, ja heidät jätettiin laadullisen tutkimuksen ulkopuolelle. G1 koostui kuudesta osallistujasta, G2 ja G3 11:stä ja G4:ssä oli 22 osallistujaa. G1, G2 ja G3 olivat heterogeenisiä, ja vaikka suuren strategian käytön raja oli keskiarvossa, löytyi myös osallistujia, jotka käyttivät jommallakummalla kielellä yli 10 kertaa kommunikaatiostrategiaa ja vain muutamaa toisella kielellä.

Laadullisessa analyysissä käsiteltiin kommunikaatiostrategioiden yhdistelmiä sekä yksilöllisesti käytettynä että yhteistyössä. Yksilöllisesti käytetyt approksimaatioyhdistelmät sisälsivät aina vuorovaikutuksellisen strategian, ja etenkin serkku-approksimaatiot esiintyivät yksilöllisissä yhdistelmissä. Vuorovaikutuksellinen approksimaatioiden käyttö sisälsi tyypillisesti saman approksimaation toiston, mikä saattoi viitata linjauskäyttäytymiseen, mutta myös vaikutti vuorovaikutukselliseen sujuvuuteen säästämällä osallistujat uudelta merkityksen neuvottelulta ja luoden koheesiota. Avunpyyntöjä käytettiin tyypillisesti

yksilöllisesti ja yhdistettynä approksimaatioon tai yleiskäyttöiseen sanaan, joka annettiin esimerkkinä avunpyynnön kanssa. Vuorovaikutuksellinen käyttö oli harvinaista, mutta jos avunpyyntöön haluttiin vastata, vaikka tarkkaa tietoa termistä ei ollut, käytettiin siinä approksimaatiota ja / tai kiertoilmaisua. Tämä oli vuorovaikutuksellisen sujuvuuden näkökulmasta parempi vaihtoehto kuin avunpyyntöön vastaamatta jättäminen, mitä tapahtui enemmän.

Sanallisia strategiamerkkejä esiintyi ainoastaan yksilöllisesti käytetyissä yhdistelmissä. Ne olivat harvinaisia suomenkielisissä dialogeissa, mutta englanninkielisissä dialogeissa ne yhdistettiin usein kiertoilmaisuun. Mieleen palauttamiset olivat puolestaan huomattavasti yleisempiä L1 kuin L2 dialogeissa, mutta niitä ei käytetty paljon yhdistelmissä. Harvinaisempia kommunikaatiostrategioita ei esiintynyt paljon yhdistelmissäkään. Kuitenkin tiheimmin käytettyjen kommunikaatiostrategioiden kohdalla pystyi havainnoimaan niiden merkityksen vuorovaikutukselliseen sujuvuuteen. Ne toimivat tärkeänä koheesion luojana.

Kaiken kaikkiaan tässä tutkimuksessa ilmeni, että edistyneiden oppijoiden kommunikaatiostrategioiden käyttö oli samankaltaista äidinkielessä ja vieraassa kielessä. Tämä korostaa L1:n ja L2:n välisen vertailun tärkeyttä kielen oppimisen tutkimuksessa.