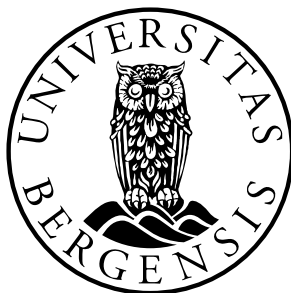


Grammatical encoding of past time in L2 Norwegian

The roles of L1 influence and verb semantics

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In memory of Jon Erik Hagen

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Abstract

The focus of the present thesis is the encoding of past time in L2 Norwegian. In Norwegian, the notion of past is grammaticalised through two categories, the preterite and the perfect, which are the two main structures that will be addressed in the study. The overall aim is to explore the grammatical encoding of past time in texts written by Vietnamese ($N=99$) and Somali ($N=97$) learners of Norwegian. The texts are assessed to be at proficiency level A2 or B1 of the *Common European Framework of Reference* (CEFR), and are extracted from a learner corpus of Norwegian (ASK).

The investigation is guided by two different theoretical positions in research on second language acquisition (SLA): 1) a language-specific perspective on second language acquisition that assumes that the learner's L1 can affect the acquisition of temporal morphology, and 2) a universalistic perspective on second language acquisition that assumes that the learner primarily displays universal tendencies and patterns in the acquisition of tense and aspect forms in the L2 (as described in the Aspect Hypothesis) (Bardovi-Harlig 2000; Shirai 2009). These two perspectives are often positioned as competitors; however, in the current study, both of them are included in order to gain a broader view of the acquisition of L2 morphology, and in order to benefit from findings that come from the different strands, but which are nonetheless connected. For instance, although there is a substantial amount of research to support the Aspect Hypothesis, which represents the universalistic position in the present thesis, and which considers the influence of lexical aspect to be an acquisitional universal, later studies within this line of research suggest that the L1 has an effect on the acquisition of temporal morphology (Ayoun and Salaberry 2008; Collins 2002, 2004; Izquierdo and Collins 2008; Rocca 2002, 2007). In addition, these studies also indicate that there is an interaction between lexical aspect and L1 influence (Collins 2002, 2004; Izquierdo and Collins 2008). These findings align with studies that seek to reveal how the conceptualisation and grammatical encoding of time in the L1 affect L2 acquisition (Alloway and Corley 2004; Boroditsky and Trusova 2003; Carroll and Von Stutterheim 2003; Polunenko 2004; Von Stutterheim, Carrol, and Klein 2009; Von Stutterheim and Nüse 2003). These studies have found that L2 learners have difficulties encoding temporal information in the same way that native speakers do, and that this encoding is particularly challenging when the L1 and L2 conceptualise and grammaticalise time differently.

An important part of the thesis is the contrastive analysis of the target language, Norwegian, and the learners' L1s, Vietnamese and Somali. In order to base the analysis of L1 influence on reliable and nuanced information about the contrastive relations, a method of eliciting information about temporal categories in languages, *the translation questionnaire method*, is adopted from Dahl (1985, 2000). The similarities and differences revealed in the contrastive analyses of Norwegian and Vietnamese and Norwegian and Somali are also analysed in relation to Ringbom (2007). Based on the contrastive analyses, the two theoretical perspectives, and previous findings, research questions and associated hypotheses are raised.

As to methods of analysis, the current study applies Jarvis's (2000) methodological framework for the study of L1 influence. Furthermore, methodological issues are also of great importance in the exploration of the predictions in the Aspect Hypothesis, due to the complexity involved in the classification of verb phrases into distinct categories of lexical aspect. The research questions and hypotheses are analysed based on a stepwise statistical approach which is intended to reveal systematic differences between the groups compared.

The main findings from the analysis can be summarised as follows: transfer effects are detected in the analysis; lexical-aspectual influence as predicted in the Aspect Hypothesis, which claims the acquisition of past morphology to be influenced by the telicity in verb phrases, is not revealed; and some kind of interaction of influence between the learners' L1s and the temporal content in flectional categories is detected; however, the precise type of interaction is difficult to discern. Finally, the various findings are discussed against the backdrop of the theoretical perspectives and previous findings presented in the thesis.

List of abbreviations

1	first person
2	second person
3	third person
AGR	agreement
ADV	adverb(ial)
AUX	auxiliary
CLF	classifier
CPRO	clitical pronoun
DM	declarative marker
F	feminine
FOC	focus word
INF	infinitive
INFL	inflection
LEX	lexical affix
M	masculine
ROOT	verb root
PST	past
PRS	present
PRT	preterite
PTCP	participle
PRS GEN	present general
PRS PRF	present perfect
PRS PROG	present progressive
PST HAB	past habitual
PST PRF	past perfect
PST PROG	past progressive
PST SIMPLE	past simple
PL	plural
SG	singular
TM	time marker
Q	question marker

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Chapter 1

INTRODUCTION

The present study explores the grammatical encoding of past time in Norwegian as a second language in texts written by learners whose first languages (L1s) are Somali or Vietnamese. The investigation is based on two principally different theoretical perspectives of how second language learners (L2 learners) acquire verb morphology in a second language (L2):

1. a language-specific perspective of second language acquisition that assumes that the learners' L1 can affect the acquisition of temporal morphology, and that learners display L1-specific patterns in the acquisition of tense and aspect forms in the L2
2. a universalistic perspective of second language acquisition that assumes that the learners' L1 can only minimally affect the acquisition of temporal morphology, and that learners display universal tendencies and patterns in the acquisition of tense and aspect forms in the L2

The objective of the study is twofold. First, the study aims to shed light on *whether*, and if so *how* the learner's first language affects the acquisition of verb morphology in a second language.¹ Second, by combining a language-specific and a universalistic approach, the study also aims to give insight into how L1 influence may *interact* with another factor that affects the acquisition of L2 morphology, namely, verbal semantics as described in the line of research known as The Aspect Hypothesis (Andersen and Shirai 1996; Bardovi-Harlig 2000; Shirai 2009).

¹ My PhD project is affiliated with *The ASKeladden Project* at the Faculty of Humanities, University of Bergen.

The overall aims of the thesis are to:

1. Investigate the role of L1 influence in the learners' grammatical encoding of past time in Norwegian, focusing on the preterite and present perfect in Norwegian
2. Investigate the role of verb semantics in the grammatical encoding of past time as described and predicted in research on The Aspect Hypothesis
3. Investigate whether there is interaction, if any, between influence from the learner's L1 and verb semantics.

In this introductory chapter, I will introduce terminology, concepts and issues that are central in the current study. The chapter also provides an outline of the thesis.

1.1 An introduction to time in language

The concept under consideration in the present study is one of the most basic categories of human cognition and is intrinsically tied to language. Wolfgang Klein, one of the SLA researchers who have explored expressions of time, puts it like this:

The ability to express time belongs to the most fundamental traits of human communication. All human languages that we know of provide their speakers with a range of lexical and grammatical devices to say when something happened and how long it lasted, to say whether it happened, or will happen, for the first time, regularly or very often, and to say whether some event or states precedes, overlaps with or follows another event or state [...] In many languages, one of these devices, tense, is so deeply rooted in the grammatical system that it is hardly possible to utter a sentence without referring to time (Klein 2009: 1).

The ability to experience time is universal, but the experience is not uniform. Every human is able to think about time and to express time, yet this is not to say that there exists one homogenous concept of time. Quite the reverse: there are many concepts or facets of time, such as biological time, physical time and even subjective time as influenced, for example, by drugs (Klein 2009: 25). Even though we cannot single out what time really is, we do assume that there exists a basic time structure underneath the linguistic encoding of time, which at least can be taken as a starting point for the study of time markers in languages that have scholarly descriptions. Klein (2009) is only one of several linguists that offer a description of what constitutes this basic time structure. Reichenbach's theory of tense is among the more

well-used and well-known descriptions (Reichenbach 1947), and Comrie (1976, 1985) is another important researcher in the field. There are numerous theories and descriptions of temporal systems in languages, and the literature on the topic is vast. In this general introduction to time in language, I rely mostly on Klein's survey in *The expression of time*, edited by Klein and Li (2009).

When we discuss how time is encoded in language, it is important to bear in mind that an utterance or a sentence embeds different levels of representation. We have to distinguish between the *situation itself*, the *description* of the situation and the *linguistic marking* of the temporal position of the situation (Klein 2009: 39). The sentences below all express an activity (run):

- a) *He is running*
- b) *He ran*
- c) *He was running*

Even though the situation *in itself* is not necessarily the same in the three sentences, they all describe the same type of situation (a person, *he*, be running). The linguistic marking differs, however, and the three types of verbal encoding signal a difference of temporal frame in the sentences (*ibid.*). The verbal marking used in these examples is only one of the devices for encoding time in language, and in the literature we find different ways of classifying time expressions. A frequent distinction is that between lexical, grammatical and pragmatic devices or between lexical composite expressions, lexical items and grammatical categories, as we find in Comrie (1985). Klein splits the different types of marking further and distinguishes between six main devices for expressing time linguistically: tense, aspect, lexical aspect (called *aktionsart* in Klein), temporal adverbials, temporal participles and discourse principles (Klein 2009: 40). The emphasis in this study is on how past time is grammatically encoded and expressed through verb morphology. I use the term *grammaticalised expression* in accordance with Comrie (1985: 10) who defines grammaticalisation of location in time in terms of the interaction of two criteria: morphological boundness and obligatoriness. That is to say that there exists a continuum (Hopper and Traugott 2003) where inflectional categories, which are always depended and bound, are the “clearest instances” (Comrie 1985: 19) of grammaticalisation of time. At the other end of the scale, grammatical words/function words that express temporal notions are situated. However, in the current study *grammatical encoding* refers to the expression of time through verb morphology. The categories of tense,

aspect and lexical aspect are therefore most important. However, since temporal adverbials and particles are of great significance for the classification of verb phrases into lexical-aspectual classes, the study also takes these elements into consideration in the part that deals with lexical-aspectual classification². Before I define the relevant temporal categories, I would like to comment on a term, *grammaticalisation*, which is related to the term used in the present study. The expression *grammatical encoding* is a frequently-used term for the marking of time by means of verb morphology. However, Tenfjord (1997) talks about *grammaticalisation* of time instead; a term originally meant to describe a diachronic process “whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions” (Hopper and Traugott 2003: XV). However, the notion of grammaticalisation has also been a subject of interest in synchronic language studies, in which Givón (1979, 1984) has been particularly influential. Sato (1990) adapted Givón’s ideas into the context of second language acquisition in order to describe how L2 learners move from *parataxis* to *syntactization*. That is to say: “the process through which the target-like use of morphosyntactic devices in IL increases over time, while the reliance on discourse-pragmatic context declines” (ibid.: 51-52). According to Tenfjord (1997, 2009) this is a useful term in studies investigating the process of acquiring tense morphology in an L2. However, since the current study investigates interlanguages at a specific point in time, i.e. when the informants wrote the texts, for my purpose I consider the term grammatical encoding more suitable than the term grammaticalisation, which I believe is primarily a process-oriented term.

Tense is a category of the verb (Klein 2009: 40) and is traditionally defined as “grammaticalised expressions of location in time” (Comrie 1985: 9). Tense is a deictic relation between a situation³ and the time of the utterance, and in the canonical view of tense, the time of the utterance is taken to be the reference point.

Whereas tense is well established in the literature as a grammatical category, *aspect* is used in several different ways, which makes it rather confusing. Indeed, according to Tonne, aspectology “is a field in terminological confusion” (Tonne 2001: 13). Part of the explanation for this inconsistency is that the terminology was more or less transferred from the Slavic literature on aspect to the study of Germanic languages (Vannebo 1969). Aspect is sometimes

² For readers interested in the application of the term grammaticalisation in SLA studies, I recommend Tenfjord’s (2009) discussion.

³ I use the term *situation* in the same manner as Comrie (1985: 5): as a general term for events, processes and states.

used as a general term for a semantic concept, which is what Comrie does when he defines aspect in the following manner: “aspect is different ways of viewing the internal temporal constituency of a situation” (Comrie 1976: 3). Some scholars also use the term to denote the grammatical category of aspect as distinct from the lexical-semantic category. Klein (2009: 40), for instance, introduces aspect as a “grammatical category of the verb” and uses the term *aktionsart* to denote the lexical category of aspect. Because aspect can have several meanings in the literature, it is important to clarify how the term and other connected terms are used in the current study.

I use the term *aspectuality* with reference to a semantic concept that can be rendered through verb morphology and verb semantics. I use *aspect* as a denotation for the grammatical encoding of aspectuality. Aspect is a non-deictic category and does not express reference to time as tense does; instead, it conveys different types of temporal perspectives that focus on different parts of the situation, such as the beginning of a situation or the completeness of a situation, and so forth. Comrie’s definition of aspect is a classic reference: “aspect is different ways of viewing the internal temporal constituency of a situation” (Comrie 1976: 3,5). The perfective (situation presented as completed) and the imperfective (situation presented as ongoing) are the most common grammatical categories of aspect. I use *lexical aspect* when referring to the lexical category of aspectuality, but other frequent labels for the same category are *aktionsart*, *semantic aspect*, *inherent semantic aspect*, and *event/situation type*. In the current study, lexical aspect is defined as a lexical-semantic category that refers to properties of the situation as described in the verb phrase and sometimes the whole sentence.

To sum up, there is a difference in tense between *He is running* (a) and *He ran* (b), but no difference in tense between (b) and *He was running* (c) in the sentences above. On the other hand, there is a difference in aspect between *He ran* (b) and *He was running* (c), but no difference in aspect between (a) and (c). Finally, there is no difference in lexical aspect between the three sentences because they all refer to the activity of running. The classification of lexical aspect is a problematic one and is difficult to conduct; it will be discussed thoroughly in chapter 5, *Methodological issues*, and also touched upon in chapter 2, *L2 acquisition of temporality*. Also, the boundaries between semantic categories in languages are not fixed, but differ across languages (Theil 2007: 67), which is a related topic that I will address in chapter 2, *L2 acquisition of temporality*.

1.2 Two perspectives: the study of transfer and the acquisition of temporal morphology

Language transfer, first/native language influence, mother tongue influence, linguistic interference, language mixing, and crosslinguistic influence (henceforth also CLI) are all notions that refer to the idea that a person's prior linguistic knowledge may in some way affect the acquisition and use of a second language⁴. Yet many aspects of the language transfer phenomenon, such as how transfer is conceptualised, how transfer effects are manifested, how transfer can be investigated and what are valid evidence of transfer, are not agreed upon, and in many cases, are not stated clearly. A large number of transfer studies use Odlin's frequently-referenced working definition as a starting point (Jarvis 2000: 250):

Transfer is the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired (Odlin 1989: 27).

Odlin's general definition covers influence from all previously-acquired languages. The investigation of language transfer in the present study is however restricted to influence from the informants' first languages. Hence, I employ the term *L1 influence* when I refer to the study in question and use *transfer* and *crosslinguistic influence* interchangeably when I refer to the general study of language transfer within the field of SLA. Furthermore, in the current thesis, several other definitions of transfer besides Odlin's (1989) will be applied and discussed.

Transfer, or crosslinguistic influence, has been a recurring subject of research in the history of second language research (SLA), and has fluctuated in terms of how much it is valued as a proper research area. In the early days of SLA, the transfer phenomenon was considered the key to SLA within the framework of the Contrastive Analysis Hypothesis (henceforth also CAH). The CAH, founded on structuralism and behaviourism, claimed that learning a second language was essentially a matter of suppressing L1 habits and establishing new sets of habits in accordance with target language structures. The opponents of the CAH were not interested in SLA or transfer *per se*, but in developing efficient methods for teaching languages to foreigners. According to the CAH, second language learning rested upon detailed contrastive analyses, which focused on structural properties of the L1 and L2 in order

⁴ Transfer is perhaps the most problematic term of the ones listed because of its status in the Contrastive Analysis Hypothesis, and hence it has strong associations with the view that transfer is simply a result of habit formation. Nevertheless, most researchers today use transfer in a theory-neutral manner.

to identify differences between the languages that would lead to L1 *interference* with second language learning. Contrastive analysis enabled teachers to predict negative transfer and, consequently, to focus on these differences in teaching in order to avoid interference from the L1. However, the CAH had little empirical support, and it came under attack during Chomsky's *cognitive revolution* at the end of the 1950s. Chomsky attacked the anti-mentalistic perspective in Skinner's behaviourism (Chomsky 1959), as well as the strictly descriptive approach in Bloomfield's structural linguistic paradigm (Chomsky 1965). Chomsky's ideas had an enormous influence on SLA and were responsible for the shift in SLA from a behaviourist to a more mentalistic approach (Jordan 2004: 151). This total shift in perspective had severe consequences for research on transfer. The majority of SLA researchers began to approach SLA from a purely developmental perspective and paid no respect to L1 influence; during this time, transfer was simply not regarded as an important mechanism in SLA. Due to the close relationship between transfer and behaviourism, the transfer phenomenon was regarded as "inherently behaviourist" (Odlin 1998: 83) and was completely rejected as a proper and important area of research by SLA scholars. Pit Corder was among the first to apply Chomsky's ideas to SLA, but contrary to many other SLA researchers he did not "throw the baby out with the bath water" (Gass and Selinker 2008: 135) when letting go of structuralism and behaviourism; on the contrary, he continued to acknowledge L1 influence as one of the factors affecting SLA. *The significance of learners' errors* (Corder 1967) is the classic reference to Corder's Error Analysis (henceforth also EA), which came to replace the CAH paradigm. Within this framework, errors were no longer seen as something that should be eradicated; they were understood to be important because "they provide windows onto a system – that is, evidence of the state of a learner's knowledge of the L2" (Gass and Selinker 2008: 102). Even though EA claimed that errors could be described without reference to the L1, EA applied the CAH in a weak version because it diagnosed errors based on comparisons of the L1 and L2 (Nistov 2001: 14).

At the time, Corder was an exception. Mainstream SLA researchers refrained from studying transfer until the 1980s and 1990s when there was a renewed interest in the phenomenon and a growth in research on the topic. The scope of transfer research broadened: transfer was studied from a range of perspectives (Gass 1996: 321), and researchers such as Andersen (1983) and Kellerman (1995) turned the focus towards the underlying principles of L1 influence. This intensified transfer research led to a broader and deeper understanding of the phenomenon: transfer was now regarded as a cognitive mechanism in L2 acquisition and

not merely as an L1 response. Researchers were not merely preoccupied with the documentation of transfer, but sought to investigate *why* and *when* something transferred. According to Jarvis and Pavlenko, this shift in focus from *transfer* to *transferability* is one of the most important developments in the history of transfer research (Jarvis and Pavlenko 2008: 174). However, these substantial efforts to document and explain L1 transfer did not result in a clear and consistent picture of transfer, and a theory of transfer seems improbable (Odlin 2003: 478). Even though transfer is recognized as a multifaceted phenomenon that can operate at every language level, fundamental questions concerning transferability remain to be fully explained, and many studies point in conflicting directions. According to Jarvis, the confusion in the field is largely due to the manner in which transfer has been handled methodologically; and, consequently, he proposes a set of methodological principles for transfer studies (Jarvis 2000: 245).

Methodological rigor in the study of L1 influence is not the only issue that has been in focus recently. Theoretical advances are also being called for, and in their state-of-the-art book, *Crosslinguistic influence in language and cognition* (2008), Jarvis and Pavlenko are very specific in their guidance of new, promising theoretical accounts of L1 influence. One of the recent theoretical developments to which Jarvis and Pavlenko pay particular attention is an area of research that falls under the cover term *conceptual transfer*. Conceptual transfer can have several meanings and does not yet have a unified theoretical paradigm. Rather, conceptual transfer is an area of research in bilingualism and SLA that consists of studies from different research milieus that rest upon somewhat different theoretical frameworks, study designs and objectives. Still, Jarvis's general description of conceptual transfer as an area of research "that deals with cross-linguistic differences and cross-linguistic influences in the mental construction and verbal expression of meaning" (Jarvis 2011: 1) points to the unifying features of conceptual transfer research. The study of conceptual transfer is at a preliminary stage, but it is obviously considered to be a particularly promising subject for research on crosslinguistic influence (Jarvis and Pavlenko 2008; Kellerman 1995; Odlin 2005). Jarvis and Pavlenko (2008) provide the first in-depth analysis of conceptual transfer in their synthesis of research on crosslinguistic influence.

Traditionally, the area of morphology has been regarded as more impervious to crosslinguistic influence than all other subsystems of languages (Jarvis and Odlin 2000: 536). According to Jarvis and Pavlenko (2008: 92), this is the result of a too narrow understanding of how transfer operates in SLA. In fact, recent studies have documented both overt transfer

of bound morphemes from the L1 to the L2, as well as more subtle morphological transfer, which may be manifested as preferences in language users' choice of L2 structures (ibid.). Concerning the acquisition of L2 verb morphology, there seems to be a general agreement among SLA researchers that the emergence of tense and aspect is guided by lexical-aspectual properties of verb phrases (Andersen og Shirai 1996; Bardovi-Harlig 2000; Shirai 2009). This insight is formulated in the Aspect Hypothesis, which is the most extensively studied assumption in the area of L2 acquisition of temporal morphology (Odlin 2005, Jarvis and Pavlenko 2008). The Aspect Hypothesis has a descriptive, a theoretical and an explanatory component (Andersen 2002: 87). It refers to the *observation* that L2 learners, regardless of L1 background, do not apply tense and aspect markers in all contexts, but make associations between grammatical categories and lexical aspects of verb phrases. Regarding the acquisition of past marking, for example, it has been observed that telic verb phrases are more likely than atelic verb phrases to be coded grammatically for past. This common sequence of development is *explained* by influence from prototypical semantic categories, and therefore, influence from lexical aspect is put forward as a universal in acquisition of temporal morphology (Collins 2004). In this paradigm, crosslinguistic influence has not yet been given much weight or been investigated systematically. In her outline of research on tense and aspect in SLA, Bardovi-Harlig (2000:411) concludes that the studies do not reveal "significant L1 effect" on the acquisition of temporal expressions. Rather, the acquisition of tense and aspect are developmentally constrained, and lexical aspect is one of most important factors in this respect. However, later studies of L2 acquisition of temporality show that L1 influence does indeed have an effect on acquisition, and that the L1 works along with lexical aspect, operating within the documented order of acquisition of tense and aspect (Alloway and Corley 2004; Izquierdo og Collins 2008; Ayoun og Salaberry 2008). These studies suggest that lexical aspect is one type of linguistic factor that interacts with transfer and affects the transferability of verb morphology.

1.3 Data and method

In Norway, SLA research is a rather young field of research. According to Golden, Kulbrandstad and Tenfjord (2007: 12) there are three main lines of research in Norwegian as a second language. One of them is the *learner line*, which investigates what is considered as a core issue in SLA: "how learners acquire the ability to communicate competently in the L2"

(Jordan 2004: 252). One aspect of this fundamental question is how L1 competence affects acquisition, which has been an important topic in Norwegian SLA research. However, there are only three doctoral theses that address crosslinguistic influence in Norwegian SLA; Tenfjord (1997), Kløve (1997), and Nistov (2001). The vast majority of transfer studies of Norwegian interlanguage have been master theses. Even though the doctoral theses and the master theses have generated important insight into transfer, there remains a problem of generalizability; the amount of data collected has simply been too small. This is not a uniquely Norwegian "problem". The problem of study design and generalizability in transfer studies is one of the objections that Jarvis (2000) puts forth in his article *Methodological Rigor in the Study of Transfer*.

As stated above, one of the objectives of the present thesis is to conduct a study that satisfies Jarvis's proposed framework for transfer studies; therefore, my data should meet Jarvis's requirements. The data of this study are taken from an electronic learner corpus, of Norwegian called ASK. One of the motivations behind the building of the ASK corpus was the need to overcome the challenges of the limited empirical basis of transfer research in Norway. The ASK corpus contains written texts and personal information about test takers from 10 different native languages. The various L1s are represented by 200 texts each⁵. Most of the texts in ASK have been assessed at the proficiency scale of *The Common European Framework of Reference, CEFR (Common European framework of reference for languages: learning, teaching, assessment 2001)*. In my study, I have extracted 99 texts written by Vietnamese test takers and 97 texts written by Somali test takers from the ASK corpus. These texts are assessed to be at two levels of proficiency; A2 and B1. These 196 texts from two typologically different L1s constitute my primary data material. In Norwegian SLA research, there has not yet been a study of transfer based on such a large sample size. Even though the main purpose is to perform a large-scale study of L1 influence in language use; investigate whether or not transfer effects are detected in the interlanguages, I also aim to discuss the findings in relation to research on conceptual transfer. However, there are some problems when it comes to relating the effects of unobservable mental entities, such as conceptualisation and other cognitive processes, to findings from language performance data. Furthermore, my data are different from the kind of material used in previous studies of linguistic relativity and conceptual transfer. Previous studies have been more experimental in design and are mainly based on analyses of non-verbal tasks. In addition, my data are not

⁵ Vietnamese and Somali are only represented by 100 texts in ASK.

representative of the data usually used in research on the Aspect Hypothesis; these data are typically collected by means of various elicitation tasks (Bardovi-Harlig 2000: 199). The study is also based on contrastive data about how temporality is expressed and encoded morphologically in Norwegian, Vietnamese and Somali. Contrastive insight into the learners' first language is an essential prerequisite for the study of how the L1 affects the acquisition of a second language. It is also critical for formulating relevant predictions about how native language competence affects the acquisition of tense in Norwegian. Often, as in the present study, the researcher has only superficial knowledge of the languages under consideration and needs to obtain additional contrastive knowledge. Since reference grammars can only serve as a secondary source of contrastive data, I have adopted Dahl's (1985, 2000) method to elicit information about temporal categories in languages, *the translation questionnaire method*, in order to obtain more primary data about the encoding of time in the informants' L1s. Native speakers of Vietnamese and Somali have translated 151 sentences in contexts that extract information about the present perfect and related categories. These translated sentences form a separate contrastive database, which is of great importance for the contrastive analysis.

1.4 Structure of the thesis

In chapter 2 and chapter 3 I present the theoretical background for the research questions and the hypotheses that are raised in the current study. Chapter 2, *L2 acquisition of temporality*, presents different theoretical accounts of how L2 learners grammatically encode time in the L2, and reports on several studies that are relevant for the present study. The chapter is structured in two main parts. The first part discusses new theoretical developments in the field of transfer research, and is labelled *The language-specific perspective*. The second part introduces a universal perspective of second language acquisition, *The Aspect Hypothesis*, in which lexical aspect is assumed to play a crucial role for acquisition of temporal morphology. In this part I also discuss the classification of verb phrases into distinct classes of lexical aspect. In chapter 3, *The encoding of time in Norwegian, Vietnamese and Somali*, in the first main section, I discuss how to compare languages and present the translation questionnaire method. In the second main part, I conduct a contrastive analysis of the encoding of time in Norwegian, Vietnamese and Somali. Chapter 4, *Survey of the study*, gives an overview of the study, links insight from chapter 2 and chapter 3, and presents research questions and their associated hypotheses. Chapter 5, *Methodological issues*, addresses the investigation of L1

influence and the investigation of lexical-aspectual influence from a methodological point of view. I outline Jarvis's (2000) framework for transfer studies, and discuss my own research in relation to Jarvis' requirements. I present the guidelines I have developed for the purpose of classifying my data into the Vendlerian categories of states, activities, accomplishments and achievements. In addition, this chapter presents the Norwegian learner corpus used in the current study, ASK. Chapter 6, *Data and analysis procedures*, presents the data and the stepwise procedures for analysing the data in order to explore the research questions and test the hypotheses set forward in chapter 4. This chapter also includes a presentation of the statistical tools and tests applied in the present study. The analysis and results are presented in chapter 7. Chapter 7 is organised in two main parts, the first of which presents the results from the analysis of L1 differences. The second main part presents the results from the analysis of lexical-aspectual influence. Chapter 8 discusses the results in relation to the research questions and hypotheses raised in the study, as well as presenting a few topics, which in light of the findings of the present study; appear particularly interesting for further studies. Finally, concluding remarks are drawn in chapter 9.

Chapter 2

L2 ACQUISITION OF TEMPORALITY

This chapter lays out the theoretical foundations of the study and introduces different theoretical perspectives on L2 acquisition of temporal morphology: *The language-specific perspective* and *the Aspect Hypothesis*. The purpose of this chapter is merely to introduce the two theoretical perspectives, assumptions and frameworks associated with them, to present studies that are conducted within the different frameworks, and those which are relevant to the current study. Hence, many studies are introduced throughout the different sections in the chapter, and table 88 in appendix A summarises the most important features and findings of them. Also, the theories and studies presented in this chapter will be referred to later in the thesis when research questions and hypothesis will be argued (chapter 4) and findings discussed (chapter 8). The first section of the chapter provides a short introduction to research on the acquisition of temporal expressions in a second language. The first main part of the chapter, which I have given the title *the language-specific perspective*, presents theoretical frameworks that emphasise the language-specific aspect of the grammatical encoding of temporal expressions in the L2. The transfer research introduced in this section is informed by the renewed interest of the relation between language and cognition, and I focus on two neighbouring lines of research: studies that relate to Slobin's thinking for speaking hypothesis (The Heidelberg group directed by Christiane Von Stutterheim) and conceptual transfer (in particular associated with Scott Jarvis and Aneta Pavlenko). Subsequently, I briefly survey different perspectives on the transfer phenomenon. In the second main part of the chapter, I present the Aspect Hypothesis, in which influence of lexical aspect on the acquisition of temporal morphology is assumed to be a universal of language acquisition (Collins 2004: 251). The chapter also surveys studies of temporal morphology and transfer in Norwegian SLA.

2.1 Learning to talk about time in a second language⁶

Early studies of the acquisition of verb morphology in a second language were carried out in the years immediately following the shift from a behaviouristic to a more mentalistic-oriented approach to language acquisition⁷. These studies, known as *the morpheme order studies*, were heavily influenced by Dulay and Burt's hypothesis that the process of learning the L2 is similar to that of learning the L1⁸ (Dulay and Burt 1974). The morpheme order studies were informed by Brown's (1973) studies of orders of acquisition of English inflectional endings in child language acquisition, and applied Brown's findings to L2 data. Hence, the agenda of the morpheme order studies was not to investigate the emergence of tense and aspect systems "in their own right" (Bardovi-Harlig 2000: 4), but to document that L2 learners passed through the same stages as L1 learners in the acquisition of morphemes. The morpheme order studies were, and still are, important because they attested developmental sequences (Gass and Selinker 2008: 135); however, they focused exclusively on morphological items, such as inflectional endings. They were not interested in the emergence of temporal expressions, and hence, did not contribute to the understanding of how L2 learners grammatically encode expressions of temporality. Furthermore, the morpheme order studies proved to be methodologically flawed for several reasons. In particular, the focus on the obligatory contexts and accuracy rates without regard for the process or form-meaning relations was perhaps the most fundamental weakness (Bardovi-Harlig 2000: 5, Gass and Selinker 2008: 133). In the 1980s, there was a change in perspective from attention to form and surface structure to more focus on the temporal semantics underlying the linguistic encoding (ibid.: 10). The study of acquisition of *time talk* (Smith 1980) came to constitute a distinct research area in SLA, and was investigated from two different fronts: A North American front and a European front (Bardovi-Harlig 2000: 2). These two different strands of research approached the investigation of temporal expressions differently: Whereas the research in the North American front can be characterised as a form-oriented approach, the European studies followed a meaning-oriented approach⁹ (ibid.: 12). These two different approaches will be presented in section 5.1 in chapter 5, *Methodological issues*, in which it also will be argued

⁶ The expression *time talk* was coined by Smith (1980).

⁷ See chapter 1 and chapter 3 for more about SLA research in the 1950s and the 1960s.

⁸ Later known as the L1=L2 Hypothesis (Gass and Selinker 2008: 104).

⁹ According to Bardovi-Harlig (2000), studies on the emergence of tense and aspect systems can be categorised into two main approaches: the meaning-oriented approach and the form-oriented approach. Chapter 5, section 5.1, elaborates more on the two different approaches.

that the current study occupies an intermediate position between the form-oriented and the meaning-oriented approach. The investigation of time talk has generated a large body of studies of how L2 learners express time by means of different devices in language (Bardovi-Harlig 2000: 1). In particular, the acquisition of temporal morphology, that is, the grammatical encoding of tense and aspect in the L2, has been heavily researched (Jarvis and Pavlenko 2008: 94; Shirai 2009). Even though later research on the development of temporal expressions is clearly distinguished from the morpheme order studies, there exists a parallel in that the study of how L2 learners acquire temporal markers still revolves around universal aspects of the developmental process and the identification of stages of acquisition. The ESF project¹⁰ on L2 acquisition of temporal expressions by adult immigrants (Dietrich, Klein, and Noyau 1995), for instance, identified three stages in the acquisition of temporal expressions: pragmatic, lexical and morphological (ibid.). Another example is the acquisitional sequences for tense and aspect morphology which Bardovi-Harlig (2000) discusses in her extensive survey of research of temporality in an L2. Findings from studies of order of emergences of verb morphology in several Germanic L2s (Swedish, Dutch, English, German, French, Spanish and Italian) reviewed by Bardovi-Harlig suggest that L2 learners follow a common path in the acquisition: The present form functions as a default form and the first temporal distinction acquired is the past – nonpast distinction. Accordingly, the simple past form, usually a preterite, is the temporal form acquired first. The present perfect emerges after the preterite, but before the past perfect form (Bardovi-Harlig 2000: 419.)¹¹. From such findings Bardovi-Harlig infers that “the target language exerts a much greater influence in the acquisition of morphology than a learner’s first language” (ibid.: 419). The line of research simply known as the Aspect Hypothesis in SLA also focuses on the universal aspects of acquisition and attests that there is an order of emergence in temporal morphology, which is closely related to lexical-aspectual properties of verb phrases. Also similar to the morpheme order studies, in most studies of the emergence of temporal markers, the L1 has not been regarded as a significant factor. This applies to both the ESF project, the studies surveyed by Bardovi-Harlig in which the Aspect Hypothesis studies are included. Hence, the effect of the

¹⁰ *The European Science Foundation Project*, (the ESF project) studied language acquisition in adult immigrants living in Western Europe. One of the research teams investigated temporality in a second language (Dietrich, Klein, and Noyau 1995).

¹¹ If the target language includes a progressive form, such as English, the past progressive will emerge after the simple past/preterite, but before the perfect forms (Bardovi-Harlig 2000: 419). Bardovi-Harlig also discusses explanations for the observed order of emergence, in which morphosyntactic complexity is set forward as one possible explanation for the emergence of the simple past and the preterite (Bardovi-Harlig 2000: 180-182).

L1 on the L2 acquisition process has not been studied systematically. Bardovi-Harlig (2000) concludes, for instance, that the extensive literature she examines does not reveal a “significant L1 effect” on the acquisition of temporal expression (ibid.: 411). The question of transfer was considered in the ESF project, and was one of the reasons for including immigrants with various L1 backgrounds in the project (Dietrich, Klein, and Noyau 1995: 3). However, although the ESF project was designed to compare interlanguages from different L1 groups, their conclusion regarding transfer effects is in line with Bardovi-Harlig (2000)’s evaluation:

What is much more striking, is the **lack of SL influence** where one would expect it [...] We must conclude, therefore, that there is no significant SL influence in the acquisition of temporality (Dietrich, Klein, and Noyau 1995: 278).

Apparently, L1 influence has a minor role in the acquisition of temporality, at least based on what the vast majority of research has been able to reveal so far. The elusiveness of the transfer phenomenon has often been put forward as an explanation, or reason, for the lack of a clear and consistent picture of transfer. Kellerman’s (1983) much cited phrase “now you see it, now you don’t” underscores the fact that influence from previously acquired languages does not always “reveal itself in obvious ways” (ibid.: 128). Furthermore, according to Jarvis and Pavlenko (2008) the lack of support for transfer effects in the acquisition of temporality has to do with the manner in which transfer has been investigated, and the study of crosslinguistic influence in acquisition of temporal morphology will be the topic of the first part of the chapter. The second part surveys a line of research, the Aspect Hypothesis, which is one of the theoretical perspectives explored in this study. As we will see, the issue of transfer is not a point of emphasis in the line of research, however, there are some studies researching the Aspect Hypothesis that also explores the role of the learners’ L1s. However, the point of departure for those studies of L1 influence described is that of *universalism*. The Aspect Hypothesis describes a universal tendency that holds for all types of language learning and is explained in terms of cognitive principles of language acquisition common to all language learners. In contrast, the first main part of the present chapter deals with studies that investigate how the L1 influences L2 acquisition. As opposed to mainstream research on the Aspect Hypothesis, this line of research heavily emphasises crosslinguistic similarities and differences. As we will see, research on crosslinguistic influence is diverse and does not make up a defined line of research as do the theory-driven investigations of the Aspect Hypothesis.

However, undoubtedly a line of enquiry exists, albeit a multifaceted one, that is similar in the language-specific approach they take in the study of second language development. Research in this category regards transfer as a crucial factor that must be accounted for within a theory of second language acquisition, and includes studies designed for the purpose of detecting such influence.

2.2 The language-specific perspective

In his article from 2000, Jarvis describes the state of transfer research as follows:

Despite the myriad studies that have been conducted in this area over the past four decades, there still remains a surprising level of confusion in the field concerning when, where, in what form, and to what extent L1 influence will manifest itself in learner's use or knowledge of a second language [...] Until now, L1 influence has been treated largely as you-know-it-when-you-see-it phenomenon, and although most researchers may indeed recognize L1 effects when they see them, the lack of consensus concerning what L1 influence is and how it should be investigated may mean that different researchers have not seen (or even looked for) the same effect (Jarvis 2000: 246).

However, even though transfer is an elusive phenomenon, Jarvis argues that L1 effects *are* possible to detect, but only through rigorous investigations of transfer. Methodological rigour is an important topic in present-day discussions of transfer research, and it will be the focus of chapter 5, *Methodological issues*. Chapter 5 also includes a presentation of Jarvis's proposed methodological framework. The focus of the rest of the present section is on new theoretical developments within research on crosslinguistic differences and crosslinguistic influence: *conceptual transfer* and *thinking for speaking*. As we will see, these latest theoretical refinements challenge the traditional view of the morphological domain as being more impervious to crosslinguistic influence than all other subsystems of languages. Even though Odlin in his 1989 publication stated that "transfer can occur in all linguistic subsystems, including morphology and syntax" (Odlin 1989: 5), morphological transfer is still met with uncertainty according to Jarvis and Odlin (2000) and Jarvis and Pavlenko (2008). Jarvis and Pavlenko (2008: 61, 92) claim that this scepticism is unwarranted and is a consequence of the elusiveness of L1 effects on grammaticalised items, combined with a lack of understanding of how L1 influence may manifest itself in interlanguages. Whereas phonological transfer is easily detected, and contrastive explanations of foreigners' difficulties with pronouncing

certain sounds are commonly made by laymen as well as researchers, from Jarvis and Pavlenko's perspective morphological transfer can be more difficult to recognise. In contrast to phonological and lexical transfer, morphological transfer may not initially appear as an overt pattern, such as transfer of inflectional morphemes. Rather, it may manifest itself more subtly in learners' production and perception, as in the Heidelberg studies of how the presence or absence of a grammatical category of ongoingness affects the perspective taken in narratives. The section *Thinking for speaking* introduces the studies of crosslinguistic differences and crosslinguistic influence of the Heidelberg research group. We shall also consider the studies of non-verbal behaviour mentioned by Jarvis and Pavlenko in their discussion of conceptual transfer in the domain of time, which are surveyed in the section *Conceptual transfer*. These studies provide examples of L1 influence that are only detected by sound contrastive comparisons, both on a formal and conceptual level, and by studies designed for the purpose of revealing such L1 influence. The various studies that we will discuss throughout this part of the chapter show how the latest theoretical developments in transfer research, thinking for speaking and conceptual transfer, can potentially provide new insight into the role of the learner's first language in the acquisition of temporality and morphology. They may also challenge the view that temporal development is primarily driven by universal principles, such as the influence of lexical-aspectual properties on the emergence of verb morphology as we will learn more about in the second part of the chapter. In addition, the studies of temporality in L2 Norwegian presented later in the present part addressing the transfer issue also indicate that the L1 does play a role in the acquisition of temporal morphology. However, before we proceed to the first section that addresses studies researching the impact of crosslinguistic differences on language learning, I will briefly introduce the theoretical field to which the studies and perspectives surveyed in section 2.2.1 and 2.2.2 relate.

Conceptual transfer and thinking for speaking in SLA and bilingualism research have emerged against a backdrop of renewed interest in the relation between language and cognition. I start by briefly mentioning the most important works and researchers from this period¹². Despite the obvious convergence between thinking for speaking and conceptual transfer, I will examine them separately in order to clarify their relationship and to illuminate

¹² The rethinking of the relationship between thought and language is an enormous area that includes many different research fields. This brief introduction by no means provides a comprehensive overview of this renewed interest that developed during the 1990s. Readers interested in this development are advised to read Jarvis and Pavlenko (2008), Odlin (2005, 2010) or (Pavlenko 2005, 1997).

how they can contribute to the study of L1 influence in the domains relevant to the current study: morphology and temporality.

Although the idea that language influences thought and reality has existed since “the dawn of philosophy” (Gumperz and Levinson 1996: 3), today it is strongly associated with the works of Edward Sapir and Benjamin Lee Whorf. The following passage from Whorf’s *Language, Thought and Reality* captures the essential point in what has come to be known as *Sapir-Whorf hypothesis*:

[...] the obligatory phenomena within the apparently free flow of talk are so completely autocratic that speaker and listener are bound unconsciously as though in the grip of law of nature. The phenomena of language are background phenomena, of which the talkers are unaware or, at the most, very dimly aware [...] These automatic, involuntary patterns of language are not the same for all men but are specific for each language and constitute the formalized side of the language, or its “grammar” – a term that includes much more than the grammar we learned in the textbooks of our school days. From this fact proceeds what I have called the “linguistic relativity principle”, which means, in informal terms, that users of markedly different grammars are pointed by their grammars towards different types of observations and different evaluations of externally similar acts of observations, and hence are not equivalent as observers but must arrive at somewhat different views of the world (Whorf and Carroll 1956: 221).

Scholars such as Lakoff (1987), Lucy (1992, 1997), Slobin (1996, 2003) and Levinson and associates (Bowerman and Levinson 2001; Gumperz and Levinson 1996; Levinson 1996, 2003) have been important contributors to the revitalisation of the Sapir-Whorf hypothesis since the 1990s, and have inspired numerous empirical investigations and theoretical discussions of the interaction between language and thought in the fields of psychology, bilingualism and language acquisition (Pavlenko 2005; Jarvis and Pavlenko 2008; Jarvis 2000). These neo-Whorfians share a common interest in questioning the current view in cognitive science that the language faculty is essentially innate and merely serves as a formal device for coding a “pre-established” universal reality. Even though these scholars adopt different positions and approaches to the issue of linguistic relativity, they all argue for a mildly relativistic view of how aspects of language can affect thought processes, also acknowledging aspects of language that do not affect cognition at all (Pavlenko 2005: 434) or where the effect is weak. Some claim that concepts that are relational and abstract, such as temporal concepts, are more likely to be affected by linguistic structure than concrete concepts that have a perceptual basis (Alloway and Corley 2004: 320). The neo-Whorfians

also pay more attention to the notion of *concept* and *conceptualisation* compared to earlier approaches to linguistic relativity, and they do not limit their investigations to structural differences between languages. Finally, within this renewed discourse on linguistic relativity, the dynamic character of language users' conceptual representation is emphasised¹³.

In second language acquisition, Slobin's *thinking for speaking* hypothesis has been particularly influential in research on transfer at the conceptual level (Jarvis 1998; Odlin 2005) and his thoughts have been linked to linguistic relativity. Slobin argues that language is not an objective reflection of reality, and that typological differences have cognitive implications. Languages encode different aspects of reality by various linguistic means; accordingly, the same situation can be described in different ways in different languages. Slobin argues that these differences in conceptualisation have an impact on the cognitive processes involved in the speech act. In the process of forming utterances, the speaker has to organize the experience in a way that fits his or her communicative needs as well as the linguistic codes available in the specific language. This process requires the speaker to perform a mental operation called *thinking for speaking*:

In all cases of language acquisition the learner is both guided and limited by typological features of the language being acquired [...] the speaker makes conceptual choices – online – in the course of formulating utterances in accord with the grammaticalisation patterns of the particular language. That is, in learning a language one also learns a sort of 'thinking for speaking' in which grammaticalised notions are most readily accessed (Slobin 1993: 244).

However, contrary to his predecessors, Slobin argues for an *online* effect on cognition and does not claim that language affects thought processes in situations other than verbalisation. Hence, he replaces the terms *thought* and *language* with *thinking* and *speaking*.

In his article, *Crosslinguistic influence: Transfer to nowhere?*, Kellerman (1995) ties Slobin's thinking for speaking framework to evidence of transfer resulting from differences between the L1 and the L2. This is because Kellerman sees the need for refinements to Andersen's (1983) *Transfer to somewhere* principle:

¹³ As pointed out by several scholars, among them Pavlenko (2005: 436) and Odlin (2008: 308), Whorf had a far more optimistic view regarding the ability of language learners to adopt new "world views" as interpreted later by several of Whorf's critics.

Most of the evidence so far amassed about the provenance of CLI seems to support the *transfer to somewhere* principle, but it is claimed here that there are other ways that the first language can influence the second at a level where cognition and language touch. These language-specific ways of dealing with experience lead to *transfer to nowhere*. In this sense, learners may not be able to capitalize on cross-language correspondences because some types of ‘thinking for speaking’ may be beyond individual awareness (Kellerman 1995: 143).

As Kellerman remarks, the ideas invoked in thinking for speaking were not completely new to SLA research. Kellerman cites Snow (1976) who talks about *strongly-based* and *weakly-based* semantic systems, where the latter can be grammatical distinctions not present in the L1 and which cannot be easily observed, but have to be noticed before they can be learned. This resembles the idea of the difference between abstract and concrete categories, which Lucy (1997) presents almost twenty years later. Also in Fries we find traces of a relativistic view of language learning, for instance, in this passage from his foreword in Lado’s *Linguistics across culture* (1957) where he talks about the learner’s *blind spots*:

A child in learning his native language has learned not only to attend (receptively and productively) the particular contrast that function as signals in that language; he has also learned to *ignore* all those features that do not so function. He has developed a special set of “blind spots” that prevent him from responding to the contrastive signals of his native language. Learning a second language, therefore, constitutes a very different task from learning the first language (Fries in Lado 1975).

Kellerman is among the first SLA researchers to link Slobin to the investigation of transfer, but the most systematic application of Slobin’s thinking for speaking framework to language acquisition and bilingualism has been conducted by Von Stutterheim and her associates at the University of Heidelberg¹⁴. The researchers in the Heidelberg group do not express an interest in transfer in itself; however, in their quest to explore the relation between grammatical structures and principles of event construal in language, their studies of crosslinguistic differences and crosslinguistic influence contribute to our understanding of how learners’ L1s impose restrictions on the language learning process, at least in certain domains.

¹⁴ In Norwegian SLA research, Slobin’s hypothesis was first addressed in Nistov’s (2001) study of referential choices in narratives produced by Turkish learners of Norwegian. She discussed some of her findings in relation to Slobin’s predictions, which she claims are partially supported in her data (ibid.: 322).

2.2.1 Thinking for speaking

Von Stutterheim and her associates at the University of Heidelberg seem to be driven by the questions of 1) *whether* language-specific grammaticalisation patterns drive certain principles of *event construal*, that is, organising and presenting information during the process of verbalizing an event, and 2) *if so*, at what level in the production process do these language-specific patterns come into play? (Von Stutterheim and Lambert 2005; Von Stutterheim and Nüse 2003). The research is oriented towards language production and relies particularly on two theoretical frameworks: Levelt's model of speech production (1989) and Slobin's thinking for speaking hypothesis presented in the preceding section. In the following paragraphs I will summarise the most important findings and conclusions from this line of research.

A range of empirical studies of how L1 speakers of different languages (French, Italian, Spanish, English, German, Norwegian, Dutch and Algerian Arabic) solve the same verbal tasks, have been conducted within the Heidelberg research group, and Von Stutterheim and Nüse (2003) and Von Stutterheim, Carroll and Klein (2009) present some of them. The verbal tasks included both offline and online¹⁵, film retelling as well as descriptions of short video clips of different situations, such as *someone eating a banana* (Von Stutterheim and Nüse 2003: 861). Some of the studies also included responses to a non-verbal task using an experimental method: eye tracking. The unifying hypothesis for the various studies is that the abstract principles used to organise information for speaking are rooted in structural properties of the language. This process of event construal involves several tasks, and among them (mentioned by Von Stutterheim and Nüse 2003: 853-854) are the following: *segmentation*, the breaking down of a complex situation into smaller parts; *selection*, the selection of units which the speaker decides to express and thus encode; *structuring*, the structuring of selected units according to language-specific grammatical, pragmatic and syntactic options; and *linearization*, the linear arrangement of the components selected for verbal encoding (ibid.: 853-854). According to Von Stutterheim and associates these processes are specific to a given language or typologically similar languages:

¹⁵ The informants saw a silent film, *The Quest*, by Thomas Stellmach. This is an animated film about a clay figure who wanders between four different worlds in his quest for water. A lot of the studies associated with the Heidelberg group that use a film retelling method have used this film in order to elicit narratives.

[...] we claim that the systematic cross-linguistic differences in information organisation are rooted in the grammaticised meanings found in the respective languages. For the temporal domain, for example, aspect constitutes a central category, and notions such as ongoingness or progression are highlighted by morphological means. These notions entail a particular viewing point on the situation or events at issue, and languages which code such options have to accommodate the underlying perspective at many levels and ensure consistency across different domains in information structure (Carroll and Von Stutterheim 2003: 395).

This quotation from Carroll and Von Stutterheim (2003) is an answer to the first question above on the relation between language-specific grammaticalisation patterns and event construal. A range of studies associated with the Heidelberg group claim to assess this correlation between linguistic structure and principles for information organisation. Furthermore, they assert that there are crosslinguistic differences between languages in how this correlation works. Moreover, it is argued that based on the contrasts found in principles of information organisation at the microstructural level of the planning process, it is possible to infer differences also at the macro-level in the form of abstract principles of perspective taking (Von Stutterheim and Nüse 2003, Von Stutterheim and Carroll 2006).

As mentioned in the citation above, the grammatical category of aspect occupies a particularly important position in these studies. The impact of the presence or absence of a grammatical category of ongoingness on perspective taking in narratives is among the most well-documented findings within this framework. Because tense and aspect marking is central to the present study, I will present one study which explores the relation between grammatical encoding of aspectual notions and event construal.

Von Stutterheim, Carroll and Klein (2009) show how speakers of three different L1s (English, German and Dutch) differ in what aspects of the same event they focus on and verbalise when faced with the same tasks: film retelling (*The quest*), speech onset time and eye tracking. German and Dutch speakers, who do not encode ongoingness in their L1, show a greater preference for reporting endpoints and presenting events as a whole (ibid.: 207) than speakers of English, who, in contrast, “use an aspectual viewpoint when asked to tell ‘what is happening’ and thereby respond to the phase focused in the video clip” (ibid.). The speech onset time investigation (in which the informants were asked to start describing a situation as soon as they recognised it) confirms the findings of the retelling task. It shows that speakers of German, as compared to speakers of English, started to speak significantly later after the stimuli, which was interpreted as a consequence of the Germans’ tendency to await the ending of the whole situation before starting to speak. Because English speakers are not attuned to

endpoints in the same way but tend to describe any phase they observe, they responded faster verbally. The Dutch speakers were in between the English and the German speakers (ibid.). Finally, the same patterns were documented in the same data sample in a non-verbal task: eye tracking. German and English speakers showed a significant difference in how much information they needed before they started verbalising the event they saw (a figure on its way to a place which is not reached during the observation time), while the Dutch results were once again located in between the other two groups¹⁶. Carroll and Von Stutterheim (2003) extend these findings to other domains besides the temporal, and show not only that the differences in perspective taking rest upon the extent to which aspectual notions are grammaticalised in the L1, but also that grammaticalised meanings in other domains define the principles of information organisation, such as grammatical subject, topic assignment and morphosyntactic devices of expressing space (ibid.: 369).

The second research question explored in the Heidelberg project is more theoretically-oriented and relates to the role of language specificity in Levelt's conceptualizer. Von Stutterheim and Nüse (2003) argue, based on the empirical evidence reported above, that conceptualisation cannot be universal and language-independent as, for instance, Jackendoff (1990) proposes, but that "Conceptualization in language production must, or at least in certain respects, be based on language-specific principles" (ibid.: 876). At the same time, Von Stutterheim and Nüse do not agree with the position advocated by Lucy (1992) and Levinson (1996), who claim that there is a deterministic relation between language structure, language specificity and the conceptualizer (Von Stutterheim and Nüse 2003: 852). According to Von Stutterheim and Nüse, there is interdependence between conceptualization and linguistic knowledge (ibid.). In line with Slobin's thinking for speaking framework, they hold that the encoding of a preverbal message is a consequence of a planning process that takes place at the conceptual level, which in turn means that language specificity is also relevant at the pre-verbal message stage (ibid.).

2.2.1.1 Thinking for speaking in an L2

The Heidelberg group has also taken an interest in L2 acquisition and crosslinguistic influence. I will now discuss one of the studies that investigates the consequences of the

¹⁶ The differences between the Dutch results and the German results make sense in light of Flecken (2011). She shows how ongoingness is more frequently marked in contexts in Dutch than in German, despite the similarity between the languages in how aspect is expressed by linguistic means.

crosslinguistic differences of the kind reported in the studies above, and which also uses Slobin's thinking for speaking framework: Von Stutterheim and Carroll (2006). The point of departure for this investigation is prior studies' finding that "information organization in language production follows distinct patterns that correlate with typological differences" (ibid.: 41), and moreover, that the principles of event construal are "perspective driven and linked to grammatical patterns in the respective language" (ibid). The hypothesis is that the language-specific principles of event construal are difficult to restructure in a second language, a hypothesis that conforms to Slobin's prediction:

[...] each native language has trained its speakers to pay different kinds of attention to events and experiences when talking about them. This training is carried out in early childhood and is exceptionally resistant to restructuring in ALA (adult second language learning) (Slobin 1993: 245).

Based on this hypothesis, Carroll and Von Stutterheim expected their two groups of informants, that is, very advanced L2 learners of English and German, to be guided by the principles of their L1s and not by the principles of the target languages. The elicitation methods were film retellings and speech onset time. The results from the re-narrations of film clips showed that German learners of English, in cases where an endpoint was easily inferable from the film scenes (as in "a boy jumping off a cupboard **onto the floor**", Von Stutterheim and Carroll 2006: 48), mentioned the endpoint significantly more frequently than English learners of German. This tendency was not as clear in film scenes where the endpoint was not easily inferable (as in "a car driving along a country road that goes past **a house**", Von Stutterheim and Carroll 2006: 48). In such contexts German learners of English did not mention an endpoint, and thus to a greater extent displayed L2 principles when reporting an event. The English learners of German did not move toward the target language in the same way. All in all, these results show that the L2 learners relied upon principles of event construal in their L1 when speaking in the L2 (ibid.: 49). The results from the speech onset time task largely confirmed the differences between the two groups found in the production data (ibid.). These findings lead Von Stutterheim and Carroll to conclude that "L2 speakers, even at a very advanced stage, also draw on L1 principles in constructing reportable content" (Von Stutterheim and Carroll 2006: 51). This study is one of several studies that document L2 speakers' inability to accomplish native-like proficiency because of their failure to figure out the preferred patterns of conceptualisation and the coding options connected to those patterns (Carroll, Von Stutterheim, and Nüse 2004: 31):

The present studies of second language development show that learners approach the task of communicating in the second language with the help of those principles which hold in their first language, and despite continuing processes of reorganisation, there is clear evidence that they remain bound by some of these principles at very basic levels, even at very advanced stages of acquisition. These observations provide evidence of the nature of these knowledge structures and their impact on the development of other systems, in the form of a second language, when thinking for speaking. Second language acquisition entails a lengthy process of reorganisation not so much with respect to the concepts involved but in unravelling their actual role, in relational terms, within the system (Carroll and Von Stutterheim 2003: 231).

Even though the members of the Heidelberg group do not explicitly present their research as transfer research, and hardly ever mention the phenomenon by name, the above passage from Carroll and Von Stutterheim (2003) shows that they indeed investigate effects of L1 influence on L2 acquisition. They design studies for the purpose of systematically exploring differences in linguistic structures that are linked to conceptualisation processes in the verbalisation of events, and how such differences pose challenges for learners throughout the learning process. To Jarvis, the research conducted by the Heidelberg group falls into an area of research which has come to be known as *conceptual transfer*, an area of which Jarvis is a strong proponent.

2.2.2 Conceptual transfer

Conceptual transfer as a theoretical construct in research on crosslinguistic influence is closely associated with Jarvis and Pavlenko, who more or less at the same time in 1998 completed dissertations on “the effects of language-specific conceptual representations on the ways that learners and bilinguals refer to events” (Jarvis 2007: 49). Later they co-authored a monograph on *Crosslinguistic influence in Language and Cognition* (Jarvis and Pavlenko 2008). Many of the studies that fall into this area of research have developed more or less independently of each other (Jarvis 2011: 1), a fact which has made it difficult to establish a clear picture of what unifies this area of research and to identify what distinguishes the different frameworks used. My presentation of conceptual transfer relies on the monograph by Jarvis and Pavlenko, which synthesizes much of what has been done in the area. My discussion also relies on a recent article by Jarvis (2011), which is an introduction to a special issue of *Bilingualism: Language and Cognition*, of which Jarvis is a guest editor. In this issue, Jarvis provides a very coherent picture of what has come to be known as conceptual transfer.

Jarvis loosely defines conceptual transfer as an area of research in bilingualism and second language acquisition that “deals with cross-linguistic differences and cross-linguistic influences in the mental construction and verbal expression of meaning” (Jarvis 2011: 1). Research in this framework does not explain transfer as a consequence of structural differences and similarities between the L1 and the L2; rather, conceptual transfer takes place when the L1 and the L2 differ from or resemble each other in the conceptual categories and structures that lie underneath the linguistic encoding (Jarvis and Pavlenko 2008: 112). More specifically, conceptual transfer can have three different meanings: an observation, an approach and a hypothesis (Jarvis 2011: 1). Conceptual transfer refers to the *observation* that speakers of different languages differ in how they express ideas and describe relations (ibid.: 1), and that these differences have a conceptual basis. It also refers to the observation that some cases of crosslinguistic influence appear to involve conceptual crosslinguistic differences between the languages being examined, that is, differences in “ways in which conceptual representations are structured and mapped to language” (Jarvis and Pavlenko 2011: 112). Conceptual transfer also refers to an *approach* to research in which the transfer phenomenon is investigated in light of the recent theoretical refinements within cognitive linguistics (Jarvis 2011: 1), such as those which will be discussed here. This approach also takes into account recent empirical studies that systematically document the existence of transfer as a result of L2 learners’ exhibiting a conceptual knowledge base that must be restructured in order for them to use the L2 appropriately. Finally, conceptual transfer refers to the *hypothesis* that “certain instances of cross-linguistic influence in a person’s use of one language originate from the mental concepts and patterns of conceptualization that the person has acquired as a speaker of another language” (ibid.: 3).

As noted above, to Jarvis, the research on crosslinguistic differences and crosslinguistic influence conducted by the Heidelberg group fits into the conceptual transfer framework. However, there are some differences between the theoretical construct which Von Stutterheim and her associates rely on, thinking for speaking, and Jarvis and Pavlenko’s construct of conceptual transfer. First, the thinking for speaking framework is broader in scope because it does not only involve transfer (Jarvis 2011: 3). In fact, Slobin’s hypothesis was initially applied to first language acquisition and was only later extended to second language learning (Jarvis 2011: 3). Also, the L2 research within the Heidelberg group started off by applying Slobin’s framework to different L1s and only secondarily used it to reveal effects of crosslinguistic differences on conceptualisation processes in L2 acquisition. At the

same time, thinking for speaking is more restricted in scope than conceptual transfer is because the thinking for speaking hypothesis predicts that linguistic structure will affect cognition only during the process of verbalizing an event, and does not assume language specific effects on cognition outside this restricted context of language use. In contrast, in the conceptual transfer framework attention is also given to effects of language on non-linguistic behaviour. This is because these studies take an interest in how patterns in the L2 reflect differences in the mental concepts of the learners' L1s stored in long-term memory, and not only in how language specificity plays a role in the process of communicating. Hence, the connection to linguistic relativity is stronger for conceptual transfer than it is for thinking for speaking. Yet, Jarvis also underscores that there is no complete overlap between conceptual transfer and linguistic relativity:

Some of the earlier work on conceptual transfer made strong connections between conceptual transfer and linguistic relativity (e.g., Jarvis, 1998; Odlin, 2005; Pavlenko, 1997), but more recent work has emphasized that the overlap between the two frameworks is smaller than originally assumed (e.g., Jarvis, 2007; Jarvis & Pavlenko, 2008). For one thing, studies on linguistic relativity are interested primarily in non-linguistic behaviour, but studies on conceptual transfer concentrate mainly on linguistic behaviour (both receptive and productive) in order to determine how conceptual influences associated with the L1 or any previously acquired language might affect the acquisition and use of another language. In other words, linguistic relativity focuses more on the effects of language on cognition, whereas conceptual transfer focuses more on the effects of cognition on language use – particularly the effects of patterns of cognition acquired through one language on the receptive or productive use of another language (Jarvis 2011: 3).

2.2.2.1 Conceptual transfer, semantic transfer and linguistic transfer

Jarvis and Pavlenko's construct of conceptual transfer rests upon some basic abstractions and distinctions. First of all, the term *concept* refers to “mental representation of classes and things” (Jarvis and Pavlenko 2008: 113)¹⁷. Concepts are mental images, schemas, and scripts related to some object, event or relation. Furthermore, in their understanding of conceptual development they distinguish between *language-mediated* and *language-independent* concepts, where the former is of most interest for transfer research. Within the language-mediated concepts, Jarvis and Pavlenko distinguish between *lexicalised* and *grammaticalised*

¹⁷ Jarvis (2007: 51-52) elaborates in more detail on the nature of mental concepts and the different properties commonly associated with them.

concepts (ibid.: 114). While the language-independent concepts develop through experience and have no linguistic expression established for them in advance, the language-mediated concepts develop in interaction with language “where word learning and category acquisition influence each other over an extended period of time” (Jarvis and Pavlenko 2008:114). In this process, children learning their first language are socialised to be sensitive to conceptual distinctions that are relevant to the particular language and highlighted through linguistic encoding, and to become less sensitive to distinctions that are not as salient in the L1 (ibid.). Jarvis and Pavlenko mention several L1 studies (among them Lucy (1992, 1997) and Strömquist and Verhoven (2004)) that test this prediction of linguistic relativity, and which claim to find evidence for the existence of linguistic effects on non-verbal cognition; that is, they claim to document an interaction between the development of language-mediated concepts and the linguistic encoding of categories and relations in first language acquisition. However, Jarvis and Pavlenko stress that the investigation of conceptual transfer, which is their primary concern, is a different kind of investigation than the investigation of linguistic relativity itself:

Linguistic relativity begins with language and ends with cognition, hypothesizing that structural differences between languages result in cognitive differences for their speakers. This hypothesis is best tested by linguists, psychologists, and anthropologists concerned with nonverbal cognition. In contrast, conceptual transfer starts with language and ends, via cognition, with language, hypothesizing that certain instances of CLI [crosslinguistic influence] in a person’s use of one language are influenced by conceptual categories acquired through another language. This hypothesis is best tested by scholars concerned with second language acquisition, bilingualism, and multilingualism (Jarvis and Pavlenko 2008: 115).

Conceptual transfer also rests upon the distinction between *conceptual representation* and *semantic representation*. While Jarvis and Pavlenko build on insight from cognitive disciplines when distinguishing between the two types of concepts, this distinction is a result of their own theorising (Jarvis and Pavlenko 2008: 118). This is also an area where they diverge from the mainstream cognitive linguistic understanding of levels of representation in language. Conceptual representation is the speaker’s implicit knowledge of the content of conceptual categories: features associated with them, their prototypical characteristics, core and peripheral category members and links to other categories (ibid.: 115). Semantic representation is the speaker’s implicit knowledge of the relation between conceptual meaning and words (ibid.). According to Jarvis and Pavlenko, this distinction between types of implicit

knowledge is important for the study of transfer because it gives rise to two different types of transfer: *conceptual transfer* and *semantic transfer*:

Each language has its own set of semantic and conceptual constraints, which are best represented in the lexicons of adult monolingual speakers of the language in question. The lexicons of bi- and multilingual speakers [...] may differ from those of monolingual speakers and constitute an amalgam of conceptual and semantic representations underlying the use of the respective languages, where some representations may be missing or incomplete, where words of one language may be linked, at times inappropriately, to concepts acquired through the means of another, and where two or more concepts may be linked, equally inappropriately, to a single word (Jarvis and Pavlenko 2008: 120).

Semantic transfer involves the inappropriate linking or mapping of words onto concepts. Jarvis and Pavlenko (2008: 120) illustrate this type of transfer with a Finnish speaker who utters the following: *He bit himself in the language*. Finnish speakers have the concept of tongue, but no separate word for it. In Finnish, the word for language and tongue is the same. The case of transfer in the Finnish speaker's use of *language* has a semantic source and not conceptual one: The use of *language* is a result of an incorrect mapping of the word *language* to the concept *tongue*, and has not come about because the Finnish language lacks a conceptual distinction between tongue and language (Jarvis and Pavlenko 2008: 120). In contrast, an English speaker who asks for a *chaska* (a cup) in Russian illustrates how the conceptual representation in the L1 can be the source of conceptual transfer: In Russian, plastic and paper cups are not categorised as *chaska* (a cup) as in English, but as glasses: *stakanchiki* (small glasses). Even though this incident of transfer also involves the transfer of semantic knowledge from the L1, the inappropriate linking of the Russian word for cup to the Russian concept of glass, is an example of conceptual transfer because the English speaker relies on the border between the L1 conceptual categories of cups and glasses, which is not equivalent to the Russian conceptualisation of different drinking containers (ibid.: 115). If the English speaker is to describe the paper cup successfully in Russian, he or she has to *relink* the L1 conceptual knowledge when using the L2. Jarvis and Pavlenko assume that conceptual transfer is harder to eliminate than semantic transfer "because of the challenges involved in inhibiting and restructuring already existing conceptual representations and developing new ones" (ibid.: 121). In the conceptual transfer framework, language specificity occurs at the conceptual level as well as at the semantic level. In mainstream cognitive linguistics, however, the conceptual level of representation is assumed to be universal, and

languages are believed to differ at the semantic level of representation (Croft 2001: 109, see also section 2.3.3.1.2).

Conceptual transfer and semantic transfer are differentiated by type of knowledge transferred from the L1 to the L2: conceptual knowledge or semantic knowledge. Another dimension, the cognitive level in Jarvis and Pavlenko's taxonomy of transfer types (Jarvis and Pavlenko 2008: 20), separates conceptual transfer from *linguistic transfer*. The distinction between conceptual and linguistic transfer is a distinction in "types of transfer that are examined primarily in relation to linguistic forms and structures versus type of transfer that are analysed in relation to the mental concepts that underlie these forms and structures" (ibid: 61). Whereas linguistic transfer represents the traditional understanding of how knowledge of previously acquired languages can affect second language acquisition, and where emphasis is given to learners' linguistic knowledge, conceptual transfer represents a new approach to transfer and a understanding of the phenomena which is closely linked to cognitive linguistics.

I will mention a final distinction that Jarvis (2007) in particular is concerned with: the distinction between *concept transfer* and *conceptualisation transfer*. This distinction is relevant to mention because it clearly shows how the research of the Heidelberg group and Jarvis and Pavlenko's construct of conceptual transfer emphasise different aspects of the relation between language specificity and L2 acquisition. Whereas conceptual transfer "results from the nature of a person's stored conceptual inventory" (Jarvis 2007: 52), conceptualisation transfer is linked to short-term memory and takes place when the person processes his or her conceptual knowledge while communicating (ibid.). The Heidelberg group is interested in the online effect of language-specific patterns on the verbalisation of an event in an L2; that is, the researchers focus on the processes that take place in working memory, and hence, they focus on conceptualisation transfer. On the other hand, the conceptual transfer framework also emphasises how crosslinguistic differences in conceptual structures and conceptual knowledge stored in long-term memory affect L2 acquisition, that is, concept transfer. In his dissertation Jarvis chose not to apply Slobin's thinking for speaking framework; instead he used Lakoff's framework because it focuses more on conceptual knowledge stored in long-term memory than on the processes that occur in working memory as speakers formulate utterances (Jarvis 2007: 48). Jarvis's dissertation study was one the first studies on concept transfer (ibid.). At the same time, Jarvis (ibid.: 63) acknowledges that there

are methodological challenges connected to the distinction between those two types of conceptual transfer.

2.2.2.2 Studies of conceptual transfer in the domains of time and morphology

Conceptual transfer has been investigated in three domains in particular: space, time and affect (Odlin 2005: 10). Because the temporal domain is relevant to the current study, I will briefly mention the results of a couple of studies that Jarvis and Pavlenko regard as interesting for the study of conceptual transfer in the domain of time, and which also involve the presence or absence of grammaticalised temporal distinctions. Boroditsky and Trusova (2003) found a difference in the attention that Russian-English bilinguals and English monolingual speakers gave to completed and not-completed actions: the Russian-English bilinguals noticed this difference faster in a non-verbal reaction-time task, and they also referred to the distinction more often than the English speakers when describing different scenes. In addition, the same pattern were observed when the Russian speakers performed the tasks in their L1 (ibid.: 1319). According to the authors, this pattern results from the fact that the Russian language emphasises the distinction between completed and non-completed actions by always inflecting verbs for the imperfect or perfective aspect (ibid.). Whereas this study implies that verbal encoding influences the perception of events, a similar study by Alloway and Corley (2004) does not conclude that strongly regarding the relation between verb morphology and verbal conceptual representation. In two experiments, Alloway and Corley (2004) investigated the role of language in verb concepts and questioned whether speakers of a tense language (Tamil) and speakers of a tenseless language (Mandarin) differ in their representation of events (ibid.: 322). The study tested non-verbal behaviour (including giving a similarity judgement task of picture pairs of objects and actions and measuring how long the speakers needed to perceive the similarities)¹⁸. The researchers concluded that they could not infer from the data that the two group of speakers differed in their conceptualisations of the events: “The findings suggest that differences in verbal morphology do not necessarily influence how events are conceptualised, however, they can affect how quickly the concepts are accessed” (ibid.: 342). The Mandarin speakers needed significantly more time to distinguish between the pairs of pictures than the Tamil speakers did. Alloway and Corley

¹⁸ Here I am primarily concerned with the conclusion that the research draws. Readers interested in details of Alloway and Corley’s study should read Alloway and Corley (2004) or Jarvis and Pavlenko’s presentation of their study (Jarvis and Pavlenko 2008: 140).

suggest that this has to do with Mandarin being a tenseless language where considering tense “is not ‘automatic’ and requires an extra work” (ibid.: 341).

From such findings Jarvis and Pavlenko conclude that conceptual transfer in the domain of time also can manifest itself as incorrect use of tense and aspect marking in the L2 because learners cannot rely on L1 temporal concepts and how they are encoded. At the same time, Jarvis and Pavlenko underscore that such errors can have sources other than the differences in the conceptualisation of time between the L1 and the L2, as suggested in the study by Alloway and Corley (2004). Therefore, one must be cautious when citing incorrect tense and aspect marking as evidence for conceptual transfer (Jarvis and Pavlenko 2008: 142).

2.2.2.3 Challenges in the study of conceptual transfer

Jarvis and Pavlenko’s request for caution in claiming observed transfer effects to have a conceptual basis brings us to a couple of problematic aspects of research on conceptual transfer: firstly, how to identify the sources of observed transfer effects—how to distinguish between linguistic, conceptual and semantic transfer; and secondly, how to investigate, or test, the conceptual transfer hypothesis. Regarding the first challenge, one reason it can be difficult to distinguish between the types of transfer stems from the fact that Jarvis and Pavlenko (2008) are not fully successful in clarifying what the differences between linguistic, semantic, and conceptual transfer really are. In section 2.2.2.1 above, the difference between linguistic and conceptual transfer is described in terms of a difference in the cognitive representation, or cognitive level, being activated. Linguistic transfer involves knowledge of form and structure, and conceptual transfer involves the conceptual knowledge underlying the forms and structures. So far, Jarvis and Pavlenko’s definitions of the transfer types suggest that linguistic transfer and conceptual transfer are difference sources of influence; however, the distinction between them is not always completely clear because in some passages it seems that the distinction between linguistic and conceptual transfer is primarily a question of approach. According to Jarvis and Pavlenko, linguistic transfer is influence that is “examined primarily in relation to linguistic forms and structure” (Jarvis and Pavlenko 2008: 61) and conceptual transfer is influence that is “analyzed in relation to the mental concepts that underlie those forms and structures” (ibid.). This suggests that whether a detected L1 effect is regarded as linguistic or conceptual depends on the approach taken in the particular study. As to semantic transfer, Jarvis and Pavlenko (2008) seem to present this type of transfer as primarily relevant for studies focusing on the lexical level of language. I find it difficult to apply the

distinction between conceptual and semantic transfer in the current study because the explanations and examples of semantic transfer and the difference between semantic and conceptual transfer are discussed in very close connection to the lexicon, and to lexical transfer. In addition, it is not always clear in Jarvis and Pavlenko's own classification of different types of transfer when crosslinguistic differences reported in a study qualify as an example of linguistic transfer or conceptual transfer. This problem is probably related to the already mentioned lack of pinpoint as to what it is exactly that distinguishes the types of transfer. For instance, a study by Polunenko (2004) shows that Russian L2 learners are influenced by the imperfective-perfective distinction in their L1 when inflecting verbs for past tense in English, similar to the findings reported in Boroditsky and Trusova (2003) although Polunenko's study is based on production data. However, this study is presented under the section that discusses linguistic transfer in the area of morphology (Jarvis and Pavlenko 2008: 95); and moreover, Jarvis and Pavlenko characterize Polunenko's finding as "functional transfer" (ibid.) without exploring this type of transfer any further, or relating it to their taxonomy of types of transfer. Despite the fact that Jarvis and Pavlenko state that conceptual transfer probably can emerge as difficulties in making temporal distinctions that are obligatory in the L2 (Jarvis and Pavlenko 2008: 141, 142); for some reason, Polunenko's findings are considered relevant for linguistic transfer, and not conceptual transfer. In light of the Heidelberg studies of L2 learners' problems in acquiring the L1 specific principles for event construal and the linguistic coding that these bear on, I find studies such as Polunenko's interesting in a discussion of whether and how transfer effects manifested through morphology may have a conceptual basis as well as a linguistic basis. Polunenko's Russian L2 learners of English overuse the present perfect in English because they make associations between the perfective aspect in their Russian L1 and the present perfect. Once again, the present perfect is subject to L1 influence; when Jarvis and Pavlenko later in their discussion of conceptual transfer use the present perfect in English as an example of learner difficulties that might have a conceptual source, as opposed to those difficulties that have a structural source; I find it peculiar that studies such as Polunenko's are not discussed in relation to conceptual transfer. As we will see, erroneousness in the temporal encoding of past time in the informants' texts is one of the aspects considered in the analysis of L1 influence in the current study; hence, the discussion of tense marking errors as manifestations of conceptual transfer will be addressed later.

However, Jarvis and Pavlenko's reluctance in presenting studies and reporting findings under the conceptual transfer heading, may have to do with the second aspect mentioned above. This relates to the issue of how conceptual transfer should be explored. Many of the studies which involve the morphological domain and the conceptual domain of time, such as Polunenko (2004), rely primarily on a linguistic approach, and do not explore transfer in relation to "the mental concepts that underlie those forms and linguistic structures" (Jarvis and Pavlenko's explanation for the difference between linguistic and conceptual transfer, 2008: 61). Hence, they do not qualify as conceptual transfer studies. Another related question is whether or not it is possible to claim that observed transfer effects in language production data have a conceptual source, rather than a linguistic one, or whether such studies can contribute to the discussion of conceptual versus linguistic transfer at all. Some of the researchers, who pursue the question of how language influences cognition, claim that in order to establish such a relation, one has to document language effects on non-verbal behaviour, not verbal behaviour (e.g. Lucy 1992). According to this view, difficulties with tense and aspect morphology cannot be evidence for a linguistic effect on cognition, for instance on the conceptualisation of time. This would for instance imply that the Heidelberg project group are not able, based on their studies that include verbal tasks, to claim to assess a relation between linguistic structure and event conceptualisation. However, in my opinion, it is open to discussion whether or not it is possible to use production data as an empirical basis in studies of conceptual transfer. Later in the thesis this question will be further discussed in relation to the current study and other studies of the acquisition of temporal morphology in the L2. Finally, I will mention Johansen (2011) who discusses the application of thinking for speaking and conceptual transfer on L2 data. She advocates careful analysis in the study of thinking for speaking and conceptual transfer in SLA. She points to the problem that both linguistic and conceptual transfer may be realized in the same way in the L2; warning that it can be difficult, if not impossible, to decide whether the source of the observed transfer effects is linguistic or conceptual in nature. For instance, even though the Heidelberg group can document that a correlation exists between grammaticalised patterns in a language and the construal of an event by means of different types of data (verbal/non-verbal) and different elicitation techniques, this is not the same as identifying a *causal* relation (ibid.: 13).

2.2.2.4 Transfer as inert outcome

In this section I will briefly discuss different perspectives of the transfer phenomenon, or different understandings of what transfer really entails. I will rely on Jarvis (2000)¹⁹ in which he concisely considers different views on the nature of transfer: as a *process*, a *constraint*, a *strategy*, and as a result of what he calls *inert outcome*²⁰. I will particularly emphasize the view of transfer as inert outcome because this is most relevant when discussing transfer that we assume have a conceptual basis. As we will see, transfer as an inert outcome considers at the transfer phenomenon from a very different angle than in the more dominating process-oriented perspective, and because the differences between the two explanation models are interesting to discuss, this section also addresses the process perspective in some detail. Ringbom represents those researchers primarily studying transfer as a process, and I refer to the main points in his monograph on the importance of similarity in L2 acquisition (2007). In addition, Ringbom is also relevant in the present study because he introduces different types of crosslinguistic relations between L1 and L2, and these are applied in the chapter presenting the contrastive analyses (chapter 3, section 3.2.5).

In the process perspective on transfer, the notion of *interlingual identification* is central. Transfer is the process of transfer of knowledge from L1 to L2 because learners identify items in the L1 and L2 as similar. This view of transfer is evident in Ringbom's (2007) analysis of crosslinguistic influence and different types of crosslinguistic relations between L1 and L2. Ringbom emphasises the role of crosslinguistic similarity, and claims that transfer of linguistic knowledge from the L1 is a basic mechanism of L2 acquisition, and one which comes into play if the L1 and the L2 is perceived as related by the learner. According to Ringbom, it is similarity relations which matter for second language learners. L1-L2 differences are less important because they are not focused on by the L2 learner, who, as Ringbom describes, is generally guided by an inherent drive for making use of previously acquired knowledge when facing a new learning task, for instance, when learning a second language (Ringbom 2007: 5). Learners make use of their first language competence in order to facilitate the learning of the L2, however, how relevant the learners' prior linguistic knowledge is, depends on the relationship between the L1 and the L2:

¹⁹ Jarvis (2000) primarily focuses on methodological issues in transfer research and present a framework for transfer studies. His thoughts on methodological issues are discussed in chapter 5, section 5.2.1.

²⁰ I will also refer to an article by Alonso (2002) which discusses the four types of outlooks on transfer addressed by Jarvis (2000).

If you learn a language closely related to you L1, prior knowledge will be consistently useful, but if the languages are very distant, not much prior knowledge is relevant. What matters to the language learner is language proximity, i.e. similarities, not its negative, language distance, i.e. differences (Ringbom 2007: 1).

Other researchers do not primarily understand transfer as a process, but instead as a constraint on the learner hypotheses. Jarvis mentions Schachter (1983) as one of the opponents of such an understanding of the transfer phenomenon. She wrote the following several decades ago:

Many of us have, for some time, thought of transfer as a process. Transfer was something that the learner did [...] My current view is that transfer is not a process at all, and is in fact a misnamed phenomenon—an unnecessary carryover from the heyday of behaviorism. What is currently viewed as evidence for the process of transfer is more appropriately viewed as evidence of a constraint on the learners' hypothesis testing process. It is both a facilitating and a limiting condition on the hypothesis testing process, but it is not in and of itself a process (Schachter 1983: 32).

In his state-of-the article, Terence Odlin (2003) also discusses this aspect of the transfer phenomenon, and defines constraints as “anything that prevents a learner to from either noticing that a similarity in the first place or from deciding that the similarity is a real and helpful one” (Odlin 2003: 454).

Also, there is the third view that transfer is merely a strategy which learners turn to in lack of knowledge of the target language, which is the essence of the *ignorance hypothesis* (Alonso 2002: 89, Jarvis and Pavlenko 2008: 8). Those in favour of such an understanding of the transfer phenomenon, denies the existence of transfer on the L2. Transfer is neither a process nor a constraint. Transfer, or use of L1 knowledge, is simply a communication strategy, a temporary tool used as an amendment for lack of L2 knowledge in the initial stage of the learning process.

Finally, Jarvis mentions another outlook on transfer which is particularly interesting in light of the literature I have reviewed in the current chapter about the impact of conceptualisation process on L2 acquisition (The Heidelberg studies), and the conceptual transfer studies. According to Jarvis, transfer can also be understood as a result of what he calls “*inert outcome* of a shared conceptual structure underlying both L1 and IL structures” (Jarvis 2000: 250). In this view, transfer is not a result of learner's drive of making interlingual identifications between L1 and L2 in order to facilitate the learning of the L2.

Instead transfer is looked upon as a result of a sort of nondynamic condition – a result of the learner exhibiting a particular knowledge base because of his or her L1 competence.

Inert, here means nonreactive and nondynamic. According to this view, L-1 based conceptual influence can take place even when the learner has not made any overt comparisons or interlingual identifications between L1 and L2 forms and features (Jarvis 2000: 299).

This quotation from Jarvis implies that conceptual transfer is a type of transfer that arises as a result of inert outcome. The conceptual L1-L2 relations that have been focused in the studies approaching transfer from a conceptual angle (cited in section 2.2.1 and section 2.2.2 in the current chapter), and which is assumed to cause transfer to take place, originate at a level too abstract for the learners to perceive them as relevant or not. This suggests that conceptual transfer is not a process in the sense described by Jarvis (2000) and Alonso (2002). Transfer as inert outcome is something very different to transfer as a process. Transfer as a process is indeed described as something the learner does – the learner is almost predisposed to more or less consciously making judgment about similarities between L1-L2, and the relevance of them for the learning task. On the contrary, transfer as inert outcome describes the learner as more passive in relation to his or her prior linguistic knowledge, which in some cases will benefit the learning of the L2, and in other cases will cause problems in acquiring certain features of the target language.

The ideas of transfer as a process, constraint or strategy are not newly developed concepts. Neither is the idea of transfer as inert outcome, yet, the label is rather new. As pointed out by Alonso, transfer as inert outcome is connected to the ideas put forward in Kellermans (1995) *transfer to nowhere* principle in which he emphasises those instances of transfer which cannot be explained by similarity judgement by learners (Alonso 2002: 92, see section 2.2 in the current chapter for more about Kellerman's principle). It is important to underscore that even though it can be argued that transfer originating at the conceptual language is a result of inert outcome, this does not refute any of the other views of the transfer phenomenon. As emphasised by Alonso (2002: 99), these views are not “mutually exclusive”. Clearly, the transfer phenomenon is probably so multifaceted, intersecting with so many different factors, that several of these explanations are needed in order to identify different types of transfer, and in order to understand the various forms transfer can take. Nevertheless, Jarvis's description of conceptual transfer as transfer arising as inert outcome is in particular interesting in the current study because it contributes to clarify the difference between

linguistic and conceptual transfer; a distinction I previously have claimed is not made completely clear in Jarvis and Pavlenko (2008). However, if we also include Jarvis's perspective of transfer as inert outcome, it is even clearer that linguistic and conceptual transfer is more than a question of the approach taken in transfer studies. Approach is without doubt decisive for what a study of transfer is able to find, however, in essence, linguistic transfer and conceptual transfer are two different types of mechanisms which under some circumstances causes transfer effects to take place in interlanguages. They might appear as similar effects, for instance as errors, however, they have different sources. Also, they might come into play simultaneously. As pointed out by Jarvis and Pavlenko (2008: 23) crosslinguistic influence may involve the linguistic and conceptual level at the same time.

2.3 The Aspect Hypothesis

The Aspect Hypothesis is a theory-driven line of research in language acquisition that claims that L1 and L2 learners are strongly influenced by lexical aspect in their initial use of tense and aspect markers (Bardovi-Harlig 2000: 191). The Aspect Hypothesis refers to the observation that learners make associations between grammatical markers of tense and aspect and lexical-aspectual categories. Language learners do not apply tense and aspect morphology in all contexts, but are restricted by these initial associations. In the case of past time marking, learners will first use past morphology with verb phrases that express an instantaneous change of state and a clear end result (Shirai 2009: 172). In contrast, progressive marking will first appear in verb phrases that express an activity (*ibid.*). The Aspect Hypothesis has its origin in theories of temporal semantics, in particular the theories of lexical aspect (Bardovi-Harlig 2000: 192-193), and the early formulation of the Aspect Hypothesis derives from investigations of child language acquisition (e.g. Antinucci and Miller 1976) and creoles (e.g. Bickerton 1981)²¹.

In child language acquisition, Antinucci and Miller (1976) studied how eight Italian-speaking children and one English-speaking child developed past forms over time. They observed that the children encoded past events only when the verb resulted in a present state (1976: 182). Antinucci and Miller interpreted this as support for their assumption that

²¹ See Andersen and Shirai (1996) for the full background of the study of lexical aspect in child language acquisition and creoles.

“cognitive development affects language development” and moreover that “cognitive development is somehow at the basis of language development” (ibid.: 168). With reference to Piaget’s theory of cognitive development, Antinucci and Miller argued that children are not able to inflect verbs that express temporal relations, or *tense*, because they lack the abstract conception of time. Rather, children first mark verbs that express an observable event: a *result* (ibid.: 183). Weist later labelled Antinucci and Miller’s interpretations as the *The Defective Tense Hypothesis* (Weist et al. 1984: 348). Similar studies of tense and aspect were conducted in the 1980s in different L1s. These studies underscored Antinucci and Miller’s findings of the importance of verb semantics in the first encoding of pastness (among them Weist et al. 1984; Bloom, Lifter, and Hafitz 1980; Bronckart and Sinclair 1973). Yet, these studies questioned Antinucci and Miller’s interpretation of the results as merely a consequence of cognitive limitations or a function of defective tense. Later L1 studies have provided a crosslinguistic basis for the documented restricted pattern in the emergence of tense and aspect morphology in first language studies (see Shirai 2009 for an overview of studies and L1s involved). These empirical findings in child language acquisition and the subsequent debated explanations inspired similar studies of tense and aspect in SLA (Bardovi-Harlig 2000: 195), which has been extensively investigated in the field since the 1980s. The influence of lexical aspect has been investigated under different names²²; however, in present-day SLA this line of research is known as the Aspect Hypothesis.

2.3.1 Generalisations

The core statements in the Aspect Hypothesis consist of the following descriptive generalisations for L1 and L2 acquisition suggested by Shirai (1991), which were later collectively called the Aspect Hypothesis (Bardovi-Harlig 2000, Andersen and Shirai 1996, Shirai 2009):

1. Learners first use past marking or perfective marking on achievements and accomplishments, eventually extending use to activities and statives.
2. In languages that encode the perfective-imperfective distinction, imperfective past emerges later than perfective past, and imperfective past marking begins with statives, extending next to activities, then to accomplishments, and finally to achievements.

²² The Primacy of Aspect Hypothesis, Aspect before Tense Hypothesis, the Defective Tense Hypothesis, the Relative Defective Tense Hypothesis, the Lexical Aspect Hypothesis, the Aspect First Hypothesis (Bardovi-Harlig 2000, Shirai 2009).

3. In languages that have progressive aspect, progressive marking begins with activity verbs, and then extends to accomplishment or achievement verbs.
4. Progressive markings are not overgeneralized to statives.

(Shirai 2009: 173)

In their review of research of the primacy of aspect in language acquisition, Andersen and Shirai conclude that the “hypothesis is strongly confirmed for both L1 and L2 acquisition, with a few disconfirmatory findings” (Andersen and Shirai 1996: 559). In 2005 Odlin agreed: “Empirical work on the Aspect Hypothesis has shown an impressive if not total consistency in studies of learners of many different language backgrounds” (ibid.: 12). At the same time, it is recognised that the first statement listed above has received the most solid empirical support: the development of inflection of past forms from telic verb phrases to atelic verb phrases has proved to be a robust finding (Bardovi-Harlig 2000; Collins 2002). This is also the statement which will be investigated in the present study. Research on the development of L2 morphology has also generated findings that seem to be L2 specific. Contrary to L1 learners, second language learners show a tendency to overextend progressive marking to statives (Andersen and Shirai 1996; Collins 2002; Bardovi-Harlig 2000), a result that does not conform to statement 4 above.

2.3.1.1 Vendler’s lexical-aspectual classification

In the past decade, most of the L2 studies in this framework have based their analyses of semantic aspect on Andersen’s (1991) reworking of The Vendler-Mourelatos hierarchy of lexical aspect (Bardovi-Harlig 2000: 219, Collins 2002: 45).

In *Verbs and times* (1967) Vendler demonstrated that verbs can be classified into four categories according to their semantics: *states* (*love somebody*), *activities* (*run*), *accomplishments* (*draw a circle*) and *achievements* (*win a race*)²³. The lexical-aspectual classes are distinguishable by basically two semantic features, that is, whether the situation described by the verb phrase is ongoing or not (\pm *dynamic*), and whether or not the situation described includes an inherent endpoint or ends in a clear result or goal (\pm *telic*). Vendler’s *states* are nondynamic situations that continue without changing, such as to *love somebody*. *Activities* are also homogenous, but are dynamic situations that require energy to keep going, as with *run*. Activities do not involve a natural endpoint, goal or result: they are atelic

²³ The examples given in the parentheses are Vendler’s own.

situations. *Accomplishments* are dynamic and durative situations, and contrast with activities in that they are telic. Finally, *achievements*, like accomplishments, are dynamic and telic, but unlike accomplishments, achievements are punctual and refer to a momentary change of state. It is the achievement category that distinguishes Vendler’s classification system from those of his contemporaries, such as Ryle (1949). Even modern linguists studying lexical aspect, such as as Verkuyl (1989), have problems accepting achievement as a valid category (see Mittwoch 1991 for a discussion of Vendler's achievements and Verkuyl's criticism). However, it is the achievement category which makes Vendler’s classification system particularly useful in Aspect Hypothesis research. This is because the achievement category isolates verb phrases that are punctual, telic and resultative: the same semantic features that contribute to the prototypical contexts for past marking.

Mourelatos (1981) further analysed Vendler’s lexical-aspectual classes in terms of *processes* (states and activities) and *events* (accomplishments and achievements) in order to show the relationships between Vendler’s four categories (Andersen 1991: 312). Andersen (1991) reworked the Vendler-Mourelatos lexical-aspectual classes and made them distinguishable by three exclusive semantic features. Aside from the features \pm *dynamic* and \pm *telic*, which Vendler also emphasises, Andersen adds the punctual – non-punctual distinction (\pm *punctual*). Situations can either be dynamic or nondynamic, and if a situation is dynamic, it can either be telic or atelic. Telic situations again are either punctual or non-punctual²⁴:

Table 1: Semantic features of aspectual classes

	Punctual	Telic	Dynamic	Examples
States	-	-	-	<i>The wind feels cold; she wants a bicycle</i>
Activities	-	-	+	<i>The wind is blowing; she's riding a bicycle</i>
Accomplishments	-	+	+	<i>They planted a tree; She rode her bicycle 5 km</i>
Achievements	+	+	+	<i>The tree died; She won the race</i>

Andersen also underlines that the semantic features do not describe the inherent quality of verbs in isolation, but a characteristic of the situation referred to by the verb phrase, and sometimes even the whole sentence (Andersen 1991: 310). The verb phrase in *she is riding a bicycle* is atelic because it does not entail an endpoint, and the verb phrase has to be classified as an activity. In contrast, the verb phrase in *she rode her bicycle 5 km* includes an adverbial which limits the activity of riding a bicycle, and which makes the verb phrase telic and thus

²⁴ This is my version of Andersen’s (1991: 311) frequently-cited table of semantic features of aspectual classes. The examples in the table are taken from Collins (2004: 254).

an accomplishment instead. However, most statives describe conditions that can be derived from the verb alone, as in *the wind feels cold* in the table above.

2.3.2 Explanations

The Aspect Hypothesis also has a descriptive and explanatory part. However, the observed semantic bias in the emergence of tense and aspect marking has generated controversy, and the question of how to explain the observed patterns is not agreed upon (Shirai 2009: 173). This is also still an open question in first language acquisition studies (ibid.), and Antinucci and Miller's (1976) early interpretation of children's lack of tense marking as a result of cognitive insufficiency was abandoned as an explanation years ago because it cannot account for similar findings in adult second language acquisition. Today, several explanations have been put forward in order to explain why tense and aspect morphology are so strongly influenced by the lexical aspect of the verb phrase²⁵. I will present Andersen and Shirai's (1994) suggestions; and according to them, a set of cognitive principles for language processing and the notion of prototypicality can account for this pattern.

The relevance principle, originally formulated by Bybee (1985), explains why learners start to use past forms with verbs that typically express the completeness or endpoint of a situation, such as telics. Learners' first use of grammatical morphemes is motivated by how relevant they are to the meaning of the verb. Aspectual meaning is more relevant to the verb stem than temporal reference is, and therefore the initial inflection primarily functions as a marker of aspect and not tense (Andersen and Shirai 1994: 145). The relevance principle cannot explain the internal sequences of the different aspect markers, such as why the simple past in English is first used with event verbs (achievements and accomplishments) and the progressive past with activity verbs, since both the simple past and progressive past initially express aspectual notions (ibid.: 146). As stated by Andersen and Shirai, this is accounted for in *the congruence principle*²⁶. Among the morphemes available in the input, learners will use those whose meaning is most similar to the verb (ibid.), and punctuality and telicity are semantic features which are more similar to past inflection than to progressive inflection. Finally, learners are also generally directed by *the one to one principle* in the sense that they expect new words to have only one meaning. This can, for instance, reinforce the tendency for

²⁵ See Shirai and Kuroko (1998), Bardovi-Harlig (2000), Andersen (2002) and Shirai (2009) for a review of present explanations of the Aspect Hypothesis.

²⁶ Also called the Redundant Marking Hypothesis and the Principle of Selective Association (Bardovi-Harlig 2000: 425).

learners to associate past and perfective morphology with telic verb phrases. Furthermore, the notion of *prototypicality* contributes to the understanding of what mechanism is at play in the initial use of tense and aspect morphology, and how this use is extended:

We have argued that tense and aspect morphemes are prototype categories and that learners (both L1 and L2 learners) initially discover the least marked member of each category (one unitary achievement or accomplishment for past or perfective) and only later and gradually add progressively more marked members to their pool of “past” and “perfective” marked verbs” (Andersen and Shirai 1996: 561).

Learners more easily acquire the prototypical meaning of a verb, and they acquire the less-accessible non-prototypical meanings more gradually according to the distance from the prototype (Andersen 2002: 90). Such an account explains, for instance, that past forms spread from telics to atelics because the prototype function of both the past category and perfective category is to express completeness and resultativeness, which are approximately the same semantic features that characterise event verbs (achievements and accomplishments). According to both Giacalone-Ramat (2002) and Bardovi-Harlig (2000: 428) the concept of semantic prototypes is the most valid and promising base for explaining the Aspect Hypothesis.

Prototype theory is a central issue in cognitive linguistics, and Andersen and Shirai (1994, 1996) explicitly draw on earlier analyses of prototypicality in terms of language change, language use and language acquisition. The grammatical encoding of tense and aspect described by the Aspect Hypothesis strikingly parallels the grammaticalisation of tense and aspect in language change. Diachronic studies have shown that aspect markers serve as the semantic origins of past and perfective forms²⁷ (Bybee and Dahl 1989; Dahl 1985; Bybee, Perkins, and Pagliuca 1994), the same temporal features that seem to be primary in the initial acquisition of grammatical time marking in individual language development:

Prototypical past-perfective might thus be a cognitive axis for grammaticalization. Ontogenetic and phylogenetic underpinnings of these observations may be profound, and further explorations should be fruitful (Shirai and Andersen 1995: 760).

In a more recent article Shirai (2009) surveys several of the explanations put forward to explain the semantic bias documented in research on the Aspect Hypothesis. In this article

²⁷ See also the section 3.2.2.2. in chapter 3.

Shirai emphasises the need to take multiple factors into account when discussing possible explanations for the Aspect Hypothesis (Shirai 2009: 178).

2.3.3 Methodological rigor in the investigation of the Aspect Hypothesis

Despite the general agreement on the observed universal tendency for learners to be directed by lexical aspect, there are studies that seem to offer counterevidence to this tendency. Bardovi-Harlig (2000: 251-269) reviews several studies that are put forward as counterevidence to the Aspect Hypothesis, but concludes that the conflicting claims can be attributed to methodological inconsistencies. This brings forward the issue of method and the need for a stronger methodological basis in research on the Aspect Hypothesis, which Shirai (2007) also calls for. In this section I will mainly summarise Bardovi-Harlig's (2000) partially critical survey of the application of different methods in the research on the Aspect Hypothesis. Later in chapter 5, section 5.3, I discuss how I approach the analysis of lexical aspect in the informants' texts, and how I tackle some of the methodological challenges noted here.

Bardovi-Harlig's discussion of method within this line of research clearly shows that there is great variation in how temporal morphology has been analysed in relation to lexical aspect²⁸:

Aspect studies have typically failed to recognize the differences in their quantified analyses. However, explicit articulation is necessary for comparison of studies and assessment of the aspect hypothesis. In fact, the differences in these analyses could lead us to support or reject the aspect hypothesis on the basis of the very same data (Bardovi-Harlig 2000: 252).

Bardovi-Harlig distinguishes between studies that ask "Where do various morphemes occur?", which she labels *across-category analysis*, and studies that ask "How are each of the lexical-aspectual categories marked?", which she calls *within-category analysis* (Bardovi-Harlig 2000: 252). In an across-category analysis the researcher pays most attention to morphological form, and investigates how a particular morpheme is distributed across the lexical-aspectual classes (ibid.: 254). In a within-category analysis most attention is given to lexical-aspectual categories, and the researcher investigates the morphological use within each category (ibid.: 256). Based on a reanalysis of two studies, one that uses a within-category

²⁸ See Bardovi-Harlig (2000: 251-269) for a discussion of methodological challenges and counterevidence in the investigation of the Aspect Hypothesis.

analysis (Bardovi-Harlig 1998) and one that uses an across-category analysis (Salaberry 1999), Bardovi-Harlig demonstrates how differences in the method of analysis can generate different results and interpretations based on the same data sample. Her comparison of the two different methods, along with the implications of these differences for the conclusions that can be drawn, efficiently highlights the importance of methodological awareness in the studies of the Aspect Hypothesis. Bardovi-Harlig also discusses differences in how data are handled quantitatively: how findings are measured, how scores are calculated and presented, and what the impact of such differences is. In addition, Collins (2002: 48) points to the inconsistency in studies of how the analysis of lexical aspect is conducted. Whereas some studies only base on token analyses, some studies base on verb type analyses. Consequently, in some cases it is difficult to compare findings from studies on the Aspect Hypothesis. These are issues I will return to in chapter 5, section 5.3.

Bardovi-Harlig's discussion of method is to a large extent motivated by discussing potential counterexamples, and it is interesting to see how she evaluates the counterexample that she regards as the most challenging for the Aspect Hypothesis:

The most important potential challenge to the aspect hypothesis comes from the ESF study (Dietrich et al., 1995). The authors concluded that "in relation to Andersen's 'aspect hypothesis' our results are inconclusive" (p. 271). Because the ESF study is the largest study on temporality and because it employed both longitudinal and cross-linguistic designs, it has a great potential for contributing to the investigation of the influence of lexical aspect on emerging verbal morphology. However, the study is also meaning-oriented, not form-oriented. Although the results of the study significantly advance our knowledge of the acquisition of temporal expression [...] the presentation of the results does not meet the criteria that must be met by tests of the aspect hypothesis, nor should a meaning-oriented study be expected to do so. Without explicit identification of lexical aspectual categories and quantification of the data, results can only be inconclusive (Bardovi-Harlig 2000: 269).

Bardovi-Harlig's argumentation for largely refuting the ESF project's conclusion strikingly parallels the claim Jarvis (2000), Jarvis and Odlin (2000) and Jarvis and Pavlenko (2008) put forward in their discussion of the existing scepticism of morphological transfer. In short, this claim asserts that the lack of documentation of transfer in the study of temporal morphology, pointed out by Bardovi-Harlig, among others, is related to methodology and study design. Furthermore, as we will see in the next section, and as pointed out by Collins (2004), the lack of systematic investigations of L1 influence within the framework of the Aspect Hypothesis probably has something to do with the potential counterevidence that such a finding would

represent. This suggests that also theoretical assumptions may contribute to the failure of recognising L1 influence in the acquisition of temporal morphology.

Another problem for Aspect Hypothesis research is that in many studies, it is not stated clearly how the coding of lexical aspect has been conducted. This is an issue to which Bardovi-Harlig does not pay particular attention; however, in my view this is a significant issue that should have been given more focus. Only a small minority of the studies (e.g. Weist et al. 1984; Robison 1990; Shirai 1993, 1994) are explicitly based on one of the many diagnostic tests that have been developed to operationalize the Vendler-Mourelatos aspectual classes²⁹. Furthermore, intra-rater reliability of the coding of verbs in lexical-aspectual classes is rare (Shirai and Andersen 1995: 749). Also, too many studies do not describe their coding procedures, and Shirai (2007: 59) indicates that there is a problem of replicability in the Aspect Hypothesis studies. As already pointed out in the introductory chapter (section 1.1), and which I will elaborate further, lexical aspect must be defined as a property of the situation as described by the verb phrase and sometimes the whole sentence. The fact that the lexical-aspectual property is not intrinsically tied to a single verb, but is the result of an interaction between the verb and its predicate means that there is no one-to-one correspondence between verb and lexical-aspectual category. Accordingly, the classification of verb phrases into lexical-aspectual classes is a difficult task, and one which relates to both theoretical and methodological matters. In the following sections I will identify some of these issues, starting with the theoretical challenges arising from the effort to operationalize the Vendlerian classes, and from their application to second language data.

2.3.3.1 The issue of lexical-aspectual category assignment

This is not meant to be a complete and comprehensive discussion of the complex subject of lexical aspect and its classification. Here I merely want to call attention to some problematic issues that are relevant for deciding the criteria for the category assignment, which I account for subsequent to the discussion.

2.3.3.1.1 Telicity

Telicity is one of the crucial distinguishing features in Vendler's classification system (see section 2.3.1.1). It is a central concept in the current study, as the prediction tested assumes the telic-atelic distinction to be a governing factor in the acquisition of past temporal

²⁹ Dowty (1979) and Bardovi-Harlig (2000) give an overview of different diagnostic tests.

morphology. This is also one of the main findings in research on the Aspect Hypothesis, as the quote from Collins asserts: “The findings for the spread of past/perfective markers from telics to atelics are certainly the most robust” (Collins 2002: 47).

The concept of telicity captures the semantic differences between verb phrases in (a) and (b) below from Dahl (1981: 80):

a) sing	b) make a chair
ride a bicycle	go to London
write	
write letters	write a letter
work	kill the President

The concept has a long tradition. This distinction was first named by Aristotle who identified situations in (a) *energia* (‘movements’) and situations expressed in (b) *kinesis* (‘actualities’) (Dowty 1979: 53). The distinction has been re-discovered and renamed several times within different traditions and schools (Dahl 1981: 80)³⁰; consequently, the kind of semantic differences the verb phrases above entail is not agreed upon, and telicity is defined in various ways. Yet, at least in the “western” tradition, telicity is commonly understood in terms of movement toward an endpoint or a goal, which Comrie’s much-cited definition illustrates:

a telic situation is one that involves a process that leads up to a well-defined terminal point, beyond which the process cannot continue (Comrie 1976: 45).

However, as pointed out by Dahl (1981)³¹, what counts as “a well-defined terminal point” is not clear; since all processes essentially have to come to an end, the identification of telic phrases means drawing a line somewhere between phrases that denote enough information about a limit or a goal, and those that do not. In English, a frequently used test for classifying telicity is extending the phrase with *for-phrases* and *in-phrases*. Note that the sentences in column A go well with *for-phrases* because they express duration, but they do not work well with *in-phrases* expressing punctuality; it is the other way around with the phrases in column B. Yet, there are examples of sentences and phrases clearly entailing some kind of limit, but

³⁰ Dahl (1981) points to the terminological confusion that exists in the field, and lists 15 terms that different authors have applied to the same phenomenon in order to describe the semantic distinctions between the verb phrases.

³¹ Dahl’s article is a problematisation of telicity and related terms, as well as a discussion of *whether* the telic-atelic (or bound-nonbounded) distinction is useful at all, *what* the concept of telicity (or boundness) essentially is, and *how* to distinguish between phrases having the property from those that do not.

failing the telicity test. Sentences like *The submarine moved towards the North Pole for two hours* (Dahl 1981: 86) describe a process of approaching a specific geographical place, and they obviously include a goal or limit. Still the sentence can be expanded with expressions of duration, and not with punctually locating expressions. The boundaries between telic and atelic sentences and phrases are not fixed, and because of the fuzziness attached to the concept of telicity in its traditional sense, several researchers in the field have abandoned the idea that telicity is about being able to identify an endpoint or a goal. For instance, Krifka (1998) and Rothstein³² (2004) have developed other types of criteria for distinguishing between the phrases in the two columns above. The verb phrases in the present project are not directly classified according to telicity. Rather, they are classified into Vendler's four categories whereby the \pm telic parameter is one of the distinguishing criteria. This means that the phrases are indirectly grouped in two categories of telicity because achievement and accomplishments are both telic, and activities and states are both atelic.

2.3.3.1.2 *The nature of lexical aspect*

One of the core issues in the field of lexical aspect is the question of whether aspectual properties are properties of the real world, or whether they are properties of the description of the situation, event or process (Rothstein 2004: 2). Many researchers in the field, among them Bache, claim that aspectual distinctions are distinctions between linguistic elements and not between entities in the "world out there":

Situations expressed by language are not necessarily 'real' in an objective sense, but belong rather to the locutionary agent's 'projected world', i.e. the world *as conceived* by the locutionary agent. There may be strong or weak links, identity, or possibly even no links at all, between the 'real world' and the 'projected world' (Bache 1997: 200).

Although this is an aspect that concerns the relation between linguistic expressions and the real world in general, it becomes particularly intrusive when dealing with the verb category

³² The feature \pm telic is significant for differentiating between the Vendlerian categories in Rothstein (2004). However, she argues against the claim that telicity is essentially a matter of verb phrases comprising an inherent terminal point. According to her, telicity "is to do with counting and the identification of atomic events" (ibid. : 157), and she offers the following definition: "A VP is telic if it denotes a set of countable events, and a set of entities P is countable if criteria are given for determining what is an atomic entity in P. So a VP is telic if the VP expresses criteria for individuating atomic events, and it is atelic if this is not the case" (Rothstein 2004: 157). So whereas the sentence *Mary ran* provides no information for determining what counts as a single running event, sentences like *Mary ran a mile*, or *John ate three apples* is telic because we can count the events that comprise the running and the eating (Rothstein 2004: 157).

which expresses abstract, temporal relations so fundamentally important for human cognition. Yet, it is an empirical fact that it is the description of the situation that is classified as telic in (c) and atelic in (d), and not the situation itself:

c) *Marit sykl-er fra Kontoret til byen*
Marit cycle-PRS from office-the to town
'Marit is cycling from the office to the town'

d) *Marit sykl-er*
Marit cycle-PRS
'Marit is cycling'

Both sentences can possibly denote the same situation in real life, yet the verb phrase in (d) is atelic because a terminal point of the cycling is not indicated, and the verb phrase in (c) is telic because it does add information about when the cycling will stop (when Marit reaches the city). This example of the telic-atelic distinction illustrates a point of general agreement among the researchers of aspectology: when we are classifying verb phrases into distinct categories of lexical aspect, we are classifying the language, not the world. This is not to say that there are no aspectual or temporal features that are more fundamental than others, e.g. than telicity, and that we cannot claim some distinctions to belong to the world. Some researchers claim that there are. Kamp (1979) regards the notion of *change* as a primitive distinction, and claims that dynamic and nondynamic situations reflect properties of events and states as such (Rothstein 2004: 2). This way of reasoning is also found Durst-Andersen's theory of language, typology and communication (Durst-Andersen 2010). His verb typology builds on the notion of *situational pictures* (ibid.: 5), which are the pictures perceived by the language users, and which form the basis for their mental images. These can be of two types reflecting situations that actually manifest themselves in reality: *stable* pictures corresponding to static real world situations, and *unstable* pictures corresponding to dynamic real world situations. Hence, states and activities are the only situational types that exist "out there", and which lay the foundation for more complex situational types: "whereas states and activities are perceivable, i.e. real world situations, actions are merely *conceivable* – they are partly a mental construct" (ibid.: 6).

Despite the fact that there probably are some aspectual and temporal notions and distinctions that are more basic than others, the principal starting point for analysing aspectual properties of verb phrases must be that the different aspectual categories, such as the

Vendlerian categories, are linguistic and nonontological categories. The reason for this is that the conceptualisation of time varies across languages (Evans and Green 2006; Von Steutterheim and Nüse 2003). Even though languages can express the full range of experiences and perceptions, how these are conceptualised and coded in languages differs. At this point I rest upon a cognitive understanding of the relation between language-meaning/semantics and form. In a cognitive framework there does not exist a one-to-one relation between meaning and form; the same situation can be structured and framed through linguistic encoding in various ways. Compared to the more traditional outlook on the relation between meaning and form, and compared to the generative tradition, semantics receives a different status in cognitive linguistics:

most if not all grammatical categories in fact do have meaning. But the meaning contributed by these categories is conceptual; that is, it represents a way of conceptualizing experience in the process of encoding it and expressing it in language (Croft 2001: 109)

Cognitive linguistics distinguishes between two levels of representation of meaning, the *semantic* level and the *conceptual* level. In addition, there is also a third level, the real world or the objective world. However, we cannot directly refer to this metaphysical level; we can only sense and experience it, and in turn express our perceptions and experiences by giving it a linguistic form. The conceptual level; mental images of objects and situations, represents a universal level in the sense that languages share the same underlying concepts and the same conceptualising capacity. However, the semantic level is language-specific, and involves the form-meaning pairings in a given language³³. So even though we assume that all languages have a conceptual base in common, languages differ at the semantic level of representation of meaning. If this is the case, it would be risky to give Vendler's lexical-aspectual categories ontological status because that could potentially obscure the crosslinguistic difference in verb semantics. Also, in light of the studies of how the language-specific conceptualisation and grammatical encoding of time can affect the acquisition of tense and aspect in an L2³⁴, it is important to be aware of the language-specificity element in the verbal expression of time when analysing lexical aspect. There is no reason to believe that the language diversity reflected at the grammatical level should not also be found in the semantics of verbs. However, in the literature on the Aspect Hypothesis, we find the claim that Vendler's

³³ See also section 2.2.2.1 in the current chapter about how Jarvis and Pavlenko (2008) see the level of representation differently than the view presented here.

³⁴ Such studies are addressed in section 2.2.1.1 and 2.2.2.2 in the current chapter.

classification system reflects universal properties of languages that build on "the ontological distinction of event, process, and state" (Andersen and Shirai 1996: 533). Even though a classification of verb phrases in studies that examine the potential effect of lexical aspect in a range of L2s must rest upon a common analytic base in order to be comparable, assuming universal and ontological status of these linguistic categories is problematic given the range of L1 backgrounds the L2 learners represent. With regard to the growing amount of research that documents the existence of transfer effects at the morphological level of language³⁵, researchers investigating the Aspect Hypothesis have to take language-specific features of verb semantic representation into consideration, and not solely focus on the universal aspect. Lardiere (2003) criticises research on the Aspect Hypothesis for failing to take language diversity of verb semantics into account:

The Aspect Hypothesis studies appear to assume native speaker intuitions about the meanings of verb stems in assigning coding categories such as activity, achievement, etc. to the data, and in applying diagnostic tests for those categories. As I show below, these assumptions may indeed obscure our understanding of the L2 idiolect. If coding categories such as lexical aspect classes constitute a kind of independent variable on the basis of which we draw conclusions about the likely distribution of past tense marking in line with the predictions of the Aspect Hypothesis, then we may indeed be vulnerable to the comparative fallacy (Lardiere 2003: 136).

Even though I believe that Lardiere's critique is a bit exaggerated, and even though I partly agree with Shirai's reply: "Since we cannot be sure about learners' intentions or their semantic representations, it is probably more reasonable to be agnostic about them to some degree" (Shirai 2007.: 59), Lardiere's critique underlines my own concern regarding the overemphasis on universal aspect in this line of research, accompanied by an underemphasis on crosslinguistic differences in verb semantics and their potential effect on the acquisition of temporal morphology. However, as we have seen in the introduction to research on the Aspect Hypothesis in chapter 2, this is a factor that has received increasing attention, and a study by Nishi and Shirai (2002) of verbs in English and Japanese shows that "lexical equivalents do not always have the same inherent aspect" (Shirai 2007: 58).

Finally, there is another reason for stressing a cautious attitude towards the universality of Vendler's categories. As Rothstein remarked, research on aspectuality suffers from a bias towards indo-European languages, English in particular. According to Klein

³⁵ Again, these types of studies are presented in section 2.2.1.1 and 2.2.2.2.

(2009: 42) we are far from having the full answer to what underlies the expression of time since for about 90% of languages, we have only superficial knowledge of how time is conceptualised and encoded. In addition, for those languages that have been thoroughly examined, we know that they “seem to differ in what they encode and how they do it” (Klein 2009: 35). Hence, the claim that the Vendler-classes are universal and ontological in nature is probably not well enough documented and supported, and can potentially conceal discrepancies between the verbal lexical content in the L1 and the L2 and the effects such differences can have on acquisition.

2.3.3.1.3 Level of classification

The issues focused on in the previous section raise questions about the relation between language and cognition as well as the relation between universalism and language specificity. These questions are not confined to the analysis of lexical aspect in general or the application of the Vendlerian classes in particular. The present section centres on a difficulty which arises when classifying verb phrases into Vendler’s absolute categories, and concerns the question of what syntactic level the classification should depart from. Even though Vendler himself underlined that other factors besides the purely lexical properties of the verb affect classification, such as “the presence or absence of an object, conditions, intended states of affairs” (Vendler 1967: 97), he has received much criticism for not incorporating this complexity into his classification scheme. Verkuyl (1972) and Dowty (1979) were among the first to point out that an analysis of lexical aspect does not rest upon the properties of the verb alone, but also depends on the presence or absence of other elements that can be a part of a verb phrase, such as objects and adverbials (Rothstein 2004). For instance, Dowty shows that Vendler’s activity verbs, which describe motions, behave like accomplishment verbs if we add information about location or destination (Dowty 1979: 60), such as in the examples (f) and (g) below:

- | | | | | |
|------|------------------------------|----------------|----------------------|----------------|
| e) | <i>Svein</i> | <i>jogg-er</i> | | ACTIVITY |
| | Svein | jog-PRS | | |
| | 'Svein is jogging' | | | |
|
 | | | | |
| f) | <i>Svein</i> | <i>jogg-er</i> | <i>fem kilometer</i> | ACCOMPLISHMENT |
| | Svein | jog-PRS | five kilometre | |
| | 'Svein jogs five kilometres' | | | |

- g) *Svein jogg-er til Parken* ACCOMPLISHMENT
 Svein jog-PRS to Park
 ‘Svein jogs to the park’

The shift in lexical aspect can also go the other way around. Verbs typically heading accomplishment phrases alter in telicity according to properties of the direct object. If the object refers to a specific quantity, for instance if the theme argument of the verb has numerical determiners attached, as in (h) below, the verb phrase qualifies as an accomplishment. However, if the object expresses nonspecific reference, as in (i) and (j) where no reference is made to individual entities, the phrase acts as an activity:

- h) *Hilde spis-te tre skiver / alle skivene* ACCOMPLISHMENT
 Hilde eat-PRT three slice of bread / all slice of bread
 ‘Hilde ate three slices of bread /all the slices of bread’

- i) *Hilde spis-te skiver* ACTIVITIY
 Hilde eat-PRT slice of bread
 ‘Hilde ate bread’

- j) *Hilde drikk-er vann* ACTIVITIY
 Hilde drink-PRS water
 ‘Hilde drinks water’

Verkuyl was the first to demonstrate that, in some contexts, verbs that would be classified in Vendler’s system as accomplishments had to be classified as activities. Verkuyl is one of Vendler’s strongest opponents (Rothstein 2004: 3), and claims that the fact that the classification depends on the context indicates that it has to take place at the phrase level, or even sometimes at the sentence level. To Verkuyl telicity is a property of sentences, not phrases, as shown by cases such as (k) and (l), taken from Rothstein (2004: 17):

- k) *John discovered the secret room in a few weeks* TELIC
 l) *Children have been discovering that secret room for generations* ATELIC

To discover describes a punctual situation, and will usually occur in phrases and sentences describing an instantaneous change of state, as in (k). However, because of the plural NP in (l), *discover* no longer describes a telic situation, but an atelic situation.

Furthermore, the presence of smaller units in language, such as adverbials and particles, contributes to setting the aspectual value of a phrase. According to Behrens (1993) a

negating word such as *not* ('ikke' in Norwegian) changes the lexical-aspectual type from dynamic to nondynamic in the Vendlerian system. Accordingly particles like *up* and *over* ('opp' and 'over' in Norwegian) can determine the category assignment in phrases like the ones below:

- m) *Ella drikk-er* ACTIVITY
 Ella drink-PRS
 'Ella drinks'
- n) *Ella drikk-er opp* ACCOMPLISHMENT
 Ella drink-PRS up
 'Ella drinks up'
- o) *Morten hopp-er* ACTIVITY
 Morten jump-PRS
 'Morten jumps'
- p) *Morten hopp-er over* ACCOMPLISHMENT
 Morten jump-PRS over
 'Morten jumps over'

Sometimes the aspectual shift is determined by contextual factors other than the linguistic ones mentioned so far. For instance, *look at* usually describes an activity, but it has a special interpretation in sentences such as (q), taken from Dowty (1979: 61), and behaves like an accomplishment.

q) *I haven't finished looking at your term paper yet, but I'll try to finish it tonight so we can discuss it tomorrow*

This shows that sometimes the researcher's interpretation of context based on pragmatic information, and not on argument structure, determines the category assignment. This indicates that it is not possible to perform a decontextualised coding of verb phrases into distinct lexical-aspectual classes. However, it also means that there will be cases where the lexical-aspectual value is interpreted differently by different researchers. For instance, in the above example I claimed that the verb phrase *have been discovering* in sentence (l) is atelic. However, in discussions I have observed that some would rather interpret this as a series of *discoverings*, and hence classify the verb phrase as telic.

To sum up, the discussion and examples I have illustrated show two important things. Firstly, the discussion demonstrates very clearly that it is not possible to code single verbs for

lexical-aspectual membership. Secondly, it highlights the lexical ambiguity of verbs in relation to lexical-aspectual classes; the same verb can be categorised in different classes depending on the argument structures in the verb phrase, but also sometimes by properties outside the verb phrase, as illustrated in (l). Hence, the lexical-aspectual assignment must in some cases be determined at the sentence level, and sometimes even because of particular contextual readings, such as in (q). Does this mean that a lexical-aspectual analysis based on Vendler is pointless, and that the classification is completely random? Some linguists seem to have that perspective. Based on his discussion Verkuyl discards Vendler's categories and regards them as linguistically irrelevant (Rothstein 2004: 3). In fact, he proposes his own classification system consisting of three classes based on the definition of lexical aspect as "essentially a non-lexical property of sentence structure" (Verkuyl 1989: 40). Likewise, Bache does not incorporate Vendler into his theory of temporality; rather, Bache speaks about verbs having a potential for aspectuality. To him, lexical aspect is a product of verbs used in context:

It is clear that there is no simple one-to-one relationship between verb and actional value. Despite the fact that many verbs seem more intimately related to some actional values than others, such propensity is difficult, if not impossible, to define in isolation, at a purely lexical level, and is easily overridden by morphological, syntactic and/or contextual factors in actual discourse (Bache 1997: 221)

So, where do we stand in a study, such as the current one, which intends to base its investigation of lexical aspect and L2 acquisition on Vendler in order to be able to compare the results to the findings that exist in the field? How is the category assignment to be conducted when it is not possible to classify verbs in isolation, and when there are so many factors that decide the lexical-aspectual property of phrases and sentences? How is this done in studies of the Aspect Hypothesis? Such questions will be the subject of chapter 5, section 5.3 discussing coding procedures for lexical-aspectual category assignment. Here we settle with the observation that lexical-aspectual category assignment is indeed a complex task, and one of the methodological challenges in research on the Aspect Hypothesis. The following section addresses the study of transfer within the research line.

2.3.4 The study of transfer in the Aspect Hypothesis

Research on the Aspect Hypothesis has been primarily oriented towards universality, and the importance of crosslinguistic differences has not been given any particular weight within in this line of inquiry (Odlin 2005; Shirai and Nishi 2003). According to Collins, this has to do with the purpose of the study of the Aspect Hypothesis:

Divergent patterns of acquisition as a function of L1 background would challenge the universal status of the semantic category effect and would also suggest a much greater role for cross-linguistic influence than has been acknowledged to date (Collins 2004: 252).

Consequently, L1 influence has not been studied systematically within this framework (Collins 2002: 44). Yet transfer effects have occasionally been put forward as a possible explanation for results in L2 studies that show patterns divergent from the findings in L1 studies. This is obvious in Andersen and Shirai's (1996: 247) discussion of L2 learners' tendency to overuse the progressive, a pattern which opposes the predictions in the Aspect Hypothesis. However, recently the potential effect of L1 influence has been given more attention, for instance, by Shirai (2009), who sees the systematic investigation of L1 influence as an important area of future research for the Aspect Hypothesis in order "to tease out the effect of natural acquisitional processes from the effect of L1" (ibid.: 184). Shirai quite openly states that "results from previous L2 research that supported the Aspect Hypothesis can also be partially attributed to L1 influence" (Shirai 2009: 184). However, some work has been done already. I will now briefly present some recent studies conducted within the Aspect Hypothesis framework that point to effects of the learners' L1s.

In two cross-sectional studies Collins (2002, 2004) finds that the first language of Francophone learners of English influences the acquisition of tense and aspect morphology. The first study was conducted with French-speaking learners of English in Canada. In this study, Collins investigated the participants' use of past forms in a cloze passage. Although the distribution of past forms was consistent with the predictions of the Aspect Hypothesis (the appropriate use of past forms spread from telics to atelics), the distribution of the present perfect showed a pattern that has not been documented in similar studies of learners from other L1 backgrounds (Jarvis and Pavlenko 2008: 95). In telic verbs phrases, the learners used the present perfect in contexts where a target-like use would require the simple past in English (Collins 2002: 83). The French *passé composé* shares structural properties with the present

perfect in English as it is a compound tense form; however, these forms are not equivalent in function. Collins offers this interpretation of the findings:

For Francophone learners of English, the perfect [...] was the most common alternative to simple past for telics. In other words, the category that was the best context for learner's attempts at simple past (telics) was also the category in which *transfer* of the form perceived to be equivalent of past (the perfect) was most evident. The L1 influence does not appear to override the effect of lexical aspect; rather, it occurs within it (Collins 2002: 85).

In the second study, which partially replicated the first, Collins (2004) compared how Japanese and French learners of English used past forms, also based on a cloze test. This study confirms the previous findings: The Francophone learners had a significantly higher frequency of inappropriate use of the present perfect in preterite contexts compared to the Japanese learners (Izquierdo and Collins 2008: 352).

A study by Ayoun and Salaberry (2008) largely supports Collins's finding on the relation between the effects of lexical aspect and transfer. Ayoun and Salaberry conducted a cross-sectional study of French-speaking learners of English, living in France, based on a cloze task and a production task. One of the research questions concerned L1 influence: "Does their first language lead French speakers to overuse the English present perfect due to its morphological similarity with the *passé composé*?" (ibid: 555). Results showed that there was indeed an L1 effect in the use of the present perfect for some learners; some used the present perfect systematically as an alternative to simple past. Nevertheless, on a group level the study did not reveal significant L1 influence (ibid: 583). Furthermore, the informants in this study were at an advanced stage in the development, and were trained academically in the L2 (ibid.: 583); a finding that points to the importance of the effect of lexical aspect throughout the learning process (ibid.).

Izquierdo and Collins (2008) demonstrate that transfer can also have a facilitating effect on the acquisition of tense and aspect. Based on a cloze task with perfective and imperfective contexts and later, interviews, Izquierdo and Collins find that Hispanic learners, who encode the perfective-imperfective distinction in their first language, relied heavily upon L1-L2 similarities. In contrast, English-speaking learners unfamiliar with this particular grammaticalised aspectual distinction proved to be influenced to a much greater extent by inherent aspect, which aligns with the predictions in the Aspect Hypothesis (Izquierdo and Collins 2008).

The informants in both Collins's studies and Ayoun and Salaberry's study were at different proficiency levels, and all three studies observed that the effects of the L1 increased with proficiency level (Ayoun and Salaberry 2008: 583). This finding corroborates Rocca (2002). In a longitudinal study Rocca (2002, 2007) finds L1 influence on tense and aspect morphology in the interlanguages of six children: three English-speaking learners of Italian and three Italian-speaking learners of English. The English learners of Italian underused the progressive marking in Italian, *imperfetto*, while the Italian learners of English overextended the progressive marking to statives (Shirai 2009: 184). Similar to Collins and Ayoun and Salaberry, Rocca claims that influence of verb semantics is primary in the initial encoding of tense and aspect notions, and that transfer occurs secondarily and only later in the acquisition process:

[...] the initial distribution of the verb morphology in both languages is consistent with the Aspect Hypothesis and the overextension/underextension patterns related to L1 influence emerge only later. This interaction of language transfer with developmental factors make it an elusive phenomenon that is difficult to show, for as Kellerman (1983: 112) so succinctly put it: 'now you see it, now you don't' (Rocca 2002: 280).

To conclude, the limited number of Aspect Hypothesis studies that have focused on transfer posit that transfer in the area of temporal morphology is constrained by lexical aspect. L1 influence "operates within the attested order of acquisition of tense-aspect markers, affecting the rate but not the distribution of grammatical aspect markers" (Izquierdo and Collins 2008: 364). Learners' L1s do not change the sequence of emergence, but may have an impact on the magnitude of the effect of lexical aspect (Collins 2004: 257). Some of these studies also indicate that influence from the L1 plays a role only later in the acquisition process.

2.4 Studies of temporality and L1 influence in L2 Norwegian

Research on morphology in Norwegian has largely focused on verb elements and has typically been based on written production materials in non-controlled research environments (Golden, Kulbrandstad, and Tenfjord 2007: 15). L1 influence has been an important issue in many of the studies of how learners acquire grammatical categories and functions in Norwegian. A close relationship between the field of teaching and the research milieu is

probably one reason for the attention that L1 influence has received in the Norwegian SLA community (ibid.: 19). Former teachers of L2 Norwegian are the ones responsible for the foundation of Norwegian as a second language as a separate field of research.

The research on transfer in a Norwegian learner context is typically founded on contrastive analyses of the L1 and L2. This tendency is closely linked to the prominent position of language typology in Scandinavian SLA research. Researchers such as Hammarberg and Viberg (1977, 1979, 1984) have been particularly important contributors in this respect. Vietnamese and Turkish are the L1s that have been studied most frequently in L2 Norwegian. Even though the majority of Norwegian transfer studies have been either case studies or small-scale studies, and even though most of them have based their analyses on informants with similar L1 backgrounds (and thus face the challenges of generalisability that Jarvis (2000) underscores), they have yielded important insights into the relation between transfer effects and typology. L1 influence in L2 Norwegian is addressed in three doctoral theses: Tenfjord (1997), Kløve (1997)³⁶, and Nistov (2001). Of these three, Tenfjord and Nistov apply a conceptual approach and can be classified as meaning-oriented studies. These two studies are also similar in that they are longitudinal small-scale studies. Neither of the studies includes a control group in its study design, which is a fact that “naturally limits what conclusions can be drawn with regard to L1 transfer” (Nistov 2001: 322). Because the current study relates its findings to Tenfjord’s, Tenfjord will be reviewed in the following section.

2.4.1 Tenfjord (1997)

Tenfjord’s (1997) dissertation is a longitudinal case study of four Vietnamese pupils’ grammaticalisation of the preterite and the present perfect in Norwegian. The material is oral language usage; the first recordings started immediately after the pupils arrived, and the last recordings were done after the pupils had been in Norway between five and six years (ibid.: 134). Tenfjord characterises her approach as *function-to-form* analysis which is subsumed under Bardovi-Harlig’s (2000) category of meaning-oriented approach to the acquisition of temporal expression in SLA research³⁷.

Tenfjord predicted that 1) the interlanguages of the Vietnamese learners would be characterised by a lack of the preterite and 2) the present perfect would emerge as a

³⁶ Kløve (1997) is less in focus because this is a study of second language phonology.

³⁷ Bardovi-Harlig (2000: 10) distinguishes between a meaning-oriented approach and a form-oriented approach in the study of acquisition of temporality in the L2, and section 5.1 in chapter 5 presents the two approaches as well as discussing them in relation to the approach taken in the current study.

grammatical category before the preterite in the interlanguages. The latter hypothesis contradicts the observed sequence of the acquisition of verb morphology in Germanic languages (Bardovi-Harlig 2000: 419), where the preterite is predicted to emerge before the present perfect (see section 2.1 in the current chapter). However, according to Tenfjord's functionalistic view of language use and language learning, the perfect category has properties which make it more important to express in early stages of the acquisition than the redundant preterite category. The hypotheses are supported by the material (Tenfjord 1997:202). Even though the learners display highly individual paths towards the tense system in the target language, the learners as a group inflect only 21% of the obligatory contexts for the preterite. In contrast, the learners morphologically express the perfect in as much as 60% of the contexts where it would be the appropriate form. These quantitative results are further supported by more qualitative investigations, such productivity analysis. The learners display a tendency to establish the present perfect before the preterite; however, this tendency applies only to the basic perfect function, which Tenfjord regards as the resultative perfect (ibid.: 218). Tenfjord interprets her findings in terms of L1 influence and functionalism (ibid.: 237).

In her exploratory analysis, Tenfjord examines the use of the preterite and the present perfect in relation to lexical aspect in the interlanguage of one of the learners, Mai. She finds, in accordance with the Aspect Hypothesis, that it is the stative verb phrases that last receive grammatical marking (ibid.: 212). Tenfjord also investigates whether the same learner seems to be guided by narrative structure in her use of the preterite and the present perfect. In this part of the thesis, Tenfjord draws a connection to studies that test the Discourse Hypothesis. The Discourse Hypothesis is also rooted in theories of temporal semantics that have generated a large body of research on the development of tense and aspect morphology, although not to the same extent as the Aspect Hypothesis³⁸. While the Aspect Hypothesis claims that the emergence of verb morphology is determined by lexical aspect, The Discourse Hypothesis claims that “narrative grounding (i.e., foreground and background) can inform the use of tense-aspect inflectional morphology and thus guide the development of the morphological marking of temporality in the L2” (Ayoun and Salaberry 2008: 562)³⁹. However, studies have

³⁸ The Aspect Hypothesis and The Discourse Hypothesis are usually presented as competing hypotheses regarding the distribution of tense and aspect morphology in interlanguages. However, Bardovi-Harlig (1998) argues that both influence of lexical aspect and narrative structure should be taken into account when analysing L2 morphology.

³⁹ The distinction between background and foreground is regarded as a universal property of narrative discourse (Bardovi-Harlig 1998: 476). Foreground “relates events belonging to the skeletal structure of the discourse and consists of clauses that move time forward” while the background serves the purpose of supporting the foreground, for instance, by providing supportive information (Bardovi-Harlig 2000: 278, 282).

shown variation in how learners mark foreground and background (Bardovi-Harlig 1998: 476). In Tenfjord's analysis of Mai's Norwegian interlanguage, she sees that grammatical marking *is* discourse sensitive: the sequences that make up the foreground are systematically marked, while the verbs in the background are not given inflection (Tenfjord 1997: 217). This result corroborates earlier findings of Bardovi-Harlig and Flashner (Bardovi-Harlig 1998: 477).

Tenfjord's study is important for the present study because it investigates the grammatical encoding of past time in Norwegian, and also because the participants are Vietnamese. In addition, it is interesting that the Vietnamese learners seem to acquire the present perfect before the preterite. Tenfjord's analysis of this pattern in relation to the learners' first language provides interesting similarities between Vietnamese and Norwegian⁴⁰. Similar to Collins (2002, 2004) and Ayoun and Salaberry (2008), Tenfjord's findings point to important transfer effects in the acquisition of the present perfect, a category that will be focused on in this thesis. Three additional studies of L2 Norwegian report transfer effects in the acquisition of the perfect in Norwegian, and I will briefly summarise their findings below.

2.4.2 Moskvil (2004), Helland (2005) and Janik (2010)

Moskvil (2004) examined Turkish learners' use of the preterite and the perfect in Norwegian using the same type of data as the present study: written texts produced in response to an official test of Norwegian as a second language⁴¹. Moskvil compared the distribution she found in the Turkish texts to the distribution from a control group of texts produced under the same conditions by Vietnamese learners. Helland (2005) conducted a similar study, but used texts from Vietnamese learners as the primary material and texts written by Turkish learners as the control. Both studies found that the distributions of the preterite and the perfect in the two L1 groups were distinct in that Turkish learners displayed a stronger tendency for non-appropriate use of the perfect in preterite contexts when compared to the Vietnamese learners. The Vietnamese learners, on the other hand, had a more frequent distribution of target-like use of the perfect, a finding that underscores Tenfjord (1997). However, the Vietnamese learners had more problems with the preterite in Norwegian when compared to the Turkish

⁴⁰ Tenfjord's contrastive analysis of Norwegian and Vietnamese will be discussed more thoroughly in chapter 3 section 3.2.3.3.

⁴¹ However, this was before the ASK corpus was developed, so the texts at that time were not electronic, but were copies of original texts, and only later came into the ASK corpus.

learners. Helland (2005: 98) also found that some of the Vietnamese participants seemed to avoid writing in a manner that triggered tense shifts from the present to the past. These L1-specific patterns were interpreted in both studies as partially a result of differences and similarities in how tense and aspectual notions are coded in the L1s and in the L2.

Janik (2010) investigated transfer in Polish learners' use of the present perfect and the preterite in Norwegian. She also used the same type of data as the current study: written texts extracted from the ASK corpus. Janik found that the Polish learners (N=100), who lack a perfect category in their L1, had more problems in distinguishing the preterite from the perfect in Norwegian as compared to learners whose L1s have a perfect category similar to the one in Norwegian (German, N= 100 and English, N=100). Janik also discusses whether this transfer is conceptual in nature (Janik 2010: 98)⁴².

2.5 Chapter summary

In this chapter I have presented two different perspectives of how learners acquire temporal morphology in an L2: a language-specific perspective and a universalistic perspective (The Aspect Hypothesis) as well as discussing assumptions and studies in different theoretical frameworks connected to the two perspectives (Thinking for speaking, Conceptual transfer and The Aspect Hypothesis). The term conceptual transfer has been suggested (for instance by Jarvis 2011) as a cover term for studies that investigate crosslinguistic differences and crosslinguistic influence in this cognitive; and in many cases also mildly relativistic frame of language research. Slobin's thinking for speaking hypothesis has been important for several of these studies, and has in particular influenced the work conducted in the Heidelberg research group. Contrary to the Aspect Hypothesis line of research, which focuses on tense and aspect morphology and relies on a large body of studies that confirm the predictions set forward in the theory, there are not a lot of studies that document the existence of L1 influence on the acquisition of verb morphology in the L2, and even fewer that claim to find conceptual transfer in the acquisition and use of temporal morphology in a second language. Yet, the Heidelberg research group has conducted studies which point to L1 effects on the use of L2

⁴² In addition to the master theses mentioned here, there are also a couple other earlier master theses that investigate tense and aspect in L2 Norwegian based on a different type of data than in the studies referred to in the current section 2.4.2, and which also discuss L1 influence. These are Randen (1999) and Karrer (1999).

tense and aspect morphology, and which have been interpreted as examples of how L1 influence can operate at the conceptual level. Also studies referred to in Jarvis and Pavlenko (2008) indicate at least, that there exist crosslinguistic differences in the temporal domain that have a conceptual basis, and which in turn can give rise to conceptual transfer. In this part of the chapter I have also addressed four different views on the nature of transfer discussed in Jarvis (2000). In this section the view of transfer as an inert outcome, and transfer as a process of transfer between L1 to L2, have been particularly focused. This chapter also reports from studies in Norwegian SLA research that find L1 influence in the acquisition and use of the present perfect category. We have seen that the Aspect Hypothesis, which underscores primarily the developmental perspective, has received support from a huge body of research from the 1980s and onwards; while the language specific perspective traditionally has been given less emphasis in the study of how L2 learners acquire temporal morphology in a second language. At the same time, we have seen that within the Aspect Hypothesis research milieu, voices have called for a more systematic investigation of whether and if so the L1 affects the route of development of tense and aspect morphology. I have also referred to studies that document such influence without refusing the predictions set forward in the Aspect Hypothesis. Those who have studied transfer within the Aspect Hypothesis framework argue that the influences from the learners' first languages do not affect the sequence of development qualitatively, but primarily only quantitatively. In some of these studies, the present perfect category has been subject to influence from the learners' L1s. The chapter also examines studies that investigate crosslinguistic differences on a structural and conceptual level, and that question the current view of acquisition of temporality as primarily driven by universal mechanisms. These studies benefit from new theoretical refinements within the study of language and cognition, and pursue the question of whether and if so the L1 affects the cognitive processes that take place in the planning stages and the verbalisation stages in the act of communicating. Based on the amount of research presented in this chapter, and summarised in table 88 in appendix A, we can conclude that learners' L1s seem to play a role in the acquisition of temporal morphology, perhaps to a larger degree than traditionally assumed, and that the acquisition also probably follows a common route of development directed by lexical-aspectual properties of verb phrases. For instance, the tendency for past morphology to first emerge with telic verb phrases, constitutes perhaps a universal of language acquisition. We have also seen that the present perfect category in several studies, both within the Aspect Hypothesis and in studies that are introduced under the language-

specific perspective section, displays a tendency be influenced by the L1; a fact which indicates that the present perfect category poses a particular challenge in the acquisition of temporal morphology in the L2. I have also pointed out that there is a need for a critical survey of the empirical basis set forward in the different theoretical perspectives discussed in the chapter. For instance, within conceptual transfer research there is a need for clearer theoretical distinctions followed by a greater awareness of the investigation and the identification of the source of the observed transfer effects. There is a need for a stronger methodological basis in research on the Aspect Hypothesis, and the discussion of lexical aspect makes up the largest part of the section addressing methodological issues. This part comprises a theoretical discussion of the phenomenon of lexical aspect which is of relevance for the lexical-aspectual classification which will be outlined in chapter 5. In addition, there is need for a systematic investigation of the impact that learners' first language may have on the sequence of emergence of temporal morphology.

Chapter 3

THE ENCODING OF TIME IN NORWEGIAN, VIETNAMESE AND SOMALI

In this chapter, I conduct contrastive investigations of how time is expressed in Norwegian, Vietnamese and Somali. The chapter is divided into two parts, the first of which focuses on methodology. In the methodology section, I briefly introduce the field of contrastive linguistics and discuss the role of contrastive analysis in SLA research. Subsequently, I discuss a method I have employed as a basis for comparing the three languages in question: *the translation questionnaire method*. The second part of the chapter comprises the contrastive analysis⁴³. The focal point of the comparisons is how the languages resemble and differ from each other in the encoding of the notion of pastness. First I survey the crosslinguistic work on tense and aspect by Östen Dahl and Joan Bybee (1989) that functions as the frame of reference for the comparisons. The present perfect category merits special attention in the contrastive analyses of Norwegian and the L2s, and hence I also outline Lindstedt's (2000) generalisations about the perfect as a crosslinguistic category type. Finally, I present the contrastive analysis of Norwegian, Vietnamese and Somali. In the contrastive analysis I argue for the existence for a semantic parallel between the present perfect in Norwegian and the use of two time markers in Vietnamese. I show how Norwegian and Somali encode different temporal notions and distinctions, and I point to the lack of a perfect category in Somali.

⁴³ The term *contrastive analysis* can mean several things in the literature. It can refer to the method of comparing languages, which is how it is used in the present study. However, the term is also strongly associated with a theory of language learning, *the Contrastive Analysis Hypothesis*, which was linked to behaviourist learning psychology, and then to a particular methodology in *Error Analysis* for diagnosing errors in learner language (Nistov 2001: 14). Both the CAH and EA will be briefly surveyed in this chapter.

3.1 Methodological considerations

3.1.1 Contrastive Linguistics and contrastive analysis in SLA research

Contrastive linguistics is “the systematic comparison of two or more languages, with the aim of describing their similarities and differences” (Johansson 2003: 31). In SLA research, there is a long tradition of comparing the L1 and the L2; this has been a particularly common practice in transfer studies. Contrastive studies are also historically closely linked to foreign and second language learning due to the role of contrastive studies in the Contrastive Analysis Hypothesis (CAH) and, later, Error Analysis (EA)⁴⁴. The CAH is an important precursor to SLA research (Nistov 2001: 14). One of the fundamental tenets of the behaviouristic-oriented CAH paradigm was that similarities and differences between the L1 and the target language would cause difficulties with language learning. Contrastive analysis had a prominent position in foreign and second language learning because it was a way of “comparing languages in order to determine potential errors for the ultimate purpose of isolating what needs to be learned and what does not need to be learned” (Gass and Selinker 2008: 72). Hence, the early contrastive analyses were carried out for strictly applied purposes and focused mostly on linguistic differences. A number of pedagogical materials based on these contrastive analyses were published (Gass and Selinker 2008: 72). Robert Lado, together with C. Fries, was a significant proponent of the CAH paradigm, and in his famous book, *Linguistics Across Cultures* (1957), he outlines methods for comparing languages for pedagogical purposes. The linguistic climate changed dramatically in the years after *Linguistics Across Cultures* was published, which also affected the CAH paradigm. The CAH was refuted both theoretically and empirically during the cognitive revolution in the 1950s and the 1960s; however, the method of contrastive analysis, the systematic comparison of the L1 and L2, was carried over into Error Analysis. EA applied the CAH “in its weak version, using the L1 and L2 differences and similarities diagnostically” (Nistov 2001: 4). Yet, because of the failure of the CAH paradigm and the close link between contrastive studies and Skinner’s behaviourism, many linguists were sceptical of the value of contrastive analysis (Sajavaara 1996: 17). Furthermore, Krzeszowski (1990: 2) started his monograph of contrastive linguistics, *Contrasting Languages*, by stating that, “contrastive studies do not enjoy much respect among linguists”. However, changes have taken place since the 1990s. Since contrastive linguistics has been established as a separate research field, the focus on contrastive linguistics has

⁴⁴ Section 1.1 in the introductory chapter summarises the CAH paradigm and Error Analysis.

expanded. It is no longer a solidified field of research (Granger 2003; Johansson 2003), but comprises different theoretical perspectives and approaches (functional, formal, sociolinguistic, pragmatic, cognitive)⁴⁵, with the advance of computerised multilingual corpora being perhaps the most significant recent development (Granger 2003; Salkie 2002). As Odlin (1989: 28) asserts, the study of crosslinguistic influence “depends greatly on the systematic comparisons of languages provided by contrastive analyses”. Yet, crosslinguistic comparisons are not only relevant in transfer studies, but are also of interest for researchers that investigate universal⁴⁶ features of second language learning. There is a close relationship between typological linguistics and contrastive linguistics. Whereas contrastive linguistics is about identifying both similarities and differences in pairs of languages, typological linguistics focuses on groups of languages and identifies features common to several languages. Typological linguistics aims to discover language universals (Krzyszowski 1990: 9) as well as to describe the diversity of the world’s languages (Berggreen and Tenfjord 1999: 65). Central research questions in SLA have been whether, and if so, how language universals constrain the learning process, and what the nature of the relationship between language universals and language learning is. Studies that pursue matters like this will also have to describe and compare how the L1s and L2s in question are different or alike. Crosslinguistic comparison indeed plays a role in much SLA research; still, SLA researchers in general do not engage in what Krzyszowski calls “contrastive analysis proper” (Krzyszowski 1990: 1). SLA researchers have primarily utilized contrastive analysis for the purpose of collecting documentation for contrastive predictions or other hypotheses. Granger (2003: 18) holds that a lot of previous contrastive studies and contrastive statements are “largely intuition-based” and not empirically founded. In my view, it might also be that SLA researchers in general have not paid sufficient attention to methods for comparing the L1 and the L2. In some cases, the lack of contrastive basis may lead to insufficient interpretations, or the inability to draw appropriate conclusions about L1 influence. In my view, this problem arises in a study of the acquisition of interrogative clauses and verb morphology in L2 Swedish (Philipsson 2007) by 36 learners whose native languages were Iraqi Arabic, Persian, and Somali. The learners were placed at three different proficiency levels (ibid.: 53). In this study, a lower acquisition rate

⁴⁵ *Current Trends in Contrastive Linguistics* (Gómez-González, Mackenzie, and González Alvarez 2008) examines the various recent developments in the field of contrastive linguistics.

⁴⁶ In the thesis I talk about universal features in two different ways. The Aspect Hypothesis presented in chapter 2 represents a *universal* view of L2 acquisition in the sense that they assume that the acquisition first and foremost follow a common route of development. In this framework, the effect of lexical aspect is set forward as a *universal of language acquisition*. In this chapter I also apply the term *universal* and talk about *language universals* outside the context of language acquisition, and in accordance with typological linguistics.

for verb morphology was observed for the Somali learners than for the other learner groups (ibid.: 183). For instance, and most interesting for the current study, the accuracy rates of the Swedish perfect forms for the altogether eight Somali learners (at the intermediate and high proficiency level) were significantly lower compared to the accuracy rates of the eight Iraqi Arabic and eight Persian learners (ibid.: 90-91). However, the researcher concluded that this observed L1 difference could not be understood in terms of L1 influence because “no features among the Somali verb structure can supply such an explanation” (ibid.: 183). In Philipsson’s contrastive remarks on Somali verb morphology, he does not mention the fact that the Somali language lacks a perfect category at all (ibid.: 34), which indeed is relevant in this context. However, after stating that there are no contrastive relations that can account for the pattern in the Somali group, Philipsson underlines that further research “focusing more specifically on the structures in question” (ibid.: 184), is needed in order to understand the L1 differences observed.

3.1.2 Translation as a method in crosslinguistic comparisons

The awareness of methodology is seemingly more extensive in the disciplines of contrastive linguistics and translation studies. At least the problem of equivalence, the question of what is actually being compared in contrastive analyses and how to establish crosslinguistic relationships, has continued to raise debate within those research milieus. The notion of *tertium comparationis* accentuates the most fundamental difficulty for the issue of criteria for contrasting languages:

All comparisons involve the basic assumptions that the objects to be compared share something in common, against which differences can be stated. This common platform of reference is called *tertium comparationis* (Krzyszowski 1990: 15).

Carl James (1980) points to the potential of translation as a frame of reference for contrastive analysis:

We conclude that translation equivalence, of this rather rigorously defined sort [including interpersonal and textual as well as ideational meaning] is the best available TC [*tertium comparationis*] for CA [contrastive analysis] (James 1980: 178).

Translation has always been widely used among contrastive linguists as a means of establishing crosslinguistic correspondence between languages (Johansson 2003: 35). Even though the use of translation as a method of contrasting has been met with criticism (for instance, Krzeszowski (1990)), the emergence of computerised, multilingual corpora has strengthened the role of translation in contrastive studies:

The use of multilingual corpora, with the variety of texts and a range of translators represented, increases the validity and reliability of the comparisons. It can indeed be regarded as the systematic exploitation of the bilingual intuition of translators, as it is reflected in the pairing of source and target language expressions in the corpus texts (Johansson 2003: 35).

Translation studies (TS) has traditionally been perceived as an autonomous research field despite its obvious overlap with the field of contrastive linguistics. The breakthrough of multilingual corpora (Johansson 2003: 35), however, has led to a reconciliation between the two neighbouring fields because of their mutual interest in the data provided by different types of multilingual corpora (Granger 2003)⁴⁷.

Sylviane Granger's research at the Catholic University of Louvain-la-Neuve is an example of work in crosslinguistic influence that not only benefits from the use of corpora, but also uses empirically-validated contrastive analysis data as a basis for research. The researchers on this team build on the assumptions in Granger's Integrated Contrastive Model (Granger 1996). In this model the predictions about the learners' interlanguage are not grounded in traditional CA where two different languages are compared, in this case the L1 and the L2. Instead they make use of a new type of CA, Contrastive Interlanguage Analysis (henceforth also CIA), which contrasts the performances of native speakers with L2 learners of the same language (Granger 1996: 43). The CIA approach relies on authentic language data, and Granger and her research team extract their language data from a learner corpus, The International Corpus of Learner English (ICLE)⁴⁸. Granger's innovative use of contrastive analysis exemplifies SLA research that takes the methodological issues of contrasting languages seriously in the effort to detect crosslinguistic influence⁴⁹.

⁴⁷ A common dichotomy in contrastive linguistics is between *translation corpora* (consisting of original texts in one language and their translations in one or several languages) and *comparable corpora* (consisting of original texts in two or more languages that are similar in several respects, e.g. genre) (Granger 2003). Chapter 5, section 5.4, elaborates more on different types of corpora.

⁴⁸ The ICLE corpus consists of comparable texts written by learners of English as a foreign language (EFL learners) from 14 different L1 backgrounds (Granger 1996).

⁴⁹ Granger's Integrated Contrastive Model is presented in chapter 5, section 5.2.2.

Even if we acknowledge the fact that translation is a relevant and advantageous method for achieving contrastive insight, the problem of tertium comparationis still remains, that is: what should be the common base, or the third element, against which the languages are compared? In the days of structuralism, differences and similarities between languages were based only on grammatical surface structures. It has been a long time since this strictly structural approach was abandoned, and since then comparisons have started to include the semantic level of language and, more recently, other aspects such as pragmatics and sociolinguistics. Various frames of references are discussed and applied in the field of contrastive linguistics as tertium comparationis, and the issue of criteria for comparisons remains a difficult one⁵⁰. I have already mentioned Granger's Integrated Contrastive Model (Granger 1996) as a case where the contrastive analyses are based on more than intuition and reference grammars. I will also highlight another SLA study of L1 influence, Tenfjord (1997), that makes use of a semantic reference frame in the contrastive analysis that explores the nuances of similarities between Norwegian and Vietnamese. This study, which investigated four Vietnamese pupils' grammaticalisation of the preterite and the present perfect in Norwegian, is highly relevant to current research and is presented more thoroughly in chapter 2, section 2.4.1. It is mentioned here because Tenfjord uses Discourse Representation Theory (DRT) as tertium comparationis in her contrastive analysis of Norwegian and Vietnamese. She uses DRT as a model for contrasting temporality and tense in two very different languages, and the reason for applying a semantic theory as a reference frame is to avoid the fallacy of comparing Vietnamese by means of categories in Norwegian. According to Tenfjord, *the comparative fallacy* coined by Bley-Vroman (1983) is as relevant for the contrastive analysis of natural languages as it is for the analysis of interlanguages (Tenfjord 1997: 80).

In the contrastive investigations of the encoding of past time in Norwegian, Vietnamese and Somali, I use temporal prototype categories and the universality of crosslinguistic categories as the tertium comparationis. This is also an approach suggested by James (1980) and Chesterman (1998). Furthermore I make use of translation as a method of obtaining primary contrastive data of Vietnamese and Somali in order to facilitate the contrastive investigations. I exploit a translation questionnaire method; more precisely, I use a questionnaire developed by Dahl (1985, 2000) and Lindstedt (2000), *the perfect questionnaire*.

⁵⁰ Readers interested in the discussion of comparison criterion are advised to read Krzeszowski (1990) or Chesterman (1998).

3.1.3 A crosslinguistic view of temporal categories

This section presents the universal view of crosslinguistic temporal categories that provides the frame of reference for the contrastive analyses of Norwegian, Vietnamese and Somali.

Temporality is a tremendously complex domain of language and is characterised by an extensive amount of literature, which is published within different traditions and paradigms. The terminology is very confusing, which makes it quite demanding to attain an overview of what we know about how time is expressed in languages. In my opinion, the works of Dahl (1985, 2000), Bybee (1985), Bybee, Perkins and Pagliuca (1994) and Bybee and Dahl (1989) manage to clarify this rather intricate picture of the encoding of temporality in languages. In 1989 Dahl and Bybee published an article together on tense and aspect systems in the languages of the world, including both typological and diachronic perspectives. The background for the joint paper was two independent studies on tense and aspect. Dahl conducted a data-oriented investigation of tense and aspect systems in 64 languages from all the major continents. The languages represented 15 different genetic language groups, but the number of languages in each group varied significantly from 1 (Sino-Tibetan languages, for instance) to 23 (Indo-European languages) (Dahl 1985). Bybee (1985), together with Perkins and Pagliuca, investigated verbal morphological categories in 50 languages from a sample designed to control for genetic and areal bias. The results from the two studies were published almost at the same time, and, despite their differences in method and research questions, the results were “strikingly similar” (Dahl 2000: 6). This led to an effort to integrate the two studies, which ultimately resulted in their joint paper (Bybee and Dahl 1989).

The main reason that Dahl and Bybee (1989) are successful in their treatment of temporality is their approach to the topic. Instead of describing temporal categories with the rather ill-defined terms *tense* and *aspect*, which is a common method in the literature, they operate with what they call *gram* and *gram-types* as basic units. Another advantage of the *Bybee & Dahl approach* (Dahl 2000: 6) is the diachronic perspective that is integrated in their analysis of temporal categories. This historical perspective contributes to our understanding of the categories in crosslinguistic studies. For example, Lindstedt’s treatment of the perfect category, which I will present in the contrastive part of the chapter, is based on the same approach and the same kind of data used in Bybee and Dahl’s studies.

A gram is a language-specific category that expresses temporal and aspectual notions, such as the progressive in English or the *passé simple* in French. The B&D approach treats tense and aspect as semantic concepts that describe contents of grams and which do not

represent specific categories in languages. An important assumption in the B&D approach is that the language-specific grams can be classified into a limited set of gram-types, that is, crosslinguistic category types (Dahl 2000: 7):

In fact, our main thesis is that the meanings of the grams are cross-linguistically similar, making it possible to postulate a small set of cross-linguistic gram-types, identifiable by their semantic foci and associated with typical means of expression (Bybee and Dahl 1989: 52).

According to Bybee and Dahl (1989:55), the majority of the grams belong to one of the six gram-types listed below:

1. **perfective**, indicating that a situation is viewed as bounded;
2. **imperfective**, indicating that a situation is viewed as not bounded;
3. **progressive** (called **continuous** in Bybee's study) indicating the situation is in progress at reference time;
4. **future**, indicating that the speaker predicts a situation will occur subsequent to the speech event;
5. **past**, indicating the situation occurred before the speech event;
6. **perfect** (called **anterior** in Bybee's study) indicating that a situation is being described as relevant at the moment of speech or another point of reference.

All language-specific grams can be associated with one of these six grams-types. The establishment of such universal categories based on typological studies is a useful tool for researchers who compare temporal categories in languages. It provides researchers with a consistent and descriptive system that can be used as a starting point for contrasting grams in different languages. It can also prevent researchers from making the mistake of analysing the native language entirely based on the categories in the target language, a fallacy addressed by Tenfjord (1997). For these reasons I find Bybee and Dahl's' generalisations a suitable platform for contrasting the languages under consideration in this study. In order to accurately compare Vietnamese and Somali, contrastive analysis should be based on a universal view of temporality. Bybee and Dahl's (1989) generalisations provide such a basis.

3.1.4 The translation questionnaire method

Although I have found a model for contrasting the languages, my competence, or lack thereof, in Vietnamese and Somali poses another challenge for the contrastive analysis. I have only superficial knowledge of the informants' L1s, and the question that therefore arises is how the researcher is to obtain this crucial contrastive insight in cases where he or she does not have native speaker competence in the languages to be compared. A question that naturally follows

is: is native-like or near-native competence an indispensable condition for conducting valid contrastive analysis? Certainly, the higher competence the researcher has in the languages in question, the more accurate the analysis will be. However, researchers should not avoid including languages in their studies of which they have no previous knowledge. If that were the case, the L1s of large groups of minorities, such as the Somali minority in Norway, would be excluded from research since knowledge of languages from remote areas of the world is less pervasive than knowledge of languages from areas that have a tradition of linguistic research. Such a practice could cause an even stronger bias in linguistics towards languages in certain parts of the world, in particular, Indo-European languages. In my view, a more favourable solution is for researchers to include languages of which they have no prior knowledge, assuming there are scientific reasons to study those languages, but at the same time make an effort to acquire as much reliable and valid information about the languages as possible. The easiest way to gather contrastive information is, of course, through the study of descriptions of the languages, such as those found in reference grammars. However, reference grammars are a secondary source of data. Bybee, Perkins and Pagliuca (1994) say this about the consequences of using secondary sources:

Even the best reference grammars can only give a schematic outline of the morphology and can never substitute for actual exposure to native speakers for understanding the details of usage and analysis (Bybee, Perkins, and Pagliuca 1994: 32).

It is also problematic to use reference grammars as a basis for comparing languages because different grammarians have different theoretical orientations and have distinct ways of describing categories. Reference grammars should be supplemented with reliable primary data, and it is here that the translation method can play a crucial role. For this purpose, corpora that contain translated or comparable texts would be preferable. Access to large searchable multilingual corpora of translated texts is, according to Dahl, the “typologist’s dream” (Dahl 1985: 6). A corpus-based approach lays the foundation for solid empirical studies of similarities and differences between languages because it has, among other things, the advantage of “eliminating the risk of bias in the material” (ibid.). Nevertheless, in many cases, such as the present study, the researcher does not have such a tool at his or her disposal and has no other option than to use a translation survey. However, the translation questionnaire method is not a poor solution as long as the questionnaire is developed carefully

and is based on a solid investigation of the item about which it is intended to extract information. A translation questionnaire builds on the notion of *translation equivalence*:

An utterance in a language can be said to be translationally equivalent to an utterance in another languages if the two utterances are both given as a responses to the task of translating one and the same utterance in a third language (Dahl 2000: 5).

A translation questionnaire contains sentences to be translated by a native speaker with the help of contextual information given in square brackets. Dahl (1985, 2000) proposes a method to elicit information about temporal categories in languages through questionnaire surveys. In these questionnaires, the sentences are given in English, but the verb form is uninflected so as not to bias the choice of category:

⁵¹Nr. 25 [Question: When Columbus ARRIVE at America for the first time?]

Answer: He ARRIVE at America in 1492.

The native speaker is asked to translate *He ARRIVE at America in 1492* and give the correct inflected verb form of *ARRIVE* in his or her native language. Dahl (1985) based his large-scale study of tense and aspect on translation questionnaires. The EUROTYP Tense and Aspect Theme Group⁵² developed this method further, and Juko Lindstedt was responsible for *the perfect questionnaire*.

The perfect questionnaire consists of 88 contexts that collect information about the perfect gram and related categories, such as the past gram. These 88 contexts are listed in appendix B. The first seven sentences represent the prototypical contexts for perfect forms:

- Nr. 1 [A: I want to give your sister a book to read, but I don't know which one. Are there any of these books that she READ already?]
B: Yes, she READ this book.
- Nr. 2 [A: It seems that your sister never finishes books.]
B: (That is not quite true.) She READ this book (= all of it).
- Nr. 3 [Question: Is the king still alive?]
No, he DIE.
- Nr. 4 Question: You MEET my sister (at any time in your life up to now)?

⁵¹ Examples taken from the perfect questionnaire will not be numbered alphabetically. These will be referred to by number corresponding to the originally numbering in the questionnaire (see the perfect questionnaire in appendix B).

⁵² EUROTYP, *Typology of Languages in Europe*, was a research project (1990-1994) founded by the European Science Foundation (ESF). The aim was to study the "patterns and limits of variation in nine focal areas" in languages in Europe (The programme director König in the foreword in Dahl 2000). Tense and aspect formed one of the focal areas. Östen Dahl organised the work in the Tense and Aspect Theme Group.

- Nr. 5 [A child asks: Can I go now?]
 Mother: You DO your homework?
- Nr. 6 [Question: do you know my sister?]
 Answer: Yes, I MEET her (so I know her).
- Nr. 7 [Can you swim in this lake? (=Is it possible for anybody to swim in this lake?)]
 Answer: Yes, at least I SWIM in it several times.

The perfect questionnaire, however, also contains contexts that lie outside the typical circumstances for perfect forms in languages, and that express a past time content that is often coded by other past categories. For instance, the following sentence in the questionnaire has a definite temporal frame established by a narrative passage and can capture one of the developing uses of the perfect: the tendency for the perfect gram in some languages, such as German, to be used as a marker of general past.

- Nr. 8 [Do you know what happened to me just an hour ago?]
 I WALK in the forest. Suddenly I STEP on a snake. It BITE me in the leg. I TAKE a stone and THROW (it) at the snake. It DIE.

The perfect has always been a troublesome category for researchers in tense and aspect, and it is difficult to make generalisations concerning its nature as a crosslinguistic category. According to Lindstedt (2000: 365), this is partially due to researchers' tendency to explore the category from a language-specific perspective, and to pay less attention to its nature as a crosslinguistic category. The perfect questionnaire on the other hand, is intended to lay the foundation for studying the distribution of the perfect from a crosslinguistic perspective instead of a language-specific perspective. Moreover, it also sheds light over the Norwegian present perfect form and the various functions it displays. As remarked by Vannebo (1979: 196) it is problematic to provide a general characteristic of the perfect category in Norwegian. Table 2 below shows what types of temporal contexts the questionnaire generates in the Norwegian translation. The 88 occurrences give 151 Norwegian sentences, and of these, 16 are ambiguous because two forms are appropriate in Norwegian:

Table 2: Distribution of temporal contexts in the Norwegian translations of the perfect questionnaire

Form	Frequency of context	Ambiguous contexts	The alternative form
Present perfect	65	9	copula construction
		7	preterite
Copula construction (resultative)	13	9	present perfect
Past perfect	3	0	
Preterite	70	7	present perfect
Present	16	0	
Total	167	- 16	= 151

3.1.5 Difficulties with translation questionnaires and contrastive analyses in general

The main advantage of translation questionnaires is that they are an efficient means of collecting highly comparable data. The survey is oriented towards semantic content and function and is based on universal features of crosslinguistic categories that express concepts that we can assume that all natural languages are able to express. Thus I can assess similarities and differences in terms of relative closeness to the prototypical functions of the categories, including the present perfect category. Moreover, the questionnaire is perhaps the most reliable way of ensuring that the informant produces what the method was intended to extract. It is easy to analyse and does not require the informant to have any linguistic awareness. On the other hand, the informant must have a fairly good knowledge of English. This is a disadvantage since it excludes several possible native speakers from countries where competence in English is not very common. Bybee, Perkins and Pagliuca (1994:34) also stresses that the value of such questionnaires depends very much on prior preparation. If the questionnaire is not based on careful studies of the phenomenon about which it is designed to elicit information, important nuances will not be revealed. Nevertheless, Bybee emphasises that Dahl's (1985) questionnaire is grounded in solid studies of temporal notions (Bybee, Perkins and Pagliuca 1994:34). In addition, the reliability of the questionnaire depends to a certain degree on the number of informants. In my study, two Vietnamese informants and two Somali informant translated the perfect questionnaire⁵³. The number of informants in this study is small, which is a factor that I have to take into consideration when I analyse the translated sentences.

I will mention a final problem connected with contrastive analysis in general. When the researcher compares languages and identifies areas of similarity and difference in order to predict L1 influence, he or she is not necessarily identifying the similarities and differences perceived by the learner. It was Kellerman (1983, 1978) who first called attention to the importance of the "learner's perception of language distance" or the "learner's psychotypology" (Kellerman 1983: 114). Kellerman showed that it is subjective judgements, not objective similarities described by the researcher that cause learners to consider L1 features as transferable. Also, Ringbom and Jarvis (2009: 107) address this issue, and stress

⁵³ Both the Vietnamese informants are language teachers. One of them is teaching Norwegian to adult immigrants, while the other informant is a mother tongue teacher in Vietnamese. One of the Somali informant is a student, but not in any linguistic discipline. The other Somali informant has occasionally been practising as a mother tongue teacher in Somali.

the importance of distinguishing between *actual* and *assumed* similarities or differences. Whereas actual similarities or differences are a matter of linguistic analysis, assumed similarities or differences are a matter of “processes taking place in the learner’s mind” (ibid.: 107), and these type of judgements of contrastive relations are usually not congruent. This is particularly important to bear in mind in the study of crosslinguistic influence. At the same time, this does not mean that contrastive analyses are done in vain:

Objective similarities and differences are determined through the tools of linguistics, and it is this perspective that best contextualizes the observation that CLI [crosslinguistic influence] can arise out of crosslinguistic differences [...] That is, it is researchers’ linguistic analyses that allow them to classify instances of CLI as occurring at points where the source and recipient language are objectively different. CLI can thus arise in the context of objective differences. It can, of course, also arise in the context of objective similarities, but it is neither the objective similarities nor the objective differences that actually cause transfer to occur (Jarvis and Pavlenko 2008: 178).

The rest of the chapter focuses on the comparisons of the languages under consideration in the study. I compare the crosslinguistic categories that are important for the contrastive analysis: the past gram and the perfect gram. The latter receives more attention because of its complexity and role in the target language, Norwegian.

3.2 Contrastive analysis of Norwegian, Vietnamese and Somali

This study focuses on the grammatical encoding of past time. In Norwegian, past time is grammaticalised through two categories: the preterite and the perfect. The perfect and the preterite are the target language forms that L2 learners have to deal with in order to encode pastness in Norwegian. However, as explained in the methodological considerations, I do not want to analyse the encoding in Vietnamese and Somali strictly through the two Norwegian forms, but instead based on a reference frame. I will compare how the languages relate to the relevant crosslinguistic gram types described by Bybee and Dahl (1989). I will only focus on the present perfect category, and not the past perfect category. The past perfect form is excluded from the investigation because it occurs very infrequently in the material (only 44 contexts and 35 uses of the form, see chapter 7, section 7.1.1). The Norwegian present perfect and preterite are associated with the perfect gram and the past gram, and these two

crosslinguistic categories will therefore be the starting point for the contrastive analysis. The semantic content of these grams is also captured in the perfect questionnaire. The analysis is restricted to the primary functions of the categories, to express temporal notions, and will only briefly consider the modal uses of the present perfect and preterite in Norwegian. I start with a more general introduction to the past gram and the perfect gram before I outline and compare how past time is encoded in Norwegian, Vietnamese and Somali.

3.2.1 The past gram and the perfect gram compared

The past gram is a tense form and, according to Dahl, is “the only category whose character as a tense is wholly uncontroversial” (Dahl 1985: 116). It does not involve any aspectual notions. It “simply locates the situation in question prior to the present moment, and says nothing about whether the past situation occupies just a single point prior to the present moment, or an extended time“ (Comrie 1985: 41). Dahl describes the past gram as a default category because it is chosen in contexts where other categories that express past time are not appropriate to use (Dahl 1985: 117). Furthermore, the functions of the language-specific past forms depend on their interaction with other categories. The past forms frequently combine with other categories to form complex temporal categories, such as the past perfect. Hence, it is difficult to extract the prototypical role of the past gram, and “to factor out the exact role of PAST in different TMA [tense, mood, and aspect] systems” (ibid.: 116).

The semantics of the perfect gram is described by Bybee and Dahl in the following manner:

Semantically, the most important characteristic of perfects is that the situation described in the sentence is viewed from the perspective of – or described as being relevant at – a later point in time, most typically the point of speech (Bybee and Dahl 1989:67).

The perfect gram is a heterogeneous gram-type, and its crosslinguistic semantics is not as uncomplicated as the prototypical description indicates. The perfect category has been subject to much debate, and many linguists will resist any attempt to pinpoint universal properties concerning the semantics of the perfect. The category has undergone, and is still undergoing, changes in some languages, both in terms of semantics and mode of expression (Bybee and Dahl 1989:70). This further complicates the picture, and Lindstedt characterises the perfect as an “unstable” form:

the perfect is a gram type that is frequent, that is to say, likely to appear in different languages, but unstable, as it often tends to be lost. More often than not, it does not disappear as a form but becomes something else – general past tense, for instance (Lindstedt 2000: 366).

The perfect gram is certainly a much more complex crosslinguistic category type than the past gram. Whereas the past gram is a tense form and, moreover, a category that seems to take “what is left” after the other past-indicating categories have taken their share, the perfect gram is heterogeneous, is subject to change and continues to develop in several directions (Bybee og Dahl 1989: 73). The perfect, unlike the past, does not easily fit into the classical tense-aspect dichotomy since it is difficult to decide whether the perfect is a tense category or an aspect category (Bybee 1985; Comrie 1976; Lindstedt 2000). In some languages and in some contexts, the perfects behave like a tense form, but in other languages and other contexts, the perfect has more to do with aspectuality. The question of whether perfects fit into tense or aspect categories will be commented on later. Besides the formal dissimilarities and the more substantial difference of semantic complexity between the past gram and the perfect gram, the two grams also significantly differ with respect to obligatoriness and redundancy. The language-specific past categories are almost always marked morphologically and usually through suffixes (Dahl 1985: 117). Obligatoriness is one of the most essential features of inflectional grams such as the past, and is connected to another tendency in grammaticalisation processes, the loss of lexical meaning:

As the meaning of a gram continues to generalize, grow in frequency and become obligatory, its occurrences in certain contexts may be redundant. That is, it occurs with other indicators of meaning that make the small contribution of the gram strictly speaking unnecessary (Bybee and Dahl 1989: 65).

Perfects, on the other hand, are predominantly expressed analytically through periphrastic constructions and are not grammaticalised to the extent that pasts are, at least not in the majority of the cases. Hence, perfects are not redundant; they express semantic content that cannot be derived by the presence of other properties of the utterance, such as time expressions. This makes it more complicated to analyse the form from a developmental perspective because identifying contexts for perfects relies upon the researcher’s interpretation of the intended meaning (see also chapter 6, section 6.4.1). It is the exact opposite with the past gram. The use of a past tense category “needs access to a past time interval or a past point in time to be interpreted” (Tenfjord 1995: 235).

3.2.2 Past time in Norwegian

3.2.2.1 General⁵⁴

The Norwegian system for grammatical marking of tense and aspect notions shares the characteristics of Northern European languages, such as a highly grammaticalised past reference, a morphologically marked past form and no grammatical marking of the imperfect-perfect opposition (Dahl 1995: 67). Norwegian is a tense prominent language. Tense is the only temporal category that is marked morphologically and is thus given most *prominence* (Bhat 1999). Neither aspect nor mood is grammaticalised; instead, they are conveyed through lexical and syntactic devices. The Norwegian preterite category, together with the preterites in the Nordic languages and in Finnish, is a typological peculiarity because of the fact that it only refers to the past without differentiating between aspects (Hammarberg and Viberg 1984: 139). Besides the preterite form, the past marking system in Norwegian also includes a perfect category.

The preterite, illustrated by sentence 25 in the questionnaire, is how the past gram is realized in Norwegian:

Nr. 25 [Question: When Columbus ARRIVE at America for the first time?]
Answer: He ARRIVE at America in 1492.

Norwegian:	<i>Han</i>	<i>kom</i>	<i>til</i>	<i>Amerika</i>	<i>i</i>	<i>1492</i>
	he	arrive.PRT	to	America	in	1492

The basic distinction in the Norwegian tense system is the opposition between past and nonpast (Hagen 1998: 84). Norwegian therefore has two morphologically distinct tenses: the present and the preterite. The preterite is inflectional and grammaticalises reference to the past. The verb in the sentence above is irregular. Regular verbs in Norwegian referring to the past are marked by inflection, as in (a), where the preterite is marked by the suffix *-et*:

a)	<i>kast-er</i>	vs	<i>kast-et</i>
	throw-PRS		throw-PRT

The Norwegian perfect is a periphrastic construction and consists of the auxiliary *have* and the participle of the main verb. The distinction between past and nonpast also applies to the

⁵⁴ In Norway, there are two official written standards, *bokmål* and *nynorsk*. The outline of the Norwegian language system in the present thesis applies to *bokmål*, which is by far the most commonly used norm in Norway, and which furthermore dominates in Norwegian second language teaching.

analytic forms; the present perfect in Norwegian has the auxiliary in the present, whereas the past perfect has the auxiliary inflected in the past. Sentence 75 from the questionnaire shows the past perfect in Norwegian:

Nr. 75 [A's sister finished writing two letters just before A came home. A tells:]
When I COME home yesterday, my sister WRITE to letters.

Norwegian: *Da jeg kom hjem igår ha-dde hun skrev-et to brev*
when I came.PRT home yesterday have-PST AUX she write- PST PTCP two letters

The verb phrase in sentence 1 in the questionnaire is a present perfect and has the present auxiliary:

Nr. 1 [A: I want to give your sister a book to read, but I don't know which one. Are there any of these books that she READ already?
B: Yes, she READ this book.

Norwegian: *Ja hun ha-r les-t denne boken*
yes she have-PRS AUX read-PST PTCP this book

In Norwegian, it is also possible to form a present and past perfect construction with the copula *være* ('be') if the main verb is intransitive and denotes a change or development (Kulbrandstad 1998: 99; Hagen 1998: 293). However, for reasons presented below, I see the copula construction as a separate resultative construction. The next section explains the functions of the Norwegian present perfect category in more detail based on Lindstedt's (2000) analysis of the perfect in European languages⁵⁵.

3.2.2.2 Lindstedt's path of perfect and the perfect in Norwegian

The perfect category was one of the focal areas of the EURO TYP research group that worked on tense and aspect. Lindstedt's (2000) survey of the general characteristics of the perfect as a crosslinguistic gram is an important contribution in this respect. In my analysis of the perfect in Norwegian, I have come to rely on Lindstedt's discussion, as I find his analysis advantageous for several reasons: first, because he gives an overview of the range of functions that the perfect category has across languages, and second, because at the same time he

⁵⁵ The semantics of the present perfect has been much discussed, and a range of accounts has been presented. In the current thesis, however, the discussion of the perfect categories relies predominantly on the frameworks of Dahl (1985), Bybee and Dahl (1989), and Lindstedt (2000). However, in Bardovi-Harlig's (2000: 106-111) outline of the present perfect and the past perfect, several different viewpoints are mentioned in order to clarify what the perfect forms encode in English.

manages to sort out the perfect as a universal category and describe the common properties of European perfects. Lindstedt's analysis is also very convincing in that he discusses the contemporary uses of the perfect in light of the diachronic development of the category. By doing so, he establishes a grammaticalisation path of the perfect and offers a description of what he claims to be the most probable typological development of perfects⁵⁶. The title of the article points to the essence of his predicted development: *The perfect – aspectual, temporal and evidential*. One of Lindstedt's main arguments is that the perfect category in many different European languages has shown a common path of grammaticalisation from originally having aspectual constructions to developing more general tense functions, and later also more modal functions. This part of his analysis is particularly interesting for acquisition studies because a lot of research on how language learners acquire tense and aspect, e.g. research on The Aspect Hypothesis, is built on the assumption that the temporal character of verb categories is of great significance for acquisition. In the section that follows, I will briefly outline the main points of Lindstedt's analysis and at the same time comment on how the Norwegian present perfect category relates to this analysis.

3.2.2.2.1 From resultative constructions to current relevance perfect

The historical sources of the perfects in many European languages, including Norwegian, are two resultative constructions (Bybee and Dahl 1989; Lindstedt 2000): a possessive construction *have* plus a participle, as exemplified in Norwegian in (b), and a copula construction *be* plus the participle of the main verb (c):

- b) *Ek hefi brefit skrifit* > *Jeg har skrevet brevet* (I have written the letter)
- c) *Gestirnir eru farnir* > *Gjestene er reist* (The guests are gone)

The perfect participles were originally verbal adjectives, and *skrifit* and *farnir* in the sentences above do not, as in the modern construction, modify the verb, but function as predicates and relate to the object in (b) and the subject in (c). Through a grammaticalisation process the connection between the verbal adjective and the predicate was reanalysed in sentences with the *have* construction, and the verbal adjective instead became a part of the verb group (Lie 1972: 174; Bybee and Dahl 1989: 70). This resulted in a range of formal and semantic

⁵⁶ I would like to add that since Lindstedt's analysis is based on European languages, it has limitations as to present a complete overview of the perfect category in languages. In addition, Lindstedt does not say much about the past perfect form. However, it is not the aim in this thesis to provide a comprehensive analysis of the perfect category, and Lindstedt's article is still certainly enlightening and interesting reading in light of the Norwegian perfect form.

changes, among them a loss of agreement between the participle and the object, and a change of word order in that the participle was now placed before the object (ibid.). Approximately the same development took place in the copula construction (ibid.). The copula came to modify the participle rather than the subject, and the copula construction developed more or less the same functions as the possessive construction⁵⁷. According to Lindstedt, the development from these resultative constructions to the modern perfect forms involves a generalisation of meaning and a change of emphasis from *resultativity* to *current relevance*. Resultative constructions focus on a state which is the result of a previous event. In *Ek heft brevit skrifit* the finished letter is a direct result of the previous act of writing. This sense of resultativity is still attached to the modern perfect forms, and perfect researchers that confine themselves to *current relevance theory* treat resultative perfect as the most basic function of the perfect category (Tenfjord 1997: 105). In resultative perfect, “a present state is being referred to as being the result of some past situation” (Comrie 1976: 56), as in *John has arrived* (ibid.). In Norwegian this sentence can be expressed with both the copula construction *John er kommet* and the have construction *John har kommet*. They both express that John’s presence is a direct result of his arrival, and this is an example where the two constructions encode almost exactly the same content. However, in many uses of the have construction in European languages, including Norwegian, the result is less clear than it is in the copula constructions (Dahl 1985: 135, Dahl og and Bybee 1989: 69). The sentence *Jeg har skrevet brevet* (I have written the letter) can, for instance, be interpreted to mean that the letter is finished, which is a result in its original sense of the word. However, the sentence can also be a response to a question in the following context: *Are you ready? The bus is leaving soon! I have written the letter (thus I will be there in a minute)*. Another possible context in which we cannot identify a direct result is: *I have written the letter (the decision is made, I quit my job)*. Nedjalkov and Jaxontov (1988) give an in-depth analysis of resultative constructions and the difference between resultatives, that is, the copula construction and perfect constructions with *have*. Aside from the semantic differences given above, one of the reasons that Nedjalkov and Jaxontov (1988) decide to treat the resultative as a category distinct from the perfect category is that there are lexical restrictions on what kind of verbs can enter into a perfect construction with the copula; these lexical restrictions do not apply for the *have perfect*. This distinction between resultatives and perfects has only recently been drawn (Lindstedt 2000: 367), and

⁵⁷ This is a rather short summary of the development of the modern perfect forms in European languages, and readers are advised to read Lie (1972), Bybee and Dahl (1989) or Nedjalkov and Jaxontov (1988) for more information.

Lindstedt rests upon Nedjalkov and Jaxontov’s discussion of the resultative category to distinguish resultatives from perfects. I also find this distinction reasonable for the Norwegian language. In contexts in the perfect questionnaire where both the copula construction and the have construction are appropriate in Norwegian, a present state is described as a direct result of a past event, as seen in sentence 27:

Nr. 27 [Question: Your sister still BE at home?]
 Answer: No, she already GO AWAY.

Norwegian:	<i>Nei</i>	<i>hun</i>	<i>er</i>	<i>allerede</i>	<i>gå-tt</i>
	no	she	be.PRS AUX	already	go- PST PTCP

In Norwegian, the copula construction, or the resultative category as I prefer to call it, is closer in function to the diachronic source of the perfect category. While the use of the resultative is more or less restricted to expressing a state, the have perfect in Norwegian can serve several functions. Lindstedt argues that current relevance perfect is a more suitable label for the typical use of the perfect since the form does not primarily express a concrete result, but usually expresses that something that took place in the past is relevant to the present state:

Semantically, the change from resultative into perfect means the generalization of meaning from “current result” to “current relevance”. Lexically this is reflected in the spread of the gram from telic to atelic verbs [...] As the semantic connection between the resultativity and CR [current relevance] is easy to grasp, the central use of the perfect is often called the ‘resultative perfect’. But since the “*still test*” and similar criteria are operational in showing whether the transition from resultative proper to perfect has taken place, I shall rather speak of the “CR perfect” instead [...] **A CR perfect is a perfect in its most central, prototypical meaning** (Lindstedt 2000: 368, my emphasis in bold).

Lindstedt claims that the multiple functions that perfects display across languages have developed from this current relevance perfect, and hence are secondary functions of the perfect. Furthermore, the development of the additional functions has also been accompanied by a change in the nature of the time content. According to Lindstedt (2000: 369), the perfect becomes less aspect-like and more tense-like as the form develops new functions.

3.2.2.2.2 From current relevance to indefinite past, narrative tense and a marker of evidentiality

The great variation between perfects in the world’s languages is seen in the additional functions that different languages have developed based on the prototypical current relevance

perfect. The first stage in this process is the development of a kind of indefinite perfect, often called *experiential perfect*. The distinction between current relevance perfect and experiential perfect can be shown by the difference between the sentences in (d) and (e):

- d) *Hilde has travelled to Oslo*
- e) *Hilde has been to Oslo*

In *Hilde has travelled to Oslo*, the travelling to Oslo is relevant because Hilde is not here. The semantics of *Hilde has been to Oslo* is slightly different. Here, the actual travelling to Oslo is less relevant; it is the experience as a result of the stay that is relevant. Hilde is now in the state of being a person that has been to Oslo. In other words, she is now a person who knows something about Oslo. The actual stay is not that important, but the fact that Hilde was in Oslo sometime in the past is important. The distinction between current relevance perfect and experiential perfect is not immediately clear, and as underscored by Lindstedt, verb phrases containing a current relevance or experiential perfect can have elements of both (Lindstedt 2000: 369):

The experiential perfect is a way of referring to a past situation without referring to a particular occasion, that is to say, it is characterized by non-specific past time reference. From this point of view, it is more tense-like than the CR [current relevance] perfect, being an indefinite past tense which typically occurs in questions and negated assertions with 'ever'-type adverbials. However, CR and experientiality do not exclude each other [...] (Lindstedt 2000: 369).

To sum up, the experiential perfect is a way to refer to an indefinite point in the past, and thus is more tense-like than current relevance perfect is. It is important to note that in Slavic languages without a perfect, sentences like (d) above are usually conveyed through perfective past forms, while experiential uses of the perfect, as in (e), are usually translated with imperfective past forms (Lindstedt 2000: 370). This pattern supports the claim that there is a difference in temporal nature between the current relevance perfect and the experiential perfect in the manner Lindstedt describes.

The prototypical perfect, the current relevance perfect, cannot combine with specific reference to the past, yet, in many languages, this is possible with time adverbials that indicate that the event took place in the immediate past. Comrie (1976: 60) calls this use of perfect *perfect of recent past*; *hot news perfect* is another term used for the same item. The

Norwegian perfect has this *hot news function*, as seen in the translation of sentence 18 in the questionnaire:

Nr. 18 [A question asked at 9 o'clock A.M.: Why do you look so tired?]
I NOT SLEEP well during the night

Norwegian: *Jeg ha-r ikke sov-et godt i natt*
I have-PRS AUX not sleep- PST PTCP well tonight

The temporal closeness between the present state (being tired) and the past situation (slept badly) makes it possible to have a perfect in this context. This sentence might also be translated with the preterite in Norwegian, a fact which underlines the tense-like behaviour of this function of the Norwegian perfect. If the same content was uttered later, for instance, at 3 o'clock in the afternoon (as in sentence 19 in the questionnaire, see appendix B), the probability of having a perfect rather than a preterite in Norwegian is much less, simply due to the reduction of temporal closeness that we have in sentence 18.

Another well-known development of the perfect, which I have already noted, is the expansion of the perfect into the territory of the preterite. This change is seen in German and in spoken French where the perfect functions as a narrative tense form and can be combined with specific reference to the past (Lindstedt 2000.: 371). This development moves the perfect a huge step from the aspectual to the temporal domain. In addition, in several Slavic and in some Scandinavian languages, the perfect has developed into a marker of evidentiality (Haugen 1972; Lindstedt 2000). The Norwegian perfect category has this function (Vannebo 1989), and in the sentence from the questionnaire below, the perfect is used to express that the speaker is only assuming what has happened based on what he or she has observed:

Nr. 69 [Investigation a burglary, seeing footprints beneath the window]
The thief ENTER the house by this window

Norwegian: *Tyven ha-r komm-et inn gjennom dette vinduet*
the thief have-PRS AUX come- PST PTCP in through this window

When the perfect is used to indicate that the statement is made based on inference or hearsay, then we are, of course, beyond aspect and tense since this is clearly a modal use of the perfect.

3.2.2.3 *The perfect category – tense or aspect?*

The main issue for Lindstedt is to identify the prototypical function of the perfect that has developed and changed both in form and function from a common diachronic source in many European languages. At the same time, he shows how the perfect has developed gradually along this path in some contexts; in particular, in some languages it has become more of a marker of tense, still retaining its original aspectual content in some cases. Based on the variance and the similarities found in the perfect in European languages, Lindstedt proposes the following universal:

Although expressing the current relevance of a past situation is the central and prototypical meaning of the perfect, I know of no perfects that have only this function. I propose the following universal: *If a gram has the CR meaning, it also has at least one of the following meanings: resultative; experiential (indefinite past); inferential; reportative.* If the central or sole meaning of a gram is resultative or inderecive (inferential and/or reportative), it is not yet a perfect, or no longer a perfect (Lindstedt 2000: 378).

I believe that Lindstedt's diachronic and synchronic survey of the perfect category in European languages contributes to the classical dispute over whether the perfect should be included under the category of tense or aspect (Bhat 1999; Comrie 1976; Elsness 2000/2001; Lindstedt 2000). Norwegian linguists tend to describe the perfect through the perspective of a tense-prominent language and present it as a tense form. This is done, for instance, in the Norwegian reference grammar (Faarlund, Lie, and Vannebo 1997). Although the reference grammar discusses the differences between the preterite and the perfect in detail, the latter is designated with the label *tempusform* ('tense form') (ibid.: 567). Tenfjord (1997) and also Enger og Kristoffersen (2000) are exceptions in this respect due to the emphasis they put on the anterior value of the perfect in their description of the form. Tenfjord regards the universal perfect in Norwegian as a category of aspect and not of tense, while the preterite, on the other hand, is a category of tense (Tenfjord 1997: 112). Anteriority is moreover commonly seen as the point of semantic overlap between the present perfect and the preterite (Bardovi-Harlig 2000: 107). Whereas the present perfect shares the feature [+anterior] with the preterite, but differs from the preterite "on the feature [current relevance], with the present perfect carrying

[+current relevance] and the simple past [–current relevance]” (ibid.), with the present form, the present perfect shares the reference time, but not the event time (ibid.: 179)⁵⁸.

It is clearly impossible to treat the perfect category as a single category that can be classified as either tense or aspect. Lindstedt shows that the perfect in its prototypical usage is an aspect form, but in secondary uses of the perfect, the category is a tense. Furthermore, the perfect can even behave as a modal form in some contexts. But is the way in which the perfect form is viewed and described of any significance or relevance? Not necessarily. In many cases, it is probably not important whether we classify the perfect as tense or aspect. It is, however, important to identify the prototypical function of the form in studies of acquisition because studies have shown that prototypicality is a factor that can influence the learning of a second language⁵⁹. Moreover, in view of Lindstedt’s claim that the most basic function of perfects is more aspect-like than tense-like, it is problematic to present the perfect as a tense form, which is a tendency, at least, in Norwegian grammars (Helland 2005; Tenfjord 1997). This is an assumption that conceals both the prototypical use of the category and its heterogeneity in function, which is valuable knowledge in second language learning. Prototypicality of the perfect in Norwegian will be further discussed in chapter 6, section 6.4.5.

3.2.3 Past time in Vietnamese

3.2.3.1 *General*

Vietnamese is part of the Austro-Asiatic language family; in particular, it belongs to the Mon-Khmer branch of languages. The Mon-Khmer group is the largest branch in the family, and its languages are spoken in Southeast Asia in the countries between China and Indonesia (Ngo and Tran 2001: 5). Vietnamese has approximately 78 million native speakers and is the official language of Vietnam (ibid.: 5). Vietnamese has three major dialects, but the differences between them are not as profound as the differences between the Norwegian dialects. Vietnamese is a significant migrant-community language in Norway, yet the number

⁵⁸ Later, in her review of studies focusing on orders of emergence of verb morphology, Bardovi-Harlig (2000) connects the semantic analysis of the present perfect to findings from studies of the development of morphology. According to her survey, the dominating incorrect use of the present perfect is found in contexts for the preterite (Bardovi-Harlig 2000: 179). Bardovi-Harlig explains this type of overgeneralization as a consequence of the shared semantic feature of anteriority (ibid.).

⁵⁹ The importance of prototypicality is also mentioned in chapter 2, e.g. in section 2.3.2.

of Vietnamese immigrants has declined considerably since the first refugees entered the country in 1975.

Vietnamese is an isolating language without inflection; all words are invariable. Grammatical relationships are conveyed through the use of auxiliary words and word order. Based on a morphological/inflectional typology, Vietnamese is also classified as an analytic language because each morpheme is equivalent to a separate word. Vietnamese is thus usually given the label *monosyllabic*, although this term tends to conceal the morphological complexity that exists in Vietnamese (Rosén 2001: 15). Vietnamese is also a tone language that uses tone to distinguish words.

Indeed, the typological distance between the L1 of the Vietnamese speakers and their L2, Norwegian, is vast, and, according to Rosén, Vietnamese is probably the migrant language that differs most from Norwegian (Rosén 2001: 1). The grammatical categories of tense and aspect are unfamiliar to the Vietnamese language users. The idea that words can change form is probably rather peculiar for a Vietnamese learner of Norwegian, assuming the learner has not been exposed to English or another inflectional language. Also, the obligatory grammatical marking of temporal location is unfamiliar from the point of view of a monolingual Vietnamese speaker. The time markers in Vietnamese are usually left out if the temporal frame is clear from the context. This is very different from European languages, like Norwegian, where each sentence must express temporal reference morphologically.

3.2.3.2 *Past time markers in Vietnamese*

Sentences in Vietnamese are typically labelled *tenseless* or *timeless* as in for instance Thompson's description of Vietnamese verbs (1965: 218). The verbs in Vietnamese sentences, regardless of context, do not change form. Whereas the Norwegian tense system is described as *absolute* because situations are located with reference to the moment of speech (Comrie 1985: 3), Vietnamese is an example of what Comrie calls *relative time reference* (Comrie 1976: 2). *The basic time*, which establishes the temporal frame of the utterances, is defined in Thompson's reference grammar of Vietnamese (1965) in the following manner:

Without specific indications to the contrary a sentence refers to the **basic time** of the context – that is, the time which has been made clear in the context up to that point. The principle predicate of a sentence often denotes an action or a state which begins or is about to begin during the basic time. The tense markers announce or emphasize a situation obtaining at a time different from this basic time (Thompson 1965: 209).

What Thompson refers to as *tense markers* are, strictly speaking, not tense markers because tense is not grammaticalised in Vietnamese as it is in languages with inflection. Rather, the tense markers Thompson mentions are something between lexical words and function words; they may also be called time markers. These time markers express temporal notions and are usually used to give temporal information that is not accessible through the basic time structure or in the surrounding context. There are two time markers, *đã* and *rôi*, which are of particular interest in the present contrastive analysis of Vietnamese because they express past time.

In the Vietnamese reference grammar, *đã* is classified as tense and is described as a marker of anteriority that identifies an action or state which precedes the basic time (Thompson 1965: 209). *Rôi* is not presented as a tense marker but as a definitive predicative (ibid.: 212). Its meaning is described with the following phrase: “to be over and done with” (ibid.), and Thompson also notes that it typically marks “a terminated action or condition” (ibid.). These descriptions resemble the one found in *NTC’s Vietnamese-English Dictionary*: “to finish, already” (Nguyễn 1995: 461). In their contrastive remarks on Vietnamese, Ngo and Tran (2001) simply present *đã* as a tense marker that is used when the temporal reference is different from the basic time and is not accounted for in the context (ibid.: 17). *Rôi* is mentioned as an example of a group of words in Vietnamese that express aspect:

The meaning of aspect in Vietnamese is expressed by a group of words. Learners should be drilled on the use of a number of words indicating aspects like *vừa*, *mới*, *đang*, *liền*, *thì*, *rồi* etc. For example, they should recognize the difference between the two sentences *Tôi học tiếng Việt ba năm.* (I learned Vietnamese for three years.) and *Tôi học tiếng Việt ba năm rồi.* (I have learned Vietnamese for three years.) (Ngo and Tran 2001: 17)

Both *đã* and *rôi* are markers of pastness in Vietnamese; however, the descriptions above indicate that *đã* is more of a grammatical word than *rôi* is. For instance, *đã* has a more fixed position in the sentence than *rôi* does, and it usually has to precede the verb. The distribution of *đã* and *rôi* is also constrained by other syntactic and pragmatic factors⁶⁰.

Even though there are doubtless differences in the manner in which time and reference to past time are encoded, there is also a semantic parallel between the Norwegian system for expressing past time and the use of time markers to communicate past time in Vietnamese. This semantic parallel is the topic of the section to come, and I will start by introducing

⁶⁰ I will not go into factors that are relevant to the distribution of *đã* and *rôi*. Thompson (1965) provides such information.

Tenford's (1997) contrastive analysis of Vietnamese. This work is an important impetus for my own analysis of the semantic parallel between past time markers in Vietnamese and the perfect in Norwegian.

3.2.3.3 The parallel between Vietnamese past time markers and the perfect in Norwegian

Discourse Representation Theory (DRT) forms the basis of Tenford's contrastive analysis of Norwegian and Vietnamese. This is an advantageous model for contrasting an isolating tenseless language with an inflectional language for several reasons. First of all, it is a semantic theory, and a semantic basis is the most suitable for comparisons of languages that diverge so much on the structural level. Secondly, DRT focuses on discourse and not only on the semantics in sentences, which makes it particularly applicable because:

To interpret a sentence, whether it be a sentence like 'Toi đi' or one like 'he went', you need access to a time referent. So the interpretation of the utterance of a sentence is not to be found only in the semantics of the individual sentence itself, but is also dependent on information that comes from the discourse context. Thus, if we are going to contrast the way Norwegian and Vietnamese express localization of time we have to look at discourse context, not just the individual sentences or the verb forms in isolation (Tenford 1995: 232).

The DRT framework acknowledges the fact that "content and context are closely related and in fact strongly determine each other" (Gabbay and Guentner 2002: 6). DRT puts particular emphasis on anaphoric elements because it is assumed that anaphoric properties contribute strongly to cohesion in language (ibid.). Pronouns are one type of anaphoric element, but what is more unusual and unique to DRT is that tense morphemes are also given anaphoric status (Tenford 1995, Gabbay and Guentner 2002). In sentence (f) below, originally from Sandström (1993), the pronoun *she* corefers with its antecedent *Sheila*. In the same way, DRT claims that a coreferential relation exists between past tense morphemes and other discourse referents in the context. This is illustrated in sentence (g) where *gave* corefers with *Last Friday*.

- f) *Sheila said she would come. She didn't however.*
- g) *Last Friday, Sheila gave a party.*

The Norwegian preterite category has the same anaphoric function as *gave* does in sentence (g). The present perfect in Norwegian does not have such an anaphoric function; it provides new information to the context (Tenfjord 1995: 230). According to Tenfjord, the DRT-based contrastive analysis demonstrates an important difference between the Norwegian preterite and the present perfect, as well as highlights important similarities between the past time markers of Vietnamese and the perfect category in Norwegian:

I have argued that there is a parallel in the way in which pronouns and tense morphemes behave; this has to do with their anaphoric function. In Norwegian it is not possible to have empty anaphors, neither as pronouns nor as tense morphemes. In Vietnamese, on the other hand, empty anaphors of both kinds are very frequent. I have also argued that the perfect in Norwegian may be looked upon as an aspectual category and that the so-called past tense markers in Vietnamese mark anteriority and function in a way similar to the perfect in Norwegian (Tenfjord 1995: 236).

Tenfjord's conclusions are based on her contrastive analysis, and I believe that the present study provides further evidence for Tenfjord's reasoning. The Vietnamese translations of the perfect questionnaire empirically document the existence of a semantic parallel between past time markers in Vietnamese and the present perfect category in Norwegian. This claim is built upon the translations by two Vietnamese informants and also upon my discussion with the informants regarding the functions of *đã* and *rồi* in Vietnamese. With the following examples I will demonstrate the parallel based on translated sentences from the questionnaire and on remarks from my two informants.

As mentioned earlier, the first seven sentences in the questionnaire represent typical occurrences for the perfect category, and in the instructions for the perfect questionnaire, it says that:

P is that gram (grammatical category) of L which is common to most of sentences (E01-E07) and has something to do with the relationship, temporal or not, between the present state of affairs and the past event referred to (Dahl 2000: 806).

In Norwegian, the present perfect would be the natural choice in these sentences, except in number 3 where the resultative construction is also a natural option. It is interesting to see what happens when these sentences are translated into Vietnamese: the informants use either

đã or *rồi*, or both, in six of the seven sentences. The exception is in sentence 4 where neither of them occurs:

Nr. 1 [A: I want to give your sister a book to read, but I don't know which one. Are there any of these books that she READ already?]

B: Yes, she READ this book.

Norwegian: *Ja hun ha-r les-t denne boken*
yes she has-PRS AUX read- PST PTCP this book

Vietnamese: *Vâng có chị ấy đã đọc quyển sách này*
yes exist sister that TM read CLF book this

Nr. 2 [A: It seems that your sister never finishes books.]

B: (That is not quite true.) She READ this book (= all of it).

Norwegian: *hun ha-r les-t denne boken*
she has-PRS AUX read- PST PTCP this book

Vietnamese: *Chị ấy đã đọc hết quyển sách này*
sister that TM read finish CLF book this

Nr. 3 [Question: Is the king still alive?]

No, he DIE.

Norwegian: *nei han er død*
no he be.PRS dead

Vietnamese: *không ông ấy đã chết rồi.*
no sir that TM die TM/already

Nr. 4 Question: You MEET my sister (at any time in your life up to now)?

Norwegian: *Ha-r du noen gang mø-tt min søster?*
have-PRS AUX you ever meet- PST PTCP my sister?

Vietnamese: *Bạn gặp chị gái của tôi chưa?*
you meet older sister of I not yet

Nr. 5 [A child asks: Can I go now?]
Mother: You DO your homework?

Norwegian: *Ha-r du gjort lekse-ne dine?*
have-PRS AUX you do.PST PTCP homework your?

Vietnamese: *Con làm bài chưa?*
child do homework not yet

Nr. 6 [Question: Do you know my sister?]
Answer: Yes, I MEET her (so I know her).

Norwegian: *Ja jeg ha-r mø-tt henne*
Yes I have-PRS AUX meet- PST PTCP her

Vietnamese: *Có tôi (đã) gặp chị ấy rồi.*
yes I TM meet sister my TM/already

Nr. 7 [Can you swim in this lake? (=Is it possible for anybody to swim in this lake?)]
Answer: Yes, at least I SWIM in it several times.

Norwegian: *Ja jeg ha-r i det minste svøm-t her flere ganger*
yes I have-PRS AUX at least swim- PST PTCP here several times

Vietnamese: *Có tôi (đã) bơi trong hồ này ít ra cũng nhiều lần rồi.*
yes I TM swim in lake this few out also several times TM/already

The above examples show that Vietnamese needs past time markers in the contexts where prototypical present perfect is used in Norwegian, which supports the prediction that a semantic parallel exists between these time markers and the present perfect in Norwegian. The question that raises doubt to this assumption is sentence 4, where no time marker is present. However, upon closer inspection it seems that the presence of a time marker would be redundant in this sentence because the sentence is a question formulated with the negative *chưa*, which means ‘not yet’. According to Ngo and Tran (2001), interrogatives usually refer to the past when they are placed at the end of sentences. Thus, an explicit marking of past time is not needed here. In addition, *chưa* adds temporal information to the discourse since it expresses that something has not happened yet. In fact, all the Vietnamese translations that contain this negative marker *chưa*, and which contain the present perfect in the Norwegian translation of the same sentence, never include *đã* and *rồi*. There is only one exception. One of the informants uses *đã* in sentence 5 above to make it clear to the child that he needs to be certain that the homework is really done, and for this purpose, the informant says, simply

using *chưa* is to not enough. In other words, the lack of a time marker in sentence 4 does not refute the prediction about the semantic parallel between Vietnamese past time markers and the present perfect in Norwegian. Still, more documentation is needed to uphold this prediction. The total number of contexts for the perfect in the questionnaire is 65, and, of these, 9 are ambiguous because the resultative in Norwegian is also appropriate in these contexts. Of these 65 contexts for the Norwegian perfect category, *đã* and *rôi* are used in 44, and in 7 of the 44 total uses of the past time markers, both *đã* and *rôi* occur at the same time. *Đã* occurs almost twice as frequently as *rôi* (28 versus 18 occurrences). Most often, the past time markers are used in contexts that I describe as prototypical contexts for the Norwegian perfect, as seen in the example sentences above. But *đã* and *rôi* are also to be found in contexts for the experiential perfect, such as in the translation of the bolded sentence in number 36:

Nr. 36 [A has been talking to B about C's personal tastes. Note: the sentence construction may have to be changed - even in English.]

B: You MEET her (sometime) as you know all that? -A: **Yes, I MEET her, so I know**

Norwegian: *Ja jeg ha-r mø-tt henne så jeg kjenn-er henne*
 yes I have-PRS AUX meet- PST PTCP her so I know-PRS her

Vietnamese: *Vâng, tôi gặp cô ta rồi nên tôi biết*
 yes I meet She TM/already so I know

To a certain extent, the past time markers are used in other types of secondary contexts for the perfect. It seems like *đã* and *rôi* can also have a sort of evidential interpretation because they appear in contexts that express evidentially indirect information, such as the context in sentence number 59:

Nr.59 [A comes from the kitchen where he has just seen the sad remains of the cake. He tells B what he assumes to happened.] The dog EAT our cake!

Norwegian: *Hunden ha-r spis-t kaka vår*
 the dog have-PRS AUX eat-PST PTCP the cake our

Vietnamese: *Con chó ăn bánh của chúng ta rồi.*
 dog eat cake of we TM/already

The informants add that *rôi* is used here in order to underline that this is something the speaker believes and not to express past time. *Đã* and *rôi* are also found in contexts for the universal perfect, that is, contexts that express that an action or state started in the past still holds:

Nr. 49 [A is still living in this town]
I LIVE here for seven years.

Norwegian: *Jeg ha-r bo-dd her i syv år*
I have-PRS AUX live-PST PTCP here for seven years

Vietnamese: *Tôi sống ở đây được bảy năm rồi.*
I live here For seven year TM/already

Even though the past time markers in Vietnamese are first and foremost used in contexts for the prototypical perfect and the experiential perfect in Norwegian, *đã* and *rôi* are also distributed in contexts that express a secondary meaning of the perfect. Furthermore, in the contexts where the Norwegian translation has the perfect, but *đã* and *rôi* do not show up in the corresponding Vietnamese sentence, the sentence contains another time expression, such as a time adverbial.

The next question that naturally arises is what happens in the Vietnamese translations of the 70 sentences in the questionnaire where the preterite is the appropriate form in the Norwegian translation. In only four of these sentences is the past time marker *đã* used by one of the Vietnamese informants. However, the usage of *đã* in these contexts has little to do with temporality; rather, *đã* is used in order to emphasise something, as in sentence number 24:

Nr. 24 [Question: Do you know what remarkable event TAKE PLACE in 1550?]
Answer: In that year, our town BE FOUNDED

Norwegian: *I det året ble byen vår grunnlagt*
in that year become.PRT the town our found

Vietnamese: *Vào năm đó, thành phố chúng tôi đã được thành lập*
in year that town many I TM get found

Otherwise, *đã* and *rôi* do not occur at all in contexts for the Norwegian preterite form.

I believe that the findings in the Vietnamese translations in the perfect questionnaire show that there is a parallel between the system of encoding past time in Norwegian and the

use of past time markers in Vietnamese. When past time is marked at all in Vietnamese, it seems to be in contexts where the perfect is used in Norwegian, very often in the prototypical sense of the perfect category. This pattern supports the analysis that the most typical usage of the present perfect in Norwegian is related to aspectuality and not to tense. Moreover, it is also clear that there exists a zero contrast between Vietnamese and what the preterite in Norwegian grammaticalises: purely past reference. The addition of past time markers is redundant from a semantic perspective, thus in Vietnamese reference to the past is not marked by *đã* and *rôi*. Even though the informants and the reference grammar provide information about the differences between the two time markers, the distribution of *đã* and *rôi* in the translated sentences does not provide a clear picture of when one of them will be used in order to express the same time content that the perfect does. However, I will mention that both of the informants clearly indicate that there are stylistic differences between them. *Đã* is perceived to be more formal than *rôi*, and *rôi* occurs more frequently in spoken language than *đã* does. Furthermore, both informants agree that *already* can often describe the content of both *đã* and *rôi*. At the same time, both informants describe the latter more in lexical terms, while *đã* is explained more in linguistic terms. For instance, one of the informants says that *đã* is more preterite-like and tense-like than *rôi* is. Finally, I will point to the fact that the time markers, perhaps *rôi* in particular, express a lexical-temporal content that corresponds to at least one of the common diachronic sources of the modern perfect forms in languages, and which is described in the following way by Bybee and Dahl (1989: 68): “main verb + participle with an original meaning ‘already’ (ex.: the Kwa languages Yoruba and Isekiri)”. Bybee and Dahl also note that languages without a perfect category more frequently use morphemes meaning ‘already’ in order to make up for the lack of a perfect. Even in some languages in Dahl’s material, particles with a similar meaning are grammaticalised into perfect categories (ibid.). These diachronic observations further strengthen the argument that a semantic parallel exists between the Norwegian present perfect category and the time markers of Vietnamese that express temporal notions often described as ‘already’.

3.2.4 Past time in Somali

Somali is a Cushitic language. The Cushitic languages belong to the Afro-Asiatic language family, and Somali is among the largest languages in the group (Husby 2001). It is the official language of Somalia but is also spoken in Djibouti, Ethiopia, Yemen, and Kenya by ethnic

3.2.4.1 Tense and aspect morphology

Indeed, Somali has a very complicated morphology compared to Norwegian. Somali verbs carry information about tense, aspect and mood. This information is expressed mainly by affixes, but also by vowel alternations and accentual patterns. According to Saeed (1993:85), one can identify three tenses, three aspects and six moods in Somali as seen in the table below:

Table 3: Tense and aspect categories in Somali

Tense	Aspect	Mood
Past	Simple	Declarative
Present	Progressive Habitual	Interrogative
		Imperative
		Conditional
		Optative
		Potential

The pattern is not as clear as the table might suggest, and the three systems partially interact. Not all possible combinations are marked on verbs; for instance, it is only in the past tenses that there is a morphologically distinct habitual form. Also, not all verbs can occur in all of the categories; in particular, the distinction between stative verbs and non-stative verbs is of importance in Somali (Saeed 1993: 41). Nevertheless, this system gives 12 paradigms:

1. Imperative
2. Infinitive
3. Past simple (marked by inflection)
4. Past Progressive (marked by inflection)
5. Past Habitual (marked periphrastically)
6. Present General (marked by inflection)
7. Present Progressive (marked by inflection)
8. Future (marked periphrastically)
9. Conditional (marked periphrastically)
10. Optative (marked by inflection)
11. Potential (marked by inflection)
12. Subordinate Clause Forms

The information I have presented about Somali is so far based on Saeed's reference grammar of Somali (Saeed 1993). From this information we see that Somali has three different categories that encode the notion of pastness. Based on Saeed's reference grammar (1993: 74-85), I can infer that the past simple in Somali is used for completed actions in the past, that the past progressive denotes actions in process in the past, and finally that the past habitual expresses repeated or habitual actions in the past. Furthermore, the perfect obviously does not

exist as a grammatical category in Somali. Although these descriptions give an impression of the differences between Somali and Norwegian, the reference grammar can only partially provide detailed contrastive information about the preterite forms in Somali and the Norwegian preterite, and about how the various functions of the Norwegian present perfect form are expressed in Somali. The only information Saeed (1993: 77) supplies that is relevant to the differences between the past simple in Somali and the present perfect in Norwegian is that “the past-simple in Somali includes both the ‘still-going on’ meaning of the English present perfect, and the ‘complete’ meaning of the English simple past”. This implies that the past simple in Somali will cover some of the semantic aspects of the Norwegian present perfect category. In order to find out more about differences between Somali and Norwegian that are relevant for the study, it will be helpful to study the Somali translations of the perfect questionnaire.

3.2.4.2 Differences between tense and aspect encoding in Somali and Norwegian

The translations of the 151 contexts show that past simple in Somali will, in the majority of cases, be used in contexts where Norwegian native speakers use the present perfect, a pattern that supports Saeed’s quotation above. However, the translations also show that this is not always the case, even in the prototypical contexts for perfects. Furthermore, as we will see, the current contrastive data does not support the claim made by Saeed, that the past simple in Somali includes the ‘still going on meaning’ of the English present perfect. While the present perfect in Norwegian occurs in each of the first seven sentences, both the past simple (1,2,3,6,7,) and the present general (4,5) occur in the Somali translations:

- Nr. 1 [A: I want to give your sister a book to read, but I don’t know which one. Are there any of these books that she READ already?]
 B: Yes, she READ this book.

Norwegian: *Ja hun ha-r les-t denne boken*
 yes she has-PRS AUX read-PST PTCP this book

Somali: *Haa, iyadu way akhrid-ay buugan*
 yes she DM read-PST SIMPLE⁶² book

⁶² I only segment and gloss the temporal morphemes in the verb phrases in the Somali translations.

Nr. 2 [A: It seems that your sister never finishes books.]
B: (That is not quite true.) She READ this book (= all of it).

Norwegian: *hun ha-r les-t denne boken*
she has-PRS AUX read- PST PTCP this book

Somali: *Iyadu way akhrid-ay buugan*
yes she read-PST SIMPLE book

Nr. 3 [Question: Is the king still alive?]
No, he DIE.

Norwegian: *nei han er død*
no he be.PRS dead

Somali: *Maya, isagu wuu dhint-ay*
no he DM die-PST SIMPLE

Nr. 4 Question: You MEET my sister (at any time in your life up to now)?

Norwegian: *Ha-r du noen gang mø-tt min søster?*
have-PRS AUX you ever meet- PST PTCP my sister?

Somali: *Adigu ma la kulant-aa walaashay?*
you Q with meet-PRS GEN my sister

Nr. 5 [A child asks: Can I go now?]
Mother: You DO your homework?

Norwegian: *Ha-r du gjort leksene dine?*
have-PRS AUX you do. PST PTCP homework your?

Somali: *Shaqadda guriga ma qabat-aa*
work home Q do-PRS GEN

Nr. 6 [Question: Do you know my sister?]
Answer: Yes, I MEET her (so I know her).

Norwegian: *Ja jeg ha-r mø-tt henne*
Yes I have-PRS AUX meet- PST PTCP her

Somali: *Haa, iyadda waan la kulm-ay*
yes she DM with meet-PST SIMPLE

Nr. 7 [Can you swim in this lake? (=Is it possible for anybody to swim in this lake?)]
Answer: Yes, at least I SWIM in it several times.

Norwegian: *Ja Jeg ha-r i det minste svøm-t her flere ganger*
yes I have-PRS AUX at least swim- PST PTCP here several times

Somali: *Haa, uguu jaraan dhowr jeer waan ku dabaash-ay*
yes at least several times DM in swim-PST SIMPLE

The temporal frame given in sentence 49 below combines the past and the present. Since Saeed remarks that the past simple in Somali also includes the ‘still-going on’ meaning of the English present perfect, we should expect the Somali past simple also to occur here. As the translation shows, this is not the case and the informant uses the present general instead:

Nr. 49 [A is still living in this town]
I LIVE here for seven years.

Norwegian: *Jeg ha-r bo-dd her i syv år*
I have-PRS AUX live- PST PTCP here for seven years

Somali: *Anigu, halkan waxaan ku nool-a toddoba sanadood*
I here DM live-PRS GEN seven years

Sentence 8 below from the questionnaire shows very clearly that there exists a semantic distinction, or perhaps a conceptual distinction, that is grammaticalised in Norwegian but not in Somali. The Norwegian present perfect is a “true” perfect (Dahl 1995: 62) because it must be present in almost every one of the first seven sentences but cannot under any circumstances be used in combination with definite time reference, as established through narrative passages like sentence 8. In Norwegian the preterite is the only appropriate option. In Somali the same form that the informant uses in most of the first seven sentences, past simple, also occurs in this passage. This pattern confirms the lack of a distinct perfect category in Somali.

Nr. 8 [Do you know what happened to me just an hour ago?]
 I WALK in the forest. Suddenly I STEP on a snake. It BITE me in the leg. I TAKE a stone and THROW (it) at the snake. It DIE.

Norwegian: *jeg gikk i skogen plutselig tråkk-et jeg på en*
 I walk.PRT in the forest suddenly step-PRT I on a

slange. Den bet meg i leggen Jeg tok
 snake it bite.PRT me in the leg I take.PRT

en sten og kast-et den på slangen. Den dø-de.
 a rock and throw-PRT it on the snake it die-PRT

Somali: *Anigu waxaan lugeyey-ey kaynta dhexedeeda. Isla markiba*
 I DM walk-PST SIMPLE forest the into suddenly

waxaan ku joogsad-ay mas. Maskii lugta
 DM on step-PST SIMPLE snake snake the leg the

ayuu iga qaniin-ay Anigu waxaan qaat-ay
 FOC my bite-PST SIMPLE I DM take-PST SIMPLE

dhagax kuna tuur-ay maskii. Maskii wuu
 a stone with and throw-PST SIMPLE snake the snake the DM

dhint-ay
 die-PST SIMPLE

The translations also reveal that not only the past simple and present general in Somali are used in contexts where the Norwegian translations contain the present perfect. The present progressive (48), past progressive (63) and past habitual (51) in Somali can, in some contexts, be translated into the present perfect in Norwegian:

Nr. 48 [She is still watching television! How long she DO that?]
 Answer: she WATCH (it) for three hours.

Norwegian: *Hun ha-r se-tt på TV i tre timar*
 she have-PRS AUX watch- PST PTCP on TV for three hours

Somali: *Saddex saacadood ayey daawan-ayse*
 three hours she watch-PRS PROG

Nr. 63 [A tells what she has heard from her father. Nothing shows that she would believe it.]
 A. My father TELL me that when he BE a child, schools BE better than nowadays.

Norwegian: *Min far ha-r fortalt meg at da*
 My father have-PRS AUX tell.PST.PTCP me that when

han var liten, var skolen bedre enn i dag
 He be.PRT young be.PRT the school better than today

Somali: *Abahay wuxuu iiga sheeke-eyey in*
 Father my DM me to about tell-PST PROG that

marki uu yaraa, iskuuladu ka
 he CPRO be.child.PST SIMPLE shoools better

wanaagsan-aayeen siday maanta yi-hiin
 be-PST SIMPLE the way today be-PRES GEN

Nr. 51 [A is visiting a town she used to live in several years ago; now she lives somewhere else.]
 A. I LIVE here, so I know every street here.

Norwegian: *Jeg ha-r bo-dd her, så jeg kjenn-er*
 I have-PRS AUX live. PST PTCP here so I know-PRS

hver eneste gate
 every street

Somali: *Halkan, aadan waan u kala aqaan-aa wayo waan ku noolan jirey*
 here every street DM live-PRS GEN because DM live-PST HAB

As we have seen, the Somali language is a synthetic language with a complex verb morphology, but it does not encode the semantic differences that exist between the perfect and the preterite in Norwegian. The prototypical perfect in Norwegian will, in most cases, be expressed through the simple past in Somali, while the secondary functions of the present perfect in Norwegian will often be conveyed by means of the present tense form in Somali.

3.2.5 Summing up the findings from the contrastive analyses

In this section I will discuss the similarities and differences revealed in the contrastive analyses of Norwegian and Vietnamese and Norwegian and Somali in relation to Ringbom's (2007) work, *Cross-linguistic Similarity in Foreign Language Learning*. Ringbom's thoughts

on the importance of intralingual identification in transfer have been addressed in the discussion of different views of the transfer phenomenon (chapter 2, section 2.2.2.4)⁶³.

Ringbom outlines three types of relations which he believes can be found between languages: *similarity relation*, *contrast relation*, and *zero relation*. Ringbom stresses that these must be looked upon as “positions on a continuum” because there are not sharp borders between the three (Ringbom 2007: 5). A similarity relation exists if “an item or pattern in the TL is perceived as formally and/or functionally similar to a form or pattern in L1” (Ringbom 2007: 5.). On the other hand, when a contrast relation is found, the learner is aware that a pattern or item in the L2 differs significantly from the L1, but knows nevertheless that there are also some underlying similarities between them (ibid.: 6). Finally, Ringbom describes a zero relation as existing when the learner does not assume the L1 knowledge to be significant for the learning task, although, as underscored by Ringbom, this does not mean that “the learner finds nothing at all that is relevant to L1 as the learning progresses” (ibid). However, the similarities lie at a level that is too abstract for the learner to notice. Hence, according to Ringbom, transfer will rarely occur under such conditions because, in his understanding, it is similarity that fuels transfer. However, in my opinion, it is debatable whether transfer really is less relevant when the L1-L2 relations can be described as zero relations in Ringbom’s framework. As we have seen in section 2.2.2.4 in chapter 2, sometimes transfer (conceptual transfer) comes about even though the learners have not made intralingual identifications (Jarvis 2000: 299). This type of transfer arises as an “inert outcome of a shared conceptual system underlying both L1 and IL [interlanguage] structures” (ibid.: 250). Furthermore, I would add that in such cases it can be conceptual differences, not just conceptual similarities, that cause the influence to take place. However, this will be a point of discussion which I will return to later in the thesis (chapter 8). The focus in the present section is to classify the relations between the languages in the current study according to Ringbom’s categories of crosslinguistic relations.

Norwegian and Vietnamese are certainly typologically different languages. Obviously, the fact that Vietnamese words do not change form, along with the lack of tense categories in Vietnamese, demonstrates a language distance between Norwegian and Vietnamese that is so

⁶³ Also in an article co-authored by Ringbom and Jarvis (2009), several of the issues raised in Ringbom (2007) are accounted for, and the importance of perceived similarities in crosslinguistic influence is emphasised. It is moreover claimed that while second language *researchers* have usually focused on L1-L2 differences, second language *learners* first and foremost focus on similarities (ibid.: 106).

vast that in Ringbom's framework, Vietnamese learners of Norwegian would not be expected to perceive their L1 knowledge as being relevant for learning Norwegian. The relation between Norwegian and Vietnamese can be described in terms of a zero relation because a grammatical category of tense does not exist in Vietnamese. Consequently, in Ringbom's view, transfer is less likely to occur (ibid.: 6). At the same time, the contrastive analysis conducted in the current study points to functional/semantic correspondence between the use of past time markers in Vietnamese and the present perfect in Norwegian. Despite the lack of formal similarity between what the present perfect encodes in Norwegian and what *đã* and *rồi* encode in Vietnamese, it could be argued that there is a similarity relation between the two markers. However, this semantic/functional similarity is analysed from a linguistic point of view, whereas Ringbom's classes of contrastive similarity relations seem to describe the subjective evaluations of language similarity which L2 learners are presumed to make, consciously or unconsciously. In that case, it is perhaps problematic to use a linguist's comparison of the languages to infer how language learners perceive similarities. However, the identified similarity relation between Norwegian and Vietnamese is perhaps not only a functional/semantic correspondence, but also an example of a similarity in conceptual distinctions underlying the linguistic encoding which can be found between languages⁶⁴. This will be a point of discussion, and in the current study, it will be argued—against the backdrop of findings from previous studies and theoretical perspectives presented in chapter 2 (including Jarvis's thoughts about transfer as an inert outcome)—that L1-L2 similarities and differences between how temporal concepts are structured most likely unconsciously affect the L2 acquisition of temporal morphology, and may thus result in transfer effects. With this perspective, we might expect transfer to take place despite the vast typological distance which exists between Norwegian and Vietnamese in how time is encoded. This is because at a specific area in the encoding of time there is a similarity in conceptual distinction between Norwegian and Vietnamese. Remember also that Tenfjord (1997) argues for L1 influence in the grammaticalisation of the preterite and the present perfect in her longitudinal study of L2 acquisition of Norwegian by Vietnamese learners.

Regarding the contrastive relationship between Norwegian and Somali, the language distance is also vast. Still, from their native language, Somali learners of Norwegian know that verbs change form, and that a change in form means a change in meaning as well. At the same time, the contrastive analysis presented in section 3.2.4.2 in the present chapter points to

⁶⁴ See chapter 2, section 2.2.2.1 on Jarvis and Pavlenko's (2008) thinking about language difference at the conceptual level.

important differences between the languages involving structure as well as semantics, and perhaps also conceptualisation. The temporal distinctions encoded in the temporal categories in Somali are different from those distinctions encoded in Norwegian. As we have learned, the distinction encoded in the Norwegian present perfect is not grammatically marked in Somali, and Norwegian sentences with the present perfect must often be rendered through a general past form in Somali, but may also be rendered through other present and past categories as well. If we analyse the difference in encoding of time in Norwegian and Somali using Ringbom's categories, the relation should be described as either a contrast relation or a zero relation. The relation is a contrast relation in the sense that there are contexts in which the general past of Somali corresponds to the preterite in Norwegian. However, Ringbom's categories are categories of perceived similarities, not objective similarities. Consequently, even though both Norwegian and Somali have grammatical categories denoting temporality, the relation between Norwegian and Somali might be described a zero relation because the Somali learners learning Norwegian probably do not expect to find many similarities. Hence, the relation could be regarded as a zero relation in the sense of Ringbom (2007). The Somali learners probably understand at some level that there exists an underlying similarity in that both languages, by means of different types of verb inflection, supply information about *when* the situation referred took place, and moreover, that this information is something which all sentences require. However, this correspondence between Norwegian and Somali is at a rather abstract level, and according to Ringbom, it is probably at a level that is too abstract for the learner to even reflect upon consciously and be able to exploit in learning the L2:

The zero relation does not mean that the learner finds nothing at all that is relevant to L1 as the learning progresses. There are, after all, some linguistic universals common to all languages. But the level of abstraction is too high that an average learner cannot easily notice features that a totally different TL [target language] has in common with L1. The zero relation merely means that items and patterns in the TL at early stages of learning appear to have little or no perceptible relations to the L1 or any other language the learner knows. **The learner's L1 may lack the concepts necessary to perceive fundamental distinctions in the TL** (Ringbom 2007: 6, my underlining in bold).

If we consider the fact that a perfect category is missing in Somali, the last line in bold in Ringbom's quote is particularly interesting for the possibility of describing the relation between Norwegian and Somali encoding of time as a zero relation. As we have learned from the contrastive analysis, the distinction encoded in the Norwegian perfect category lacks grammatical marking in Somali. However, it must be emphasised that the potential zero

relation existing between Norwegian and Somali is of a different quality than the zero relation existing between Norwegian and Vietnamese. Vietnamese learners of Norwegian without knowledge of English or other inflectional languages do not possess the same linguistic knowledge of verb inflection that Somali learners do. As opposed to Somali learners, Vietnamese learners do not have previous linguistic experience from which such knowledge could be inferred. Again, Ringbom does not expect the L1 to exert an important role when the relation is perceived as zero; however, when the zero relation existing between the Norwegian and Somali systems of encoding time also includes a zero contrast between the conceptual distinctions being made (the distinction encoded in the preterite-present perfect opposition is lacking in Somali), I would claim that the findings and theoretical reasoning outlined in chapter 2 indicate that the L1 indeed affects the encoding of time in the L2. In addition, a zero relation necessarily implies that there are vast differences between the L1 and L2, which is also the case when it comes to the encoding of time in Norwegian and Somali. The importance of L1-L2 differences in morphological transfer studies is also a point of discussion, and in the current project, again based on findings from previous studies and theoretical perspectives presented in chapter 2, it will be argued that in some cases, it is L1-L2 differences, not similarities, that fuel L1 influence.

3.3 Chapter summary

Even though I had only superficial knowledge of the informants' L1s, the combination of studying reference grammars and analysing native speakers' translations of the perfect questionnaire has given me a basis for making contrastive assumptions about the languages under consideration in the present study. Often it is assumed that L1 speakers of Vietnamese, or other isolating languages, will have a particularly hard time acquiring the Norwegian tense system, and that learners familiar with inflection and grammatical categories in their L1, such as Somali, will find the temporal and grammatical categories in Norwegian easier to acquire. In fact, this is probably not the case because we have to consider the semantic aspects of acquisition and not only the structural aspects. As seen in the contrastive analysis of Norwegian and Vietnamese, there exists a semantic parallel between the use of past time markers in Vietnamese and the present perfect in Norwegian. It is also evident that the system for temporal encoding in Somali differs very much from the Norwegian tense system. The Somali speakers focus on different temporal distinctions than Norwegian speakers do. For

instance, the distinction between ongoingness and non-ongoingness is important because it is grammaticalised in Somali. On the other hand, the distinction captured in the difference between the present perfect and the preterite in Norwegian is less important in Somali since it is not marked grammatically. The background for the contrastive analysis is the current investigation of L1 influence in the Norwegian interlanguages as found in the Norwegian texts written by Vietnamese speakers and Somali speakers. The results of this contrastive analysis are part of the background for the hypotheses presented in the next chapter. One of the main research questions posed here is based on the assumption that the identified contrastive similarities and differences between Norwegian and the L2s have consequences for the process of acquiring the system for verbal past time marking in Norwegian. In the final section I relate the findings in the contrastive analyses to Ringbom's book (Ringbom 2007) on similarity relations and transfer in L2 comprehension and production. In Ringbom's frame, the similarities and differences between Norwegian and both the L1s can be described as zero relations (although the zero relation between Norwegian-Vietnamese and the zero relation between Norwegian-Somali comprises different features), which means that the Vietnamese and Somali learners are not likely to perceive the system of encoding of time in their L1 as being related to the Norwegian system. Hence, transfer is not expected to come into play. However, as underscored in section 3.2.5, a zero relation necessarily means that there exist a number of differences between the languages compared, and as indicated in this section, I will argue that in some cases differences may cause L1 influence even when the learner does not perceive the L1 to be a useful knowledge base in the process of learning the L2. This reasoning bears on the question of whether or not the identified differences between Norwegian and Somali involve conceptual differences in addition to the structural differences, and whether the L1-L2 differences might perhaps reflect a different way of conceptualising time. It is beyond the scope of the current study to answer that question; however, it will be discussed as it has implications for the interpretation of the potential transfer effects that we might observe in the Somali group.

Chapter 4

SURVEY OF THE STUDY

The theoretical foundations for the current study were introduced in the two previous chapters, chapter 2, *L2 acquisition of temporality*, and chapter 3, *The encoding of time in Norwegian, Vietnamese and Somali*. In this chapter, I intend to connect the insights from the different perspectives and relate them to research questions and hypotheses that are raised in the study. In other words, this short chapter gives a survey of the study and the theoretical foundations, before we go on to the last part of the thesis which comprises a discussion of methodological matters (chapter 5), the presentation of data, approach, analysis and results (chapter 6 and 7), and finally, the discussion of findings in chapter 8, and the concluding remarks presented in chapter 9. Many of the studies referred to in chapter 2, which are also a part of the background for the research questions and hypotheses in this study, are summarised in table 88 in appendix A.

4.1 Language-specificity and universalism: an integrated perspective

The introductory chapter started off by stating that the current investigation of the grammatical encoding of past time, in texts written by Vietnamese and Somali learners of Norwegian, approaches the data from two principally different perspectives: a language-specific perspective on second language acquisition that assumes that the learner's L1 can affect the acquisition of temporal morphology, and a universalistic perspective on second language acquisition that assumes that the learners primarily display universal tendencies and patterns in the acquisition of tense and aspect forms in the L2 (as described in the Aspect Hypothesis) (Bardovi-Harlig 2000; Shirai 2009). In chapter 2 we saw that although there is a substantial amount of research to support the Aspect Hypothesis, in which the influence of lexical aspect is set forward as an acquisitional universal, there are also studies indicating that the L1 has an effect on the acquisition of temporal morphology (Ayoum and Salaberry 2008;

Collins 2002, 2004; Izquierdo and Collins 2008; Rocca 2002, 2007), and that there probably is an interaction between lexical aspect and L1 influence (Collins 2002, 2004; Izquierdo and Collins 2008). These findings align with studies that seek to reveal how the conceptualisation and grammatical encoding of time in the L1 affect the L2 acquisition (e.g. Alloway and Corley 2004; Boroditsky and Trusova 2003; Von Stutterheim og Carroll 2006). These studies find that L2 learners have difficulties in encoding temporal information in the same way as native speakers do, and that this is particularly challenging when the L1 and L2 conceptualise and grammaticalise time differently. Together the studies referred to in chapter 2 indicate that both the semantics in verb phrases (lexical aspect) and the learners' L1s (structural and conceptual properties of the languages) play a role when learners acquire and use past morphology in the L2. This suggests that a study of grammatical encoding of past time would benefit from including findings that come from the different strands, but which are nonetheless connected, and hence, I approach the data from a language-specific and a universalistic perspective. These two perspectives are often positioned as competitors; however this is not the intention in the current study. The current study calls for an integrated perspective in order to gain a broader view of the acquisition of L2 morphology, rather than an investigation of the isolated effects of lexical aspect or L1 influence which is what would be provided by such a study. Also, it is my opinion that it is of importance to examine whether, and if so to what extent, universals of language acquisition apply to all second language learners. And in the case of temporal morphology, it is interesting to investigate whether the L1 has an effect of acquisition, and if so how the L1 influence affects the universal pattern observed in interlanguages across different L1 backgrounds.

Regarding the investigation of transfer in the study, it is important that it is in agreement with the criteria set forward in Jarvis's (2000) unified framework for identifying L1 influence empirically, in which he suggests three types of evidence for transfer⁶⁵. This is because the Jarvis method ensures a rigorous evaluation of the data in relation to the hypotheses that predict L1 influence. The aim is first and foremost to *identify* differences between the L1 groups that can be due to L1 influence, and not to *explain* transfer. Hopefully, the study will bring forward results that enable me to state *whether* transfer seems to be at play in the acquisition and use of the present perfect and preterite in Norwegian. Secondly, such a result will in turn give rise to a discussion about the source of the observed transfer effects I observe. The study is not designed to test the conceptual transfer hypothesis.

⁶⁵ Jarvis's (2000) methodological framework will be presented in the following chapter, section 5.2.1.

However, the theoretical discussions and findings from studies that approach the transfer issue from a conceptual perspective are very interesting for the current study, and the findings will be discussed in relation to conceptual transfer. This is the background for the following overall aims of the thesis:

1. Investigate the role of L1 influence in the learners' grammatical encoding of past time in Norwegian, focusing on the preterite and present perfect in Norwegian
2. Investigate the role of verb semantics in the grammatical encoding of past time as described and predicted in research on The Aspect Hypothesis
3. Investigate whether there is interaction, if any, between influence from the learner's L1 and verb semantics.

4.2 Research questions and hypotheses

To reach the overall aims, the following research questions and associated hypotheses are raised:

1. *L1-influence*: Do the Vietnamese and the Somali learners display a pattern in their use/non-use of the present perfect and preterite in Norwegian that points to within-group similarities, between group differences and cross-language congruity?
 - 1.1 The Vietnamese-speaking learners will use the present perfect correctly more frequently than the Somali-speaking learners will.
 - 1.2 The Somali-speaking learners will have a higher degree of incorrect use of the preterite in contexts where Norwegian requires the present perfect, and a higher degree of incorrect use of the present perfect in preterite contexts, than will Vietnamese-speaking learners.
2. *Lexical aspect*: Do the learners' use of the preterite and present perfect in Norwegian agree with the earlier findings that support the Aspect Hypothesis?
 - 2.1 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportion in telic verb phrases (achievements and accomplishments) with preterite and

present perfect inflection than in atelic verb phrases (states and activities) with preterite and present perfect inflection.

2.2 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportion in telic verb phrases (achievements and accomplishments) with correct preterite and present perfect inflection than in atelic verb phrases (states and activities) with correct preterite and present perfect inflection.

3. *Interaction between L1 influence and lexical aspect*: Do the learners' L1s affect the sequence of development of past morphology as described in the Aspect Hypothesis?

3.1 The Somali-speaking learners will have a higher degree of incorrect use with telic verb phrases, in contexts that require the present perfect or the preterite in Norwegian, than will Vietnamese-speaking learners.

The first research question relates to L1 influence. The associated hypotheses specify how I predict the effects of such influence to emerge in the texts written by the learners in the Vietnamese learner group and in the Somali learner group. Several of the studies referred to in chapter 2 not only point to L1 influence, but also to the fact that the perfect category in many cases is subject to influence from the tense and aspect system in the learner's L1. Furthermore, this influence is observed when the L1 does not have a perfect category at all (e.g. Polunenko 2004), or when there are formal or conceptual differences or similarities between a temporal category in the L1 and a perfect category in the L2 (e.g. Collins 2002). Chapter 2 also reports from studies of L2 acquisition of Norwegian that find L1 influence in the learning and use of the present perfect category (e.g. Tenfjord 1997 and Janik 2010). The findings from the contrastive analysis presented in chapter 3 further support hypotheses 1.1 and 1.2. Firstly, the Somali language does not encode the semantic distinction that exists between the preterite and the present perfect in Norwegian. Contexts that require the present perfect in Norwegian are usually rendered through the past simple in Somali, and sometimes sentences with the present perfect in Norwegian are translated by means of a present tense form in Somali. In order to use the Norwegian past forms correctly, the Somali speakers have to notice that the Norwegian preterite does not cover the functions in the past simple in Somali, but that they need an additional category, the Norwegian present perfect, to mark past time in accordance with the target language rules. The semantic distinction between the

preterite and the present perfect in Norwegian involves perhaps a conceptual difference as well, which is not immediately visible, and which the Somali speakers are not tuned towards through their L1. Contrary to Somali, the contrastive data point to the existence of a semantic parallel between the present perfect in Norwegian, and the use of the time markers *đã* and *rôi* in Vietnamese. Whereas the translation data indicates that contexts for the preterite in Norwegian will not be marked by a time marker in Vietnamese, in many cases present perfect contexts in Norwegian require the presence of *đã* or *rôi*, or both, in a Vietnamese translation. Obviously, Vietnamese learners have a semantic and/or conceptual distinction in their L1 that corresponds to the one that exists between the preterite and present perfect in Norwegian. To sum up, previous findings in studies that involve the acquisition of a present perfect form, and the results of contrastive analyses of past time marking in Norwegian, Vietnamese and Somali, lay the basis for expecting a different degree of success with the present perfect in Norwegian: this will show up as a higher degree of correct use of the present perfect in the Vietnamese learner group. In the Somali group this will show up as a higher degree of incorrect use of the present perfect and the preterite in place of each other because of the problems in distinguishing the present perfect and preterite in Norwegian.

The second research question relates to the Aspect Hypothesis, and builds on the body of research that has documented that lexical-aspectual properties of verb phrases have an effect on the acquisition of temporal morphology in the L2. My hypothesis refers to the most well-documented finding within this line of research: the tendency for past forms to encode telic verb phrases before atelic verb phrases (Bardovi-Harlig 2000; Collins 2002).

The third research question relates to the interaction between L1 influence and lexical aspect (the Aspect Hypothesis), and draws on previous findings and the contrastive analysis presented in chapter 3. If the L1 influences the effect size of lexical aspect on the acquisition of temporal morphology in the L2, and not the direction of the acquisition (Collins 2004: 257), I expect that the Somali speakers will need more time to pass through the developmental stages for encoding past time. This is because the L1-L2 differences accounted for in chapter 3, and summarised in the above passage, result in the Norwegian present perfect posing a greater challenge for the Somali speakers than for the Vietnamese speakers.

The subsequent chapter addresses methodological matters in the investigation of transfer and lexical-aspect, as well as the use of computer learner corpora in SLA research.

Chapter 5

METHODOLOGICAL ISSUES

This chapter discusses the current study from a methodological point of view. Firstly, the study is described in relation to the main approaches in the study of L2 acquisition of tense and aspect. Secondly, methodological matters in transfer studies are discussed, and Jarvis's (2000) methodological framework for transfer studies merits a central position in this part. The second part of the chapter discusses the investigation of lexical aspect and the methodological handling of data in studies of the Aspect Hypothesis. The theoretical aspects of this issue is addressed in chapter 2, section 2.3.3.1. The discussion of the classification of verb phrases into distinct categories of lexical aspect in the present chapter concerns methodological issues. This discussion ends with a presentation of the criteria of category assignment and the coding procedures applied in the current study. Finally, an inter-rater reliability test of the coding performed is presented. The empirical basis for the present study, texts produced at an official language test, are extracted from a computer learner corpus of Norwegian, ASK. The ASK corpus is presented in the final section of the chapter which briefly surveys the role of computer learner corpus in SLA research.

5.1 Investigating L2 acquisition of temporality

In her synthesis of studies of tense and aspect in SLA, Bardovi-Harlig (2000: 10) distinguishes between two main approaches to the acquisition of temporal expression in research from the 1980s and onwards: the *meaning-oriented approach* and the *form-oriented approach*. These two strands of inquiry are both distinguished from the morpheme order studies presented in the introductory part of chapter 2, section 2.1. The meaning-oriented studies investigate how learners express a particular semantic concept through different linguistic devices. The meaning-oriented approach, also known as the *concept-oriented approach* or the *semantically-oriented approach*, asks, for instance, how the concept of past is expressed through pragmatic, lexical and/or morphological devices. The form-oriented approach, which encompasses *form-to-function studies* and the *form-oriented perspective*,

starts at the other end. It investigates the distribution of tense and aspect forms and follows a particular form and asks “how and where it is used by the learners” (ibid.: 11). In addition, the form-oriented studies are usually more limited in scope than the more all-encompassing meaning-oriented studies. Even though the two approaches vary in how much they emphasise form in the analysis of learner languages, both approaches consider the interlanguages in their own right, and assume a universal semantic basis for their development (ibid.). In addition, the two research lines have a geographical basis, the meaning-oriented approach dominating in European research and the form-oriented approach dominating in North America (ibid.). In Norwegian SLA, two of the three doctoral theses that address L1 influence; Tenfjord (1997), and Nistov (2001), can both be characterized as concept-oriented. However, of these, only Tenfjord (1997) study L2 acquisition of temporality.

Bardovi-Harlig’s identification of the “two different strands of inquiry” (ibid.: 10) rests upon earlier discussions of approaches to the study of temporal expressions in the L2, I will briefly mention a couple of these studies. In 1987, Von Stutterheim and Klein argued that, instead of focusing on specific forms in studies of how basic concepts like temporality emerge in interlanguages, there should be a shift toward a conceptually oriented approach to second language studies:

Again, a merely structural analysis of morphological forms and their appearance in learner varieties would miss the crucial point if not related to the underlying conceptual categories [...] (Von Stutterheim and Klein 1987: 193)

An important aspect in Von Stutterheim and Klein’s reasoning is that a conceptual approach, as opposed to a form-oriented approach, will capture the nature of the acquisition process, because the focus is not on the *product*, the outcome of the process, but on the *process* itself (Von Stutterheim and Klein 1987: 193). Von Stutterheim and Klein’s conceptual approach is subsumed under Bardovi-Harlig’s meaning-oriented approach. Some years later, Sato (1990) distinguished between three types of interlanguage analyses: *form-only analysis*, *form-to-function analysis*, and *function-to-form analysis*. Whereas the morpheme order studies illustrate the first type of analysis (ibid.: 9), the two other types largely correspond to Bardovi-Harlig’s division between form-oriented and meaning-oriented approaches. According to Sato, these two types of analysis are “maximally effective in combination with each other” (ibid.). Bardovi-Harlig’s evaluation reaches more or less the same conclusion as she states that “both strands of research have been fruitful” (Bardov-Harlig 2000: 11). It is quite evident

from Bardovi-Harlig's outline of the achievements and main findings from the two lines of inquiry that they pose very different research questions, and investigate different stages in the development process. The meaning-oriented studies often investigate the early emergence of marking of temporal notions, the main finding of this approach is the identification of three different stages in the emergence of temporal expressions (ibid.: 414)⁶⁶. The form-oriented studies, however, are limited to the morphological stage, and have mostly contributed to the understanding of how the morphological marking of time develops⁶⁷. Hence, we clearly need both types of studies in the research of development of temporal expressions.

The present study shares features with both approaches. In accordance with the meaning-oriented approach, the analysis of the informants' texts starts by identifying the time content in the sentences, and only looks secondarily at the grammatical coding of the time content. The relevant questions are:

1. What kind of temporal reference or content does the learner express in the sentence?
2. Is the content grammatically encoded?
3. If yes, is the grammatical encoding in agreement with the target language, Norwegian?
4. If no, is the temporal reference or content grammatically encoded at all, and if so, how is that done?
5. What is the lexical-aspectual content of the verb phrase?

Since the notion of past in Norwegian is grammaticalised through two categories, the preterite and the perfect, these two categories are the linguistic forms that are the main focus of the study. However, as the questions formulated above show, the analysis of the learner languages does not simply examine the distribution of the two forms. Rather it investigates whether, and if so, how the semantic time content encoded in the forms is grammatically encoded in the interlanguages. The conceptual considerations involved in the analysis of the learners' grammatical encoding of verbal past marking in Norwegian are in accordance with the principles of the concept-oriented, or meaning-oriented, approach. At the same time, the distribution of forms is doubtless an important aspect in this study, and hence the study adheres to the form-oriented approach. Due to the relatively high proficiency level of the

⁶⁶ Here I am referring to the three stages in the acquisition of temporal expressions: pragmatic, lexical and morphological, as identified in the ESF project on L2 acquisition of temporal expressions (see chapter 2, section 2.1).

⁶⁷ For instance, the order of emergences of verb morphology in Germanic L2s as described in Bardovi-Harlig (2000:419).

informants, in most cases the identified temporal content will be encoded through verbal encoding, either target-like or not target-like, which in itself makes the linguistic forms worthy of attention in the study. Furthermore, the fact that the current study examines the Aspect Hypothesis, reinforces the form-focus because this line of investigation is commonly associated with the form-oriented approach. In Bardovi-Harlig's survey, studies that test the Aspect Hypothesis are described as form-oriented (Bardovi-Harlig 2000: 191). The next section looks at the investigation of transfer from the point of view of methodology.

5.2 Investigating transfer

Almost three decades ago Kohn gave the following statement concerning the role of transfer in second language acquisition:

Today there is no doubt that, despite its sometimes irritatingly elusive character, transfer is one of the major factors shaping the learner's interlanguage competence and performance (Kohn 1986: 21).

Even though it is generally accepted in the SLA community that transfer is a phenomenon that can be observed in learner languages, still, almost 20 years later, Odlin (2003: 478) points to the elusiveness and complexity attached to the transfer phenomenon as well as the lack of a comprehensive theory of transfer. At the same time, he emphasises the development of methods for identifying transfer effects with greater rigor (ibid.: 445). Among these, Jarvis's article from 2000 stands out as one of the most significant contributions, and Jarvis's evaluation of the methodological rigor in the study of transfer is also largely incorporated in Jarvis and Pavlenko's survey of the field (*Crosslinguistic influence in language and cognition*, 2008). Like several other transfer studies after the launching of Jarvis's methodological framework, such as Sylviane Granger and her team at the Catholic University of Louvain-la-Neuve, I intend to apply his principles to the study of L1 influence in the current project.

5.2.1 Jarvis's methodological framework for investigating transfer effects

In his 2000 article, Jarvis claims that the methodological handling of transfer, or lack thereof, accounts for a large part of the confusion concerning the role of the L1 in second language

acquisition despite the substantial number of transfer studies that have been conducted since the 1960s. To Jarvis this unsettling situation is amendable; even though the nature of the transfer phenomenon *per se* is difficult to capture and identify, a stronger methodological framework would improve the empirical basis from which transfer could be discussed and theorised:

Broadly speaking, there are two possible explanations for the contradictory findings for transfer studies. The first concerns the nature of the phenomenon itself, and the second has to do with manner in which it has been investigated. With respect to the former, if L1 influence really were as erratic as the collective research findings suggest, then it would represent an insurmountable problem for the field. If, however, the existing confusion over L1 influence is due instead to inconsistencies of incompatibilities between the empirical methodologies of different transfer studies (cf. Ard & Homburg, 1992), then this is something that the field can overcome by establishing through consensus a rigorous methodological framework for the study of L1 influence (Jarvis 2000: 248).

In order to elaborate more closely on the nature of L1 influence and its interactions with other factors, the field needs to establish a rigorous methodological framework for the study of L1 influence, which to Jarvis, should encompass the following parts: a *theory-neutral definition* of the phenomenon, a list of accepted and sufficient *evidence for transfer effects*, and a register of *outside variables* that should be controlled because they potentially affect the process and outcome of acquisition, and perhaps act as constraints on transfer (Jarvis 2000: 249). In 2010 Jarvis proposes several improvements to the framework set forward in the 2000 article. In this article he also draws a distinction between *comparison-based* and *detection-based* approaches to transfer studies. Whereas the comparison-based approach relies on contrasting languages and interlanguage performances on different levels, the detection-based argument for transfer is “the accuracy with which learners’ source language background can be detected on the basis of their target-language performances” (Jarvis 2010: 183). In the current study, and for the discussion of types of evidence in transfer studies, it is the comparison-based approach which is of interest.

There are many definitions of transfer, and even though Odlin’s (1989: 27) definition of transfer as “the influence resulting from similarities and differences” between the L1 or other previously-acquired languages is among the most cited definitions, there exists no common agreement on how to define it. The lack of a general understanding of the concept is clearly a problem because how you conceive and specify your research topic naturally affects what you look for in your data. For instance, a researcher who understands transfer as a

strategy for filling a gap in communication⁶⁸ would most likely apply a different approach in a study of transfer than a researcher who understands transfer as having a deeper role in the process of acquiring a second language. Hence, the outcome of the transfer investigation would probably be different. According to Jarvis the numerous different meanings of transfer constitute a “large part of the problem” of the recurrent discussions and disagreements in transfer research. According to Jarvis, what we need is a *theory-neutral* definition of L1 influence that can “serve as a heuristic of research” on this phenomenon (Jarvis 2000: 250). Jarvis makes the following proposal:

L1 influence refers to any instance of learner data where a statistically significant correlation (or probability based relation) is shown to exist between some feature of learners’ IL [interlanguage] performance and their L1 background (Jarvis 2000: 252).

What is most striking about this definition, and what makes it very different from others, is the references made to the application of statistics, which reflects Jarvis’s main purpose of the article: to present a foundation, free from theoretical viewpoints, from which different researchers can rigorously test hypotheses about transfer, and possibly identify instances of transfer based on solid empirical grounding. So, even though this definition says less about the nature of transfer, it is doubtlessly instructive concerning the empirical evidence needed for claiming transfer effects in interlanguages, which is also Jarvis’s main purpose. However, using this definition of transfer requires skills in statistics, which in fact can pose a problem, or at least a challenge, in that many researchers in humanities are not educated as statisticians. Yet, applying stricter rules for claiming observations to be instances of transfer effects is first and foremost a step forward in the methodological development of transfer research. In several studies in Norwegian SLA research, inferential statistics is not applied at all. However, this is also connected to the fact that several of these studies have been small-scale studies, as well as qualitative and longitudinal in design. The use of statistics in the current study is an issue I will comment on later in the thesis (chapter 6, section 6.6).

Another question which Jarvis’s discussion addresses is what type of observations count as “necessary and sufficient evidence for L1 influence” (Jarvis 2000: 252). Jarvis suggests that studies of transfer should look for the following types of transfer effects:

⁶⁸ This claim is known as the *ignorance hypothesis* (see chapter 2, section 2.2.2.4, and Jarvis and Pavlenko 2008: 8).

1. Intra-L1-group homogeneity in learner's IL performance
(within-group similarities)
2. Inter-L1-group heterogeneity in learner's IL performance
(between-group differences)
3. Intra-L1-group cross-language congruity between learner's L1 and IL performances⁶⁹
(cross-language congruity)

Evidence in this context means “potential consequences” of crosslinguistic influence (Jarvis 2010: 169). These three effects of L1 influence are what, according to Jarvis, should be required for claiming evidence for transfer. In other words, these can be thought of as identification criteria in transfer studies. Furthermore, Jarvis states that at least two of them should be investigated (Jarvis 2000: 259). The first two potential L1 effects entail comparisons of interlanguages produced by L2 learners from different L1 backgrounds. This is to ensure that the observational pattern detected for a given L1 group is both *representative* of the group and *specific* to the group, which would indicate that learners who speak the same L1 behave in a similar manner when using the L2, and which also distinguishes them from learners with other L1s. Effect 1 is found when the individuals in the group behave similarly enough to claim *intragroup homogeneity*. Effect 2 is found when the group behaves differently enough from one or several other (comparable) L1 groups to claim *intergroup heterogeneity*. However, effect 1 and effect 2 are closely related. Even though they are two separate criteria, they require the same kind of comparisons of groups; it is not possible to sufficiently establish within-group similarities or between-group differences if you do not compare the behaviour of the individuals in one group with that of the individuals in another group. The last type of evidence involves comparisons at the language system level, and the detection of parallel patterns or features between the use of the L1 and the L2. Cross-language congruity is detected when a correspondence between the learners' use of the L1 and their use of a feature in the L2 is observed (Jarvis 2000: 258).

In addition to the types of evidence, or identification criteria, Jarvis also lists various *outside variables* that a study of transfer should take into account and ideally control for. These are: age, personality/motivation/language aptitude, social/educational/cultural background, language background, type and amount of target language exposure, target

⁶⁹ One of the refinements Jarvis (2010) proposes to his original framework is the inclusion of a fourth type of evidence, *intralingual contrast*. Intralingual contrast is related to L1-L2 congruity, but is a more fine-grained comparison of L1-L2 relationships that is directed toward differences (Jarvis 2010: 175).

proficiency level, language distance between the L1 and the target language, task type/area of language use, and prototypicality/markedness of the linguistic feature (Jarvis 2000: 261). Jarvis's list consists of quite different types of variables. Clearly, prototypicality, being a feature of linguistic categories, is something quite different than age and cultural background. Evidently, *outside variables* in Jarvis (2000) is interpreted in a broad sense and encompasses linguistic variables, demographic variables, cultural variables as well as psychological variables. The control analyses are included to ensure that the potential L1 influence is not overridden or covered by other factors that also can influence acquisition. Furthermore, it is to avoid claiming evidence for transfer in cases where the detected pattern has come about as a result of another type of influence, or combination of types of influences (Jarvis 2000: 260). Jarvis emphasises that of the variables he lists, it is not possible to claim one or several of them to be more important than the others (ibid.: 261). However, L2 proficiency is one of the factors that many researchers claim to be of particular importance. According to Carlsen (2012), this also applies in transfer studies; information about a learner's level of proficiency in the L2 is important because "the processes affecting language development, such as cross-linguistic influence, may operate differently at different levels of proficiency" (ibid.: 2). Yet, as underlined by Jarvis and Pavlenko (2008: 202) there is no clear and obvious relation between proficiency level and transfer effects. This is an issue which we will return to shortly in the presentation of ASK, a learner corpus of Norwegian.

5.2.2 Granger's Integrated Contrastive Model

Effects 3 and 4 in Jarvis's framework align with the thinking behind another model for transfer research: Granger's *Integrated Contrastive Model* (Granger 1996). This model comprises two types of contrastive analysis components: 1) comparisons of different languages, the L1 and the L2, and 2) comparisons of two varieties of the same language, either of a native language and a non-native language, or of two or more non-native varieties (interlanguages) produced by learners representing different L1 backgrounds (Paquot 2010: 70). It is this second component which represents an innovative use of contrastive analysis. Granger calls this *contrastive interlanguage analysis*, and since this type of contrastive analysis may involve comparing learners' actual use of the target language to their use of the native language, this is an improvement of the contrastive analysis method in transfer studies.

Opposed to the earlier contrastive work, which according to Gilquin (2008) typically were “intuition-based”, the reliance on authentic contrastive data is a basic tenet in Granger’s model:

The peculiarity of the model is that it exclusively relies on authentic data coming from computerised corpora. This has not always been the case in contrastive and interlanguage studies. The first comparisons of two or more languages were often intuition-based and the traditional error analyses of learner language usually relied on very small collections of texts (Gilquin 2008: 4).

The reasoning is that researchers will be on more solid ground when predicting or diagnosing transfer effects when they base their assumptions on a comparison of the use of a feature in the L1 to the use of the same or a parallel feature in the interlanguage. Part of the purpose of the integrated contrastive model is to be able to reevaluate earlier contrastive claims and test them against authentic data extracted from different types of multilingual corpora (Granger 1996, Gilquin 2008). The second alternative way of conducting contrastive interlanguage analysis in Granger’s model, comparing different learner varieties (interlanguages) of the same target language, resembles Jarvis’s effects 1 and 2 in that it ensures that the feature or pattern of use is distinct for the L1 group, and not common to L2 learners regardless of L1 background⁷⁰.

5.2.3 Investigating transfer: summing up

As underscored by Jarvis himself, several of the issues he raises in his 2000 article have been previously proposed and addressed by other SLA researchers. For instance, Selinker has pointed out the need for statistical analysis in transfer research on several occasions, and Ellis has accounted for various factors that can affect the acquisition process (Jarvis 2000: 251, 260). Also, in his monograph on language transfer Odlin (1989) discusses different types of comparisons which are relevant for the investigation of transfer. Additionally, Granger’s model encompasses several aspects of Jarvis’s framework. What is new in Jarvis’s framework is the systematising of several methodological aspects into the same frame or model. Jarvis offers a useful and consciousness-raising analytic description of what is important when trying to identify effects of transfer in learner data, in addition to posing stricter requirements

⁷⁰ For more about the relation between Jarvis’s framework and Granger’s model, read Gilquin’s (2008) comparison of the two.

for when something can be claimed to be an instance of transfer. Hence, the field will probably experience more rigorous and uniform methods of identifying transfer effects, yielding more comparable studies which potentially will limit the conflicting findings. However, the conflicting *claims* about what the empirical effects of transfer really are, what causes these effects to take place, and how the transfer phenomenon can be explained and understood at a theoretical level, is another issue which cannot be settled by methodological refinements alone. Jarvis’s heuristic framework can contribute to reaching a stronger methodological basis in the field, which can simply result in a more solid empirical basis for confirming or refuting predictions about transfer. Nevertheless, since transfer is a psycholinguistic phenomenon which occurs in the individual learner, the study of transfer also depends on theoretical advances and reasoning in order for good and sound predictions to be stated, which eventually can inform us about the nature and sources of transfer effects⁷¹.

5.2.4 The approach to identifying L1 influence in the current study

The approach I take in the current study of transfer is the comparison-based approach. It relies on comparisons of the Norwegian *interlanguage performances* of two different L1 groups, comparisons of the encoding of time in three different *language systems* (Vietnamese, Somali, Norwegian), and comparisons of the grammatical encoding in the Norwegian interlanguage performances with the system in the learners’ L1s (Vietnamese or Somali). The method of identifying effects of L1 influence in the current study meets several of the criteria set forward in Jarvis’s framework, and can be summarised this way:

Table 4: The comparisons conducted in the current study in relations to Jarvis’s criteria

Jarvis’s criteria in the comparison-based approach	Comparisons in the current study
1. Within-group similarities	IL _{Vietnamese-speaking} – IL _{Vietnamese-speaking} IL _{Somali-speaking} – IL _{Somali-speaking}
2. Between-group differences	IL _{Vietnamese-speaking} – IL _{Somali-speaking}
3. Cross-language congruity	L1 _{Norwegian} – L1 _{Vietnamese, Somali} L1 _{Vietnamese} – L1 _{Somali} L1 _{Norwegian} – IL _{Vietnamese, Somali}

⁷¹ Some of the theoretical progress made in the field of crosslinguistic influence is presented in chapter 2, *L2 acquisition of temporality*.

Criteria 1 and 2 are examined based on comparisons of the interlanguage performances of the Vietnamese-speaking learners and the Somali-speaking learners. Effect 1 is identified if a detected pattern of grammatical encoding is sufficiently similar in the interlanguage performances that share the same L1 background, and effect 2 is found if the detected pattern of grammatical encoding is sufficiently dissimilar to the other L1 group. My application of criterion 3 is not completely aligned with how Jarvis describes cross-language congruity. I do not have access to the informants' use of past marking in their L1 since I only have texts that they have written in their L2, Norwegian. However, I do have empirically validated contrastive data of the encoding of time in Somali and Vietnamese through the contrastive database presented in chapter 3 (section 3.1.4), which consists of translations of the perfect questionnaire by Vietnamese and Somali native speakers. These translated passages give me access to the use of past marking in the L1 of the learners from which I have Norwegian interlanguage data. Based on these translation data, I can conduct three types of comparisons at the language system level: Norwegian-Vietnamese, Norwegian-Somali, and Vietnamese-Somali ($L1_{\text{Norwegian}} - L1_{\text{Vietnamese, Somali}}$, $L1_{\text{Vietnamese}} - L1_{\text{Somali}}$). Additionally, I can contrast features in the encoding of time in the L1 system to the interlanguage behaviour in the two L1 groups ($L1_{\text{Norwegian}} - IL_{\text{Vietnamese, Somali}}$). When it comes to controlling for the outside variables listed by Jarvis (2000: 260), I can account for L2 proficiency level, task type, language distance between L1 and L2 and, to a certain extent, prototypicality of the linguistic feature under investigation. I have some information about educational background, type and amount of target language exposure, knowledge of English, and length of residence in Norway. However, as I will account for in the presentation of the learner corpus I use (section 5.4.1 in the current chapter), there is some uncertainty about the accuracy of this information, at least for some of the variables. This uncertainty may undermine the validity of the information, and hence, the usefulness of exploiting the information in the current study. In addition, as we will see later in the analysis of L1 differences (chapter 7, section 7.1.7.1), it is difficult to make use of some of the variables because the responses from the two L1 groups are so unevenly distributed across the various choices.

5.3 Investigating lexical aspect

Studying the predictions set forward in the Aspect Hypothesis requires a classification of verb phrases into distinct categories of lexical aspect. As seen in chapter 2, *L2 acquisition of temporality*, Vendler's categories hold a particular position in this line of inquiry, and his classification system is also the one applied in the current study. In chapter 2, section 2.3.3.1 I demonstrated that lexical-aspectual category assignment is a quite complex task, and I have also elaborated on what types of contexts affect the coding of lexical aspect. In this section, the aim is to suggest a procedure for ensuring a consistent classification and thus strong construct validity. I will present the stepwise analytical procedures used in the current study to classify verb phrases into Vendler's *achievements*, *accomplishments*, *activities* and *states*. However, first I will call attention to the fact, already pointed out by Shirai and Andersen (1995) and Shirai (2007) in relation to reliability and replicability, that too many studies within this line of inquiry lack a precise description of the manner in which the encoding is conducted. My aim is also to connect this problem to validity. Before we proceed, it is necessary to explain what characterises the Vendlerian classes. My presentation builds mainly on the reading of Vendler (1967), Andersen (1991), and Rothstein (2004)⁷²:

- *States*: homogenous, nondynamic situations that continue without changing. They are atelic because they do not involve a natural endpoint, goal or result, e.g. *love somebody*.
- *Activities*: homogenous, dynamic, atelic, and open-ended processes that continue without changing and do not involve a natural endpoint, goal or result, e.g. *run*.
- *Accomplishments*: dynamic, durative, and telic processes that lead up to a natural endpoint/change of state, e.g. *build a house*.
- *Achievements*: dynamic, punctual, and telic events that have a natural endpoint and describe an instantaneous change of state, e.g. *recognise*.

5.3.1 Lack of a consistent category assignment within research on the Aspect Hypothesis?

After reading quite a few studies that investigate the predictions of the Aspect Hypothesis, I have concluded that there seems to be some uncertainty and confusion about the way in which

⁷² Vendler's four-way distinction is accounted for in chapter 2, section 2.3.1.1.

many of the previous studies have carried out the coding of lexical aspect. Hence, it has not been possible to simply follow, or reproduce, a set of principles for determining category assignment that is commonly used in research on the Aspect Hypothesis. Even though the target language in the current study is not the same as that of most Aspect Hypothesis studies, and even though one cannot always expect to transfer coding procedures developed for one language over to another, one could imagine that it is possible to identify a set of coding principles that could be used for several languages, at least for Germanic languages. However, I have not been able to find guidelines that address the coding of verb phrases in learner languages in general.

Those studies that explicitly state their coding procedures use diagnostic tests developed by different aspectologists⁷³. Shirai and Andersen (1995: 749) are among the scholars who explicitly state their coding procedures:

Step 1: State or nonstate

Does it have a habitual interpretation in simple present tense?

If no → State (e.g. *I love you*)

If yes → Nonstate (e.g. *I eat bread*) → Go to Step 2

Step 2: Activity or nonactivity

Does 'X is Ving' entail 'X has Ved' without an iterative/habitual meaning? In other words, if you stop in the middle of Ving, have you done the act of V?

If yes → Activity (e.g. *run*)

If no → Nonactivity (e.g. *run a mile*) → Go to Step 3

Step 3: Accomplishment or achievement

[If test (a) does not work, apply test (b), and possibly (c).]

a) If 'X Ved in Y time (e.g. 10 minutes)', then 'X was Ving during that time.'

If yes → Accomplishment (e.g. *He painted a picture.*)

If no → Achievement (e.g. *He noticed a picture*)

b) Is there ambiguity with *almost*?

If yes → Accomplishment (e.g. *He almost painted a picture* has two readings: he almost started to paint a picture/he almost finished painting a picture.)

If no → Achievement (e.g. *He almost noticed a picture* has only one reading.)

c) 'X will VP in Y time (e.g. 10 minutes)' = 'X will VP after Y time.'

If no → Accomplishment (e.g. *He will paint a picture in an hour* is different from *He will paint a picture after an hour*, because the former can mean that he will spend an hour painting a picture, but the latter does not.)

If yes → Achievement (e.g. *He will start singing in two minutes* can have only one reading, which is the same as in *he will start singing after two minutes*, with no other reading possible.)

Shirai and Andersen's procedures build on a number of different studies of lexical aspect (ibid.: 750). However, the problem with the tests is that they usually are presented together with typical examples rather than difficult ones. This is a tendency common in the literature on lexical aspect, and something that, according to Dowty, results in a "somewhat skewed

⁷³ Dowty (1979) and Bardovi-Harlig (2000) give an overview of different diagnostic tests.

impression of what the full ranges of verb phrases singled out by the given test actually consist of” (Dowty 1979: 65). So the exact procedures for category assignment are very often not communicated in Aspect Hypothesis studies, and *how* the more problematic cases are dealt with in the studies is even less often accounted for. The above example from Shirai and Andersen (1995) is an exception to the general rule in the literature on the Aspect Hypothesis: the coding of lexical aspect is not focused and problematised enough. This is an important matter because if the procedures for determining lexical aspect are not made clear, it is difficult to compare findings from different studies. However, this is not only an issue of reliability and replicability as proposed in Shirai and Andersen (1995) and Shirai (2009). In my opinion, this also has to do with validity, *construct validity*, because the theoretical construct of lexical aspect is operationalised through the classification of the interlanguage verb phrases into different categories of lexical aspect. Operationalisation of the hypothesis that past marking will emerge in achievements and accomplishments before states and activities occurs when the researchers develop a method or procedure for identifying occurrences of the four different categories. It is only possible to measure the effect of lexical aspect when it is identified by means of a clear method, such as by breaking down the variable into characteristic features of each category and establishing a procedure for isolating these features. Evidently from the discussion in chapter 2, section 2.3.3.1, lexical aspect must be defined as a property of the situation described by the verb phrase and sometimes the whole sentence. This is generally how the theoretical construct of lexical aspect is defined in this line of research. Consider, for instance, Andersen (1991):

To speak of inherent lexical aspect gives one the impression that the aspect is inherent in a single lexical item. This is true for most states (e.g. *want*) and activities (e.g., *run*), but in many cases the aspect is associated not with a single verb, but with the entire predicate or even the entire proposition (Andersen 1991: 310).

Verb phrases can be classified into several categories according to the context, which makes it particularly challenging to classify verbs into distinct classes of lexical aspect. In several studies, we do not know exactly which types of contexts generated which types of lexical-aspectual encoding. Furthermore, after a closer look at the quote from Andersen, we see that he is inconsistent in that immediately after highlighting the importance of context in analysing lexical aspect; he states that it is true that *run* is almost always activity. This is confusing if we take into account the fact that activity phrases expanded by path arguments, such as *run to the*

store, shift from activity to accomplishment. Shirai (2007: 59) claims that classification can be seen as “a kind of operational definition that helps us see the tendencies in the use of tense–aspect markers in relation to verb semantics”; however, if the criteria upon which the classification rests are not accounted for, the relationship between the theoretical level (the theoretical concept of lexical aspect) and the empirical level (the measurement of the impact of lexical aspect) is weak, a fact that raises questions about the construct validity in the studies.

Another issue which also is problematic from a methodological point of view is the fact that intrarater reliability of the coding of verb phrases in aspectual classes is rare (Shirai and Andersen 1995: 749).

5.3.2 Coding procedures

In order to be able to conduct a classification of the verb phrases in the Norwegian learner languages that is consistent and that ensures an acceptable level of construct validity, I need a definition of lexical aspect that reflects that the phenomenon is linguistic in nature. This definition should also reflect that lexical aspect is not an inherent property of verbs in isolation, but a product of an interaction of the verb and its arguments. I also need a set of criteria, or procedures, for how to carry out the coding of the verb phrases in the texts.

For this purpose I find it useful to apply Rothstein’s (2004) understanding and classification of lexical aspect. Rothstein follows Dowty (1979) in her understanding of lexical aspect as something that can be accounted for in terms of identified principles underlying *type shifts*⁷⁴; the following excerpt from Rothstein (2004) summarises her line of reasoning⁷⁵:

⁷⁴ Type shift, or *aspectual shift*, means that verbs move between lexical-aspectual classes according to conditions in the context (Rothstein 2004: 13).

⁷⁵ Like Rothstein, Dowty believes Vendler’s categories to be useful, yet with some refinements. However, the two aspectologists represent somewhat different theoretical approaches to the subject, and thus distinguish between the classes somewhat differently. Dowty sees lexical aspect as the result of a lexical decomposition of verb phrases: “The idea is that the different aspectual properties of the various kinds of verbs can be explained by postulating a single homogeneous class of predicates - stative predicates - plus three or four sentential operators and connectives (Dowty 1979:71)”. For instance, it is the operator CAUSE that distinguishes between accomplishments and achievements (for more about Dowty’s system, I recommend Tonne (2001)). Because Dowty puts less emphasis on duration when distinguishing between the aspectual classes, like achievements and accomplishments, I have relied primarily on Rothstein, especially since many L1 and L2 studies have shown that punctuality is a semantic feature that seems to play a role in the marking of past time. This is also in line with the Shirai and Andersen’s (1995) reasoning for not adopting Dowty’s list of syntactic and semantic subcategories of the Vendler-classes (Dowty 1979: 66).

I am going to argue that verbs can be classified into verb classes, that this classification reflects the properties of the events in their denotation, and that it can be used to make predictions about how verbs from particular verb classes interact with arguments and modifiers. So “state”, “activity”, “achievement” and “accomplishment” will be properties of verbs. Telicity and atelicity, however, will be properties of VPs, and it will be a characteristic of a particular verb class that it allows telicity or atelicity to be determined in one way but not another (Rothstein 2004: 33).

According to Rothstein, there is a foreseeable relation between lexical-aspectual properties of verbs and the contexts in which they appear. However, such a theoretical position demands an account of what distinguishes the Vendler-classes from each other, and an overview of what types of modifiers cause shift in lexical aspect (ibid.). It is my opinion that such an overview and discussion of factors affecting the lexical-aspectual properties of verb phrases are generally lacking in the Aspect Hypothesis research, and in the section to follow I will outline the criteria applied in the current study. The basic tenet of my criteria is that there is a predictable relation between the lexical content of a verb, argument structure, and lexical aspect. I define lexical aspect as a lexical-semantic category that refers to properties of the situation as described in the verb phrase and sometimes the whole sentence (see also chapter 1, section 1.1).

5.3.3 Criteria for category assignment

My criteria for category assignment are based on the reading of different aspectologists’ descriptions of the four Vendler-categories and factors for predicting and explaining type shifts, such as Rothstein (2004) and Dowty (1979). However, my criteria are also based on insight gained by reading Bardovi-Harlig (2000) and Shirai and Andersen (1995). In the examples in the description of the steps under, contextual information is given.

1. Interpret the sentence in which the verb phrase occurs, and include as much of the discourse as needed in order to establish a reasonable interpretation.
2. Remove inflectional endings and keep the base form of the verb phrase as well as the part of the argument structure which is relevant for determining the lexical-aspectual value.
3. Determine the lexical-aspectual classification of the verb phrase using the stepwise procedures as follows:

Step 1: State or nonstate

State if following statements are correct:

- 1) The verb phrase cannot be interpreted as dynamic, and does not go well with phrases in Norwegian indicating ongoingness such as *holde på med*, *være i ferd med*, *drive med*.
- 2) The verb phrase does not express a change of state, and cannot be interpreted as having inchoative meaning.
- 3) The verb phrase is negated and contains the negator *ikke* ('not').

Examples of verb phrases coded as states:

- a) [...] *de snakket Bergensk dialekten* [så jeg *kjøn-te* *ingenting først omgangen*
they speak-PRT Bergen dialect [so I understand-PRT nothing first time]
- b) [...] *han kom opprinnelig fra Pakistan*
he come.PRT originally from Pakistan
- c) *Jeg ha-r ikke jobb-et i hjemlandet*
I have-PRS AUX not work-PST PTCP in home country
- d) *Før bo-dde vi i en liten leilighet med to rom i sentrum*
Before live-PRT we in a small appartement with two rooms in city centre
- e) [...] *og drøm-te jeg til å bli ingeniør*
and dream-PRT I til too become INF engineer

Step 2: Activity or non-activity

Activity if the following statements are correct:

- 1) The verb phrase expresses an open-ended process which extends in time and has no clear phases, so if you suddenly stop *doing x*, it is still true that you have *done x*. For instance, if a person who is running in the park, suddenly stops running, it is still true that the person has run in the park.
- 2) The verb phrase can be expanded with durative expressions in Norwegian such as *i x tid* ('for x time'), and other temporal expressions denoting a stretch of time without any particular time limits. With the exception of some special contexts, the verb phrase cannot be expanded with punctually locating expressions⁷⁶ such as *på x tid* ('at x time'), Accordingly, whereas it is possible to say that *Sue played the piano for 2 hours* or *Lars*

⁷⁶ The phrase "punctually locating expressions" is taken from Rothstein's (2004: 25) discussion of impact of temporal expressions on lexical aspect.

travelled around Europe for three weeks, it is *not* possible to say *Sue played the piano at 16 p.m.*⁷⁷ or *Lars travelled around Europe at 17 August.*

Examples of verb phrases coded as activities:

- f) *Vi snakket [og drakk sammen]*
 We speak-PRT [and drink.PRT together]
- g) *Jeg lærte mye [og tjente mye penger]*
 I learn-PRT a lot [and earn-PRT a lot money]
- h) *[...] bygde mange forskjellige skoler*
 and build-PRT many different schools
- i) *[det er noen som har reis-t rundt i hele verden]*
 [it be.PRS someone who have-PRS AUX travel-PST PTCP around in whole world-the]
- j) *Dem fire barna brøyt så mye*
 those four children make noise-PRT so much

Step 3: Accomplishment or not

Accomplishment if the following statements are correct:

- 1) The verb phrase expresses a process leading up to a terminal point or goal and includes duration. The phrase goes well with temporal expression indicating a period of time, in which also the endpoint of the event is included such as *i x tid, ta x tid* ('in x time, take x time'). The verb phrase does not go well with durative expressions without locating the end such as *i x tid* ('for x time'). For instance, whereas it is possible to say *Lars ate the buns in 30 minutes* or *Eva built the school in two months* it is *not* possible to say *Lars ate the buns for 30 minutes* or *Eva built the school for two months*.
- 2) The verb phrase describes an activity, and includes an object that refers to a specific entity.
- 3) The verb phrase describes an activity, and includes a path argument indicating a particular destination, location or point in time.

⁷⁷ Unless the intention is to communicate when the piano playing began (see also Rothstein 2004: 25).

Step 4: Accomplishment or achievement

Accomplishment if the following statements are correct:

- 1) The verb phrase can be interpreted as having sub-events, so if you suddenly stop *doing x*, it is *not* still true that you have *done x*. For instance, if a person who painting a picture, suddenly stops painting before the picture is finished, it is not true that the person has performed the painting of a picture.
- 2) Because the verb phrase expresses duration, it can occur with phrases in Norwegian like *holder opp med å* or *gjøre seg ferdig med* ('stopped' or 'finished').

Examples of verb phrases coded as accomplishments:

- k) *Han sang en sang som het*
He sing.PRT a song who be call.PRT
- l) *Jeg reis-te til Sverige med tog fra Bodø*
I travel-PRT to Sweden by train from Bodø
- m) *Til morges neste dag ha-dde jeg akkurat fø-dt mitt barn*
til morning next day have- PST AUX I just give birth- PST PTCP my child
- n) *Hvem skap-te verden?*
who create-PRT world
- o) *Jeg ha-r les-t en bok som het-er...*
I have-PRS AUX read- PST PTCP a book that be call-PRS

Achievement if the following statements are correct:

- 1) The verb phrase expresses a momentary change of state or result, and cannot be expanded with durative expressions in Norwegian such as *i x tid* ('for x time'), only with punctually locating expressions such as *på x tid* ('in x time').
- 2) Because the verb phrase expresses punctual location in time, it *cannot* occur with phrases in Norwegian like *holder opp med å* or *gjøre seg ferdig med* ('stopped' or 'finished').

Examples of verb phrases coded as achievements:

- p) *[...] men jeg skjøn-te*
but I understand-PRT
- q) *Vi ha-r hø-r-t [at mange må flytt-e ut i Norge]*
we have-PRS AUX hear- PST PTCP [that many must.PRS move-INF out in Norway]

- 1) *Plutselig så jeg ei dame [som jeg spur-te om gate]*
 suddenly see.PRT I a women [who I ask-PRT about street]
- 1) *Da jeg fikk beskjed om [at jeg skulle få en stilling]*
 when I get.PRT message about [that I shall.PRT get.INF a position]
- s) *Etterpå begyn-te jeg å [skriv-e om livet i ørkenen]*
 after begin-PRT I to [write-INF about life in desert]

Step 5: If still no result

If these stepwise procedures do not give a clear enough result regarding the category assignment, the context is to be carefully analysed and interpreted. Check if the issue arises because of particular contextual matters, and discuss with other coders of lexical aspect if possible.

5.3.4 Inter-rater reliability test

In order to ensure an acceptable level of coding, a colleague of mine familiar with the coding procedures in the current study, have coded about 10% of the material, which are 225 randomly selected verb phrases. The level of agreement is analysed by means of a Kappa analysis which is a test for inter-rater reliability when the variables are categorical. The result of the analysis is given in the table below:

Table 5: Inter-rater reliability test for lexical-aspectual category assignment

		Coder 1				total
		Achievement	Accomplishment	Activity	State	
Coder 2	Achievement	40	9	1	2	52
	Accomplishment	5	10	0	1	16
	Activity	0	13	18	2	33
	State	2	1	0	121	124
total		47	33	19	126	225

If we study the telic classes first, we see that coder 1 and 2 have agreed on the encoding of 40 verb phrases as achievements. Furthermore, we see that 9 of the verb phrases coded as achievements by coder 2 are classified as accomplishments, 1 as activity, and 2 as state by coder 1. If we look at the encoding of accomplishments, we see that there was some disagreement. In fact, 13 verb phrases coded as accomplishments by coder 1 were classified as activities by coder 2. Evidently, there is some disagreement on the boundary between accomplishment and activity. Even though disagreement regarding the classification of verb

phrases into activities and accomplishments may be observed, the test statistics show that the overall level of inter-rater agreement is indeed acceptable, $Kappa = 0.7, p < 0.001$. According to common guidelines for the magnitudes of a Kappa index, $Kappa > 0.7$ is considered as a “substantial” level of agreement (Landis and Koch 1977: 165). We can therefore conclude that the reliability analysis shows that the consistency in the coding is acceptable. However, we note that the reliability analysis shows that there is indeed some confusion in the lexical-aspectual classification of activities and accomplishments, which in fact means that the border between telics and atelics is not always the same for coder 1 and coder 2.

5.4 Corpus data as an empirical basis for SLA research

Psycholinguistics-oriented research is prevalent in current SLA research, and as a consequence, much SLA research is experimental in design and uses careful methods for eliciting the linguistic feature or concept of interest. In such studies, the importance of language use data is downplayed. At the same time, a growing interest in the use and compilation of computer learner corpora over the last few decades (Carlsen 2012; Granger 2009) has led researchers to favour data extracted from natural settings of use. In the current study, a Norwegian learner corpus serves as a tool for collecting the language use data which the investigation relies on. This learner corpus comprises texts written as part of an exam answer for a test of Norwegian as a second language for adult immigrants. The texts can be described as language use data in the sense that the learner performances are not the result of a carefully designed experimental setting, responses to a particular test method, or at all primarily produced for a specific research purpose. Quite the reverse, the texts are produced by learners aiming to pass an official test of Norwegian for immigrants, which can have important benefits for the test takers, such as employment or entrance to higher education. Clearly, the circumstances under which the texts have been produced can hardly be called natural, so the data material is only natural in the sense of being non-experimental; the texts are language use data in that they are performance data collected from a particular setting of use (a test situation).

There are many reasons why computer learner corpora, that is, “electronic collections of foreign or second language learner texts assembled according to explicit design criteria” (Granger 2009: 2), serve as a useful empirical basis in SLA research. One of the most significant advantages of corpus data is the provision of a “much wider empirical basis than

has ever previously been available” Granger (ibid.: 3). Additionally, the nature of the data is also favourable because language use data, to a greater extent than data extracted from decontextualized, experimental settings, offer researchers the ability to widen the scope of research and include a range of variables and investigate several topics (ibid.). In research on crosslinguistic influence, Granger and her research milieu’s use of multilingual corpora and the integrated contrastive model has demonstrated that such computerized samples of learner languages are a good way of studying transfer.

There are many types of corpora, and according to Granger (2003: 20), a beneficial way to classify different types of corpora in crosslinguistic research is between *multilingual* corpora (more than one language) and *monolingual* corpora, which can be further subdivided like this⁷⁸:

Table 6: Types of corpora

<i>Multilingual corpora</i>	<i>Monolingual corpora</i>
- Translation (or parallel) corpora: consisting of original texts and their translations in one or more language (bi/multidirectional)	- Comparable corpora: consisting of original and translated texts in one language <i>or</i> native and learner texts in one language
- Comparable corpora: consisting of original texts in two or more languages that are similar in several respects, e.g. genre	

Even though many researchers acknowledge the advantages of corpus-based studies in SLA, there are critical surveys of how such corpora should be compiled. As underlined by Granger, corpora containing texts written by learners provide the analyst with particular challenges, requiring “a wider range of expertise than is necessary for native corpora”, such as knowledge of the second language acquisition process (Granger 2003: 2-3). A particular subject of discussion is connected to error tagging of learner texts. This issue has been raised in connection with the learner corpora used in the current study, which I will present in the subsequent section.

5.4.1 ASK – a Norwegian learner corpus⁷⁹

The motivation for constructing a learner corpus of Norwegian (ASK)⁸⁰, was to “enhance the facilities for empirical studies on the acquisition of Norwegian as a second language and

⁷⁸ The presentation of types of corpora is based on Granger’s (2003: 20-21) typology for corpora in crosslinguistic research.

⁷⁹ The coding in ASK is based on *bokmål*, which is one of two official Norwegian written norms (see also chapter 3, section 3.2.2.1)

perhaps SLA studies more generally” (Tenfjord, Hagen, and Johansen 2006: 93) . Norwegian as a second language has been dominated by small scale studies, and the development of new linguistic resources, such as a searchable, electronic database of learner texts, would enable researchers to test hypotheses and findings generated from previous studies and at the same time conduct exploratory studies generating new hypotheses about second language acquisition (ibid.). Furthermore, ASK links linguistic and personal data, which makes it possible to explore the relation between external and internal factors of the acquisition process based on large samples.

The learner data in ASK consists of texts selected from the archive of the Norwegian language test centre, *Norsk språktest* (Folkeuniversitetet/University of Bergen). These are texts written as responses to two different official tests of Norwegian for adult immigrants: *Språkprøven i norsk for voksne innvandrere* (‘Language test for adult immigrants’), which measures language at an intermediate level, and *Test i norsk – høyere nivå* (‘Test of Norwegian – advanced level’) which measures language at an advanced level (Carlsen 2012: 9). The texts are written as responses to the part of the language test which asks the participants to write a short text about a given topic. For the intermediate test, the topics given in the different prompts are all quite open and directed towards subjects of personal relevance for the test takers. For the advanced, pre-academic test, the test takers are asked to discuss certain topics and invited to write argumentative texts (ibid.)⁸¹

The most significant criterion for the selection of texts from the archive for the corpus is the L1 background of the test takers (Tenfjord, Hagen, Johansen 2006: 96). Also, ensuring typological diversity of the L1s present in the corpus has been important in the selection of the texts. The chosen languages are: Albanian, Bosnian-Croatian-Serbian, Dutch, English, German, Polish, Russian, Somali, Spanish and Vietnamese. Each L1 is represented by 200 texts at each level, except for Vietnamese and Somali, for which texts exist only at the intermediate level (*Språkprøven*). L1 background is given precedence because the investigation of transfer on a large-scale basis has been one of the theoretical motivations behind the building of the corpus⁸² (ibid.).

⁸⁰ ASK is an abbreviation of *AndreSpråksKorpus*, meaning *second language corpus* in Norwegian (Tenfjord 2004: 147).

⁸¹ I will elaborate more on the various prompts given in the intermediate test in chapter 6, *Data and analysis procedures*.

⁸² One of the main purposes of the Askeladden project, with which the present study is affiliated, is to use ASK to investigate L1 influence founded on studies of larger samples of learner languages.

In addition to the textual data, by filling out a form on the day of the exam, the test takers have provided personal information that may relate to the acquisition of a second language. Besides L1 background, the information collected is sex, age, country of origin, educational background, knowledge of English, type and length of courses in Norwegian as a second language, length of residence in Norway, current status (working, studying, applying for a job), and exposure to Norwegian outside the classroom. However, the validity of some of the information must be questioned because the personal information is collected by means of a questionnaire in which several of the responses are provided by checking off the descriptive category that the test taker assumes best matches himself or herself. For instance, we cannot be sure if the test takers who subjectively report having an intermediate or advanced level of English really represent a comparable level of English. All the same, we cannot easily compare the educational background reported by test takers from a range of different countries since what constitutes primary, secondary and higher education varies a lot across the countries in which the test takers are educated, assuming the test takers have been educated in their home country. Regarding degree of contact with the Norwegian language and Norwegians, the test takers have ticked off rather general statements, such as *yes*, *no*, *never*, *seldom* and *on a daily basis*, and there is limited information in such crude descriptive categories.

I will not go into the architecture of the corpus in any detail⁸³, but only mention that the textual data in ASK has been tagged for linguistic information both automatically (*The Oslo-Bergen tagger*) and manually by several coders with knowledge of second language acquisition. What is more particular to ASK, and to several other learner corpora, is the error tagging. Based on several coding categories developed in ASK, which are used to describe the differences between the language learner texts and the native language norm of Norwegian, items that deviate from a target-like construction are annotated with error codes of different types (Tenfjord, Meurer, and Hofland 2006). For instance, the error *F*, which is of particular interest for the current project, indicates a “deviant selection of morphosyntactic category” (ibid.: 1822), as shown in the following sentence. In this sentence, the present tense is incorrectly used instead of the preterite:

t) [*Jeg er en utlending*] *som komm-er til Norge*
 [I am.PRS a foreigner] who come-PRS to Norway

⁸³ For those interested in the technical building of ASK, I recommend reading Tenfjord (2004) or Tenfjord, Meurer and Hofland (2006).

Granger (2002) points to error tagging as an example of a technique that is distinct to learner corpora, and one which underscores the irregular nature of interlanguages. Traditionally, the concept of error has been somewhat controversial. However, to Granger error coding is not a “negative enterprise” (Granger 2002: 14); it is not even a hazardous undertaking because of the standardised procedures for error categorisation and error tagging that have been developed in current corpus linguistics (ibid.). Nevertheless, error coding such as the one carried out in ASK, has been the subject of debate, and the practice in ASK has also been accused of threading in the well-known *comparative fallacy* (as formulated by Bley-Vroman, 1983). In his discussion of the comparative fallacy, Bley-Vroman warns against analysing features in interlanguages only through analytic categories in the L1. The identification of errors based on the target language norm can potentially represent a risk of failing to analyse the interlanguages based on their own logic (Bley-Vroman 1983). In reply to this criticism, Tenfjord, Hagen, and Johanson (2006) defend the application of error tags as a methodological tool for “purely analytic purposes” (ibid.: 100):

error recording and error coding is not methodologically misguided since error analysis is not a theory of SLA but rather a method, a method that can, in principle, service any theory. We think that the so-called “comparative fallacy” charge often levelled against classical error analysis or any preoccupation with errors at all stems from failure to distinguish sufficiently between these two notions within SLA (Tenfjord, Hagen, and Johansen 2006: 93)

The annotation of the original learner texts generates a sub-corpus of corrected texts. This corrected corpus is also searchable, as it is automatically tagged for linguistic information. In addition, a control corpus is also compiled, which consists of 100 comparable texts written for each level by native speakers of Norwegian. However, this control corpus is not used in the present study. This is because the native speakers of Norwegian have only written texts on three of the 31 topics that the Vietnamese-speaking and Somali-speaking informants have responded to. These three topics generate too few contexts for the forms of particular interest for the present study⁸⁴.

Because the original texts in ASK are linked to the corrected texts, Tenfjord, Meurer, and Hofland (2006: 1823) describe ASK as a “parallel corpus of tagged corrected texts”. However, if we relate ASK to the types of corpora displayed in table 6 above, we see that ASK does not fit in this particular categorisation: ASK is not a parallel corpora in the sense

⁸⁴ For more information about the writing topics responded to, and the relation between topic and temporal perspective established in the texts, see chapter 6, section 6.5.2.

that it consists of texts in different languages. Hence, on the basis of Granger's typology, ASK will be classified as a monolingual corpus with texts written in one language, but with texts of two types: learner texts (the original texts) and texts written by native speakers (the control corpus).

Finally, I will mention a refinement to the ASK corpus: the linking of the texts from 7 of the L1s to the Common European Framework of Reference for Languages (CEFR)⁸⁵. The background for the reassessment project was the fact that the texts were originally placed at broad proficiency levels, which turned out to comprise a great deal of variation; in reality texts written as responses to the intermediate test were placed at nearly all the CEFR scales (A2 to C1), even though on average, the texts were assessed to be between B1 and B2 (Carlsen 2010a: 142-143). The new, more fine-grained level of assessment of the texts is also in line with the general agreement that proficiency level in computer learner corpora is an important variable. Carlsen (2012) summarises some of the reasons why:

There are many reasons why it is important that we can rely on the level assignment of learner corpus texts. CLCs [computer learner corpora] may be used with the specific purpose of investigating distinguishing features of one or several levels of proficiency. In investigations of what learners can do, or of characteristics of grammar, vocabulary, spelling, or text structure at a certain level, it is fundamental that the texts analysed are indeed representative of that particular level. If (some or all of) the texts are not really at the assumed levels, this may jeopardize research results which may in turn affect teaching material and language tests tailored at particular levels of proficiency. Similarly, a reliable level assignment of texts is important for SLA research comparing learner groups. Some kind of group-comparison is a common method when investigating the effect of the first language, educational background, motivation, etc. on language learning [...] If the L1 groups that are being compared have reached different levels of proficiency, it is only to be expected that there will be differences in their inter-language. These differences may reflect the L1 structures, but they may just as well reflect the fact that one group has reached a more advanced level of proficiency (Carlsen 2012: 4).

Jarvis and Pavlenko also underline the importance of L2 proficiency; however, they also emphasise that the relation between transfer and proficiency is not very clear, one reason being that proficiency is measured differently across studies (Jarvis and Pavlenko 2008: 202). Moreover, Jarvis and Pavlenko refer to studies that show that the impact of proficiency can be different across areas of acquisition. For instance, whereas there seems to be a linear type of relation between L2 proficiency and transfer in areas of word order and pronunciation, the

⁸⁵ The reassessment project was conducted by a post-doctoral research fellow in the Askeladden project, Cecilie Carlsen.

relation between proficiency and lexical and morphological transfer seems to be “curvilinear” (ibid.). Proficiency level is also a variable, which is considered important to isolate in studies researching the Aspect Hypothesis (Bardovi-Harlig 2000: 204). The challenges to compare learners in a manner that isolates the influence of target language proficiency, is also underscored by Bardovi-Harlig in her discussion of methods for studying the Aspect Hypothesis (ibid.). In discussing methods for reliable proficiency level assignment and the application of proficiency scales to learner corpus texts, Carlsen (2012, 2010) presents the details of how the new level assignment of the texts in ASK was carried out. I would also like to comment on the use of the CEFR, which is the proficiency scale used in the reassessment of the ASK texts. The CEFR scale was preferred because of its prominent role in Norwegian second language teaching and assessment (Carlsen 2012: 10), and because of the comprehensive construct upon which the scale descriptors are built (Carlsen 2010a: 134). However, also underlined in Carlsen (2012), even though the usefulness of the CEFR as a common frame of reference for language teaching and assessment is generally acknowledged (Alderson 2007; Hulstijn 2007), the CEFR has been met with criticism⁸⁶. In the following I will refer briefly to the major points of criticism of the CEFR. Firstly, the CEFR is criticised for not being anchored in empirical research of learner data (Alderson 2007; Fulcher 2004; Hulstijn 2007), instead, the empirical basis for the CEF are principally “judgements of language teachers and other experts with respect to *the scaling of descriptors*” (Hulstijn 2007: 7). Secondly, the fact that the CEFR descriptors are general and not language specific is seen as a severe limitation by some scholars (e.g. Alderson 2004: 661). Following Fulcher (2004: 258), the CEFR is not a framework, but a model without reference to specific languages; operating at a level of abstraction so high that the linking of tests to the framework becomes “mostly intuitive” (ibid.: 261). Furthermore, the CEFR has also been criticised for an insufficient linking up to, or reflecting, research on acquisitional stages in SLA, and how language users develop across proficiency levels (e.g. Hulstijn 2007: 8). Finally, the CEFR, or more correctly; the decisions makers behind it, as well as the language policy makers in Europe, have been criticised for allowing the CEFR to become “the” system for language assessment (Fulcher 2004: 260). In particular, McNamara (2011) addresses the risks of what he calls “the imposition of universal language test construct”. One of McNamara’s main concerns is that the CEFR fails to acknowledge the variation in language use and language

⁸⁶ For instance, *The Modern Language Journal* (2007, volume 91, issue 4) contains several articles critically reviewing the CEFR.

learning. According to him, the CEFR “puts all foreign languages into one and same category, thereby erasing the fact that they are ‘foreign’ in very different ways” (McNamara 2011: 8).

5.5 Chapter summary

In this chapter I have described the current study of grammatical encoding of past time as obtaining an intermediate position between a form-oriented approach and a meaning-oriented approach. The study certainly focuses on morphological forms, however, the analysis of the grammatical encoding is approached from a conceptual angle. The present chapter has also surveyed Jarvis’s methodological framework, and the current study aims at applying his criteria for identifying transfer effects in comparisons-based studies of L1 influence. I have presented a solution for the methodological challenges in the classification of lexical aspect in the current study (theoretical aspects of this issue is addressed in chapter 2, section 2.3.3.1), as well as the criteria for category assignment, and coding procedures. This discussion also criticizes the methods, or lack thereof, generally found in the Aspect Hypothesis research. Furthermore, an inter-rater reliability test using the Kappa statistics was conducted, reporting an acceptable level of agreement. Finally, we have seen how computer learner corpora can contribute to enhance the application of language use data in SLA research, and a learner corpus of Norwegian, ASK, has been presented.

Chapter 6

DATA AND ANALYSIS PROCEDURES

This chapter presents the data and the procedures for analysing the data in order to explore the research questions and test the hypotheses set forward in chapter 4, *Survey of the study*. Firstly the data will be introduced. The data are texts extracted from a learner corpus written by informants of two different language backgrounds. This part of the chapter will give a basic view of who the informants are and what kind of texts they have written. An important intention of the chapter is to clarify the link between what the study aims to find out, and how the data are handled. For this reason the chapter will briefly outline what type of information is required in order for the research objectives in the current study to be achieved. The part of the chapter that follows is a description of the steps taken to analyse, classify and encode the units of analysis for the purpose of extracting the linguistic information needed. This part introduces the dependent variables that carry linguistic information about the texts, and the values these variables can take. The next part comprises an introduction to the central independent variables in the study: L1 background, writing topic, and proficiency level. In particular, I will elaborate on the latter, and summarise an investigation of the relation between the level assignment of the texts according to the *Common European Framework of Reference for Languages* (CEFR) and the use of temporal morphology in the texts. This investigation is included (in appendix D) because the level assignment is not based on the use of temporal morphology in the texts, but on a holistic evaluation of the text. In addition, the fact that the relation between proficiency level and L1 influence is not clear (Jarvis and Pavlenko 2008: 202) also motivates such an investigation. The final part of the chapter will include a section introducing the use of statistics in current project. These statistical notes will also serve the purpose of preparing the reader for chapter 7, *Analysis and results*. The nature of the variables, the distribution of data, and the manner in which I will conduct the descriptive and inferential statistics in the current study will be outlined. However, I will begin by presenting the empirical basis for the study.

6.1 The data

6.1.1 About the informants

The current study of second language learning is based on written performances by 196 adult test takers of an official test of Norwegian for immigrants⁸⁷. Hence, *informant* in the present study refers to the individual test taker. From each informant I have one text, which is taken to represent his or her competence in Norwegian at a particular point in time (when taking the test), and which is assessed to be at or above the language level measured by the test. The test taken is one of the two official tests of Norwegian as a second language for immigrants; obviously, the group of 196 informants is a heterogeneous mixture of immigrants comprising a variety of social and educational backgrounds, language skills, ages etc. Some of this variety is controlled for by means of a form with personal information that the test takers have filled out when taking the test⁸⁸. The table below shows how the 196 informants are distributed across various categories of personal information about their background:

Table 7: Overview of personal information about the informants

<i>Type of personal information</i>		<i>Distribution of informants</i>	
		<i>N</i>	<i>%</i>
<i>Gender</i>	female	117	60
	male	79	40
<i>Age group</i>	not reported	1	1
	less than 25	51	52
	25-34	101	17
	35-44	34	4
	45-55	8	1
	more than 55	1	1
<i>Current status</i>	not reported	10	5
	working	29	15
	studying	62	32
	applying to jobs	33	17
	other	62	32
<i>Years of residence in Norway (before taking the test)</i>	not reported	1	1
	less than 1	14	7
	up to 2	93	47

⁸⁷ The current study investigates interlanguage performance as observed in written texts by Vietnamese-speaking and Somali-speaking learners of Norwegian. However, throughout the thesis, in particular in the chapter presenting the analysis and results (chapter 7), I will occasionally talk about differences between texts; however, in these cases I am referring of course to the differences between the interlanguages appearing in the texts.

⁸⁸ I elaborate on the type of personal information, as well as the relevance of it to the current study, in chapter 5, *Methodological issues*.

<i>Type of personal information</i>	<i>Distribution of informants</i>		
	<i>N</i>	<i>%</i>	
	up to 3	46	24
	up to 4	10	5
	up to 5	9	5
	5 and more	12	12
<i>English skills</i>	not reported	20	10
	none	4	2
	basic	69	35
	intermediate	78	40
	advanced	25	13
<i>Educational background</i>	not reported	6	3
<i>(education from their home country)</i>	elementary	42	21
	high school	63	32
	higher education	76	39
	other	9	5
<i>Duration of L2 instruction (months)</i>	not reported	9	4
	less than 6	7	22
	6-12	43	45
	13-24	88	9
	25-36	18	5
	37 or more	9	16
<i>Amount of L2 instruction (hours)</i>	not reported	12	6
	less than 200	2	1
	201-400	23	12
	401-500	22	11
	501-850	79	40
	851-1500	46	24
	1501-2000	8	41
	2001-3000	4	2
<i>Do you practice Norwegian?</i>	no answer	3	2
<i>(outside the classroom)</i>	never	1	1
	seldom	95	48
	daily	97	49
<i>Do you socialise with Norwegians?</i>	no answer	8	4
	yes	160	82
	no	28	14

From the table we see that the informants constitute a rather diverse group. There are more female informants (60%) than male informants (40%), and they are a rather young group; over 50% are under 25, and the average age is 29 (the average age is not reported in the table). Further down in the table we notice also that 32% are students. Almost half of the informants (47%) have taken the test before two years of residence in Norway. Of those providing their own evaluations of their skills in English, the majority reports having a basic or intermediate

level of proficiency. About 70% of the informants have education above the elementary level, and 39% of those have higher education from their home country. Regarding the amount of instruction in Norwegian, and the duration of the education, most of them spent 6-12 months receiving typically 501-850 hours of classroom instruction. Despite the fact that over 80% claim they socialise with native speakers of Norwegian, almost 50% of them report seldom practicing Norwegian outside the classroom setting, while the other half report using their L2 on a daily basis. However, the test takers have not been asked in what language they socialise with Norwegians. Even though the informants certainly differ in terms of social and educational background, it is important to keep in mind that the circumstances under which the texts have been produced by the test takers—the test situation—are the same (Tenfjord, Hagen, and Johansen 2006: 95). Features of the informants' texts, as well as the test as a whole, are briefly described in the following section.

6.1.2 About the texts

The informants' texts are responses to the *Language test for adult immigrants (Språkprøven i norsk for voksne innvandrere)*. The test measures language at an intermediate level, and is aimed towards a language level that is sufficient for managing in everyday life in the Norwegian community (Carlsen 2012: 9). The test takers have been asked to write a short text on a given topic which either relates to personal experience, requires a description of an event, or asks for a viewpoint on a subject of general, public interest (e.g. smoking, upbringing, equality of the sexes etc.). Appendix C shows two of the texts in the data set: one text written by a Vietnamese-speaking test taker, and one text written by a Somali-speaking test taker. The texts are extracted from a Norwegian learner corpus called ASK⁸⁹, and the texts investigated in the current study are written by test takers whose L1 is either Vietnamese or Somali. After linking the ASK to the CEFR⁹⁰ and reassessing the texts, the texts investigated in the current project were placed either at the A2 or B1 level (ibid.: 18). Table 8 shows how the 196 informants are distributed across L1s and proficiency levels:

⁸⁹Chapter 5, *Methodological issues*, provides a presentation of ASK, the learner corpus from which I have extracted the texts.

⁹⁰ For more information about the linking of ASK to the CEFR, see Carlsen (2010a, 2012) or read the short description of the project in chapter 5, *Methodological issues*.

Table 8: Distribution of texts across L1s and proficiency levels

Proficiency level	Vietnamese	Somali	N
A2	54	67	121
B1	45	30	75
Total N	99	97	196

Of the altogether 196 texts, 99 of them are written by native speakers of Vietnamese, and 97 of them are written by native speakers of Somali. The majority of texts are placed at the A2 level (121 out of 196 texts). The level distributions within the two L1 groups are not the same. Whereas almost 70% of the Somali texts (67 out of 97) are assessed to be at the lower proficiency level, A2, the Vietnamese texts are distributed almost evenly between the two levels.

Since I have some personal information about the test takers, it is relevant to consider whether, and if so how the informants vary in social and educational background when they are grouped according to level and L1. Hence, table 9 provides the same kind of background information as table 7 above, taking proficiency level and L1 background into account:

Table 9: Overview of personal information about the informants by proficiency level and L1

Type of personal information		Distribution when taking level into account				Distribution when taking L1 into account			
		A2		B1		Vietnamese		Somali	
		N	%	N	%	N	%	N	%
Gender	female	66	55	51	68	89	90	28	29
	male	55	46	24	32	10	10	69	71
Age group	not reported	0		1	1	1	1	0	
	less than 25	32	26	19	25	25	25	26	27
	25-34	63	52	38	51	52	53	49	51
	35-44	22	18	12	16	17	17	17	18
	45-55	4	3	4	5	3	3	5	5
	more than 55	0		1	1	1	1	0	
Years of residence in Norway (before taking the test)	not reported	0		0		1	1	0	
	less than 1	7	6	7	9	8	8	6	6
	up to 2	59	47	34	45	47	48	46	47
	up to 3	25	21	21	28	20	20	26	27
	up to 4	10	8	3	4	2	2	8	8
	up to 5	6	5	9	12	5	5	4	4
	5 and more	14	12	1	1	16	16	7	7
English skills	not reported	13	11	7	9	13	13	7	7
	none	3	3	1	1	4	4	0	
	basic	43	36	26	34	53	54	16	17
	intermediate	49	41	29	39	19	25	53	55
	advanced	13	11	12	16	4	4	21	22

Type of personal information		Distribution when taking level into account				Distribution when taking L1 into account			
		A2		B1		Vietnamese		Somali	
		N	%	N	%	N	%	N	%
Educational background	not reported	6	5	0		4	4	2	2
	elementary	32	26	10	13	12	12	30	31
	high school	38	31	25	33	28	28	35	36
	higher educ.	42	35	34	45	50	51	26	27
	other	3	3	6	8	5	5	4	4
Current status	not reported	7	6	3	4	5	5	5	5
	working	17	14	12	16	14	14	15	16
	studying	45	37	17	23	18	18	44	45
	applying to jobs	19	16	14	19	13	13	20	21
	other	33	27	29	39	49	50	13	13
Amount of L2 instruction (hours)	not reported	9	7	3	4	6	6	6	6
	less than 200	0	12	2	3	2	2		
	201-400	14	14	9	12	9	9	14	14
	401-500	17	37	5	7	7	7	15	16
	501-850	45	23	34	45	44	44	35	36
	851-1500	28	5	18	24	26	26	20	21
	1501-2000	6	2	2	3	5	5	3	3
	2001-3000	2	7	2	3	0		4	4
Duration of L2 instruction (months)	not reported	22	18	9	12	22	18	9	12
	less than 6	4	3	3	4	4	3	3	4
	6-12	23	19	20	27	23	19	20	27
	13-24	54	45	34	45	54	45	34	45
	25-36	11	9	7	9	11	9	7	9
	37 or more	7	6	2	3	7	6	2	3
Do you practice Norwegian? (outside the classroom)	no answer	3	3	0		3	3	0	
	never	1	1	0		1	1	0	
	seldom	63	52	32	43	63	52	32	43
	daily	54	5	43	57	54	45	43	57
Do you socialise with Norwegians?	no answer	6	5	2	3	6	5	2	3
	yes	104	86	56	75	104	86	56	75
	no	11	9	17	23	11	9	17	23

Firstly, if we compare the distribution of the informants in the A2 and the B1 group, we do not find many differences. Those we find concern *gender* (the proportion of females in the B1 group is greater than in the A2 group, 68% versus 55%. The reverse is true for males. The proportion of males in the A2 group is 46% while 32% are in the B1 group), *educational background* (more informants placed at the B1 level report having higher education from their home country), and *amount of instruction* (while just over 60% of those having their texts assessed at the A2 level have taken 500 or fewer hours in L2 Norwegian, the same applies for only about 20% of those having their texts assessed at the B1 level).

We find some differences, although not many, if we compare the distribution of the informants according to L1 background. The Vietnamese and Somali candidates are rather similar when it comes to *age, time of residence in Norway, length and duration of L2 instruction, and degree of practising of Norwegian and socialising with Norwegians*. The differences that we observe include, first of all, gender; whereas women dominate the Vietnamese group (90%), men dominate the Somali group (71%). Secondly, the groups are distinguished by the knowledge of English they report. Over 50% of the Vietnamese informants place themselves at the basic level, while 55% of the Somali informants place themselves at an intermediate level of English. In addition, the number of Vietnamese informants reporting an advanced level of English (4.0%) is quite small compared to that of the Somali group (22%). There is also a difference in educational background between the L1 groups; the number of Vietnamese informants having higher education from their home country (51%) is approximately twice as big as that of the Somali group (27%). Finally, the Vietnamese and Somali informants also seem to have somewhat different employment in Norway. The majority of the Somali informants are students, but the majority of the Vietnamese informants are occupied with something that did not fit the available categories since they have marked the choice for *other*. The following section is the start of a series of sections outlining how the informants' texts are analysed. It begins by accounting for the unit of analysis.

6.2 Unit of analysis

The unit of analysis is the finite clause that expresses a temporal relation. In writing, this is often the same property that is associated with the sentence. However, in a study of temporal morphology, such as the current one, I would not consider it advisable to use the sentence as the unit of analysis, since it would result in several units comprising more than one finite verb form. This is because sentences can be complex in structure; a single sentence may have several finite verb forms in it. Sentences can contain two independent clauses joined by a coordinate conjunction, where each clause has a finite verb form (Tallerman 2005). They can also contain one independent clause with one or more subordinated clauses connected to it, each subordinate clause containing its own finite verb form. Also, I am only interested in finite verb forms that encode temporal notions, and I therefore exclude clauses where the

context of the clause requires a finite form expressing modal content, as is the case with the imperative mood (Hagen 1998: 90). The passage below from one of the texts contains different types of clauses:

- a) *Hvis vi ha-r gode helsene,*
if we have-PRS good health
- b) *kan vi gjør-e alt*
can.PRS we do-INF anything
- c) *som Ø mulige.*
that possible
- d) *Men tenk!*
but think.IMP
- e) *hvordan vi ha-r gode helsen.*
how we have-PRS good health
- f) *Vi må pass-e oss unna slapp og stress*
we must.PRS keep-INF us from laziness and stress

The clauses (a-c) form a complex sentence consisting of one independent clause (b) with two subordinated clauses (a and c) connected. However, the final subordinated clause in the sentence, (c), lacks a finite verb form; in this context the present tense is missing (indicated by Ø). However, this is still a unit of analysis because the clause expresses temporal content, which in Norwegian is obligatory to mark through verb morphology. Hence, this complex sentence comprises three separate units of analysis, and illustrates how large sentences from the texts are split up in the analysis. The next sentence in this passage, (d), exemplifies clauses which are excluded from the data because the clause expresses modal content (command) and not temporality. The last sentences in the passage, (e and f), are examples of simple sentences consisting of a single independent clause corresponding to separate units. Before I proceed with more details on how the units of analysis are analysed and coded, a section follows which outlines the relation between research objectives and analysis.

6.3 The relation between research objectives and data analysis

The first research question concerns L1 influence in the acquisition of L2 temporal morphology. It is accompanied by two hypotheses stating that the Vietnamese-speaking and

Somali-speaking learners will have different degrees of difficulty with the present perfect category in Norwegian, and in distinguishing the preterite and present perfect:

- 1.1 The Vietnamese-speaking learners will use the present perfect correctly more frequently than the Somali-speaking learners will.
- 1.2 The Somali-speaking learners will have a higher degree of incorrect use of the preterite in contexts where Norwegian requires the present perfect, and a higher degree of incorrect use of the present perfect in preterite contexts, than will Vietnamese-speaking learners.

Hence, for the purpose of exploring research question 1 and its related hypotheses, the following information is needed from each of the clauses that comprise the individual texts:

- Information about the type of *temporal contexts* in the clauses is needed so that contexts for the preterite and the present perfect can be identified and counted.
- Information about whether these past time contexts and present perfect contexts include a finite verb form, and if so, what finite form is present so that *grammatical encoding, correctness* of the encoding and various types of *erroneousness* can be identified and counted.
- In order to control for prototypicality⁹¹, I also need to know whether or not the present perfect encodes a prototypical or a secondary function when it occurs in a clause.

Research question 2 concerns the Aspect Hypothesis and is connected to two hypotheses that have predictions about the *uses* of the present perfect and the preterite in Norwegian:

- 2.1 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportions in telic verb phrases (achievements and accomplishments) with preterite and present perfect inflection than in atelic verb phrases (states and activities) with preterite and present perfect inflection.
- 2.2 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportions in telic verb phrases (achievements and accomplishments) with correct preterite and present perfect inflection than in atelic verb phrases (states and activities) with correct preterite and present perfect inflection.

⁹¹ See section 5.2.1 in chapter 5, *Methodological issues*.

Accordingly, this research question has to be tested against instances of use. Hence, for the purpose of exploring research question 2 and its related hypotheses, the following information is needed from each of the clauses that compose the individual texts:

- Information about the lexical-aspectual properties of the clauses is needed so that category assignment of the verb phrases into achievement, accomplishment, activity or state can be performed, and frequencies of category assignment can be counted.
- Information about correct use of the preterite and the present perfect is needed.
- Again, in order to control for prototypicality, I also need to know whether or not the present perfect encodes a prototypical or a secondary function when it occurs in a clause.

Research question 3 and its hypothesis relate to the interaction of influences from the L1 and lexical-aspectual properties; therefore, the information needed is the same as for research questions 1 and 2:

3.1 The Somali-speaking learners will have a higher degree of incorrect use with telic verb phrases, in contexts that require the present perfect or the preterite in Norwegian, than will Vietnamese speaking-learners.

To sum up, in order to answer the research objectives, different types of analyses are needed to collect information about the temporal context, grammatical encoding, use of forms, correctness, erroneousess, lexical-aspectual properties, and prototypicality of the present perfect uses. The classification of the uses of the present perfect into prototypical and secondary use is primarily motivated by the desire to control for variables that might affect L1 influence, and one of those is prototypicality of the linguistic feature (Jarvis 2000: 261). I would also like to emphasise that the analysis of temporal context is particularly important because it lays the foundation for analysing the other properties. It is the first step of the analysis. However, despite the focus on grammatical encoding of *past time* in the current study, the analysis of temporal contexts cannot be limited to the past time contexts. Note that the definition of the unit of analysis includes finite clauses that express *temporal* relations, and not only clauses that express *past time* relations. Such a limitation would not lay the foundation for a comprehensive analysis of the informants' encoding of past time contexts and use of the preterite and the present perfect. This is because sometimes, as exemplified in (c) above, the contexts are not grammatically encoded; hence, a past form would not be

present. Such occurrences, where the temporal content is not marked on the verb, are indeed interesting in an acquisitional study such as the current one. Furthermore, it is also interesting to see what type of grammatical markings can be found in the different types of temporal contexts. In order to investigate research question 1 it is necessary to take a closer look at the contexts where the preterite and the perfect are incorrectly distributed. Recall from the analysis of the present perfect presented in chapter 3 that the category also expresses relations that primarily describe the present state, and not a past condition, a fact that underlines the importance of an initial context analysis of all the different types of temporal contexts. This initial context analysis helps extract as much relevant information as possible, which potentially informs the overall research questions and hypotheses. How I go about the analysis is the focus of the succeeding section.

6.4 Analysis procedures

This section aims to present the stepwise analysis of the clauses which can be described as five different types of analysis: analysis of temporal context, analysis of grammatical encoding, analysis of correctness (which includes error types), analysis of lexical aspect, and analysis of prototypicality of the present perfect. As accounted for in the preceding section, the analyses extract different types of linguistic information needed to investigate the research questions and test the hypotheses.

6.4.1 Context analysis

As argued in chapter 5, section 5.1, the current study of the grammatical encoding of past time has features common to both the meaning-oriented and the form-oriented approaches (Bardovi-Harlig 2000). The fact that the informants are at a grammaticalised/syntactic stage in the acquisition of Norwegian makes form and use of temporal morphology worthy of considerable attention in the study. However, as already pointed out, the analysis of the texts begins with a *context analysis*, and does not start off with a search for the verb forms used in the texts. The context analysis is the first step and encompasses the identification of the temporal contexts in the clauses from the individual texts, which can be of the following types: *present context*, *preterite context*, *present perfect context* or *past perfect context*:

Table 10: Categories in the contexts analysis

Temporal context
Present context
Preterite context
Present perfect context
Past perfect context

In principle, what the context analysis generates is the identification of obligatory contexts for use of temporal morphology in Norwegian. However, whereas the term obligatory contexts certainly can be used in connection with the present and the preterite, it is problematic to apply it to the perfect category. It is quite unproblematic to talk about obligatory contexts for the present and preterite; it is even rather straightforward to identify them as well. This is due to the semantic redundancy of the categories⁹²; the present and the preterite endings on verbs are anaphoric because they simply refer to a point of reference already established in the context by means of adverbials as well as by being anchored in the discourse universe⁹³. This is not case with the perfect. This category is not redundant *per se*, and the content expressed through the present perfect form can only come about by using it. As opposed to the present and preterite, the perfect expresses a temporal relation which is not easily inferred because there are no obligatory contexts for when to apply it. There exists only an intention to communicate what the present perfect encodes in Norwegian, for instance, to describe a present state as a result of a past incident. Hence, the identification of contexts for the present perfect lies in the analysis of the discourse, which reveals the content that the informant wants to express in the clause. This issue further underlines the need to incorporate a contextual approach into the analysis of the grammatical encoding of pastness in the Norwegian interlanguages. Accordingly, the type of temporal context expressed in the clauses is not only identified based on internal properties of the clause, such as time expressions, but also through contextual inference based on the parts of the discourse in which the clause occurs. In what follows, I will provide some examples of the analysis of temporal contexts. However, there is a difference in identifying contexts for prototypical perfect (PP) and secondary perfect (SP) because the latter behaves more like a tense form and occurs in sentences with an adverbial expressing that the state described still holds. The PP on the other hand, can only be identified because the form is used or on the basis of a contextual analysis. The difference between PP and SP will be addressed in section 6.4.5 as well as examples of identified

⁹² See section 3.2.1 and 3.2.2.3 chapter 3 as well.

⁹³ Tenfjord (1997: 158) addresses the issue of identifying perfect contexts, and so does also Bardovi-Harlig (2000: chapter 3).

contexts for PP and SP. Hence, only examples of identification of present and preterite contexts are given in this section.

- Clauses identified as present or preterite contexts by means of time expressions denoting definite time reference:

g) *Nå alle menneskene lik-er å hør-e på hans CD-platter*
 now.ADV all people like-PRS to listen-INF to his CDs

h) [a person writing about a travel experience in the past]
Når jeg kom til Fornebu, må jeg sitt-e der og vent-e
 when.ADV I come.PRT to Fornebu must.PRS I sit-INF there and wait-INF

i) *Jeg flytt-et fra Vietnam til Norge for NUMBER år siden*
 I move-PRT from Vietnam to Norway for NUMBER year ago

j) *I fjor sommer bestem-te jeg å reis-e til Danmark med min familie på ferie*
 last summer decide-PRT I to travel-INF til Denmark with my family on vacation

k) *For tiden ha-r jeg søk-t på NAME voksenopplærings-senter*
 nowadays have-PRS AUX I apply-PST PTCP at NAME adult training centre

l) *Jeg ha-r flytt-et mange ganger da jeg bo-dde i PLACE*
 I have-PRS AUX have- PST PTC many times when.ADV I live-PRT in PLACE

m) [a person writing about the future]
Mennesker i verden skal ha nok mat og drikker
 humans in world shall.PRS have-INF enough food and fluids

- Clauses identified as preterite contexts because a definite time reference can be derived from the context, or because a definite time reference is established in a narrative frame:

n) [a person writing about his/her childhood]
Vi ha-dde så mye hjemmearbeid og noe oppgave fra
 we have-PRT so much home work and some exercise from

skole. Broren mi ha-r hjulp-et meg nesten alt.
 school brother my have-PRS AUX help- PST PTCP me almost everything

o) [a person writing about last year's summer vacation]
Vi stopp-et litt der og tok mange bilder
 we stop-PRT a bit there and take.PRT many pictures

p) *Det var en gang en mann som ha-r vær-t sjøfarer for mange år*
 there be.PRT a time a man who have-PRS AUX be- PST PTCP sailor for many years

6.4.2 Analysis of grammatical encoding

The next step is to analyse the clauses in terms of grammatical encoding, which involves identifying the presence or absence of grammatical encoding of the identified type of temporal context. I would also call to mind that in the present study *grammatical encoding* means the morphological marking of temporal relations through verb inflection, which in Norwegian involves the use of a finite verb form expressing a temporal relation of some kind. The analysis of grammatical encoding gives two outcomes, or types of coding. Clauses that have a finite verb form present are *grammatically encoded*, and clauses that lack a grammatical marking are *non-encoded*. These two categories have the following subcategories:

Table 11: Categories in the analysis of grammatical encoding

Grammatical encoding	
Grammatically encoded clauses	Present
	Preterite
	Present Perfect
	Past Perfect
Non-encoded clauses	Non-finite clauses
	Verbless clauses

Grammatically encoded clauses are coded as either present, preterite, present perfect, or past perfect depending on which of these forms occur in the clauses. However, in some cases, in particular the analysis of lexical-aspectual influence, the preterite and present perfect forms are treated as one category of past morphology, both in contexts and use. Non-encoded clauses are categorised as either *non-finite clauses* (there is a verb in the clause, but it is not finite: a finite verb is missing) or *verbless clauses* (where the clause has no verb form present: a verb is missing). As we will see in the section to come, the classification of non-encoded clauses into two subcategories partially overlaps with the analysis of cases of erroneousness.

6.4.3 Analysis of correctness

Several of the research questions and hypotheses have predictions about correctness, and all the clauses are classified as either *correct* or *incorrect*. The analysis of correctness is based on the outcome of the analysis of the temporal context in the clauses. If the temporal morphological form used in a clause encodes the temporal context that I have identified, the clause is coded as *correct*. The analysis of correctness includes a distinction of types of

erroneousness. There are basically two reasons for classifying a clause as *incorrect*. Firstly, if there is no correspondence between the temporal context identified in the clause, and the temporal morphological form that occurs in the clause, the clause is not correct, and is coded as *incorrect encoding*. Secondly, if there is no verb inflected for tense present in the clause, the temporal context is not grammatically encoded, it is non-encoded; such clauses are also regarded as incorrect. Accordingly, the analysis operates with two different main types of erroneousness: *incorrect encoding* and *non-encoding*. The latter has two subcategories: either a verb is missing or a finite verb is missing (see the preceding section), and thus there are three different possible types of erroneousness: *incorrect encoding*, *non-finite clauses*, and *verbless clauses*.

Table 12: Categories in the analysis of correctness

Correctness		
Correct		
Incorrect	Incorrect encoding	
	Non-encoding	Non-finite clauses
		Verbless clauses

6.4.4 Analysis of lexical-aspectual properties

The analysis of lexical-aspectual properties is restricted to clauses that contain verb forms inflected for the preterite and the present perfect, and is based on Vendler's classification system⁹⁴. The verb phrases in these clauses are analysed, classified, and coded as achievements, accomplishments, activities, or states in accordance with the coding procedures outlined in section 5.3.2.

As accounted for in chapter 2, section 2.3.3, two approaches to the analysis of lexical aspect can be distinguished: *across-category analysis* (investigating in what lexical-aspectual classes the various morphemes appear) and *within-category analysis* (investigating how the lexical-aspectual classes are marked morphologically) (Bardovi-Harlig 2000: 252). According to Bardovi-Harlig, the two approaches may yield different results when testing the predictions about the influence of lexical aspect on acquisition of temporal morphology (Bardovi-Harlig 2000: 252). The current analysis of lexical aspect qualifies as an across-category analysis because it investigates how particular morphological forms, those encoding pastness in Norwegian, are distributed across the Vendlerian classes. An additional point has to be made regarding the analysis of lexical aspect. Because of the tendency for some lexemes to be

⁹⁴ See chapter 2, section 2.3.1.1.

overrepresented in interlanguages compared to native language use, it is important that the presentation of the results is not only token based, but also that the number of verb types inflected for each lexical-aspectual class is given. This is to prevent the results from being skewed and generating misinterpretations in cases where a category has an artificially high frequency because a few words are used over and over again in the same text. For instance, the verb lexeme *be* is a frequently-used base word in interlanguages which also often receives temporal marking early in the acquisition process; hence, it can potentially give the state category an artificially high frequency rate in analyses of lexical aspect if the analysis is based on token frequency (Collins 2002: 48). In the current project I will use verb type proportion instead of token frequency in order to test the predictions. I do not count the number of times a verb (in context) is inflected for the preterite or the present perfect. Instead I count the number of distinct verb types (in context) that are marked for the preterite or the present perfect, and calculate the proportion of verb types occurring inflected in telic or atelic verb phrases, or in any of the Vendlerian lexical-aspectual classes. This means that if a verb occurs several times in the same text, in the type analysis the verb is only counted once, and verbs like *be* will not bias the representation of the lexical-aspectual class. In Bardovi-Harlig's (2000) outline of studies within Aspect Hypothesis research both studies using token analysis and verb type analysis are listed⁹⁵, yet, token counts are used in most studies and type counts are less common (ibid.: 273). It is particularly important to analyse verb type proportions in the current study, and not token frequencies, because the data are not elicited in a controlled environment, and therefore I am not at all able to ensure a representative number of verb types being used. The risk of getting a bias in the verb types represented is huge because the analysis of lexical-aspectual properties of verb phrases in this project is based on those verbs which the informants decided to use when writing their test responses. In addition, as underscored by Bardovi-Harlig, across-category analyses, such as conducted in the current study, are in particular sensitive to "unbalanced distributions" of verb types (Bardovi-Harlig 2000: 256). Consequently, a token analysis should not be applied in the present study, but a type analysis instead. I will demonstrate how this is carried out by looking at how the uses of the preterite are analysed in one of the texts. The first table below, table 13, shows how the

⁹⁵ Some studies calculate a type-token ratio (number of tokens divided on the number of distinct verb types in a texts or in a sample) when analysing for instance lexical diversity. However, calculating type-token ratios is not a valid option in the current study because the text length varies so much, and hence, relying on a type-token ratio analysis could in fact be misleading, and the application of type-token ratio analysis has been criticized (see for instance Biber 1988: 239). Also, Jensen (forthcoming 2013) addresses the problem of using type-token ratios. He exemplifies how such analyses can generate misleading results when the length of texts varies, which is the case with the texts analysed in the present study.

uses of the preterite are distributed across the Vendler categories: in what verb phrases the inflection occurs, and with what frequency:

Table 13: Example of lexical-aspectual properties of verb phrases in a text

Category	Verb phrase	Frequency
Achievement	become	2
	say	1
	answer	2
	choose	1
	arrive	1
Accomplishment	go + path argument	1
Activity	speak on the phone	1
	bring something with	1
State	be	7
	hang	1
total tokens		18

This informant uses the preterite 18 times in the texts. Of those verb phrases in which the preterite inflection occurs, 7 are classified as achievements, and in 2 of those 7 phrases, the same verb lexeme occurs twice (*become* and *answer*). For each of the lexical-aspectual categories, I record the number of different verb lexemes occurring in the verb phrases (type) and the number of verb phrases (token). Accordingly, in the SPSS matrix, I have information about token frequency and type proportion for each individual text. However, when I test the predictions in the Aspect Hypothesis; I use the information about types. In this case, the relevant information from this particular informant is given in the table below:

Table 14: Example of verb type analysis

Category	type count	type proportion
Telic verb phrases	6	60.0
Atelic verb phrases	4	40.0
total types	10	100%

Category	type count	type proportion
Achievement	5	50.0
Accomplishment	1	10.0
Activity	2	20.0
State	2	20.0
total types	10	100%

If we study the informant's distribution of past forms across the telic-atelic distinction, we see that the proportion of telic verb types is 60% (6 out of 10) and that the proportion of atelic verb types is 40% (4 out of 10). The verb type proportion of the Vendlerian classes is also

calculated, and we see that in this particular text, it is the achievement class which has the highest proportion of verb types (5 out of 10 or 50%). Hence, we know that in this text the highest proportion of distinct verb lexemes (always analysed in the contexts they occur, see section 5.3.2 and 5.3.3 in chapter 5) inflected for the preterite or present perfect, is found in verb phrases classified as achievements.

6.4.5 Prototypicality of the Norwegian present perfect category

One of the factors that a study of L1 influence ideally should control is prototypicality (Jarvis 2000: 260). From my perspective, which I have presented in the contrastive section 3.2.1 and 3.2.3.3 about the preterite and the present perfect in Norwegian, prototypicality is most relevant when analysing the present perfect. As we have seen in the discussion of the present perfect category in chapter 3, the category is much more heterogeneous in nature than the preterite is. In the outline of Lindstedt's analysis of the perfect⁹⁶, we have seen that the perfect in many European languages has followed a common path of development in which secondary uses have developed from the historical sources. According to Lindstedt, the historical sources of the European perfects are resultative constructions; moreover, the uses of the perfect which is commonly called *resultative perfect* (Comrie 1976: 56) are closest to the historical source. In Lindstedt's account, resultative perfect is called *current relevance perfect*. This is the most prototypical use of the perfect, and which Lindstedt claims that the various additional functions of the perfect in European languages have developed from. Lindstedt's analysis also demonstrates that this prototypical use of the perfect, current relevance perfect, is more aspect-like than tense-like compared to the secondary functions of the perfect, for instance *perfect of recent past*. Furthermore, both aspectuality and prototypicality are central concepts in the study of L2 acquisition of temporality, for instance in the theoretical foundations of the Aspect Hypothesis (see chapter 2, section 2.3.2). In order to investigate whether prototypicality is a factor which acts as a constraint on L1 influence in the use the present perfect in Norwegian, I have analysed and classified the occurrences of present perfect into *prototypical perfect, PP* and *secondary perfect, SP*⁹⁷. The analysis of PP has been conducted based on the following description of what characterises a prototypical perfect: a PP refers to a terminated event which took place in the past, and which has

⁹⁶ Lindstedt's analysis of the perfect category is presented in section 3.2.2.2 in chapter 3.

⁹⁷ In connection with the analysis of the perfect I conducted a preliminary study which is presented in Helland (2008). The current analysis of the present perfect in PP and SP is based on further refinements of the prototypicality analysis in this preliminary study, and the classification has been somewhat adjusted.

consequences for the current state of affairs. Termination is a criterion, and a PP cannot have inclusive reference to the present time. The uses of the present perfect forms are classified based on a contextual interpretation of what type of content the forms encode. In my classification, PP is compatible with what Lindstedt calls current relevance perfect, and which correspond to Comrie's resultative perfect, and which in turn, for instance, Tenfjord's (1997) analysis of the perfect focuses on. Those uses of the present perfect in the texts which do not qualify as prototypical are lumped together in a rather broad group which I call *secondary perfect*, *SP*. This group comprises various additional functions of the Norwegian present perfect accounted for in chapter 3, section 3.2.2.2, for instance, *the extended now perfect*. This is a much more heterogeneous group than the PP group, which means that a large portion of the uses are analysed quite roughly, and treated more or less as the same. However, the main idea behind this classification is to single out, and isolate, the informants' prototypical uses of the perfect category. This is the reason for the rather strict definition of the PP, and the motivation for distinguishing the prototypical use on the one hand and the rest as one big group on the other hand. I will provide examples of this classification below. The first set of examples represents uses of the present perfect that are taking place in a prototypical context for the present perfect, hence they are classified as prototypical (PP):

- q) Nguyen *er* *en* *av* *de* *store* *forfatterne* *i* *de* *18. århundre* *i* *Vietnam*. *Han* *plei-er*
 Nguyen be.PRS one of the great authors in the 18th century in Vietnam he use-PRS
å *skriv-er* *om* *kvinne*. *Nguyen* *ha-r* *skrev-et* *en* *bok* *som* *het-er*..
 to write-PRS about woman Nguyen have-PRS AUX write- PST PTCP a book which be call-PRS
- r) *Verden* *er* *ikke* *lenger* *så* *stor* *som* *den* *ha-r* *vær-t*
 world be.PRS not any more so big as it have-PRS AUX be- PST PTCP
- s) *Jeg* *ha-r* *les-t* *en* *bok* *som* *het-er* *Sindbads* *verden*
 I have-PRS AUX read- PST PTCP a book which be call-PRS Sindbad's world
- t) *Jeg* *er* *en* *av* *dem* *som* *ha-r* *reis-t* *på* *flukt*
 I be.PRS one of those who have-PRS AUX travel- PST PTCP on escape

The present perfect uses in the sentences above all refer to past events or conditions which are finished. The author has finished the book. The world is not as big as it was in the past; the condition of being big in terms of huge distances between continents and people is history. The reading of the book is finished, and the escape is over. The clauses below are examples of

uses of the present perfect that occur in contexts I regard as secondary, and these uses are thus classified as secondary (SP):

- u) *Nå ha-r jeg vær-t i Norge i tre år*
 now.ADV. have-PRS AUX I be- PST PTCP in Norway in three years
- v) *Jeg jobb-er på NAME sykehjem i neste 2 År*
 I work-PRS in NAME nursing home in almost 2 Year
- w) *Jeg ha-r alltid ønsk-et å jobb-e i hjemmebasert i kommunen*
 I have-PRS AUX always wish- PST PTCP to work-INF in home care services
- x) *Det er konkurranser overalt [...] Det ha-r vær-t en viktig del av samfunnet*
 it be.PRS competition everywhere [...] it have-PRS AUX be- PST PTCP an important part of society
- y) *Jeg ha-r bro venner i Oslo som jeg sov hos.*
 I have-PRS two friends in Oslo who I sleep.PRT at
- De ha-r bo-tt lenge i Oslo*
 they have-PRS AUX live- PST PTCP long in Oslo

The present perfect forms in these clauses and passages refer to events or conditions that started in the past, but which are *not* terminated. For instance, it is possible to imagine the sentences being rephrased as follows: *I have always wanted, and still want, to become a nurse.* (w) and *contests have always been, and are still, a part of our society* (x). The sentences (u-y) have an inclusive reference to present time because they describe conditions that apply at the time of utterance. Because SP corefers with adverbial expressions such as *i tre år* ('for three years') in (u) above, these perfect contexts are less problematic to identify than the contexts for the PP. We can even consider this type of context as obligatory contexts for the perfect. On the contrary, the contexts present in the examples (q-t) above, are only identified based on the discourse. Consequently, it quite difficult to classify the incorrect uses of the perfects as PP or SP; it is strictly speaking not possible to classify the uses of the perfect which are incorrect because the identification require a perfect context, and incorrect use of the perfect means that there is no context for the perfect. Still, I believe this is possible to do because a reconstruction of a context in which the perfect would be appropriate lays the foundation for classification of the incorrect uses of the perfect as well. For instance, in (z) below, even though the contexts require a preterite form because the adverbial *da* ('when') establishes specific time reference, there is no doubt that the informant describes an event

(moving) which took place in the past, and which is finished. Hence, this incorrect use is classified as PP. Similarly, the incorrect use of the perfect in (æ) takes place in a context expressing an event that is over and done with.

z) *Jeg ha-r flytt-et mange ganger Da jeg bo-dde i PLACE*
 I have-PRS AUX move- PST PTCP several times When I live-PRT in PLACE

æ) *Jeg tro-r Zarengeti var det største dyret Vi ha-r se-tt*
 I believe-PRS Zarengeti be.PRT the biggest animal We have-PRS AUX see-PST PTCP

The incorrect uses of the perfect forms in (ø) and (å) under are analysed and classified as SPs. If we rephrase *har jeg røyket i nesten to år* (have I smoked in almost two years) in (ø) under we see that the perfect describes a situation that took place in the past, and which still holds. Hence, it is not a PP. If we rephrase *fordi jeg har trodd at ...* ('because I have believed that...') in (å) we see that the perfect form describes a condition still relevant, and not a condition terminated in the past:

ø) *Da jeg var i PLACE ha-r jeg røyk-et i nesten to år*
 when I be.PRT in PLACE have-PRS AUX I smoke- PST PTCP in almost two year

å) *Først begyn-te jeg å lær-e norsk fordi jeg ha-r tro-dd*
 first begin-PRT I to learn-INF norwegian because I have-PRS AUX believe- PST PTCP
at språket er noklen til en god framtid i Norge
 that language be.PRS key too a good future in Norway

6.4.6 Summing up data analysis: analytical categories and dependent variables

The table below summarises which types of contextual, grammatical, and lexical-aspectual information in each individual finite clause in the 196 texts are analysed and coded for based on the stepwise analysis procedures described above. The left column gives the analytic category, and columns to the right give the subcategories:

Table 15: The analytic categories and subcategories applied in the analysis

Analytic category	Subcategories		
Temporal context	Present context		
	Preterite context		
	Present Perfect context		
	Past Perfect context		
Grammatical encoding	Grammatically encoded	Present	
		Preterite	
		Present Perfect	
		Past Perfect	
	Non-encoded clauses	Non-finite	
		Verbless	
Correctness	Correct		
	Incorrect	Incorrect encoding	
		Non-encoding	Non-finite
		Verbless	
Lexical aspect	Achievement		
	Accomplishment		
	Activity		
	State		
Functions of the Present Perfect	Prototypical Perfect (PP)		
	Secondary Perfect (SP)		

The analytical categories and subcategories applied in the analysis carry various types of linguistic information about the texts. This is a result of my handling of the data in terms of extraction, classification, and coding of information, which I assume to be influenced by specific factors, such as the learners' L1 knowledge and the lexical-aspectual properties of verb phrases. In other words, the analytical categories established in the analysis are the *dependent* variables of the study, and the subcategories are the values that the variables can take. The distinction between *independent* and *dependent* variables is central in statistics. The dichotomy “relates to the way the variables function in the experiment” (Larson-Hall 2010: 37). Whereas the dependent variable is the one the researcher predicts will be affected by the independent variables, and which the researcher can manipulate, the independent variables “are those that we think have an effect on the dependent variable” (ibid.). However, some variables can be both dependent and independent, determined by what you are testing.

Whereas gender for natural reasons can never be a dependent variable, lexical aspect can be both independent and dependent, and so too can prototypical perfect (PP) and secondary perfect (SP). Although the lexical-aspectual variable is accounted for and listed among the dependent variables, in some parts of the analysis the variable is regarded as independent. This is because some of the hypotheses predict that the encoding of past time is influenced by the lexical-aspectual properties of verb phrases. However, in the part of the analysis investigating L1 differences and category differences in lexical-aspectual properties of verb phrases, the variable is treated as a dependent variable. In the sections to come, the most central independent variables in the current study, besides lexical aspect and PP/SP, are outlined and explored.

6.5 The central independent variables

6.5.1 L1 background

One of the principal aims of the current study is to investigate L1 influence in the learners' grammatical encoding of verbal past marking in Norwegian. Some of the hypotheses predict an L1 difference in the encoding of pastness. Hence, L1 background, which gives information about the learner's first language (Vietnamese or Somali), is the central *independent* variable in the study. The learners' L1s, Vietnamese and Somali, are also analysed from a comparative perspective in chapter 3. Besides the *L1 variable*, I regard *proficiency level* and *writing topic* as two other important independent variables. However, I expect the variables to exert a qualitatively different influence on the dependent linguistic variables.

6.5.2 Writing topic

Writing topic is not likely to affect the candidates' competence in Norwegian, as is predicted for the L1 variable. Instead, it may influence the temporal perspectives that the informants establish when writing their responses to the different prompts they are presented with. Prompts that ask the candidates to write about *future wishes and plans* are certainly less likely to elicit references to the past than prompts that ask the candidates to write about *a nice experience*. In other words, whereas I expect there to be a direct relation between proficiency level and grammatical encoding of past time because the texts at the B1 level are rated higher on the CEFR scale than texts at the A2 level, I consider the relation between writing topic and

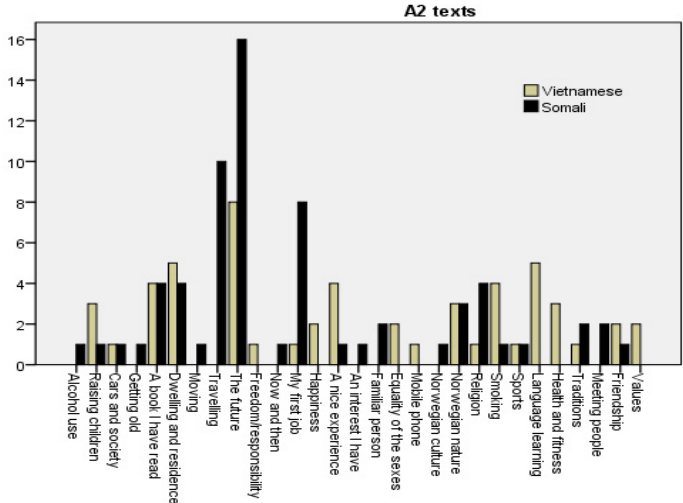
grammatical encoding to be more indirect in nature. This is because the topic itself does not tell us anything about the candidate's ability to encode pastness in Norwegian. However, the topic does strongly influence the temporal perspectives in the text, and therefore also determines the grammatical encoding I as a researcher can observe in the text. Table 16 below shows what types of temporal contexts the different topics generate. This table gives information about how many informants in the current study have responded to the different prompts, and the frequencies with which contexts for present, preterite, present perfect, and the past perfect occur.

Table 16: The relationship between writing topic and temporal contexts identified in the texts

<i>Writing topics</i>	<i>Number of responses</i>	<i>Present contexts</i>	<i>Preterite contexts</i>	<i>Present Perfect contexts</i>	<i>Past Perfect contexts</i>	<i>Total number of temporal contexts</i>
<i>Alcohol use</i>	1	28	1	0	0	29
<i>Raising children</i>	5	204	18	2	0	224
<i>Significant person</i>	1	15	26	2	0	43
<i>Cars and society</i>	5	172	5	0	0	177
<i>Getting old</i>	1	37	0	1	0	38
<i>A book I have read</i>	13	168	434	25	12	639
<i>Dwelling and residence</i>	15	458	62	7	1	528
<i>Moving</i>	2	25	29	6	0	60
<i>Travelling</i>	12	208	252	27	5	492
<i>The future</i>	35	1104	139	60	3	1306
<i>Freedom/responsibility</i>	1	28	0	0	0	28
<i>Now and then</i>	2	38	22	3	0	63
<i>My first job</i>	12	104	227	5	7	343
<i>Happiness</i>	2	56	19	3	0	78
<i>A nice experience</i>	9	96	300	12	7	415
<i>An interest I have</i>	2	29	43	1	3	76
<i>Familiar person</i>	3	34	86	0	1	121
<i>Competition</i>	2	81	0	3	0	84
<i>Equality of the sexes</i>	5	168	10	4	0	182
<i>Mobile phone</i>	3	98	1	2	0	101
<i>Norwegian culture</i>	1	32	1	2	0	35
<i>Norwegian nature</i>	7	211	47	9	2	269
<i>Religion</i>	9	293	34	4	1	332
<i>Smoking</i>	11	363	24	6	0	393
<i>Sports</i>	4	143	13	7	0	163
<i>Language learning</i>	5	141	0	1	0	142
<i>Health and fitness</i>	5	169	19	3	1	192
<i>Traditions</i>	5	164	13	11	0	188
<i>Meeting people</i>	7	188	49	5	0	242
<i>Friendship</i>	7	235	28	18	0	281
<i>Values</i>	4	77	32	7	1	117
<i>Total no. of contexts</i>	196	5167	1934	236	44	7381

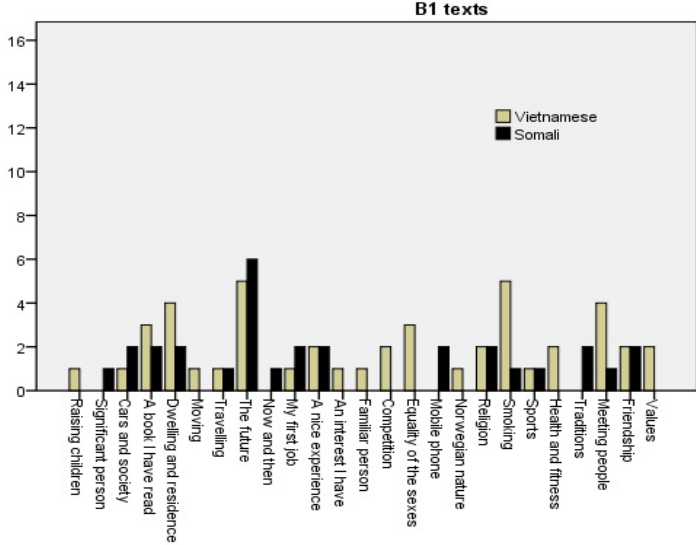
From the first frequency column we see that the number of informants that have responded to the different types of topics varies a lot. For 12 of the topics, only 3 or fewer candidates responded. The prompt that asks the candidates to write about their future has the highest frequency of responses, and this is also the writing topic that generates fewer contexts for the forms of special interest for the current project: the preterite and the present perfect. We also see that some topics are more suitable for eliciting past contexts, such as *a nice experience* and *a book I have read*. Regarding the distribution of prompts responded to when the texts are grouped according to proficiency level and L1, none of the groups significantly deviate from the others. The Vietnamese texts (N=99) cover 26 of the 31 different topics, and the Somali texts (N=97) cover 24 of the 31 different topics. Also, in all of these groups, the most frequent topics are present (*a book I have read*, *dwelling and residence*, *the future*, *my first job*, and *a nice experience*). A more detailed picture of the distribution of writing topics in the A2 group by L1 is illustrated in the bar chart under:

Figure 1: Distribution of writing topics in A2 texts by L1



The A2 texts (N=121) are written as responses to 29 of the 31 different topics, and in both L1 groups, the most frequent topic is *the future*. Also, the prompts favourable for eliciting past contexts, *a book I have read* and *a nice experience* are present in both groups although the latter is more frequent in the Somali group. The distribution of writing topics in the B1 group by L1 is illustrated in the bar chart under:

Figure 2: Distribution of writing topics in B1 texts by L1



The B1 texts (N=75) are written as responses to 25 of the 31 different topics, and note that the most frequent prompt responded to, *the future* is less dominating in the B1 material, and also more evenly distributed across L1 background.

The number of different prompts that the informants have responded to, regardless of level and L1 background, and the fact that many of the texts revolve around topics that do not encourage the test takers to write about a past situation, show that the texts used in the current study are not ideal for investigating grammatical encoding of past time. The topical diversity limits the ability to compare the texts and the ability to test the data statistically because it adds further variability to the material. Yet, ASK is not designed for this particular research project. Its limitations are simply factors that I need to deal with, for example, by taking into account the fact that 70% of all of the extracted clauses express present time reference (5167 out of the total amount of 7380 clauses). However, it is important to keep in mind that one of the central formal categories investigated in the study, the perfect category, is not only a past form. For this reason several of these present time contexts are as interesting as the past time contexts. As argued in chapter 3 in the outline of the perfect category (section 3.2.2.2 and 3.2.2.3), the present perfect typically describes a present state as well as a past incident. Because of the present relevance inherent in the category, the writing topic probably does not play as significant a role for the present perfect as it does for the preterite category, which

occurs primarily in contexts that refer to a past situation. However, it would doubtless be preferable if the informants had responded to a few prompts that invited them to write primarily from a past perspective.

6.5.3 Proficiency level

If there is a relation between proficiency level and use of temporal morphology, it is to be expected that B1 texts will have a higher degree of correctness, and perhaps a higher level of grammatical encoding as well, than A2 texts because texts assessed at the B1 level presumably reflect a higher competence in Norwegian than texts assessed at the lower level. As an independent variable, proficiency level carries information that enhances the study. As pointed out in chapter 5, section 5.2.1, proficiency level is one factor that is crucial to control for in a study of acquisition, especially when the study aims at exploring effects of L1 influence and the lexical aspect. However, since the texts were not assessed based on their use of verb morphology in isolation, but on a holistic evaluation of the texts, where global and functional criteria, as well as formal criteria, guided the assessment, it is not clear that the A2 and the B1 level really reflect a proficiency difference in the use of temporal morphology. An important tenet of the CEFR scales is that they are not language-specific so that the framework can “be used with virtually any language and can be used to compare achievement and learning across languages” (page 4 in Teacher’s guide to the Common European Framework). As a result, specific linguistic features, and particular *language*-specific features, are not included; for instance, temporal morphology is hardly mentioned in the descriptions of the linguistic scales (scales for general linguistic range and grammatical accuracy). The Norwegian translation of the CEFR was published in 2011 (Utdanningsdirektoratet 2011), and the fact that use of temporal morphology is not specifically accounted for makes it even more important to find out what the relation between text assessment and use of temporal morphology seems to be (Helland Gujord 2013)⁹⁸. Moreover, as pointed out in chapter 5 section 5.4.1 discussing the reassessment of texts in the ASK corpus: the relation between L2 proficiency and transfer is not clear, and there are studies pointing in different directions as to how this relation works in different language domains (Jarvis and Pavlenko 2008: 202). For the reasons given, appendix D includes a study in which I have explored the relationship between proficiency level in the CEFR scale and the

⁹⁸ See also section 5.4.1 in chapter 5 for more information about the CEFR.

use of temporal morphology in texts from the current data set⁹⁹. In the study, differences between the texts placed at the two levels (A2 and B1) are explored based on a few selected variables. I have looked at text length, distribution of temporal contexts identified in the texts, degree of grammatical encoding of temporal contexts, correctness, error types, and verb type proportions for telic and atelic verb phrases. In exploring the variables, the following questions have been asked:

1. Length of the texts: is there a difference in length between A2 texts and B1 texts?
2. Distribution of contexts identified in the texts: is there a difference in the number of temporal contexts between A2 texts and B1 texts?
3. Grammatical encoding: is there a difference in encoding frequency between A2 texts and B1 texts?
4. Correctness: is there a difference in correctness frequency between A2 texts and B1 texts?
5. Erroneousness: is there a difference in erroneousness between A2 texts and B1 texts?
6. Lexical aspect: is there a level difference in verb type proportion in telic and atelic phrases?

It is important to bear in mind that the exploration of the relation between the CEFR scale and temporal morphology is not of primary concern in this study, and that is also the reason why the analysis and results of it are placed in appendix D. The purpose of this investigation has first and foremost been to examine whether it is possible to detect differences in the use of temporal morphology in texts that are placed at two different levels, yet are close to each other on the CEFR scale. Hence, the questions posed above do not lay the foundation for a comprehensive examination of the role of temporal morphology in the level assignment of texts according to the CEFR, but they can provide some indicators of the relevance of the level placement of the texts investigated in the current study. However, the study has to a certain degree contributed to clarify the question of whether A2 texts and B1 texts are distinguished in use of temporal morphology, and the findings are summarised in the

⁹⁹ There is currently much research going on in several countries aiming to validate the CEFR descriptors against authentic data, and to develop language-specific descriptions of the CEFR scales. In Norway a validation research project has been conducted by the language test centre, *Norsk språktest* (Folkeuniversitetet/University of Bergen) (Carlsen 2013). The study of the relationship between proficiency level in the CEFR scale, and the use of temporal morphology in texts from the current data presented in appendix D, is also a part of this publication (Helland Gujord 2013).

subsequent section. Remember that the results and analysis for each of the questions analysed are available in appendix D.

6.5.3.1 A summary of the findings of the CEFR investigation

The investigation shows that there are both differences and similarities in the encoding of temporal relations and the use of temporal morphology between the two proficiency levels represented by the texts in the current study. First of all, texts at the B1 level are longer than texts placed at the A2 level because they have significantly more finite clauses (Q1). Secondly, there are no indications that A2 texts and B1 texts are distinguished in number of temporal contexts (Q2). At both levels, present contexts dominate. However, texts at the B1 level encode temporal relations more frequently than texts placed at the A2 level, and the difference is significant (Q3). Next, there is also a difference in overall correctness: B1 texts rate higher on the correctness scale, and this difference is marginally significant (Q4). I do not find that B1 texts encode preterite and present perfect contexts correctly more often than A2 texts do (Q4). The analysis of erroneousness shows that A2 texts have a significantly higher proportion of non-encoding than B1 texts do (Q5). Finally, significant differences in verb type proportion for telic and atelic verb phrases are not observed (Q6). Furthermore, for those significant differences observed, many of the effect sizes reported are considered small. In addition, several of the differences that we observe from the numerical summaries of typical scores and measures of the middle of the distribution are accompanied by variability within the data set. This variability complicates the application of statistical testing because parametric testing cannot be used, and also because simply running a Mann Whitney U test sometimes does not work.

Despite the variability, and despite the small effect sizes of the significant differences, I must conclude that the findings surveyed do not give us strong reasons to exclude the CEFR placement as a factor to take into account when comparing observations. On several points important for the current study, such as encoding frequencies and correctness, the investigation supports the use of level placement with the CEFR scale as an independent variable that should be taken into account when investigating the research questions and hypotheses. The main rule in the analysis of results will be to compare texts placed at the same proficiency level. At the same time, I will allow the analysis to dismiss the level variable in cases where it is beneficial to increase the sample sizes, but this will only be done if the same L1 pattern exists at both levels.

6.6 Notes on statistics

The analytic software used for the analysis is SPSS statistics¹⁰⁰ version 19. In the SPSS data file, the objects of research, the *cases*, are organised in rows. The *variables*, the properties analysed in each case, are organised in columns. Each column gives information about a specific property of the cases. In this study the cases in rows correspond to particular texts. Since this is a study of *language acquisition*, and not the *language as such*, I am primarily interested in the individual learner, represented by the individual texts in this study, and not the individual clauses in the data set. This does not mean that the individual clauses are not analysed according to the procedures outlined previously. This only means that the numbers presented in tables and illustrated in graphs are measures of properties of the texts (which consist of a certain number of clauses with different types of properties) in a group, and not measures of properties for all the clauses in a group. This implies that when the term *observation* is used throughout the thesis, it is referring to the texts. Moreover, whenever *N* is given, it corresponds to the number of texts in a group. The columns of the SPSS matrix are composed of the dependent and independent variables accounted for in the preceding section.

6.6.1 The descriptive statistics in the study

The current study aims to describe the data and present results in such a manner that the reader rather easily gets a picture of typical tendencies in the data as well as how the individual observations, the texts, are distributed in the data. For this purpose I will summarise the data both numerically in tables, and graphically by means of a small set of graphs.

In SPSS, the number of occurrences of a certain quality measured is registered in rows for each informant. This number tells how many times a given quality occurs in the text. However, the number of occurrences is only of limited value when we wish to compare features in texts from different groups, because, as we have learned in the section on writing topics (section 6.5.2); the texts investigated are written as responses to different types of prompts. Consequently, the overall text length varies a lot and so does the number of the various types of temporal contexts. Hence, what constitutes, for instance, 100% obligatory contexts for the preterite in one text is rarely the same as what constitutes 100% obligatory

¹⁰⁰ Originally named *Statistical Package for the Social Sciences*.

contexts for preterite marking in another text. For example, one text may have 25 obligatory contexts for the preterite, and another text may have 10 obligatory contexts for the preterite. Also, in a single text, what constitutes 100% possible contexts for one type of grammatical encoding is not the same for another type of grammatical encoding. The number of preterite contexts and the number of present perfect contexts usually differ considerably within and across texts. For these reasons, in order to compare occurrence I use the frequencies (mainly when analysing L1-differences) or proportions (mainly when analysing lexical-aspectual differences) relative to the total number of possible occurrences of the feature in focus given in percentage. Consequently, in SPSS, for each informant a frequency or proportion is also calculated, and in summarising the data, I ask SPSS to report not only the measures of central tendencies and dispersion for the number of occurrences row, but for the frequency row or the proportion row as well. However, as we will see, some of the variables generate very small numbers; this is often the situation for the variables involving the perfect category. Whereas the frequency of preterite contexts in A2 texts is 9.4 (mean), contexts for the present perfect only occur with a frequency of 1.1 (mean). In those cases, converting the small figures of present perfect contexts into frequencies can be problematic. However, frequencies and proportions are also questionable when comparing, for instance, correctness rates from categories of different frequencies. Still, displaying both the number of possible contexts and the frequency or proportion of occurrences in the possible contexts will give the most solid basis for judging the data and the results. Accordingly, in the tables I will generally report both the number of possible contexts for the feature being measured (which in the tables will be shortened *no. of*, for instance *no. of encoded contexts*) and the number of occurrences relative to the total number of possible occurrences of the feature in focus given in percentage (which I will call *frequency* in analysis of L1 differences and *proportion* in the analysis of lexical-aspectual differences, for instance ‘frequency of correct encoding’ or ‘proportion of telic verb types’)¹⁰¹. In order to clarify how I will report information in tables, I have copied table 17 below which provide information about the overall level of correctness in Vietnamese A2 and B1 texts and Somali A2 and B1 texts (this table is further commented in chapter 7, section 7.1.4.1, here it merely serves the purpose of illustrating how the tables should be read).

¹⁰¹ There is only one exception: in table 89 in appendix D only the number of occurrences is given (the number of clauses).

Table 17: Example of tables employed in the data analysis

	Vietnamese A2 (N=54)		Somali A2 (N=67)	
	no. of contexts	freq. of correctly encoded contexts	no. of contexts	freq. of correctly encoded contexts
Mean	36.7	93.6	35.1	90.9
Median	34.5	96.7	32.0	93.1
Std.d.	10.9	8.9	8.4	7.0
Minimum	16	53.8	21	72.1
Maximum	65	100.0	59	100.0
N texts with 100%		15		9

	Vietnamese B1 (N=45)		Somali B1 (N=30)	
	no. of contexts	freq. of correctly encoded contexts	no. of contexts	freq. of correctly encoded contexts
Mean	41.0	95.1	40.1	92.8
Median	40.0	96.0	38.5	94.1
Std.d.	10.5	5.0	10.9	6.5
Minimum	24	80.0	27	79.5
Maximum	65	100.0	66	100.0
N texts with 100%		13		7

The first column for each L1 group gives the number of encoded contexts, that is, the numbers of contexts with an inflected verb form, and which in turn are the possible contexts for correct encoding of the temporal context. The next column gives the frequency of which a correct inflection occurs. So from this table we know that the average (mean) number of contexts for correct encoding in ViA2 texts is 36.7% and that average (mean) overall correctness rate for ViA2 texts are 93.6%. The tables also include a bottom row that gives the number of texts in the group that has a 100% score of the quality measured, in this case there are 13 ViB1 texts and 7 SoB1 texts with 100% correct encoding. In some tables the bottom row gives information about the number of texts with a 0% score. Whether the bottom rows in the tables add information about proportion of 100% or 0% scores depend on the variable in focus. There are several different measures of central tendency and dispersion given in the table above: the (arithmetic) mean, the median, the standard deviation, the minimum and the maximum values will all be reported for the purpose of ensuring a valid picture of the data. The *mean*, commonly called the average, is the most frequently used central tendency measure. It is advantageous because every observation is considered when the mean is calculated. However, a serious weakness of the mean is that it is very sensitive to extreme values, or outliers, so if a data set includes very small or very large values, these values can

have a drastic effect on the mean (Larson-Hall 2010: 65). Hence, it is recommended to also report the *median*. The median is often called the middle value because it is the point in the data set that separates the upper values from the lower values. Consequently, if the mean and median are very different (and in many of the tables in the analyses there are larger distances between the mean and the median than can be observed in the table above), we know that there is asymmetry in the distribution. This says something about the skewness of the data set, how spread out the observations are, which brings us to the kind of measures of spread I will use when reporting results throughout the thesis. I report the *standard deviation*, which is a measure of the variance within the data set. The standard deviation is the square root of the variance, and tells us how much the observations in the data set typically deviate from the mean (Hinton 2004a: 354). Larson-Hall explains the standard deviation as “a measure of how tightly or how loosely data are clustered around the mean” (Larson-Hall 2010: 402)¹⁰². The greater the dispersion of the observations within a data set, the larger the standard deviation is for the particular data set. As for the mean and the median, every observation is taken into account when calculating the standard deviation. In addition, I also include the minimum and the maximum values in the tables in order to get a sense of the range of the distribution. In table 17 above we see that the range is larger in the A2 groups, particularly in ViA2 (ViA2 53.8%-100.0%, SoA2 72.1%-100.0%), than in the B1 groups (ViB1 80.0-100.0%, SoB1 79.5%-100.0%). A huge gap between the minimum and the maximum values implies either that there is an outlier in the data set, that there is a lot of dispersion within the data set, or both. As we will presently see in chapter 7, the distributions of observations for many of the variables are highly skewed because the observations tend to concentrate at the higher end of the scale (left-skewed) or at the lower end of the scale (right-skewed). Hence, as already noted, many of the tables will include a row expressing the number of texts obtaining either a 100% score or a 0% score.

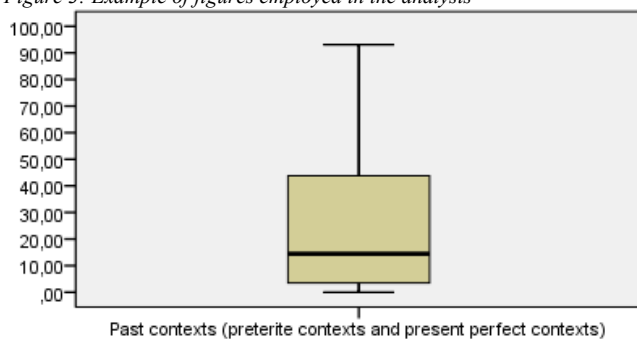
As to the visual presentation of the data, I will either use histograms or box plots. In a histogram we can easily get a sense of the distribution of data: whether, and if so how the observations in a data set cluster around certain values, and how spread out the observations are. A histogram shows the density of a distribution by grouping several observations into intervals. The bin width represents the range, and the bin height represents the number of

¹⁰² The concept of standard deviation is closely related to the normal distribution. The normal distribution is defined by the mean and the standard deviation, and can be calculated mathematically if we have the mean and the standard deviation (Hinton 2004b: 371). The basic idea is that if our observations come from a normal distribution, we know the percentage of the data that will fall within +/- 1 SD (68%), and the percentage that will fall on either side of the mean (16% -1 SD, 16% +1SD) (Larson-Hall 2010: 67).

observations having the particular frequency. Histograms drawn from different samples can also be used to compare the distributions. Additionally, the histogram very effectively provides information about the shape of a distribution, which is important for deciding whether or not the samples satisfy the normality assumptions of parametric testing.

A *box plot* quickly gives an impression of the centre and the spread of a distribution. I will briefly explain the different parts of a box plot by looking at the distribution of frequency past contexts (that is, preterite contexts and present perfect contexts taken together) for all the informants. The y-axis in a box plot displays the variable values, and the x-axis displays the group. A boxplot gives information about the central tendencies in a distribution. The box in the plot encloses the 50% of the values that lies in between the 25th percentile and the 75th percentile. From the box below we see that in 50% of the texts, past contexts amount to between 5% and 45% of all the contexts the clauses in the texts comprise.

Figure 3: Example of figures employed in the analysis



The dividing line in the box represents the midpoint of the distribution, so by looking at the box plot we know that the median is 15%. The T-bars that stretch out from the boxes, commonly called whiskers, indicate the maximum values and the minimum values, and thus give us a sense of the spread of the values in the distribution. Clearly, the distance between the ends of the whiskers is big; the observations in the distribution spread from 0% to just over 90%. Also, from a box plot we can easily see if the distribution is symmetrical or not. From the box in the plot above, we see that the values are not split evenly by the line representing the median, but that the values are concentrated on one of the sides (the left side). This tells us that the distribution is skewed to the right. Finally, in a box plot any

outliers would be indicated¹⁰³, which would further add information about the shape of a distribution. In SPSS, values that lay more than 1.5 box lengths away from the 25th percentile or the 75th percentile are considered outliers (Hinton 2004b: 46). However, in this particular example there are no outliers. According to Larson-Hall, the box plot is not only a good way to get an impression of the distribution; it is first and foremost very useful for comparing groups and identifying where the potential differences between the groups are (Larson-Hall 2010: 245). When exploring variables that have few observations and large variability, I will sometimes use a *frequency table* instead of a histogram or a box plot. A frequency table is the numerical equivalent of a histogram. A histogram simply visualises the information enclosed in a frequency table. I find the frequency tables especially informative when scrutinising properties that only a small number of the texts obtain; again, this often involves the perfect category.

6.6.2 The inferential statistics in the study

The analysis of the texts in the present project is driven by a set of research questions and associated hypotheses. It is a clear goal to be able to answer the questions and to prove the null hypotheses false by comparing specific features in the use and non-use of past morphology between groups, and moreover, in a manner allowing the results to be generalised beyond the immediate data set. Accordingly, methods of inferential statistics are needed. I will now briefly present the reasoning behind the choices and the approach taken in the present study.

The statistical tests needed in the current study differ depending on the research questions explored. The investigation of L1 differences requires tests of differences between observations in groups which are *independent* of each other in the sense that they are produced by different informants. In contrast, the investigation of effects of lexical-aspectual properties of verb phrases requires tests of differences between observations in groups which are *dependent* on each other. The prediction is that the encoding of past time observed in a single text produced by a single informant will be influenced by differences in telicity. Hence, telic and atelic verb phrases in texts produced by the same language learner must be compared. Another difference in test requirements between the research questions has to do with the number of groups compared. Whereas the research questions and hypotheses relating

¹⁰³ SPSS marks not only outliers, but extreme values as well. SPSS defines extreme values as those located more than 3 box lengths from the 25th percentile or the 75th percentile (Hinton 2004b: 46).

to L1 influence require tests which compare observations from *two groups*, the research questions and hypotheses connected to lexical aspect also call for tests which compare *more than two groups*.

In order to choose the appropriate test for assessing differences between the groups, properties of the variables have to be considered, and assumptions associated with the alternative tests have to be evaluated. An important aspect of this process is the level of measurement of the data. The data in the present study are coded in categories, such as *correct use*, or *prototypical perfect*, however, the properties coded in the linguistic variables are measured on a ratio scale. In a ratio scale the distance between each point on the scale is the same, and there exists a defined zero point where the property is non-existent (Larson-Hall 2010; Hinton 2004a). For instance, the difference between 2 and 3 incorrectly-encoded past time contexts is essentially the same as the difference between 2 and 3 incorrectly-encoded present perfect contexts. Furthermore, a correctness rate of zero means the absolute lack of correctness in a text. The data level is important because it influences the choice of tests. Dealing with ratio variables allows for parametric testing for the significance of differences between two means. The independent t-test is a widely used parametric test for assessing group differences when there are only two independent samples, and when there are ratio data, as in the present study. The t-test calculates the difference between the means in the samples in relation to the variance to determine if the difference is big enough to be *significant*; that is, the result from statistical testing is such that the null hypothesis (the means are the same and the observations in the two groups come from the same population) can be rejected with a certain degree of certainty (Larson-Hall 2004: 402). When I want to find out if the observed differences between more than two groups are significant, I cannot use a t-test; instead I need to apply an *analysis of variance* technique (ANOVA). The ANOVA tests are analyses of variance that compare “the variances *within* the group to the variance *between* the groups to see whether the differences between groups are “big enough” to say that the groups come from different populations” (Larson-Hall 2010: 268). Accordingly, the t-test and the ANOVA do the same calculations based on mean differences; the distinction is the number of groups compared and their relations. When related samples are compared, it is the *repeated measures ANOVA* I need to apply (henceforth RM ANOVA). An essential part of the t-test and the RM ANOVA is the comparison of group variances, and hence this type of test fits Jarvis’s (2000) description of the type of evidence needed in transfer studies: the behaviour of the members of an L1 group must be sufficiently similar (intragroup homogeneity) to each

other as well as sufficiently dissimilar from another L1 group (intergroup heterogeneity) in order to claim that transfer effects exist. However, whether or not the t-test and the RM ANOVA are appropriate choices in the current study depends not only on the data level, but also the shape of the distribution. One of the assumptions of the t-test¹⁰⁴ is that the observations in the groups are normally distributed. The normality assumptions can be inferred by inspecting the distributions graphically, for instance, by a histogram. However, there are also statistical tests for the normality of the data, one of them being *the Shapiro Wilk test*.

The Shapiro Wilk test is designed to test if a distribution deviates so much from the normal distribution that the null hypothesis has to be rejected (the sample distribution comes from the same distribution as the normal) (Larson-Hall 2010: 85). For the purpose of judging normality, I will examine the shape of the distributions displayed in histograms, and perform the Shapiro Wilk test as well. However, because all of the dependent variables in the study are not normally distributed, I have decided not to repeatedly report the insignificant results from all of the normality tests. Instead, the exact test statistics and the p-values for every Shapiro-Wilk test are provided in a table in the appendix (table 101 in appendix E). Since the data are not normally distributed, parametric testing is not an option in the current study. Consequently, neither the t-test nor the RM ANOVA can be applied in order to test the differences between the groups. Because parametric tests cannot be used, a different statistical approach must be taken. The present study needs non-parametric testing. However, because different tests are needed in order to evaluate the observed differences between L1 groups and between lexical-aspectual classes, I will outline the approaches separately. Moreover, the discussion of the tests needed for studying L1 differences will reflect upon qualities of the data set, which also have to be taken into consideration when testing for difference in lexical-aspectual properties.

6.6.2.1 Tests for assessing differences in L1

The Mann-Whitney U test is the non-parametric equivalent to the t-test, and is often used as a remedy if assumptions for normality are not met (Larson-Hall 2010: 251). For this reason I will perform the Mann-Whitney U test when comparing the two L1 groups in order to test if

¹⁰⁴ Larson-Hall lists four assumptions for the t-test: 1) the dependent variable should at least be interval data, 2) the data should be independent, 3) normally distributed, 4) and the groups should have equal variance (Larson-Hall 2010: 250).

the observed differences between them are significant or not. However, the null hypothesis under the Mann-Whitney U test is not the same as that of the t-test. The null hypothesis under the Mann-Whitney U test is that the shape of the distribution and the location of the observations are the same, and not that the central tendency of the two samples are the same. So, as opposed to the t-test, the Mann Whitney U test does not test whether typical scores are sufficiently different to be regarded as significant. Instead the Mann-Whitney U test ranks all the scores in two groups, calculates the mean ranks for the two groups, examines if one of the groups has a tendency to obtain values higher than in the other groups, and determines whether this difference in distribution is significant or not. When analysing L1 differences statistically, the Mann-Whitney U test will be applied as a test of significance. However, as will be demonstrated in the investigation shortly, for several of the variables, there is a problem with using the Mann-Whitney U test. This problem has to do with the fact that for many of the variables, the data are highly skewed. For instance, for some of the variables, the distributions tend to be highly left-skewed because many texts obtain a 100% score, while the rest are scattered from 0-99%. However, for some of the other variables, typically those measuring error rates, the distributions tend to take the reversed form: the distributions are highly right-skewed because many texts obtain a 0% score, while the rest are scattered from 1-100%. So if I simply run a Mann-Whitney U test on variables with such distributional patterns and receive a significant result, I actually cannot know what this difference comprises. Is it due to the fact that one of the groups has either more 0% scores or 100% scores for the quality measured than the other, or does the result reflect a difference in distributions of the observations having either 1-100% or 0-99%? For these reasons, a stepwise approach is needed in order to assess L1 differences statistically, and the following steps will be taken:

Step 1 Mann-Whitney U

Step 2 Chi-square post hoc testing

Step 3 Mann-Whitney U post hoc testing

The first step consists of running a Mann-Whitney U test in order to establish if there is a significant result between the differences measured in the variables between the L1 groups. If the result from the Mann-Whitney U test is insignificant, I do not proceed to the second step. If a significant difference is detected, and *less than 30% of the texts obtain a 100% score or a*

0% score, the statistical investigation will also stop at this point. However, if a significant result is reported in step 1, and *more than 30% of the texts obtain a 100% score or a 0% score*, additional steps will be taken and a post hoc analysis will be conducted in order to identify what the difference incorporates. The post hoc testing encompasses a chi-square and a Mann-Whitney U test. The *chi-square test* tests if the overall significance revealed in the initial testing (step 1) is due to a significant difference between the groups in the proportion of texts having a 100% value (if the distribution is left-skewed) or a 0% value (if the distribution is right-skewed) for the quality measured. Similar to the Mann-Whitney U test, the chi-square test is also a means of assessing group differences when parametric assumptions are not met, and is very widely used in linguistics (Larson-Hall 2010: 206). The chi-square test

calculate(s) the difference between the scores you observed and the scores you would expect in that situation and then sees whether the magnitude of that difference is large or small on the chi-square distribution (Larson-Hall 2010: 206).

The level of measurement in the chi-square is different than in the Mann-Whitney U test and the t-test. The chi-square uses nominal data and neither ranked data nor ratio data. The assumptions for the chi-square are not many¹⁰⁵; however, there is one important assumption, *the independence of observations*, that is commonly violated, and which moreover led Larson-Hall to reach the conclusion that the chi-square is “a much-abused test in second language research studies” (ibid.). The assumption of the independence of observations means that an observation cannot contribute to a cell more than once, so that the number of cases is the same as the number of observations in the cross tabulation. Regardless of the outcome of the chi-square testing, the next step in the process is to run a Mann-Whitney U test as a post hoc test on the proportion of texts which have values between 0-99% (if the distribution is left-skewed) or between 1-100% (if the distribution is right-skewed). This test determines if there is a significant difference between the groups in how these texts are distributed.

¹⁰⁵ Larson-Hall lists four assumptions for the chi-square test: 1) independence of observations, 2) nominal data, 3) no fewer than 5 cases in every cell for the expected values, 4) both occurrences and non-occurrences of the quality measured should be included (Larson-Hall 2010: 227).

6.6.2.2 Tests for assessing differences in lexical-aspectual properties of verb phrases

The statistical testing of the research question and hypotheses connected to the Aspect Hypothesis involves both the comparison of two groups (telic verb phrases versus atelic verb phrases) and four groups (the four Vendlerian categories of lexical aspect). However, even though the comparison of telic and atelic verb phrases involves two groups, a Mann-Whitney U test cannot be applied in this case because the testing of the influence of lexical aspect is done on related samples. I wish to find out whether telic verb phrases in the texts are encoded more often, and more correctly, than atelic verb phrases; since I am studying the effects of lexical-aspectual properties on language acquisition, I need to compare the telic and atelic verb phrases that occur in the same texts produced by the same language learner (informant). Hence, a parametric test for assessing differences between dependent samples is needed, and for this purpose I can use the *Wilcoxon signed rank test*. The Wilcoxon signed rank test is based on ranked data as in the Mann-Whitney U test; the difference is that in the Wilcoxon signed rank test the difference between the two ranked scores derive from the same individual (Butler 1985: 103). When testing for differences between more than two dependent groups, I will apply the *Friedman test*. In this case, I will compare verb phrases in a text that are classified as achievement, accomplishment, activity, or state. *The Friedman test* is the non-parametric alternative to the Wilcoxon signed rank test when more than two dependent groups are compared¹⁰⁶. The test is an extension of the Wilcoxon signed rank test and performs the same mathematical operations as the Wilcoxon signed rank test. A drawback to the Friedman test is that when a significant result is found, I only know that there is a significant difference between groups, but I do not know which of the groups differ statistically from each other¹⁰⁷. However, separate Wilcoxon signed rank tests can be run in order to locate the significant difference(s) (Larson-Hall 2010: 385). Yet, this is not a perfect solution because there is a risk of type 1 error (falsely claiming significant differences to exist) when performing multiple pairwise tests. Hence, I will use the *Bonferroni adjustment* as an amendment. This is simply a method of reducing the significance level by dividing the alpha value (in my case that is 0.05) by the number of tests, which establishes a new significance level for the post hoc testing (Larson-Hall: 390). Below I will describe the steps taken to analyse the results statistically. Because the steps in the approach depend on the number of groups compared, I give the steps separately:

¹⁰⁶ Just as the independent t-test is a parametric alternative to the Mann-Whitney U test, the one-way RM ANOVA is the parametric counterpart to the Friedman test (Larson-Hall 2010: 383).

¹⁰⁷ Post hoc testing is provided for the ANOVA tests.

When testing differences in telicity (two groups):

Step 1 Wilcoxon signed rank test

When testing differences between the Vendlerian classes (four groups):

Step 1 Friedman test

Step 2 Wilcoxon signed rank post hoc testing with Bonferroni adjustment

6.6.2.3 Effect size

In addition to the statistical testing of differences between groups, according to Larson-Hall (2010: 114), I need to take the *effect size* into account. Effect size is a measure in statistics that complements traditional significance testing using p-values. According to Larson-Hall, it should be more widely incorporated in statistical analyses (ibid.). The effect size looks at a different aspect of the data than the hypothesis significance test does. Whereas the p-value simply states the probability for the null hypothesis to be true, such as less than a 5% chance, and says nothing about the magnitude of the effect, the effect size indicates the strength of the relation between the variables tested: “An effect size gives the researcher insight into the size of this difference” (Larson-Hall 2010: 114). Another important difference between significance testing and calculation of effect size is that the p-value is related to the sample size, a factor which is important for the power of the test, while the effect size is not related to the sample size (ibid.). For instance, using hypothesis testing on large sample sizes increases the risk of rejecting the null hypothesis when it is true, or claiming differences to exist when they in fact they do not¹⁰⁸. In such cases the effect size can be a useful corrective. The effect sizes for the Mann-Whitney U test and the Wilcoxon signed rank test are indicated by r , which is calculated from the Z statistics from the U test by dividing the Z statistics by the square root of N (ibid.: 377). I do not calculate the overall effect size for the Friedman test, but only the effect sizes for the pairwise Wilcoxon signed rank post hoc testing if a significant difference is found in the data set. For the chi-square test on a 2×2 table, the Cramer’s V can be used as a measure of effect size (ibid.: 237).

¹⁰⁸ In statistics known as *type I error* (Larson-Hall 2010: 403).

6.6.2.4 Reporting statistical results

The final point I will comment on concerns how to report the statistics and the significance level. The significance level, also called the alpha level, is selected by the researcher and is the “decision criterion for accepting or rejecting the null hypothesis” (Hinton 2004a: 41). A p-value lower than the selected point, which according to Larson-Hall (2005: 389) is commonly 0.05 in SLA-research; the researcher can reject the null hypothesis. In reporting results from the statistical testing I will give the test statistics for the particular test (W for the Shapiro Wilk, U for the Mann-Whitney U test, Z for the Wilcoxon signed rank test, χ^2 for the Friedman test and the chi-square), the exact p-value, and the effect size statistics (r for the effect sizes of Mann-Whitney U and the Wilcoxon signed rank test, and Cramer’s V for the chi-square) together with common descriptive evaluations of the effect sizes in parenthesis ($r < 0.1$ classified as *very small*, $r \geq 0.1$ classified as *small*, $r \geq 0.3$ classified as *medium*, $r \geq 0.7$ classified as *large*). Also outside the field of SLA, the common point for deciding if a difference is significant or not is the 5% level ($p = 0.05$) (Hinton 2004a: 41). However, Larson-Hall argues that in social sciences the significance level should be increased to 0.1, and in the current study a p-value of 0.1 will be regarded as marginally significant. This is moreover a common practice in some disciplines, such as sociolinguistics, where a p-value of 0.1 is perceived as a significant tendency (Butler 1985: 71). In the present thesis, the exact statistical results will reported, again accompanied by a descriptive evaluation of the level of the p-value according to the following standard: $p > 0.1$ classified as *not significant*, $p \leq 0.1$ classified as *marginally significant*, $p \leq 0.05$ classified as *significant*, $p \leq 0.01$ classified as *highly significant*, $p \leq 0.001$ classified as *extremely significant*. There is only one exception. When SPSS reports a p-value of less than 0.001, I do not give the exact value, but report it as $p < 0.001$ (extremely significant). Finally, the tests conducted are mainly two-tailed except for the testing of variables that measure properties directly linked to one of the hypotheses. If the test performed is directional, the p-value from the SPSS output table will conventionally be reduced by half. However, the direction of the test will always be communicated.

6.7 Chapter summary

In this chapter I have presented the data, which are 196 texts extracted from a learner corpus of Norwegian, ASK. The texts are written responses to a language test measuring language skills at an intermediate level, and the test takers have been asked to write rather freely about a topic of common interest. Accordingly, even though the texts are produced in an exam setting, they are produced in a low-controlled research environment in the sense that I have not been able to elicit certain verb types or verb inflectional categories. Consequently, some of the texts do not write in a perspective which favours use of past morphology, and from the investigation of the relation between the CEFR and use of temporal morphology, we saw that the observations for many of the variables are highly skewed. In the initial part of the chapter I have also surveyed the personal information that the test takers have reported themselves by filling out a form at the exam. I have also outlined how the units of analysis, that is, finite clauses that express temporal relations, have been coded for various information about temporal context, grammatical encoding, correctness, erroneousness, lexical-aspectual properties, and prototypicality of the perfect. In addition, some of independent variables have been discussed. The chapter summarises the findings from an investigation presented in appendix D which, based on a few selected variables, explores the differences between the texts placed at two levels in the CEFR. I have also presented how I will use statistics in the current study in order to summarise the data and to test group differences statistically.

Chapter 7

ANALYSIS AND RESULTS

The previous chapter outlines the procedures for analysing the grammatical encoding of past time in the texts from the current investigation. The analysis of the data is driven by three research questions and five specific hypotheses associated with them. This chapter will present results that shed light on the questions raised, as well as results that specifically test the hypotheses (see chapter 4). This means that the chapter will report findings from the data analysis that do not directly relate to the hypotheses, but which nonetheless help answer the overall research questions. The presentation of the results is organized into two main parts. Part one, *effects of L1 influence: findings*, surveys results that address the question of L1 influence. In this part, results from four groups will be reported: Vietnamese texts at A2 level, Vietnamese texts at B1 level, Somali texts at A2 level and Somali texts at B1 level (henceforth also ViA2, ViB1, SoA2, and SoB1). Part two, *effects of lexical aspect: findings*, presents results that illuminate the influence of lexical aspect. The results in this part are first presented without considering the informants' L1 background; the L1 variable is included only later. Finally, the findings will be summarised at the end of each main part.

7.1 Effects of L1 influence: findings

7.1.1 Introduction

To begin I will present the variables and the raw data that are relevant for this part of the analysis, which surveys the findings of L1 differences in the grammatical encoding of past time. In the cross tabulation below, all the 7380 units of analysis, the clauses, are treated as one big group without regard for the individual texts. This is to provide a simple picture of the magnitude of the data, and to give an overview of how the clauses are distributed across the linguistic variables that measure various aspects of the encoding of past time¹⁰⁹.

¹⁰⁹ Chapter 6, section 6.4 accounts for the procedures for analysing the data in the various analytic categories.

Table 18: Overview of variables and data for the analysis of L1 influence

VARIABLES		VALUES	Present context	Preterite context	Prs. Perf. context	Pst. Perf. context	total
TEMPORAL CONTEXT			5167	1934	235	44	7380
GRAMMATICAL ENCODING	Grammatically encoded	Present	4917	165	16	1	5099
		Preterite	98	1712	39	11	1860
		Prs.Perfect	15	23	178	7	223
		Pst.Perfect	0	9	1	25	35
	Non-encoded	Non-finite	100	17	1	0	118
		Verbless	37	8	0	0	45
total			5167	1934	235	44	7380
CORRECTNESS	Correct		4917	1712	178	25	6832
	Incorrect		250	222	57	19	548
	total		5167	1934	235	44	7380
ERROEOUSNESS	Incorrect encoding		113	197	56	19	385
	Non-encoding		137	25	1	0	163
	total		250	222	57	19	548

The first row shows how the 7380 clauses are distributed across the four types of temporal contexts. For example, 5167 of the clauses have present tense contexts and 235 clauses have present perfect contexts. The rows that follow show how the contexts in these clauses are encoded, and should be read like this: if we focus on the 1934 preterite contexts, we see that in 165 a present tense form occurs, in 1712 a preterite form occurs, in 23 a present perfect form occurs, in 9 a past perfect form occurs, in 17 a non-finite verb occurs, and in the last 8 preterite contexts no verb occurs. The row *total* sums up all these types of encoding in preterite contexts, and we see that this number is the same as for the number of preterite contexts total (1934). The next rows add information about correctness. If we continue to focus on the 1934 preterite contexts, we see that 1712 of them are encoded correctly, and that 222 of them are classified as incorrect. Again, the sum of the clauses coded as correct or incorrect corresponds to the number of preterite contexts (1934). The last two rows show how the clauses coded as incorrect are distributed across the two categories of erroneousness: Of the 222 clauses with a preterite context coded as incorrect, 197 of those are coded as incorrect because the finite verb does not encode preterite content (incorrect encoding), and 25 are coded as incorrect because the clause does not have a finite verb present at all (non-encoding). The right column in the table, labeled *total*, sums up the figures in the rows. We see that the present tense form is used 5099 times in the data set, the preterite form 1860 times, the present perfect form 223 times, the past perfect form 35 times, and finally we see that there

are 118 occurrences of non-encoded clauses and 45 occurrences of verbless clauses. The columns further down give the total number of correct (6832) and incorrect (548) encoded clauses, and the number of clauses for two types of erroneousness: incorrect encoding (385) and non-encoding (163).

The first variable in the table, *temporal context*, is the first to be examined in the analysis of L1 differences. Secondly, the *grammatical encoding* variable is presented, and thereafter the variables *correctness* and *erroneousness* are surveyed. The latter variable, *erroneousness*, is divided in two separate parts examining each of the main error categories: one which examines incorrect encoding, and the other which examines non-encoding. Since the current study primarily investigates the encoding of past time, texts with clauses containing past contexts, either a preterite context or a present perfect context, will first and foremost be analysed. However, for some of the analyses, texts and clauses with present tense contexts and past perfect contexts will be included whenever these occurrences can contribute to the analysis of the grammatical encoding of past time. Nevertheless, contexts for the past perfect are very infrequent in the data set (only 44 contexts and 35 uses of the form), and will very seldom be included. Remember also that the past perfect category is not one of the categories that the study focuses on, and this is because the number of occurrences is so low that it is not possible to make any reasonable claims based on the analysis.

7.1.2 Temporal context

The first variable is temporal context, and in this analysis all of the 196 texts are included. As accounted for previously in the thesis, in order to get a comprehensible picture of the encoding of past time, the initial analysis of the texts necessarily has to be broad and encompass all types of temporal contexts, including those not containing past time content. Nevertheless, it is the past contexts, those requiring a preterite or a present perfect form in order to be encoded grammatically in Norwegian, which are of primary interest in the current study.

7.1.2.1 Frequency of present contexts and past contexts

The first table shows how many of the clauses in the texts are past contexts, that is, preterite contexts or present perfect contexts taken together. In addition, the table includes the frequency with which contexts for the present occur in the texts. This is necessary

complementary information because, as evident in table 18 in the introductory part, present time contexts amount to a large part of the clauses in the data set. Hence, it is relevant for the investigation to examine the relation between frequencies of clauses with present contexts and clauses with past contexts (contexts for preterite and contexts for present perfect).

Data summary

Table 19: Frequency of present contexts and past contexts by L1. The first column gives the total number of contexts, and the other columns give the frequency of present contexts and past contexts.

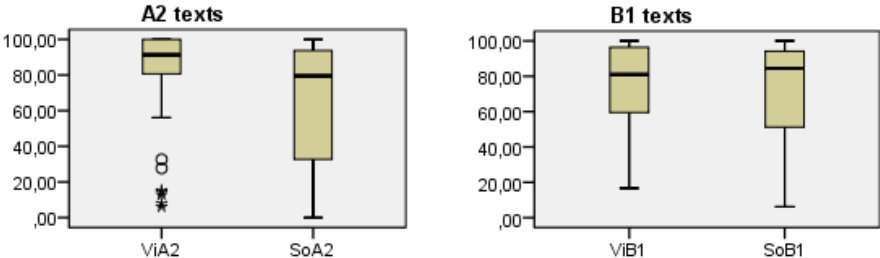
	Vietnamese A2 (N=54)			Somali A2 (N=67)		
	no. of contexts	freq. of present contexts	freq. of past contexts	no. of contexts	freq. of present contexts	freq. of past contexts
Mean	36.7	80.9	18.6	35.1	64.7	34.7
Median	34.5	91.3	8.7	32.0	79.5	20.5
Std.d.	10.9	27.4	26.8	8.4	33.3	32.5
Minimum	16	6.1	0.0	21	0.0	0.0
Maximum	65	100	92	59	100.0	93.1
N texts with 0%		0	18		2	5

	Vietnamese B1 (N=45)			Somali B1 (N=30)		
	no. of contexts	freq. of present contexts	freq. of past contexts	no. of contexts	freq. of present contexts	freq. of past contexts
Mean	41.0	72.8	26.5	40.1	69.2	30.4
Median	40.0	81.1	18.9	38.5	84.5	15.5
Std.d.	10.5	28.1	27.3	10.9	31.1	30.4
Minimum	24	16.7	0.0	27	6.3	0.0
Maximum	65	100.0	83.3	66	100.0	87.5
N texts with 0%		0	8		0	4

The table shows that 80.9% (mean) of all the clauses in A2 texts written by Vietnamese test takers, are contexts for present tense marking. In contrast, on average 18.6% (mean) of all the clauses in ViA2 texts, have a past context, which requires either a preterite or a present perfect form. The gap in frequency between present contexts and past contexts is narrower in A2 texts written by Somali test takers, yet still dominant: contexts for present tense amount to 64.7% of the clauses, and contexts for the preterite and the present perfect amount to 34.7% of the total number of clauses in the texts. Furthermore, the number of texts having 0% past contexts is much higher in ViA2 than in SoA2 (18 versus 5). The differences that we observe in central tendency between the Vietnamese and the Somali group at the A2 level are not found at the B1 level. The frequencies of present contexts (ViB1 72.8, SoB1 69.2) and past

contexts (ViB1 26.5, SoB1 30.4) are rather similar. If we look at the measures of dispersion, we note that the standard deviations are generally large, particularly in the Somali groups, and that the distances between the minimum and maximum values are big in all four groups. The box plots below give us an impression of the distribution of the two types of contexts, and also the differences between the L1 groups. The first two box plots illustrate the relative distributions of contexts for present tense in the texts:

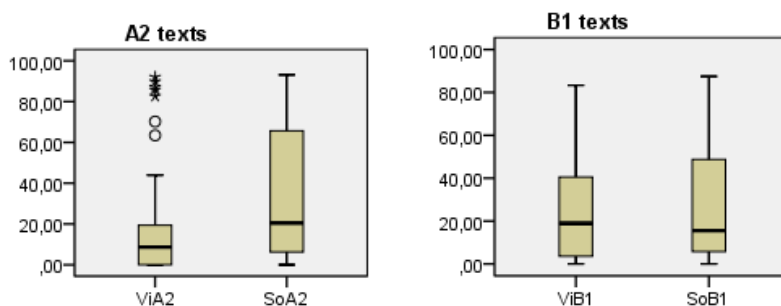
Figure 4: Box plots showing the distribution of frequencies of present contexts by L1.



Firstly, we see that the variation is largest in ViA2, where several outliers and extreme values are indicated. Secondly, if we compare the distributions in the two L1 groups at the A2 level, we see that the lengths of the boxes vary: the ranges indicated by the whiskers are of different lengths, and the lines marking the medians are different. The texts in the two groups do not seem to be normally distributed; they also do not seem to come from the same distribution. The difference is that there are many Vietnamese A2 texts which almost exclusively contain contexts for use of the present tense. This type of text also exists in SoA2; however, more of the A2 texts in the Somali group contain many clauses that require encoding other than the present tense. At the B1 level the boxes representing the L1 groups largely overlap, indicating that the difference is less at this level.

Next we look at the distribution of past contexts, and we immediately notice that the boxes in these plots are situated in a reverse manner compared to that of the preceding box plots. Whereas the observations in the box plots for present tense contexts are concentrated around the higher end of the scale (negatively skewed distribution), the observations in these box plots are concentrated at the opposite end of the scale (positively skewed distribution):

Figure 5: Box plots showing the distribution of frequencies of past contexts by L1.



Regarding L1 differences, the same pattern is reflected here as for the distribution of present contexts. The largest variation is found in ViA2, and it is also at the A2 level that L1 differences can be observed. Clearly, many Vietnamese texts do not have clauses with contexts for past morphology. Again, this type of text also exists in the Somali group; however, they are fewer compared to the other group.

Significance testing

In the significance testing I will concentrate on the observed L1 differences in past context frequencies, and ignore the observed differences in frequencies of present contexts. This is because the current study investigates the encoding of past time. This is also motivated by the trend seen in the graphic presentation of the two context types: the frequency of present contexts and the frequency of past contexts complement each other. In other words, texts with high present context frequencies will always have low past context frequencies, and vice versa.

Step 1 Mann-Whitney U: In order to test if the frequency of past contexts is significantly different between the two L1 groups, I first run a two-tailed Mann-Whitney U test. This test reports an extremely significant difference between ViA2 (median 8.7) and SoA2 (median 20.5), $U = 1192.5$, $z = -3.226$, $p = 0.001$ (extremely significant), $r = 0.3$ (medium). The test does not report a significant difference between ViB1 (median 18.9) and SoB1 (median 15.5), $U = 610.5$, $z = -0.699$, $p = 0.5$ (not significant), $r = 0.08$ (very small). Further post hoc testing of the significant difference found at the A2 level is not required because less than 30% of the texts have 0% past contexts (18 Vietnamese texts and 5 Somali texts out of the total 121 A2 texts). Hence, we conclude that the frequency of contexts for past morphology in A2 texts

written by Vietnamese informants is significantly lower (extremely significant) than in texts written by Somali informants, and the effect size of the difference is considered medium.

7.1.2.2 Frequency of contexts for preterite and contexts for present perfect

In the preceding section we looked at the frequency of contexts of our primary concern, past contexts (contexts for preterite and present perfect lumped together), in relation to the most frequent context type in the texts, contexts for present tense marking. Now I separate the variable of past context, and examine whether there are L1 differences in the distribution of the two types of past contexts: preterite contexts and present perfect contexts.

Data summary

Table 20 surveys the frequency with which contexts for the preterite and contexts for the present perfect occur in the texts:

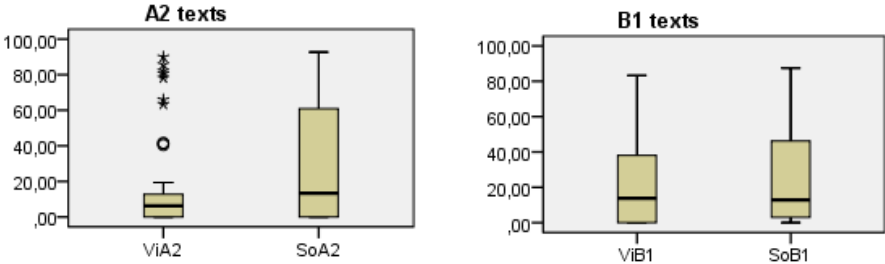
Table 20: Frequency of preterite contexts and present perfect contexts. The first column gives the total number of contexts, and the other columns give the frequency of different types of contexts.

	Vietnamese A2 (N=54)			Somali A2 (N=67)		
	no. of contexts	freq. of preterite cont.	freq. of prs. perfect cont.	no. of contexts	freq. of preterite cont.	freq. of prs. perfect cont.
Mean	36.7	16.4	2.3	35.1	30.7	3.9
Median	34.5	6.3	1.0	32.0	13.3	3.1
Std.d.	10.9	26.1	2.8	8.4	33.1	4.3
Minimum	16	0.0	0.0	21	0	0.0
Maximum	65	90.0	10.9	59	92.7	19.2
N texts with 0%		21	27		19	20

	Vietnamese B1 (N=45)			Somali B1 (N=30)		
	no. of contexts	freq. of preterite cont.	freq. of prs. perfect cont.	no. of contexts	freq. of preterite cont.	freq. of prs. perfect cont.
Mean	41.0	23.8	2.7	40.1	26.3	4.1
Median	40.0	13.8	2.4	38.5	12.9	2.9
Std.d.	10.5	27.4	3.4	10.9	29.1	5.5
Minimum	24	0.0	0.0	27	0.0	0.0
Maximum	65	83.3	17.2	66	87.5	23.5
N texts with 0%		15	19		7	11

First we notice that the two types of contexts occur with very different frequencies in all the groups. If we look at the measures of central tendency, for all the groups we find that clauses requiring a present perfect form amount to less than 5% of the total number of clauses in the texts. Similarly, it is true that clauses requiring a preterite form amount to between 16.4-30.7% of the total number of clauses in the texts. Furthermore, we note that there is a big distance between the means and the medians in the groups, which suggests non-symmetrically distributed observations. Moreover, if we look at the measures of dispersion, it is also true for all the groups that the ranges are huge, especially for preterite contexts. Again, the data show differences between the L1 groups at the A2 level, but not at the B1 level. In accordance with the results of the preceding testing, Vietnamese A2 texts have fewer contexts for the preterite (ViA2 mean 16.4, SoA2 mean 30.7) as well for the present perfect (ViA2 mean 2.3, SoA2 mean 3.9). This is also very clearly illustrated in the box plots below, which compare the frequencies of preterite contexts for each L1 group at each level:

Figure 6: Box plots showing the distribution of frequencies of preterite contexts by L1.

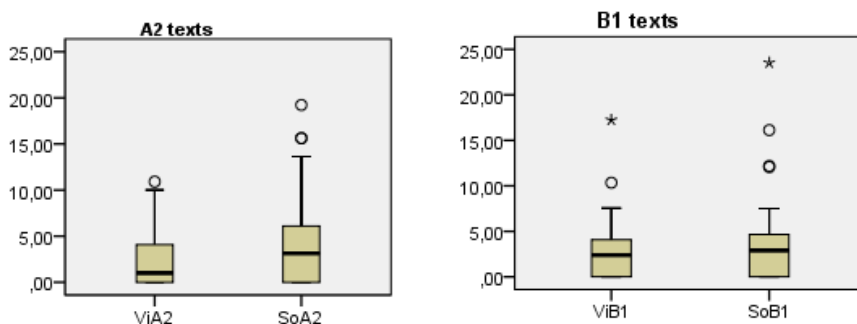


The boxes representing the L1 groups in the A2 plot are situated differently; the only feature in common is that both the ViA2 and the SoA2 distributions are positively skewed, indicating that the majority of the observations obtain low values. The Vietnamese group is characterised by a distribution in which many of the observations are clustered around the median, while many other observations deviate heavily from the median and are marked off as outliers or extreme values. The lengths of the box and the whisker in the SoB1 distribution suggest that the observations are widely spread. At the B1 level, the L1 groups do not seem to behave very differently from each other. The lines indicating the medians fall almost at the same value, and the lengths of the whiskers are rather similar.

Next we inspect the box plots for the distribution of present perfect contexts. We immediately see that the variation is generally large for all the groups at this level. Several of

the observations in the four groups are considered outliers and extreme values. Concerning L1 differences, there is obviously a difference in median between the L1 groups at the A2 level. However, at the B1 level the medians for the two groups are closer.

Figure 7: Box plots showing the distribution of frequencies of present perfect contexts by L1.



Significance testing

Step 1 Mann-Whitney U: I need to perform two two-tailed Mann-Whitney U tests to determine if the observed tendency for Vietnamese texts to have relatively fewer contexts for the preterite and the present perfect than Somali texts is significant.

Firstly, I test the preterite context frequency, and get a significant result for the difference between ViA2 (median 6.3) and SoA2 (13.3), $U = 1374.0$, $z = -2.310$, $p = 0.02$ (significant), effect size $r = 0.2$ (small). The same difference is not significant at the B1 level between ViB1 (median 13.8) and SoB1 (median 12.9), $U = 630.0$, $z = 0.493$, $p = 0.6$ (not significant), effect size $r = 0.06$ (very small).

Secondly, a Mann-Whitney U test shows that there is also a significant difference in frequency of present perfect contexts at the A2 level between ViA2 (median 1.0) and SoA2 (3.1), $U = 1375.0$, $z = -2.330$, $p = 0.02$ (significant), effect size $r = 0.2$ (small). Also here, the difference is not significant at the B1 level between ViB1 (median 2.4) and SoB1 (median 2.9), $U = 598.0$, $z = 0.861$, $p = 0.4$ (not significant), effect size $r = 0.1$ (small).

Step 2 Chi-square post hoc testing: The first step in the significance analysis reveals that there are significant differences between the frequency of preterite contexts and present perfect contexts at the A2 level: contexts for both the preterite and the present perfect form are significantly lower in the Vietnamese A2 group than in the Somali A2 group. Because more than 30% of the texts in the A2 data set have a 0% score for both preterite contexts and

present perfect contexts, the significance differences found have to be further analysed, initially by means of a couple of chi-square tests.

First I focus on contexts for the preterite, and I test if the significant difference results from a larger proportion of the Vietnamese A2 texts having zero preterite contexts than the proportion of Somali A2 texts. The proportions of texts are cross tabulated below:

Table 21: Cross tabulation of proportion of texts obtaining 0% preterite contexts.

	ViA2 (=54)	SoA2 (N=67)	total
N texts with preterite contexts = 0%	21	19	40
N texts with preterite contexts > 0%	33	48	81
total	54	67	121

A two-tailed chi-square test reveals that the difference between the groups in the proportion of texts having zero preterite contexts is not significant, $\chi^2 = 1.498$, $p = 0.2$ (not significant), effect size Cramer’s V = 0.1 (small).

Next we look at the proportions of A2 texts in the L1 groups having zero contexts for the present perfect category:

Table 22: Cross tabulation of proportion of texts obtaining 0% present perfect contexts.

	ViA2 (=54)	SA21 (N=67)	total
N texts with present perfect contexts = 0%	27	20	47
N texts with present perfect contexts > 0%	27	47	74
total	54	67	121

A two-tailed chi-square test reveals that the difference between the groups in the proportion of texts having zero present perfect contexts is significant, $\chi^2 = 5.11$, $p = 0.02$ (significant), effect size Cramer’s V = 0.2 (small).

Step 3 Mann-Whitney U post hoc testing: Again, since I am looking at both contexts for the preterite and contexts for the present perfect, I have to run two Mann-Whitney U tests as post hoc tests.

First a two-tailed Mann-Whitney U test is performed to examine whether the significant difference detected in the distribution of preterite contexts between the L1 groups at the A2 level reflects a significant difference in the distribution of texts obtaining more than zero preterite contexts. The result from the Mann-Whitney U test shows that there is a significant

difference in the distribution of texts obtaining more than zero contexts for the preterite (33 Vietnamese texts and 48 Somali texts) between ViA2 (median 12.1¹¹⁰) and SoA2 (35.5), $U = 547.5$, $z = -2.350$, $p = 0.02$ (significant), effect size $r = 0.3$ (medium).

I run a second two-tailed Mann-Whitney U test to examine whether the significant difference found in the distribution of present perfect contexts between the L1 groups at the A2 level not only reflects a difference in frequency of texts with zero present perfect contexts, but also a significantly different distribution of texts ranging between 1-100% present contexts. The result turned out negative: the difference in the distribution of texts obtaining more than zero contexts for the present perfect (27 Vietnamese texts and 47 Somali texts) is not significant, ViA2 (median 4.1) and SoA2 (3.7), $U = 565.5$, $z = -0.775$, $p = 0.4$ (not significant), effect size $r = 0.09$ (very small).

To conclude, a significant difference in L1 at the lower level, A2, is found: Vietnamese texts have fewer contexts for the preterite and the present perfect than Somali texts. However, I also find that these two differences have different qualities. The Vietnamese groups have fewer preterite contexts because Vietnamese A2 texts generally rate lower in their frequency of preterite contexts than Somali A2 texts do. However, the difference in contexts for the present perfect reflects that there are more Vietnamese A2 texts having zero present perfect contexts than in the Somali A2 group.

7.1.3 Grammatical encoding

The results so far provide information about the frequencies of the contexts in question, the preterite and the present perfect, and how frequent these past morphology contexts are in relation to the contexts that dominate many of the texts: present tense contexts. The next step is to examine to what extent these contexts are encoded grammatically by means of verb inflection. Although the main interest is to obtain results about the encoding of past time, I will start by surveying results from the analysis of the overall grammatical encoding in the texts.

¹¹⁰ In general, the medians reported in the post hoc testing with Mann-Whitney U are not the same the ones found in the table summarising the data for the variable in focus, or in the Mann-Whitney U testing in step 1. This is because only a subset of data (for instance, in this case those texts with less than 100% encoding frequency) are examined statistically in the post hoc testing.

7.1.3.1 Frequency of overall grammatical encoding of temporal contexts

The frequency analysis of overall grammatical encoding takes into account all the clauses in the texts that contain any possible type of temporal context (that is, contexts for the present, the preterite, the present perfect, and the past perfect). The analysis then expresses how many of those clauses have a verb inflected for tense in them.

Data summary

Table 23 presents the overall frequencies of grammatical encoding:

Table 23: Overall frequency of grammatical encoding by L1. The first column gives the total number of contexts, and the second column gives the encoding frequency.

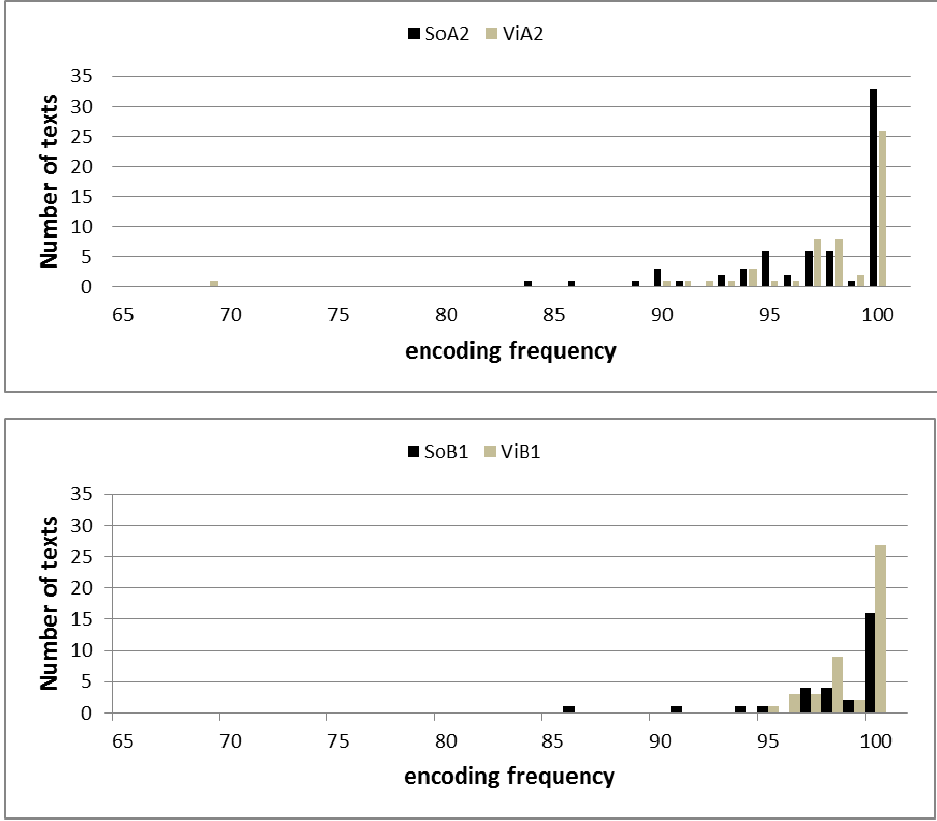
	Vietnamese A2 (N=54)		Somali A2 (N=67)	
	no. of contexts	freq. of encoded contexts	no. of contexts	freq. of encoded contexts
Mean	36.7	97.3	35.1	97.1
Median	34.5	98.3	32.0	100.0
Std.d.	10.9	4.8	8.4	3.9
Minimum	16	68.8	21	84.0
Maximum	65	100.0	59	100.0
N texts with 100%		26		34

	Vietnamese B1 (N=45)		Somali B1 (N=30)	
	no. of contexts	freq. of encoded contexts	no. of contexts	freq. of encoded contexts
Mean	41.0	98.8	40.1	98.0
Median	40.0	100.0	38.5	100.0
Std.d.	10.5	1.6	10.9	3.2
Minimum	24	94.3	27	86.0
Maximum	65	100.0	66	100.0
N texts with 100%		27		16

Obviously, the measures of central tendencies for all four groups suggest that the levels of grammatical encoding in the texts are generally high: at the A2 level the means and the medians are between 97-100%, and at the B1 level the means and the median lie between 98-100%¹¹¹. Furthermore, if we look at the L1 groups, there seem to be only small differences, and those we find concern the dispersion. For instance, the minimum value in ViA2 deviates greatly from the minimum value in the other groups. The histograms below illustrate the distributions for all the groups:

¹¹¹ Note that the investigation of the relation between the CEFR scale and temporal morphology in the texts assessed shows that there is a significant difference in temporal encoding between the texts (see table 91 in appendix D).

Figure 8: Histogram showing frequencies of overall grammatical encoding by L1.



Clearly, none of the distributions are symmetrical, the reason being that a great part of the observations are concentrated at the higher end of the scale. This is particularly the case for both B1 distributions, especially ViB1. The distributions differ most from each other at the A2 level. The bins in SoA2 are more spread out, whereas the bins in ViA2 are more concentrated. However, in ViA2 there is an outlier, which is a text in which only 68.8% of the clauses encode the temporal contexts.

Significance testing

Step 1 Mann-Whitney U: A two-tailed Mann-Whitney U test reports a negative result for the difference in frequency of overall grammatical encoding between the L1 groups at both levels. For the difference between ViA2 (median 98.3) and SoA2 (median 100), $U = 1757.00$, $z = -0.289$, $p = 0.7$ (not significant), effect size $r = 0.03$ (very small). Similarly, there was no significant difference for the B1 level between the Vietnamese and Somali groups, both with

median = 100.0, U = 603.50, z = -0.858, p = 0.4 (not significant), effect size r = 0.1 (small). Since no significant differences are detected, we do not proceed to post hoc testing.

To conclude, there are no significant L1 differences found in the overall grammatical encoding of temporal contexts in the texts.

7.1.3.2 Frequency of grammatical encoding in preterite contexts and present perfect contexts

This section outlines the results from the analysis of grammatical encoding of contexts for past morphology. Notice that the sample sizes for the groups have changed. This is because the results are based only on those texts having contexts for the preterite and the present perfect, and not all the texts.

Data summary

The table below gives the frequency of encoded preterite and present perfect contexts. An encoded preterite or present perfect context is simply a clause with a context for the preterite or the present perfect that has a finite verb within it. Hence, the context is considered grammatically encoded. The number of texts (N) is different for the two types of contexts surveyed in the table because the analysis is based on texts having the context types in focus.

Table 24: Frequency of grammatical encoding in preterite contexts and present perfect contexts by L1. The number of possible contexts for encoding and the encoding frequency is given in separate sections.

	Vietnamese A2				Somali A2			
	preterite contexts (N = 33)		prs. perfect contexts (N = 27)		preterite contexts (N = 48)		prs. perfect contexts (N = 47)	
	no. of contexts	freq. of encoding	no. of contexts	freq. of encoding	no. of contexts	freq. of encoding	no. of contexts	freq. of encoding
Mean	11.4	98.3	1.7	100.0	15.9	98.9	2.0	99.3
Median	4.0	100.0	1.0	100.0	14.5	100.0	1.0	100.0
Std.d.	13.3	4.8	1.1	0.0	12.5	3.4	1.4	4.9
Minimum	1	75.0	1	100.0	1	78.6	1	66.7
Maximum	45	100.0	6	100.0	39	100.0	6	100.0
N texts with 100%		26		27		39		46

	Vietnamese B1				Somali B1			
	<i>preterite contexts</i> (N = 30)		<i>prs. perfect contexts</i> (N = 26)		<i>preterite contexts</i> (N = 23)		<i>prs. perfect contexts</i> (N = 19)	
	no. of contexts	freq. of encoding	no. of contexts	freq. of encoding	no. of contexts	freq. of encoding	no. of contexts	freq. of encoding
Mean	15.9	99.2	1.9	100.0	13.7	99.1	2.6	100.0
Median	12.0	100.0	2.0	100.0	9.0	100.0	1.0	100.0
Std.d.	12.7	1.9	1.1	0.0	12.9	4.2	2.1	0.0
Minimum	1	92.9	1	100.0	1	80.0	1	100.0
Maximum	38	100.0	5	100.0	53	100.0	8	100.0
N texts with 10 0%		25		26		22		19

Firstly, neither between the two types of past contexts (preterite and present perfect) nor between the L1 groups is it possible to observe differences in encoding frequency. Secondly, although there are no big differences between the means and the medians, the minimum and maximum values indicate very large ranges. Because of the great variation within all the groups, a frequency table is a more suitable illustration of the distribution than a histogram or a box plot is. The table below displays the distribution of encoded preterite contexts in the texts:

Table 25: Frequency table of encoded preterite contexts by L1

Frequency of encoded preterite contexts	Frequency of texts			
	ViA2 (N=33)	SoA2(N=48)	ViB1(N=30)	SoB1 (N=23)
75.0-80.0	1	1	0	1
81.0-90.0	1	0	0	0
91.0-95.0	0	3	2	0
96.0-99.0	5	4	3	0
100.0	26	40	25	22
total N	33	48	30	23

For all the groups most of the observations are clustered around 100% encoding of preterite contexts. Also, all the groups besides ViB1 have an outlier in the data set that only encodes between 75-80% of the preterite contexts in the texts. The observations in ViB1 are apparently less spread out than in the other groups.

Regarding the encoding frequency of present perfect contexts, there is no point in listing them in a frequency table. This is because out of the 119 total texts that have contexts for such encoding, 118 of them obtain a 100% frequency. The only text in which not all the

present perfect contexts are encoded, a SoA2 text, obtains a frequency of 66.7% because 1 of 3 clauses with present perfect contexts does not have a finite verb in it.

Significance testing

Step 1 Mann-Whitney U: Although group differences in the frequencies of grammatical encoding of preterite and present perfect contexts can hardly be detected, I perform step 1 of the statistical procedures for confirmation.

A two-tailed Mann-Whitney U test reports no significant difference in the relative encoding frequency of preterite contexts between ViA2 (median 100.0) and SoA2 (median 100.0), $U = 755.0$, $p = 0.6$ (not significant), effect size $r = 0.06$ (very small), and for the difference between ViB1 (median 100.0) and SoB1 (median 100.0), $U = 305.0$, $p = 0.2$ (not significant), effect size $r = 0.2$ (small). Similarly, a two-tailed Mann-Whitney U test produces a non-significant result for the encoding frequency of present perfect contexts between ViA2 (median 100.0) and SoA2 (median 100.0), $U = 621.0$, $p = 0.4$ (not significant), effect size $r = 0.09$ (very small), and for the difference between ViB1 (median 100.0) and SoB1 (median 100.0), $U = 247.0$, $p = 1.0$ (not significant), effect size $r = 0$.

In conclusion, the level of encoding of preterite and present perfect contexts is high in all the groups, and there are no L1 differences revealed.

7.1.3.3 Frequency of use of the present form, preterite form and the present perfect form

The analysis of grammatical encoding only tells if the clauses in a text contain a finite verb form, and does not give information about whether or not the verb forms used in the clause encodes the previously-identified context. Consequently, the variable *grammatical encoding* includes correct encoding as well as incorrect encoding. Accordingly, frequency of encoded preterite contexts; for instance, is *not* the same as frequency of use of the preterite. Hence, I also include an analysis of frequency of use of the present, preterite, and the present perfect.

Data summary

Table 26: Frequency of use of the present, the preterite and the present perfect. The first column gives the number of tense forms used and the other columns give the frequency of use of the specific forms.

	Vietnamese A2 (N=54)				Somali A2 (N=67)			
	no. of forms	freq. of present	freq. of preterite	freq. of prs. prf.	no. of forms	freq. of present	freq. of preterite	freq. of prs. prf.
Mean	35.9	81.0	16.2	2.3	34.1	66.4	29.3	3.7
Median	34.5	91.8	5.4	1.0	32.0	80.0	17.1	3.1
Std.d.	11.0	27.2	25.6	2.8	8.4	30.2	29.4	5.1
Minimum	11	4.2	0.0	0.0	20	5.9	0.0	0.0
Maximum	65	100.0	89.6	9.7	58	100.0	94.1	23.1
N texts with 0%		0	21	27		0	14	27

	Vietnamese B1 (N=45)				SomaliB1 (N=30)			
	no. of forms	freq. of present	freq. of preterite	freq. of prs. prf.	no. of forms	freq. of present	freq. of preterite	freq. of prs. prf.
Mean	40.5	73.2	23.5	2.7	39.2	70.4	26.2	3.3
Median	39.0	83.3	13.8	1.8	37.5	83.9	13.7	3.0
Std.d.	10.3	27.1	26.5	3.5	10.6	29.4	28.1	3.6
Minimum	24	13.9	0.0	0.0	27	12.5	0.0	0.0
Maximum	64	100.0	86.1	17.2	66	100.0	84.4	15.2
N texts with 0%		0	11	21		0	6	12

In all the groups the present is the most frequently used form in texts, which of course is a consequence of the fact that present contexts dominate in the clauses. Furthermore, the present perfect is used with a very low frequency (ViA2 2.3, SoA2 3.7, ViB1 2.7, and SoB1 3.3). As for L1 differences, there are differences observed at the A2 level. ViA2 have higher frequencies of the present than SoA2 (81.0 versus 66.4), and the number of texts having 0% use of the preterite is highest in ViA2 (21 versus 14). In addition, the preterite is used with a higher frequency in SoA2 than in ViA2 (29.3 versus 16.2).

Significance testing

Step 1 Mann-Whitney U: Three two-tailed Mann-Whitney U tests are conducted to examine whether there are significant differences between the L1 groups at both levels in the frequencies of use of the three types of forms.

- Use of the present: The difference in frequency of present use between ViA2 (median 91.8) and SoA2 (median 80.0) is extremely significant, $U = 1185.5$ $z = 3.262$, $p = 0.001$ (extremely significant), effect size $r = 0.3$ (medium). The difference in frequency of

present use between ViB1 (median 83.3) and SoB1 (median 83.9) is not significant, $U = 654.5$, $z = 0.222$, $p = 0.8$ (not significant), effect size $r = 0.03$ (very small).

- Use of the preterite: The difference in frequency of preterite use between ViA2 (median 5.4) and SoA2 (median 17.1) is highly significant, $U = 1256.0$, $z = 2.919$, $p = 0.004$ (highly significant), effect size $r = 0.3$ (medium). The difference in frequency of preterite contexts between ViB1 (median 13.8) and SoB1 (median 13.7) is not significant, $U = 638.0$, $z = 0.402$, $p = 0.7$ (not significant), effect size $r = 0.05$ (very small).
- Use of the present perfect: The difference in frequency of present perfect use between ViA2 (median 1.0) and SoA2 (median 3.1) is not significant, $U = 1546.5$, $z = 1.434$, $p = 0.2$ (not significant), effect size $r = 0.1$ (small). The difference in frequency of present perfect use between ViB1 (median 1.8) and SoB1 (median 3.0) is not significant, $U = 608.0$, $z = 0.785$, $p = 0.5$ (not significant), effect size $r = 0.09$ (very small).

Further post hoc testing of the significant difference found in present use at the A2 level is not required because less than 30% of the texts have 100% present use. Similarly, less than 30% of the texts have 0% preterite use. We conclude that Vietnamese A2 texts use the present more frequently than Somali A2 texts, and that Somali A2 texts use the preterite more frequently than Vietnamese A2 texts. There are no significances detected between the L1 groups at any level in the frequency of present perfect use.

We can conclude that Vietnamese A2 texts use the present significantly more often than Somali A2 texts, and that Somali A2 texts use the preterite significantly more often than Vietnamese texts.

7.1.4 Correctness

This part of the analysis scrutinizes the clauses in which temporal context is encoded correctly. Again, I include the results of the analysis of overall correct encoding before I concentrate on the correctness of encoding of past time.

7.1.4.1 Frequency of overall correct encoding

The frequency of overall correct encoding expresses the number of clauses in the texts that encode the previously-identified temporal contexts, which may be of four types: present tense contexts, preterite contexts, present perfect contexts, and past perfect contexts.

Data summary

In accordance with the significant difference found between A2 texts and B1 texts in overall grammatical encoding, which was summarised in the previous chapter (section 6.5.3.1), texts at the B1 level (ViB1 mean 95.1, SoB1 mean 92.8) have a higher frequency of correctness than texts at the A2 level (ViA2 mean 93.6, SoA2 mean 90.9)¹¹². Also, from the measures of spread, we see that the standard deviations are largest in the A2 groups; the lowest frequencies observed are also found at this level.

Table 27: Overall frequency of correctness by L1. The first column reports the number of encoded contexts, and the frequency of correct encoding is given in the second column.

	Vietnamese A2 (N=54)		Somali A2 (N=67)	
	no. of contexts	freq. of correctly encoded contexts	no. of contexts	freq. of correctly encoded contexts
Mean	36.7	93.6	35.1	90.9
Median	34.5	96.7	32.0	93.1
Std.d.	10.9	8.9	8.4	7.0
Minimum	16	53.8	21	72.1
Maximum	65	100.0	59	100.0
N texts with 100%		15		9

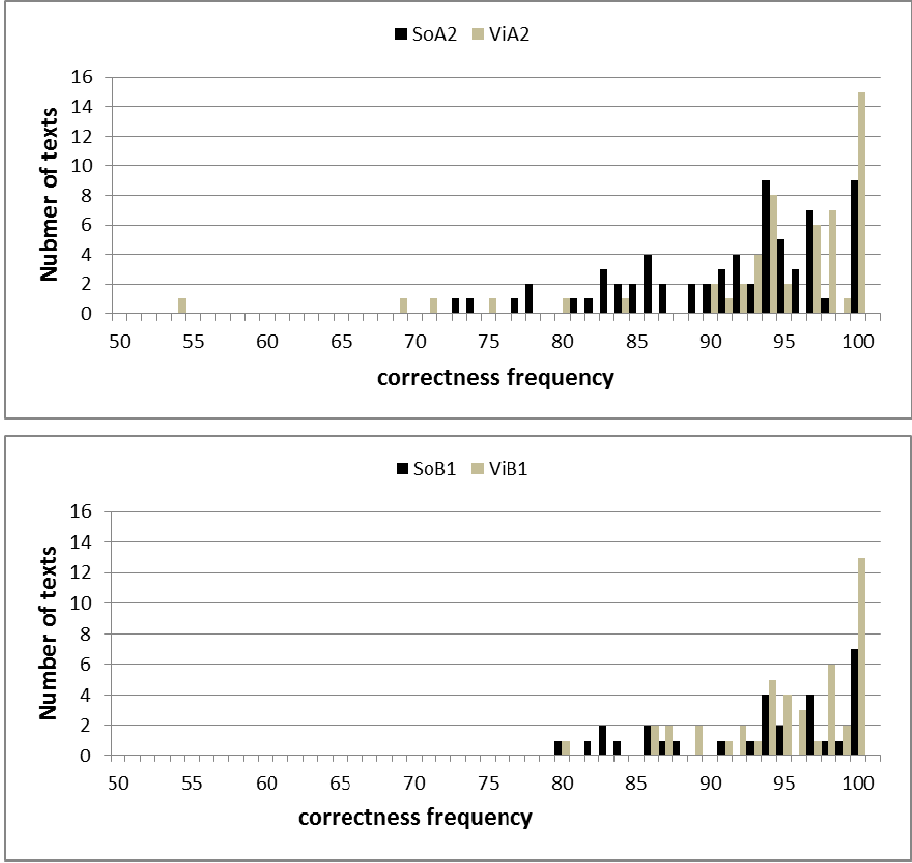
	Vietnamese B1 (N=45)		Somali B1 (N=30)	
	no. of contexts	freq. of correctly encoded contexts	no. of contexts	freq. of correctly encoded contexts
Mean	41.0	95.1	40.1	92.8
Median	40.0	96.0	38.5	94.1
Std.d.	10.5	5.0	10.9	6.5
Minimum	24	80.0	27	79.5
Maximum	65	100.0	66	100.0
N texts with 100%		13		7

We also find differences between the L1 groups if we look at the measures of central tendency. At both levels, both the means and medians are higher in the Vietnamese group,

¹¹² The CEFR investigation in appendix D shows that there is a marginally significant difference, accompanied by a small effect size, in overall correct encoding between A2 texts and B1 texts (see table 93).

and the number of texts obtaining a 100% score is higher in the Vietnamese groups (A2 level 15 versus 9 texts, B1 level 13 versus 7 texts). However, this is also the group with larger variation, a trend which is also evident in the histograms below. There are four texts in ViA2 which deviate severely from the rest of the sample. These texts have correctness rates between 69%-84%, with one observation deviating even more from the rest (53.8 correctness):

Figure 9: Histogram showing the frequencies of overall correctness by LI.



Obviously, none of these distributions are close to being symmetrical or bell-shaped. They are all negatively skewed to the left. The majority of observations are concentrated above 90% correct encoding, and there are many texts that encode all the temporal contexts in the clauses correctly. However, the A2 distributions have more outliers than the B1 distributions.

Significance testing

Step 1 Mann-Whitney U: The Mann-Whitney U test reports that there is a highly significant difference in frequency of correctness between ViA2 (median 96.7) and SoA2 (median 93.1), $U = 1235.0$, $z = -03.005$, $p = 0.003$ (highly significant), effect size $r = 0.3$ (medium). The difference between ViB1 (median 96.0) and SoB1 (median 94.1) is not significant, $U = 547.0$, $z = -1.398$, $p = 0.2$ (not significant), effect size $r = 0.2$ (small).

Although a significant difference is detected at the A2 level, further post hoc testing is not required because the number of A2 texts with a 100% score does not exceed the 30% limit. We can therefore conclude that at the A2 level, the frequency of overall correctness is significantly higher in the Vietnamese group than in the Somali group.

7.1.4.2 Frequency of correct encoding of preterite contexts

Here I only look into texts having clauses that require the encoding of past time by means of the preterite. Consequently, N is not the same here as in the preceding section, which deals with the overall level of correctness in the texts.

Data summary

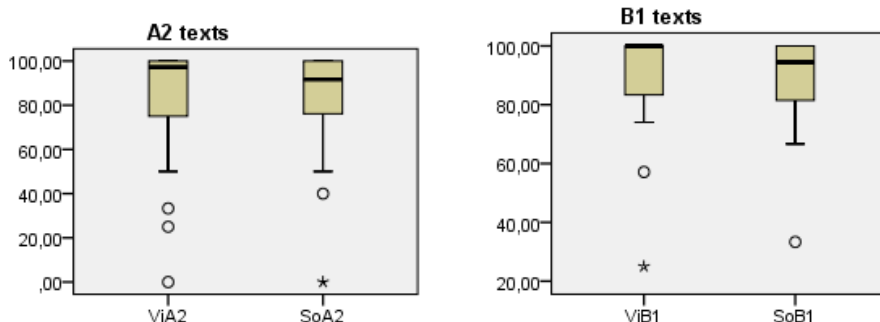
Table 28: Frequency of correctness in preterite contexts by L1. The first column reports the number of preterite contexts, and the frequency of correct encoding is given in the second column.

	Vietnamese A2 (N=33)		Somali A2 (N=48)	
	no. of preterite contexts	freq. of correctly encoded preterite contexts	no. of preterite contexts	freq. of correctly encoded preterite contexts
Mean	11.4	83.6	15.9	85.0
Median	4.0	97.2	14.5	91.6
Std.d.	13.3	25.0	12.5	19.1
Minimum	1	0.0	1	0.0
Maximum	45	100.0	39	100.0
N texts with 100%		16		16

	Vietnamese B1 (N=30)		Somali B1 (N=23)	
	no. of preterite contexts	freq. of correctly encoded preterite contexts	no. of preterite contexts	freq. of correctly encoded preterite contexts
Mean	15.9	91.0	13.7	87.7
Median	12.0	100.0	9.0	94.4
Std.d.	12.7	16.4	12.9	16.8
Minimum	1	25.0	1	33.3
Maximum	38	100.0	53	87.7
N texts with 100%		16		8

Even though the CEFR investigation presented in chapter 6 and appendix D found no level difference in the correctness frequency in preterite contexts (table 94), the most noticeable difference between the groups in table 28 is found between ViA2 and ViB1 (83.6 versus 91.0) indicating that there is a level difference in the Vietnamese group. Yet, there is no particular difference between the two Somali groups (85.0 versus 87.7). However, in all four groups there are substantial distances between the means and the medians, indicating that the observations are not symmetrically distributed. The summary of the data in the box plots below confirms the asymmetry of the distributions and reveals that the distributions resemble each other. There are outliers in all the groups, and all the distributions are left-skewed with the majority of the observations clustered at the high end of the scale. As for L1 differences within the levels, they cannot be detected based on a visual evaluation of the data.

Figure 10: Box plots showing the distribution of frequencies of correctness in preterite contexts by L1.



Significance testing

Step 1 Mann-Whitney U: There is no significant difference between the L1 groups for either of the levels. The results reported for the difference in frequencies between ViA2 (median 97.2) and SoA2 (median 91.6) were $U = 730.5$, $z = -0.610$, $p = 0.5$ (not significant), effect size $r = 0.07$ (very small). The results reported for the difference between ViB1 (median 100) and SoB1 (median 94.4) were $U = 273.0$, $z = -1.357$, $p = 0.2$ (not significant), effect size $r = 0.2$ (small). Because the result of the significance testing is negative, I do not perform any further testing.

To sum up, I do not find a significant difference between the L1 groups in frequency of correct encoding in preterite contexts.

7.1.4.3 Frequency of correct encoding of present perfect contexts

I now consider the texts having clauses which require the encoding of past time by means of the present perfect. As a result, N changes here as well because now I only include texts with present perfect contexts.

Data summary

Table 29: Frequency of correctness in present perfect contexts by L1. The first column reports the number of prs. prf. contexts, and the frequency of correct encoding is given in the second column.

	Vietnamese A2 (N=27)		Somali A2 (N=47)	
	no. of prs. prf. contexts	freq. of correctly encoded prs. prf. contexts	no. of prs. prf. contexts	freq. of correctly encoded prs. prf. contexts
Mean	1.7	90.7	2.0	73.5
Median	1.0	100.0	1.0	100.0
Std.d.	1.1	22.8	1.4	41.8
Minimum	1	0	1	0
Maximum	6	100	6	100
N texts with 100%		22		32

	Vietnamese B1 (N=26)		Somali B1 (N=19)	
	no. of prs. prf. contexts	freq. of correctly encoded prs. prf. contexts	no. of prs. prf. contexts	freq. of correctly encoded prs. prf. contexts
Mean	1.9	76.0	2.6	70.2
Median	2.0	100.0	1.0	100.0
Std.d.	1.1	40.6	2.1	35.7
Minimum	1	0.0	1	0.0
Maximum	5	100.0	8	100.0
N texts with 100%		18		10

First of all, the figures being converted into frequencies are small. For instance, a 100% score in this case indicates, on average, a single occurrence of correct encoding in a present perfect context. Also, the standard deviations are enormous. Hence, this numerical data summary has severe limitations. A frequency table serves the purpose of giving insight into the correctness rates for encoding of present perfect contexts.

Table 30: Frequency table of correctness in present perfect contexts

Correctness frequency in prs. prf c.	Frequency of texts			
	ViA2 (N=27)	SoA2(N=47)	ViB1(N=26)	SoB1 (N=19)
0.0	1	10	5	2
1.0-10.0	0	0	0	0
11.0-20.0	0	1	0	0
21.0-30.0	0	0	0	0
31.0-40.0	0	0	1	3
41.0-50.0	1	2	0	2
51.0-60.0	0	0	0	1
61.0-70.0	3	2	1	1
71.0-80.0	0	0	1	0
81.0-90.0	0	0	0	0
91.0-99.0	0	0	0	0
100.0	22	32	18	10
Total N	27	47	26	19

From the frequency table we note that the majority of texts obtain 100% correct encoding of present perfect contexts, and that the remaining texts are scattered between 0-99% correctness.

Significance testing

The difference in correctness frequency in present perfect contexts will be tested one-tailed, as one of the hypotheses specifically predicts the frequency to be highest in the Vietnamese texts (chapter 4, section 4.2).

Step 1 Mann-Whitney U: A one-tailed Mann-Whitney U test is performed in order to find out if there are significant differences between the L1 groups. The results show that the difference between ViA2 (median 100) and SoA2 (median 100) is marginally significant, $U = 528.0$, $z = -1.534$, $p = 0.06$ (marginally significant), effect size $r = 0.2$ (small). The difference is not significant at the B1 level between ViB1 (median 100) and SoB1 (median 100), $U = 216.5$, $z = 0.806$, $p = 0.2$ (not significant), effect size $r = 0.1$ (small). Because more than 30% of the texts have 100% correctness in present perfect contexts, the significant difference between the L1 groups at the A2 level must be analysed more closely.

Step 2 Chi-square post hoc testing: In order to identify the quality of the significant difference revealed by the Mann-Whitney U test, I examine whether the reason for the difference is that ViA2 has more texts than SoA2 with 100% correctness in present perfect contexts:

Table 31: Cross tabulation of proportion of texts having 100% correctness in present perfect contexts.

	ViA2 (=27)	SA21 (N=47)	total
N texts with correctness in prs. perfect contexts = 100%	22	32	54
N texts with correctness in prs. perfect contexts < 0%	5	15	20
total	27	47	74

A one-tailed chi-square test reveals that the difference between the L1 groups in the proportion of A2 texts having 100% correct encoding of present perfect contexts is marginally significant, $\chi^2 = 1.560$, $p = 0.10$ (marginally significant), effect size Cramer's $V = 0.1$ (small).

Step 3 Mann-Whitney U post hoc testing: It is not a valid option to conduct a Mann-Whitney U post-hoc test on the texts having less than 100% correct encoding of present perfect contexts. This is because the sample of the data subset is so small (ViA2 $N = 5$, SoA2 $N = 15$).

In conclusion, in the Vietnamese A2 group, the frequency of correctness in present perfect contexts is marginally significantly higher than in the Somali A2 group. Vietnamese texts at the lower level obtain a 100% score more often than Somali texts do. However, the effect size is considered small.

7.1.4.4 Frequency of correct encoding of present contexts

As underscored several times, the present category is relevant to consider in this study because it is so dominating in the data set, and because the present perfect is a present category as well as a past category (see for instance section 3.2.2.3 in chapter 3). Hence, we survey the correctness frequency in present contexts. Again, N is not the same here as in the preceding section dealing with correctness of present perfect contexts because we only look at texts that have clauses with present contexts.

Data summary

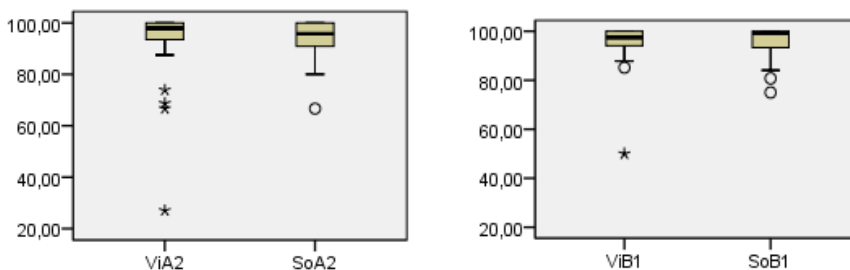
Table 32: Frequency of correctness in present contexts by L1. The first column reports the number of present contexts, and the frequency of correct encoding in present contexts is given in the second column.

	Vietnamese A2 (N=54)		Somali A2 (N=65)	
	no. of present contexts	freq. of correctly encoded present contexts	no. of present contexts	freq. of correctly encoded present contexts
Mean	28.7	94.5	22.8	94.2
Median	30.0	97.9	25.0	95.8
Std.d.	12.2	11.8	10.8	6.6
Minimum	3	27.0	2	66.7
Maximum	61	100.0	42	100.0
N texts with 100%		26		23

	Vietnamese B1 (N=45)		Somali B1 (N=30)	
	no. of present contexts	freq. of correctly encoded present contexts	no. of present contexts	freq. of correctly encoded present contexts
Mean	28.9	95.9	27.7	95.4
Median	29.0	97.4	27.5	99.2
Std.d.	12.4	7.9	15.1	6.7
Minimum	6	50.0	2	75.0
Maximum	60	100.0	62	100.0
N texts with 100%		20		15

There is a generally high level of correctness in present contexts, and L1 differences are not easily detected although we note that there are differences in medians at both levels. We also note that the standard deviations are very large in ViA2. From the box plots below we see that there are outliers and extreme values identified in all the groups. Furthermore, there do seem to be differences of importance between the L1 groups:

Figure 11: Box plots showing the distribution of frequencies of correctness in present contexts by L1.



Significance testing

Step 1 Mann-Whitney U: A two-tailed Mann Whitney U test shows that the difference in frequency of correct use in present contexts between the ViA2 group (median 97.9) and the SoA2 group (median 95.8) is marginally significant, $U = 1426.0$, $z = -1.821$, $p = 0.07$ (marginally significant), effect size $r = 0.2$ (small). The difference in frequency of correct use in present contexts between the ViB1 group (median 97.4) and the SoB1 group (median 99.2) is not significant, $U = 672.5$, $z = -0.029$, $p = 0.9$ (not significant), effect size $r = 0.03$ (very small). I will analyse the results at the A2 level further because more than 30% of the texts have a 100% score.

Step 2 Chi-square post hoc testing: A two-tailed chi-square test is performed to see if the significant difference is the result of more texts obtaining 100% encoding in present contexts in ViA2 than in SoA2. The proportions are cross-tabulated below:

Table 33: Cross tabulation of proportion of A2 texts having 100% correctness in present contexts.

	A2 (=54)	B1 (N=65)	total
Texts with encoding frequency = 100%	26	23	49
Texts with encoding frequency < 100%	28	42	70
total	54	65	119

The chi-square test reveals that there is no significant difference between the groups in the proportion of texts, $\chi^2 = 1.984$, $p = 0.1$ (marginally significant), effect size Cramer's $V = 0.1$ (small).

Step 3 Mann-Whitney U post hoc testing: Next I carry out a two-tailed Mann-Whitney U test on a subset of the data, which only contains texts with less than 100% encoding frequency (28 A2 texts, 42 B1 texts). This way I can check if the significant difference between the groups in encoding frequency involves a significant difference in the distribution of texts not obtaining a 100% score. The test yields a non-significant result between the A2 group (median 93.8) and the B1 group (median 93.2), $U = 483.0$, $z = -1.259$, $p = 0.2$ (not significant), effect size $r = 0.1$ (small).

To conclude, the number of texts with 100% correct encoding in present contexts is marginally significantly higher in ViA2 than in SoA2. However, the effect size of this difference is considered small.

7.1.5 Incorrect encoding

This part of the analysis concerns those texts with clauses in which the temporal context is not encoded correctly because a preterite, a present perfect or a present form occurs in an inappropriate context. In other words, I will now concentrate on some particular types of incorrect encoding: incorrect use of the preterite in present and present perfect contexts, incorrect use of the present perfect in present and preterite contexts, and incorrect use of the present in preterite and present perfect contexts. Furthermore, the occurrences of incorrect distribution of the preterite in present perfect contexts, and the present perfect in preterite contexts, will be given special emphasis. One of the hypotheses relating to L1 influence makes predictions about these types of incorrect uses.

7.1.5.1 Incorrect encoding of the preterite

Firstly the incorrect uses of the preterite are examined. In the analysis, only those texts which use the preterite form are included (67 Vietnamese texts and 77 Somali texts). Specifically, the analysis looks at the incorrect distribution of the preterite in two types of contexts: in present contexts and in present perfect contexts.

Data summary

The first column in the table gives the number of preterite forms used in the texts. The next column gives the frequency of the incorrect use of the preterite in present and present perfect contexts. Accordingly, for ViA2, on average the preterite is used 11.7 times (mean), and of these instances 10.7% are incorrectly distributed in present contexts, whereas 2.1% are incorrectly distributed in present perfect contexts.

Table 34: Frequency of incorrect use of the preterite by L1. The first column reports the number of preterite use. The frequency of incorrect use in present and prs. prf. contexts is given in the columns to the right.

	Vietnamese A2 (N=33)			Somali A2 (N=53)		
	no. of preterite forms	freq. of preterite incorrect in present c.	freq. of preterite incorrect in prs. prf. c.	no. of preterite forms	freq. of preterite incorrect in present c.	freq. of preterite incorrect in prs. prf. c.
Mean	11.7	10.7	2.1	13.4	9.9	8.0
Median	5.0	0.0	0.0	10.0	0.0	0.0
Std.d.	14.0	22.3	9.3	11.0	22.5	20.9
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	51	100.0	50.0	38	100.0	100.0
N texts with 0%		24	31		37	42

	Vietnamese B1 (N=34)			Somali B1 (N=24)		
	no. of preterite forms	freq. of preterite incorrect in present c.	freq. of preterite incorrect in prs. prf. c.	no. of preterite forms	freq. of preterite incorrect in present c.	freq. of preterite incorrect in prs. prf. c.
Mean	13.7	17.8	1.5	12.8	1.6	8.7
Median	8.5	0.0	0.0	10.0	0.0	0.0
Std.d.	12.4	34.0	8.6	11.9	3.5	21.7
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	37	100.0	50.0	46	12.5	100.0
N texts with 0%		19	33		19	16

Because of the great variation evident in the measures of dispersion, and because the frequencies are based on small figures, it is important to be cautious in drawing strong conclusions based on the tendencies expressed in the means and the medians. From the last row in the table we see that some of the types of incorrect use occur very rarely in some of the groups' texts. There are two trends emerging in table, one which concerns the B1 level, and one which concerns both levels. Firstly, the difference in frequency of preterite being used incorrectly in present contexts is large between the L1 groups at the B1 level (17.8 in ViB1 versus 1.6 in SoB1). At the A2 level, the frequency of this type of misuse is similar (10.7 in ViA2, 9.9 in SoA2). The second trend concerns the other type of incorrect use of the preterite. Even though we should avoid giving too much emphasis to the tendencies expressed numerically in the columns that give information about the use of the preterite in present perfect contexts, the fact that this type of incorrect distribution of the preterite exists mainly in Somali texts is a highly interesting result. Instances of the preterite being used incorrectly in a present perfect context are only found in 2 Vietnamese A2 texts (31 of 33 texts have no

occurrences), and only in 1 Vietnamese B1 text (33 of 34 texts have no occurrences). This indicates that the Somali informants have more trouble distinguishing the preterite from the present perfect than the Vietnamese informants do. The following frequency tables give a more detailed view of the individual variation in the data set. A frequency table for the incorrect use of the preterite in present contexts is presented first:

Table 35: Frequency table of preterite used incorrectly in present contexts by L1

Preterite used incorrectly in present contexts	Frequency of texts			
	ViA2 (N=33)	SoA2(N=53)	ViB1(N=34)	SoB1 (N=24)
0.0	24	37	19	19
1.0-10.0	1	4	6	3
11.0-20.0	1	1	2	2
21.0-30.0	3	2	1	0
31.0-40.0	0	4	1	0
41.0-50.0	2	1	0	0
51.0-60.0	1	1	0	0
61.0-70.0	0	0	0	0
71.0-80.0	0	0	1	0
81.0-90.0	0	0	0	0
91.0-99.0	0	0	0	0
100.0	1	2	4	0
total N	33	53	34	24

The L1 difference in incorrect use of the preterite in present contexts at the B1 level is easily observed in the frequency table. Whereas there are only 5 out of 24 Somali B1 texts, or 20.8% of all the texts in SoB1, with this particular incorrect encoding, 15 out of 34 Vietnamese B1 texts, or 44.1% of all the texts in ViB1, use the preterite incorrectly in present contexts.

Table 36: Frequency table of preterite used incorrectly in present perfect contexts by L1

Preterite used incorrectly in prs. perfect contexts	Frequency of texts			
	ViA2 (N=33)	SoA2(N=53)	ViB1(N=34)	SoB1 (N=24)
0.0	31	42	33	16
1.0-10.0	0	3	0	2
11.0-20.0	1	2	0	3
21.0-30.0	0	1	0	1
31.0-40.0	0	0	0	1
41.0-50.0	1	1	1	0
51.0-60.0	0	1	0	0
61.0-70.0	0	2	0	0
71.0-80.0	0	0	0	0
81.0-90.0	0	0	0	0
91.0-99.0	0	0	0	0
100.0	0	1	0	1
total N	33	53	34	24

Again, if we count the frequency of texts with preterite incorrectly used in present perfect contexts, regardless of level, we find that there are only 3 Vietnamese texts (2 A2 texts and 1 B1 text) but 19 Somali texts (11 A2 texts and 8 B1 texts) with this type of misuse.

Significance testing

I will first test whether the difference in frequency of preterite incorrectly used in present contexts is significant. Since this difference seems to be specific for the L1 groups at the B1 level, I will not collapse the L1 groups. Secondly, I will test for difference in frequency of preterite use in present perfect contexts.

7.1.5.1.1 Preterite incorrect in present contexts

Step 1 Mann-Whitney U: A two-tailed Mann-Whitney U test reports a non-significant difference between ViA2 and SoA2 both with median 0.0, $U = 862.5$, $z = -0.133$, $p = 0.9$ (not significant), $r = 0.01$ (very small). The test reports a significant difference between ViB1 (median 0.0) and SoB1 (median 0.0), $U = 294.5$, $z = -2.123$, $p = 0.03$ (significant), $r = 0.3$ (medium). Because in more than 30% of the texts (19 Vietnamese texts and 19 Somali texts) 0% preterite is used incorrectly in present contexts, the result must be further analysed.

Step 2 Chi-square post hoc testing: The cross tabulation below gives the proportion of Vietnamese and Somali texts at B1 level with zero incorrect use of the preterite in present contexts:

Table 37: Cross tabulation of texts with 0% incorrect uses of the preterite in present contexts.

	ViB1 (=34)	SoB1 (N=24)	total
N texts with preterite incorrectly distributed in present contexts = 0%	19	19	38
N texts with preterite incorrectly distributed in present contexts > 0%	15	5	20
total	34	24	58

A two-tailed chi-square test finds that the difference between the L1 groups in the proportion of B1 texts having 0% incorrect use of preterite in present contexts is marginally significant, $\chi^2 = 1.560$, $p = 0.06$ (marginally significant), effect size Cramer’s V = 0.2 (small).

Step 3 Mann-Whitney U post hoc testing: It is not a valid option to conduct a Mann-Whitney U post-hoc test on the texts having more than 0% incorrect use of this type because the

sample of the data subset is so small, in particularly for the Somali B1 group (ViB1 N = 15, SoB1 N = 5).

The conclusion is that there is a marginally significantly higher number of B1 texts with incorrect use of the preterite in present contexts in the Vietnamese group than in the Somali group, and the effect size is small. The next passages analyse the difference between Vietnamese and Somali texts, regardless of level, in frequency of incorrect use of the preterite in present perfect contexts. The statistical testing of this difference must be one-tailed because hypothesis 1.2 specifically predicts that this type of incorrect use will be more frequent in Somali texts (see section 4.2 in chapter 4). Since the same L1 pattern exists at both levels, I will dismiss the level variable in order to increase the sample sizes so that it is possible to test the observed difference statistically.

7.1.5.1.2 Preterite incorrect in present perfect contexts

Step 1 Mann-Whitney U: A one-tailed Mann-Whitney U test shows that the difference in incorrect distribution of preterite in present perfect contexts is extremely significant between the Vietnamese group (median 0.0¹¹³) and the Somali group (median 0.0), U = 2066.0, z = -3.285, p = 0.001 (extremely significant), effect size r = 0.3 (medium). Because more than 30% of the texts have a 0% score, I perform post hoc testing in accordance with the procedures.

Step 2 Chi-square as post hoc test: The proportions are given below in the cross tabulation:

Table 38: Cross tabulation of texts with 0% incorrect uses of the preterite in prs. perfect contexts.

	Vi (=67)	So (N=77)	total
N texts with preterite incorrectly distributed in prs. perfect contexts = 0%	64	58	122
N texts with preterite incorrectly distributed in prs. perfect contexts > 0%	3	19	22
total	67	77	144

¹¹³ In general, when I collapse the L1 groups because the data summary shows that a similar trend is found within the L1 groups across level placement, the medians reported in the statistical testing are not the same as the medians given in the associated table. This is because the medians are generated based on another sample (all L1 texts with similar L1 background regardless of level) than the medians for the four groups reported in the table are.

A one-tailed chi-square test shows that there is a highly significant difference in the proportion of texts having incorrect distribution of the preterite in present perfect contexts, $\chi^2 = 11.291$, $p = 0.001$ (highly significant), effect size Cramer's $V = 0.3$ (medium).

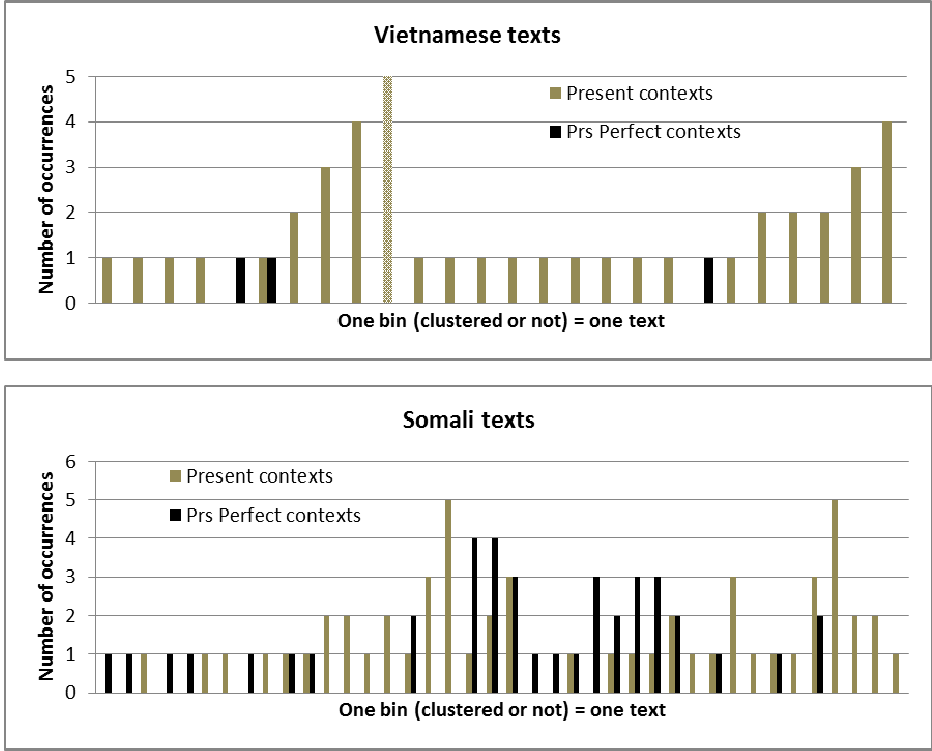
Step 3 Mann-Whitney U as post hoc test: It is not possible to perform statistical testing on the texts with more than 0 occurrences of preterite use in present perfect contexts because of the low number of Vietnamese texts having that specific quality.

We can conclude that there is a highly significant tendency for Somali texts to use the preterite incorrectly in present perfect contexts as compared to Vietnamese texts, and the size of this effect is medium.

A look at the texts with incorrect use of the preterite in present perfect contexts

Table 34 demonstrates how the incorrect use of the preterite in these two particular contexts is distributed in all the texts which use the preterite form. The statistical testing shows that if we compare all the Vietnamese and Somali texts which use the preterite, a highly significantly greater proportion of Somali texts distribute the preterite form incorrectly in present perfect contexts. Since the number of texts (of all the texts using the preterite) that have this misuse is rather small, I will use two bar charts to display the incorrect uses of the preterite. This is to get a closer look at the data at this particular point. The first bar chart presents the 9 A2 texts and 16 B1 texts (taken from the 67 Vietnamese texts using the preterite) that misuse the preterite in present contexts and/or present perfect contexts. The next bar chart presents the 21 Somali A2 texts and 8 Somali B1 texts (of the 77 total Somali texts having use of the preterite) with misuse of the preterite in present contexts and/or present perfect contexts. The green bins represent incorrect use of the preterite in present contexts, and the black bins represent incorrect use of the preterite in present perfect contexts. In the figure under below we see that there is only one Vietnamese informant who uses the preterite incorrectly in both contexts:

Figure 12: Bar charts showing the texts with incorrect use of the preterite.



By studying the visual presentation of the distribution of incorrect preterite use, we see from the colour of the bins that the distribution follows a different pattern within each group¹¹⁴. Almost all the bins are green in the Vietnamese group, whereas more of the bins in the SoA2 and SoB1 are black. However, it is clear that the occurrences of incorrect use of the preterite in the two types of contexts are not very frequent. Nevertheless, the information provided so far by the tables and the graphs, which is supported statistically, shows that there is a distinctive L1 pattern found at both levels. This pattern suggests that when a preterite form is used incorrectly, it is more likely to be found in a present perfect context if the text was written by a Somali informant, and more likely to be found in a present context if the text was written by a Vietnamese informant.

¹¹⁴ The bin in bar chart 12 reaching the top of the histogram is a text that deviates extremely from the rest of the data set. This informant has 27 occurrences of incorrect use of the preterite in present contexts.

7.1.5.2 Incorrect encoding of the present perfect

This section analyses the incorrect use of the present perfect form in present contexts and preterite contexts. Only texts using the present perfect form are included (51 Vietnamese texts and 58 Somali texts).

Data summary

Table 39 gives the number of present perfect use in the texts, as well as the frequencies of incorrect use of the form in present and preterite contexts. So, for SoA2, on average the present perfect is used 2.2 times. Of these instances 4.8%, are incorrectly used in present contexts, and 11.3%, are used incorrectly in preterite contexts:

Table 39: Frequency of incorrect use of the prs. perfect by L1. The first column reports the number of prs. prf. use. The frequency of incorrect use in present and preterite contexts is given in the columns to the right.

	Vietnamese A2 (N=27)			Somali A2 (N=40)		
	no. of prs. prf. forms	freq. of prs. prf. incorrect in present c.	freq. of prs. prf. incorrect in preterite c.	no. of prs. prf. forms	freq. of prs. prf. incorrect in present c.	freq. of prs. prf. incorrect in preterite c.
Mean	1.7	4.9	4.9	2.2	4.8	11.3
Median	1.0	0.0	0.0	1.5	0.0	0.0
Std.d.	0.9	20.1	15.2	1.9	18.1	24.8
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	4	100.0	66.7	10	100.0	100.0
N texts with 0%		25	24		36	30

	Vietnamese B1 (N=24)			Somali B1 (N=18)		
	no. of prs. prf. forms	freq. of prs. prf. incorrect in present c.	freq. of prs. prf. incorrect in preterite c.	no. of prs. prf. forms	freq. of prs. prf. incorrect in present c.	freq. of prs. prf. incorrect in preterite c.
Mean	2.1	16.3	3.1	2.2	3.7	8.3
Median	2.0	0.0	0.0	2.0	0.0	0.0
Std.d.	1.2	34.7	11.2	1.2	15.7	19.2
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	5	100.0	50.0	5	66.7	50.0
N texts with 0%		19	22		17	15

The problem of comparing group frequencies when the figures are small and the variation is enormous (note the huge standard deviations) is even more pressing when analysing the present perfect category, which has a low overall frequency to begin with. Hence, we should be careful not to read too much into table 39. Instead we concentrate on the frequency tables

below for the two types of misuse of the present perfect, starting with the incorrect use of the present perfect in present contexts.

Table 40: Frequency table of *prs.perfect* used incorrectly in present contexts by L1

Prs. perfect used incorrectly in present contexts	Frequency of texts			
	ViA2 (N=27)	SoA2(N=40)	ViB1(N=24)	SoB1 (N=18)
0.0	25	36	19	17
1.0-10.0	0	1	0	0
11.0-20.0	0	0	0	0
21.0-30.0	0	0	0	0
31.0-40.0	1	1	1	0
41.0-50.0	0	1	1	0
51.0-60.0	0	0	0	0
61.0-70.0	0	0	0	1
71.0-80	0	0	0	0
81.0-90	0	0	0	0
91.0-99.0	0	0	0	0
100.0	1	1	3	0
total N	27	40	24	18

Table 41: Frequency table of *prs.perfect* used incorrectly in preterite contexts by L1

Prs. perfect used incorrectly in preterite contexts	Frequency of texts			
	ViA2 (N=27)	SoA2(N=40)	ViB1(N=24)	SoB1 (N=18)
0.0	24	30	22	15
1.0-10.0	0	0	0	0
11.0-20.0	0	3	0	0
21.0-30.0	0	1	1	0
31.0-40.0	2	2	0	0
41.0-50.0	0	2	1	3
51.0-60.0	0	0	0	0
61.0-70.0	1	0	0	0
71.0-80	0	0	0	0
81.0-90	0	0	0	0
91.0-99.0	0	0	0	0
100.0	0	2	0	0
total N	27	40	24	18

Both the tables show a high number of texts without incorrect use of the present perfect in present contexts as well as preterite contexts. In general without regard for L1 background, there are most texts in the data set with incorrect use of the present perfect in preterite contexts (18 texts, table 41) than texts with incorrect use of the present perfect in present contexts (12 texts, table 40). However, as for L1 differences, there are more Vietnamese texts with incorrect use of the present perfect in present contexts (7 texts in table 40) than there are texts with incorrect use of the present perfect in preterite contexts (5 texts in table 41),

although the difference is not big. In the Somali group, the opposite is true: there are more Somali texts with incorrect use of the present perfect in preterite contexts (13 texts in table 41) than there are texts with incorrect use of the present perfect in present contexts (5 texts in table 40). This means that the most interesting type of misuse of the present perfect for the current study, present perfect in preterite contexts, found in the second frequency table, occurs first and foremost in Somali texts (10 A2 texts and 3 B1 texts) and only in 5 Vietnamese texts (3 A2 texts and 2 B1 texts). In addition, it also means that even though there are not many texts with incorrect use of the present perfect in present contexts, the number of texts with this misuse is larger in the Vietnamese group than in the Somali group, however, here there seems to be a difference between ViA2 texts and ViB1 texts, since almost 50% of all the texts with this type of incorrect distribution is found in ViB1 (5 out of 12 texts).

Significance testing

Firstly, I will test for differences in incorrect use of the present perfect in present contexts, and since ViB1 stands out as having most of this type of incorrect distribution, I do not dismiss the level variable when testing for difference in present perfect incorrectly in present contexts. Secondly, differences in the frequency of present perfect use in preterite contexts will be tested. Again, because hypothesis 1.2 specifically predicts that this type of incorrect use will be more frequent in Somali texts than in Vietnamese texts, the testing has to be one-tailed. The same tendencies are found at both levels, so I will therefore disregard the level variable and combine the A2 texts and B1 texts when comparing the groups to each other.

7.1.5.2.1 Present perfect incorrect in present contexts

Step 1 Mann-Whitney U: At both levels, a non-significant result is reported.

- The difference in frequency of present perfect incorrect in between ViA2 (median 0.0) and SoA2 (median 0.0) is not significant, $U = 527.5$, $z = 0.336$, $p = 0.7$ (not significant), effect size $r = 0.04$ (very small).
- The difference in frequency of present perfect incorrect in between ViB1 (median 0.0) and SoB1 (median 0.0) is not significant, $U = 182.5$, $z = 1.400$, $p = 0.2$ (not significant), effect size $r = 0.2$ (small).

Hence, we must conclude that there is no significance difference detected in the incorrect use of present perfect in present contexts between the L1 groups.

7.1.5.2.2 Present perfect incorrect in preterite contexts

Step 1 Mann-Whitney U. The difference in incorrect distribution of present perfect in preterite contexts is significant between the Vietnamese group (median 0.0) and the Somali group (median 0.0), $U = 1292.5$, $z = -1.752$, $p = 0.04$ (significant), effect size $r = 0.2$ (small). It is necessary to analyse the result further because more than 30% of the texts have 0 occurrences of present perfect use in preterite contexts.

Step 2 Chi-square as post hoc test: A one-tailed chi-square test measures differences in the proportion of texts using the present perfect incorrectly in preterite contexts:

Table 42: Cross tabulation of texts having 0% incorrect uses of the *prs. perfect* in preterite contexts.

	Vi (=51)	So (N=58)	total
N texts with <i>prs. perfect</i> incorrectly distributed in a preterite context = 0%	46	45	91
N texts with <i>prs. perfect</i> incorrectly distributed in a preterite context > 0%	5	13	18
total	51	58	109

The one-tailed chi-square test shows that a significantly higher proportion of Somali texts than Vietnamese texts have incorrect distribution of the present perfect in preterite contexts, $\chi^2 = 3.130$, $p = 0.04$ (significant), effect size Cramer's $V = 0.2$ (small).

Step 3 Mann-Whitney U as post hoc test

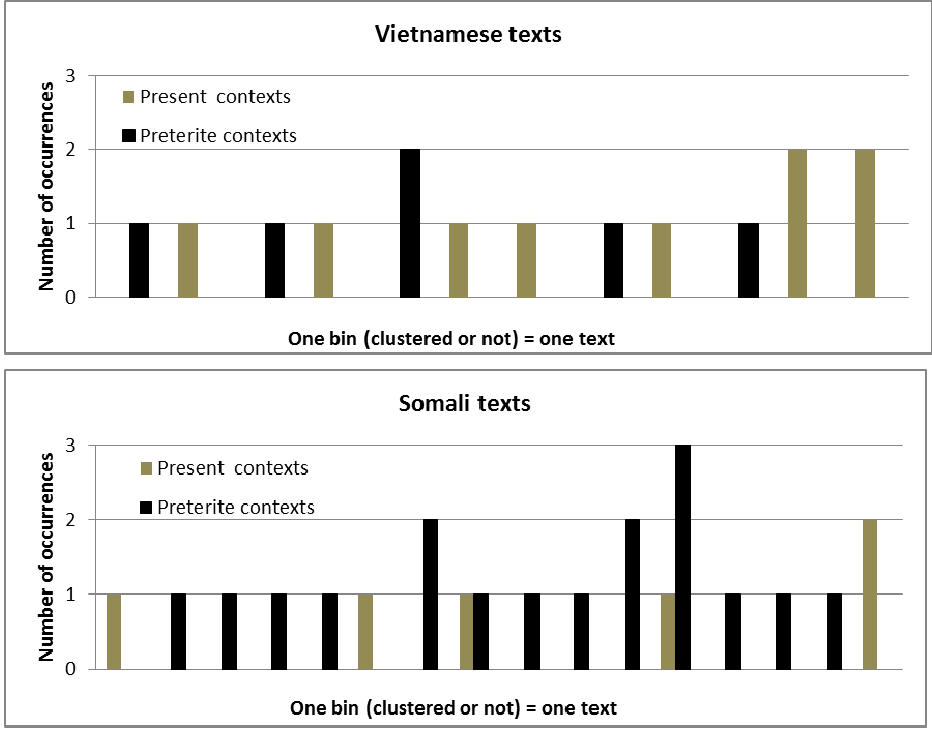
Because of small samples sizes, no further post hoc testing can be done.

To sum up, there is a significant difference in the proportion of texts having misuse of the present perfect in preterite contexts, and the highest proportion is found in the Somali group. However, the effect size is small.

A look at the texts having incorrect use of the present perfect in preterite contexts

Again, we use separate bar charts for the L1 groups to look at the distribution of incorrect present perfect use in present contexts and preterite contexts. Of the 51 Vietnamese texts using the present perfect, 3 A2 texts and 2 B1 texts have misuse of the present perfect in preterite contexts. Of the 58 Somali texts using the present perfect, 10 A2 texts and 3 B1 texts use the present perfect incorrectly in preterite contexts:

Figure 13: Bar charts showing the texts with incorrect use of the present perfect.



Also, in these bar charts the green bins represent instances of incorrect use in present contexts, but the black bars in these charts represent instances of incorrect use in preterite contexts. We see that the groups differ in how they misuse the present perfect form. There are more green bins (7) than black bins (5) in the Vietnamese group, although the difference is small. In contrast, the difference in the number of coloured bins is much bigger in the Somali group, indicating that the Somali speakers predominantly use the present perfect incorrectly in preterite contexts.

7.1.5.3 Incorrect encoding of the present

Here incorrect use of the present in preterite and present perfect contexts is surveyed. I only include texts with use of the present tense form.

Data summary

Table 43: Frequency of incorrect use of the present by L1. The first column reports the number of present use. The frequency of incorrect use in preterite and prs. prf. contexts is given in the columns to the right.

	Vietnamese A2 (N=54)			Somali A2 (N=67)		
	no. of present forms	freq. of present incorrect in preterite c.	freq. of present incorrect in prs. prf. c.	no. of present forms	freq. of present incorrect in preterite c.	freq. of present incorrect in prs. prf. c.
Mean	27.9	4.0	0.2	22.0	9.9	0.2
Median	28.5	0.0	0.0	24.0	0.0	0.0
Std.d.	12.0	11.4	0.8	10.0	22.0	0.8
Minimum	2	0.0	0.0	2	0.0	0.0
Maximum	61	60.0	4.3	40	100.0	4.3
N texts with 0%		38	52		41	64

	Vietnamese B1 (N=45)			Somali B1 (N=30)		
	no. of present forms	freq. of present incorrect in preterite c.	freq. of present incorrect in prs. prf. C.	no. of present forms	freq. of present incorrect in preterite c.	freq. of present incorrect in prs. prf. c.
Mean	28.7	3.5	0.6	27.6	7.2	0.3
Median	29.0	0.0	0.0	26.5	0.0	0.0
Std.d.	11.7	8.1	1.5	14.1	14.3	1.2
Minimum	5	0.0	0.0	4	0.0	0.0
Maximum	56	40.0	5.9	60	52.9	5.9
N texts with 0%		32	37		18	28

In all the groups, the present is used more often in preterite contexts (ViA2 4.0, SoA2 9.9, ViB1 3.5, and SoB1 7.2) than in present perfect contexts (ViA2 0.2, SoA2 0.2, ViB1 0.6, and SoB1 0.3). The frequencies of present incorrectly used in present perfect contexts are generally very low, and in all the groups except ViB1, there are only 2 or 3 texts with this type of misuse. This indicates that it is not a very frequent type of incorrect use, and also that the numerical survey is of limited use. Nevertheless, it is true that ViB1 is distinguished in that more texts have this misuse, and this is an observation in line with the finding that the number of texts with present perfect incorrect in present contexts is highest in ViB1 (see table 40 in the previous section). The frequency tables below add more information about what is behind the central tendencies in table 43:

Table 44: Frequency table of present used incorrectly in preterite contexts by L1

Present used incorrectly in preterite contexts	Frequency of texts			
	ViA2 (N=54)	SoA2(N=67)	ViB1(N=45)	SoB1 (N=30)
0.0	38	43	32	18
1.0-10.0	12	7	7	6
11.0-20.0	2	8	4	2
21.0-30.0	0	2	0	2
31.0-40.0	0	2	2	0
41.0-50.0	0	0	0	1
51.0-60.0	2	1	0	1
61.0-70.0	0	2	0	0
71.0-80.0	0	0	0	0
81.0-90.0	0	0	0	0
91.0-99.0	0	0	0	0
100.0	0	2	0	0
Total N	54	67	45	30

The number of texts with incorrect use of the present in preterite contexts is higher in the Somali groups (24 SoA2 texts and 12 SoB1 texts) than in the Vietnamese groups (16 ViA2 texts and 13 ViB1 texts). From the frequency table below, we see that there are very few texts with incorrect use of the present in present perfect contexts. The only exception is the ViB1 group.

Table 45: Frequency table of present used incorrectly in present perfect contexts by L1

Present used incorrectly in prs. perfect contexts	Frequency of texts			
	ViA2 (N=54)	SoA2(N=67)	ViB1(N=45)	SoB1 (N=30)
0.0	52	64	37	28
1.0-10.0	2	3	8	2
11.0-20.0	0	0	0	0
31.0-40.0	0	0	0	0
41.0-50.0	0	0	0	0
61.0-70.0	0	0	0	0
71.0-80.0	0	0	0	0
81.0-90.0	0	0	0	0
91.0-99.0	0	0	0	0
100.0	0	0	0	0
Total N	54	67	45	30

Significance testing

I will first test for differences in present incorrect in preterite contexts. Since the frequency of this type of misuse is clearly larger in the Somali groups than in the Vietnamese group at both levels, I dismiss the L1 variable. Secondly, I will test for differences in frequency of present

incorrectly distributed in present perfect contexts. Since the same L1 pattern does not exist at both levels, I will not dismiss the level variable.

7.1.5.3.1 Present incorrect in preterite contexts

Step 1 Mann-Whitney U: A two-tailed Mann-Whitney U test is performed to test if the difference in frequency of incorrect use of the present in preterite contexts is significant between the Vietnamese group (median 0.0) and the Somali group (0.0). The test produces a result that is marginally significant, $U = 4293.5$, $z = -1.529$, $p = 0.1$ (marginally significant), effect size $r = 0.1$ (small). This result must be analysed closer because the distribution is heavily skewed with many texts (131 out of 196 texts) without this type of incorrect distribution.

Step 2 Chi-square post hoc testing: The proportions are given below in the cross tabulation:

Table 46: Cross tabulation of texts with 0% incorrect uses of the present in preterite contexts.

	Vi (=99)	So (N=24)	total
N texts with present incorrectly distributed in preterite contexts = 0%	70	61	131
N texts with present incorrectly distributed in preterite contexts > 0%	29	36	65
total	99	24	196

A two-tailed chi-square test reports that the difference between the L1 groups in the proportion of texts having 0% incorrect use of present in preterite contexts is not significant, $\chi^2 = 1.352$, $p = 0.2$ (not significant), effect size Cramer's $V = 0.08$ (very small).

Step 3 Mann-Whitney U post hoc testing: We proceed to post hoc testing in order to find out if the marginally significant result detected in step 1 reflects that the 36 Somali texts with this type of incorrect distribution generally have a higher frequency than the 29 Vietnamese texts do. The Mann-Whitney U test reports a marginally significant result, $U = 389.5$, $z = -1.756$, $p = 0.08$ (marginally significant), effect size $r = 0.2$ (small).

To conclude, there is a marginally significant higher frequency of present used incorrectly in preterite contexts in Somali texts than in Vietnamese texts. The effect size of the difference is small.

7.1.5.3.2 Present incorrect in present perfect contexts

Step 1 Mann-Whitney U: A two-tailed Mann-Whitney U test shows that the difference in incorrect distribution of present in present perfect contexts is not significant between the ViA2 (median 0.0) and the SoA2 group (median 0.0), $U = 1796.5$, $z = 0.189$, $p = 0.9$ (not significant), effect size $r = 0.02$ (very small). Similarly, the difference in incorrect distribution of present in present perfect contexts is non-significant between the ViB1 (median 0.0) and the SoB1 group (median 0.0), $U = 602.5$, $z = -1.327$, $p = 0.2$ (not significant), effect size $r = 0.2$ (small). Since no significant differences are detected, we do not proceed to post hoc testing.

We conclude that there is a marginally significant difference in the frequency of the present used incorrectly in preterite contexts between the groups, the frequency being highest in Somali texts. However, there is no significant difference found between the L1 groups in the incorrect use the present in present perfect contexts.

7.1.6 Non-encoding

The final part of the analysis of L1 differences in the encoding of past time concerns those clauses that are classified as non-encoded (see chapter 6, section 6.4.2). Although I have concluded that there are no significant differences between the L1 groups in the frequency of encoded contexts (section 7.1.3 in the current chapter), it is necessary to examine those clauses in which the contexts are not grammatically encoded. Those instances are, of course, errors. Of the altogether 7380 clauses, in 548 of those, the temporal context is not encoded correctly. These clauses are spread out over 93 texts (46 Vietnamese and 47 Somali). In the analysis two main types of erroneousness are identified: incorrect encoding (an inflectional ending occurs in a non-appropriate context) and non-encoding (the context is not encoded grammatically by means of verb inflection). The latter can be of two subtypes: either the clause has a verb in it, but it is not finite (non-finite clauses) or the clause lacks a verb completely (verbless clauses). Incorrect encoding is the most frequent type of erroneousness; of the 548 total errors in the whole data set, 385 of them are instances of incorrect encoding. However, here I focus on the remaining 163 errors, those classified as non-encoding. Of these 163 occurrences of non-encoding, 118 are instances of non-finite clauses and 45 are instances of verbless clauses. These types of errors predominantly take place in a present context: 100 of the 118 instances of non-finite clauses and 37 of the 45 instances of verbless clauses are

found in contexts for the present. However, the numbers mentioned here are group frequencies. In the table below, we take a closer look at how the 163 instances of non-encoding are distributed across the categories *non-finite clauses* and *verbless clauses* in the L1 groups at both levels. *Non-finite clauses* and *verbless clauses* are opposite categories:

Table 47: Proportion of non-finite clauses and verbless clauses by L1. The number of non-encoded clauses is reported in the first column and the proportion of types of non-encoding is given in the right columns.

	Vietnamese A2 (N=28)			Somali A2 (N=33)		
	no. of non-encoding	proportion of non-finite clauses	proportion of verbless clauses	no. of non-encoding	proportion of non-finite clauses	proportion of verbless clauses
Mean	1.7	50.6	49.4	2.0	80.0	19.9
Median	1.0	50.0	50.0	2.0	100.0	0.0
Std.d.	1.1	45.2	45.2	1.2	36.9	36.9
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	5	100.0	10.0	5	100.0	100.0
N texts with 0%		11	11		5	24

	Vietnamese B1 (N=18)			Somali B1 (N=14)		
	no. of non-encoding	proportion of non-finite clauses	proportion of verbless clauses	no. of non-encoding	proportion of non-finite clauses	proportion of verbless clauses
Mean	1.3	63.9	36.1	1.9	71.4	28.6
Median	1.0	100.0	0.0	1.0	100.0	0.0
Std.d.	0.5	47.9	47.9	1.7	46.9	46.9
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	2	100.0	10.0	7	100.0	100.0
N texts with 0%		6	11		4	10

Again, there is the problem of converting small figures, of 1-3 occurrences, into percentage frequencies. In addition there is also a problem with analysing central tendencies in a data set based on a feature, such as verbless clauses, which only occurs in the data set 45 times over 93 texts. This is quite evident from both measures of central tendency and spread; there is a large gap between the means and the medians, and the standard deviations are extreme. Once again, the numerical survey of the data is of limited value. This calls for a cautious handling of the data. However, in order to further analyse the pattern present in the table (verbless clauses make up a larger part of the non-encoding occurrences in the Vietnamese groups than in the Somali groups), we can examine the pattern by means of a frequency table. Although the same trend is observed at both levels within the L1 groups, I do not collapse the L1 groups

in order to increase the samples sizes because the CEFR investigation presented in appendix D, and summarised in section 6.5.3.1 in chapter 6 reveals a level difference in proportion of non-encoding, the proportion being highest in A2 texts (table 98 in appendix D). The closer look into the individual variation is given in the frequency table below, and since verbless clauses and non-finite clauses are opposite categories I only show the proportion of verbless clauses:

Table 48: Frequency table of the proportion of verbless clauses by L1

Proportion of verbless clauses	Frequency of texts			
	ViA2 (N=28)	SoA2(N=33)	ViB1(N=18)	SoB1 (N=14)
0.0	11	24	11	10
1.0-10.0	0	0	0	0
11.0-20.0	0	0	0	0
21.0-30.0	0	1	0	0
31.0-40.0	1	1	0	0
41.0-50.0	5	2	0	0
51.0-60.0	0	0	1	0
61.0-70.0	0	0	0	0
71.0-80.0	0	0	0	0
81.0-90.0	0	0	0	0
91.0-99.0	0	0	0	0
100.0	11	5	6	4
Total N	28	33	18	14

Firstly, the frequency table shows that verbless clauses are found in more A2 texts (26 out of 61 texts, or 43% of all the A2 texts) than in B1 texts (11 out of 32 texts, or 34% of all the B1 texts). Secondly, we see that the number of texts with verbless clauses is highest in ViA2 (17 versus 9 in SoA2, 7 in ViB1, and 4 in SoB1), and that also the number of texts with 100% proportion of verbless clauses is found in ViA2 (11 versus 5 in SoA2, 6 in ViB1, and 4 in SoB1). This indicate that verbless clauses is a more frequently found phenomenon in Vietnamese A2 texts compared to texts in all the other groups where the errors of non-encoding are much more evenly split between the two types of non-encoding.

Significance testing

Step 1 Mann-Whitney U: A two-tailed Mann-Whitney U test shows that there is a highly significant difference in the proportion of verbless clauses between ViA2 (median 50.0) and SoA2 (median 0.0), $U = 296, z = 2.700, p = 0.007$ (highly significant), effect size 0.3 (medium). The difference in proportion of verbless clauses is not significant between ViB1 (median 0.0) and SoB1 (median 0.0), $U = 115, z = 0.504, p = 0.6$ (not significant), effect size

0.09 (very small). Because of the significant result at the A2 level, and because more than 30% of the A2 texts with non-encoding have zero verbless clauses (11 Vietnamese A2 texts and 24 Somali A2 texts of the 61 texts total), post hoc testing is needed to clarify what the difference reflects.

Step 2 Chi-square post hoc testing: I proceed to check if the significant difference is the result of more Vietnamese A2 texts than Somali A2 texts having instances of verbless clauses. In the cross tabulation below, the proportion of texts having verbless clauses is given, along with the number of texts without such error occurrences:

Table 49: Cross tabulation. Proportion of texts having verbless clauses

	ViA2 (=28)	SoA2 (N=33)	total
N texts with verbless clauses > 0%	17	9	26
N texts with verbless clauses = 0%	11	24	35
total	28	33	61

The difference in proportion is significant, $\chi^2 = 6.927$, $p = 0.008$ (highly significant), effect size Cramer's $V = 0.3$ (medium).

Step 3 Mann-Whitney U post hoc testing: In accordance with the procedures, I should have checked if there is a significant difference between the L1 groups in the proportion of verbless clauses in those 26 A2 texts having this type of non-encoding (17 Vietnamese texts and 9 Somali texts). However, I do not proceed to that stage because the samples size is so small for the Somali group.

To sum up, there are a significantly higher number of texts with verbless clauses in Vietnamese A2 texts than in Somali A2 texts, and the effect size is medium.

7.1.7 Accounting for some outside variables

This section analyses a few variables other than L1 background and proficiency level in relation to the L1 differences detected in the analysis of encoding in Vietnamese and Somali texts. Firstly, the learners' educational background and English skills are taken into account. Secondly, another type of variable, which in Jarvis's terms are considered to be an outside variable (see chapter 5, section 5.2.1), prototypicality, is analysed.

7.1.7.1 Educational background and English skills

In section chapter 6, section 6.1.2 (table 9) the personal information provided by test takers was surveyed, and a difference between the L1 groups was found in gender, educational background, English skills (self-reported) and current status. In this part I will examine some of the differences detected between the L1 groups in relation to the variation between the L1 groups in educational background and English skills. Proficiency level is also a variable which relates to the acquisition of a second language, however, this variable is controlled for throughout the analysis.

Table 50: Distribution of texts across gender, educational background, and English skills

		Vietnamese		Somali	
		N	%	N	%
Gender	female	89	90	28	29
	male	10	10	69	71
Educational background	not reported	4	4	7	7
	elementary	12	12	15	16
	high school	28	28	1	1
	higher educ.	50	51	53	55
	other	5	5	21	22
English skills	not reported	13	13	7	7
	none	4	4	15	16
	basic	53	54	1	1
	intermediate	19	25	53	55
	advanced	4	4	21	22
Current status	not reported	5	5	5	5
	working	14	14	15	16
	studying	18	18	44	45
	applying to jobs	13	13	20	21
	other	49	50	13	13

I will not look into gender differences; first of all because it is impossible to test significantly if gender plays a role since the L1 groups are so extremely different in gender. It is not acceptable to compare 10 male Vietnamese informants to 69 male Somali informants, and it is problematic to compare 89 female Vietnamese informants to 28 female Somali informants. Hence, I cannot do anything with the gender differences. However, gender is not one of the outside variables that Jarvis (2000: 260) recommends controlling for in transfer studies. Furthermore, to my knowledge, there exist no findings indicating that gender plays an important role for grammatical encoding in L2 or for L1 influence. As to educational background, it is necessary to collapse some of the categories in order to increase the sample

sizes, and I will split the informants in two group and compare *higher education* (50 Vietnamese and 53 Somali) and *no higher education* (40 Vietnamese and 16 Somali). Similarly, because the responses in the different choices are so unevenly distributed in the L1 groups (for instance, 53 Vietnamese report an basic level of English while only 1 Somali informant has marked the choice for *basic*), I have to collapse the responses differently, and I have decided to make a distinction between *basic level or lower* (53 Vietnamese and 17 Somali) and *intermediate level* (19 Vietnamese and 53 Somali), although this distinction is not unproblematic because the number of informants in the L1 groups is so different. This illustrates very clearly that the personal information available in the ASK corpus is not that easy to exploit in the current study. I have concluded to ignore the difference in current status. This is because the number of responses in the different choices makes it difficult to compare the various types of status. When 49 of the 99 Vietnamese informants are occupied with something that did not fit the available categories since they have marked the choice for *other*, and 44 of the 97 Somali informants report being students, it is difficult to use the information gathered by means of this category. In addition, there is also some uncertainty connected to the student category because I do not know what the informants mean by *student*. Does the word *student* imply that the person is taking higher education at a university or university college, or does it simply mean that the test taker considers himself or herself a student because he/she is taking a course in Norwegian L2?

The control analysis in the current study means simply that the variable educational background and English skills will be tested against some of the variables that show L1 differences: frequency of past contexts, frequency of verbless clauses, frequency of use of the present and the preterite, incorrect use of the preterite in present perfect contexts, and incorrect use of the present perfect in preterite contexts. The results of these analyses will not be presented in the same detail as the rest of analyses in the present chapter. Only medians, means and standard deviations will be given, samples sizes, p-values and effect sizes. The first analysis explores the variable educational background.

7.1.7.1.1 Educational background

The table below presents a numerical summary of the variables explored. The first column denotes the variable, the second denotes the information surveyed for all the variables, and the two last columns give the samples sizes, and the mean, median and standard variation for each of the variables measured. For instance, we see that there are 105 texts written by informants

without higher education, and that these texts establish past contexts with a frequency of 30.3% if we look at the mean, and 15.7% if we look at the median.

Table 51: Accounting for some outside variables: educational background, data summary

variable	data summary		
		no higher education	higher education
frequency of past contexts	N	105	76
	mean	30.3	27.2
	median	15.7	12.9
	st.dev.	31.0	30.1
frequency of verbless clauses	N	54	36
	mean	33.5	32.9
	median	0.0	0.0
	st.dev.	44.2	44.6
Frequency of use of the present	N	105	76
	mean	70.5	72.6
	median	82.9	86.0
	st.dev.	29.5	29.7
Frequency of use of the preterite	N	105	76
	mean	25.7	24.4
	median	13.8	11.9
	st.dev.	28.6	28.1
Frequency of incorrect use of the preterite in present perfect contexts	N	78	56
	mean	4.9	3.9
	median	0.0	0.0
	st.dev.	16.5	12.0
Frequency of incorrect use of the present perfect in preterite contexts	N	60	40
	mean	8.5	7.5
	median	0.0	0.0
	st.dev.	19.1	21.7

From the table we cannot detect any major differences between texts written by informants without higher education and informants with higher education. The table below displays the statistical analysis performed, and we see that no significant results are reported:

Table 52: Accounting for some outside variables: educational background, statistical testing

Variable	U	z-score	p-value	Effect size
Frequency of past contexts	3761.5	-0.659	p < 0.5 (not significant)	r = 0.05 (very small)
Frequency of verbless clauses	960.0	-0.113	p = 0.9 (not significant)	r = 0.01 (very small)
Frequency of use of the present	3815.5	-0.503	p < 0.6 (not significant)	r = 0.04 (very small)
Frequency of use of the preterite	3882.5	-0.312	p < 0.8 (not significant)	r = 0.02 (very small)
Frequency of preterite incorrect in prs.prf.c.	2163.0	-0.153	p < 0.9 (not significant)	r = 0.01 (very small)
Frequency of prs.prf. incorrect in peterite c.	1108.5	-0.961	p < 0.4 (not significant)	r = 0.09 (very small)

Against the background of the data summary and the statistical results we must conclude that the differences revealed between the L1 groups in the analysis of the variables explored in this section, do not emerge when comparing texts written by informants without higher education to texts written by informants with higher education.

7.1.7.1.1 English skills

In this section we perform the same analysis as in the previous section, however, now the informants are grouped in two categories: *English basic level or lower* and *English intermediate*. For instance, we see that whereas texts written by informants with a basic or lower level in English on average have 26.3 (mean) contexts for past morphology, the average number of past contexts in texts written by informants reporting an intermediate level of English is higher (31.3).

Table 53: Accounting for some outside variables: English skills, data summary

variable	data summary		
		basic level or lower	intermediate level
frequency of past contexts	N	69	78
	mean	26.3	31.3
	median	15.8	16.1
	st.dev.	27.7	32.0
frequency of verbless clauses	N	36	36
	mean	36.1	33.1
	median	0.0	0.0
	st.dev.	45.7	44.2
Frequency of use of the present	N	69	78
	mean	72.8	70.2
	median	83.3	83.1
	st.dev.	27.9	30.2
Frequency of use of the preterite	N	69	78
	mean	23.3	26.7
	median	13.1	14.3
	st.dev.	26.3	29.3
Frequency of incorrect use of the preterite in present perfect contexts	N	53	56
	mean	4.3	5.8
	median	0.0	0.0
	st.dev.	13.0	17.9
Frequency of incorrect use of the present perfect in preterite contexts	N	41	40
	mean	6.4	9.4
	median	0.0	0.0
	st.dev.	18.1	21.8

Table 54: Accounting for some outside variables: English skills, statistical testing

Variable	U	z-score	p-value	Effect size
Frequency of past contexts	2520.5	-0.663	p < 0.5 (not significant)	r = 0.05 (very small)
Frequency of verbless clauses	634.5	-0.173	p = 0.9 (not significant)	r = 0.02 (very small)
Frequency of use of the present	2622.5	-0.267	p < 0.6 (not significant)	r = 0.02 (very small)
Frequency of use of the preterite	2626.5	-0.253	p < 0.8 (not significant)	r = 0.02 (very small)
Frequency of preterite incorrect in prs.prf.c.	1418.0	-0.634	p < 0.5 (not significant)	r = 0.06 (very small)
Frequency of prs.prf. incorrect in preterite c.	785.0	-0.488	p < 0.6 (not significant)	r = 0.05 (very small)

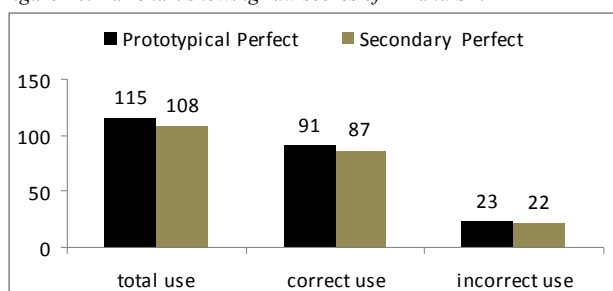
On the basis of the examination of differences in English skills (self-reported) on a few selected variables, we conclude that no significant differences are detected.

To sum up, the control analyses do not indicate that the L1 differences detected in the analysis of encoding of past time in Vietnamese and Somali texts can be accounted for by differences in educational background or English skills.

7.1.7.2 Prototypicality of the present perfect

Prototypicality is one of the factors which is considered to affect the transferability of L1 features (Ellis 1994), and Jarvis (2000: 261) lists “prototypicality and markedness of the linguistic feature” as one of those variables that a transfer study ideally should control for. In this section I will examine the 223 occurrences of present perfect use found in 109 texts (51 Vietnamese texts and 58 Somali texts) based on a prototypicality analysis of the Norwegian present perfect which distinguishes between two types: prototypical perfect, PP, and secondary perfect, SP. Chapter 6, section 6.4.5 presents the criteria applied in the current study for distinguishing prototypical perfect from secondary perfect. This part of the control analysis is different than the analyses conducted in the previous section. In this part I will examine whether prototypicality plays a role for the overall use and incorrect distribution of the present perfect in Vietnamese and Somali texts. Before we go one to look at overall use and correct use in all the 109 texts, I will present the raw counts of the classification by means of the bar chart below:

Figure 14: Bar chart showing raw scores of PP and SP.



There are 115 uses of the present perfect classified as PP, and 108 classified as SP. Furthermore, 23, or 20.0%, of the total number 115 PP are incorrectly used, and 22, or 20.4%, of the total 108 SP are incorrectly used.

7.1.7.2.1 L1 differences in overall use of PP and SP

In order to examine whether or not prototypicality plays a role for the use of the present perfect form in the two L1 groups, I examine whether there are L1 differences in the proportion of the mutually exclusive categories of PP and SP. We begin by looking at overall use. Then we look at the incorrect distribution of PP and SP instead of the correct use. This is because the preceding analyses of L1 influence show that L1 differences are most evident in the incorrect distribution of forms.

Data summary

Firstly, the proportions of PP and SP in overall use are presented in table 55. The frequencies express the number of times a present perfect form used is classified as a PP and an SP:

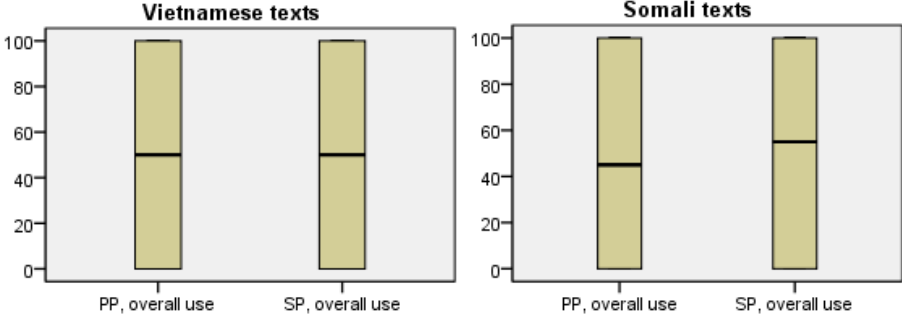
Table 55: Proportion of PP and SP in overall use by L1. The total number of present perfect use is given in the first column, and the proportion of PP and SP is given in the other columns.

	Vietnamese A2 (N=51)			Somali A2 (N=58)		
	no. of prs. prf. forms	proportion of PP	proportion of SP	no. of prs. prf. forms	proportion of PP	proportion of SP
Mean	1.9	47.7	52.3	2.2	44.8	55.2
Median	2.0	50.0	50.0	2.0	45.0	55.0
Std.d.	1.1	44.7	44.7	1.7	45.3	45.3
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	5	100.0	100.0	10	100.0	100.0
N texts with 0%		20	19		27	19

The first column gives the total use of present perfect forms, and as already noted previously in section 7.1.3.3, table 26, the present perfect is not a frequently used form in the texts. Consequently, the figures converted into percentages are small. No large differences can be observed between the L1 groups. In both groups, the proportion of PP and SP is almost the same and a similar trend emerges in both groups: there is not a huge difference in proportion of PP (Vi 47.7, So 44.8) and SP (Vi 52.3 and So 55.2). In addition, we also note that the standard deviations are extremely large, and that many texts in both groups only have an SP or a PP present. This is of course a result of the fact that the present perfect is often used only once in many texts. The lengths of the boxes in the plots below visualize the enormous variation that exists in both groups, and we see that the median lines in both plots are not situated far from one another, which supports the trend seen in table 55: there does not seem

to be substantial differences between the proportions of PP and SP in the L1 groups when we look at overall use:

Table 56: Box plots showing the distribution of proportion of PP and SP in overall use by L1.



Significance testing

Step 1 Mann-Whitney U: I run a two-tailed Mann-Whitney U test in order to test if the proportion of PP is significantly different between the two L1 groups. This test reports a non-significant result for the difference between the Vietnamese group (median 50.0) and the Somali group (median 45.0), $U = 1452.5$, $z = -0.171$, $p = 0.9$ (not significant), $r = 0.02$ (small effect).

To conclude, there are no significant L1 differences found in the proportion of PP and SP in overall use of the present perfect.

7.1.7.2.2 L1 differences in frequency of incorrect use of PP and SP.

In this section we examine the incorrect use of PP and SP. The first analysis examines the frequency of incorrect use of PP and SP. The second analysis looks more in detail at the types of contexts in which PP and SP occur inappropriately.

The table below displays the proportion of PP and SP in clauses with incorrect use of the present perfect:

Table 57: Frequency of incorrect use of PP and SP by L1. The total number of use of the prs. prf. is given in the first column, and the frequency of PP and SP incorrectly used is given in the other columns.

	Vietnamese A2 (N=51)			Somali A2 (N=58)		
	no. of prs. prf. forms	freq. of PP incorrectly used	freq. of SP incorrectly used	no. of prs. prf. forms	freq. of PP incorrectly used	freq. of SP incorrectly used
Mean	1.9	6.2	22.9	2.2	19.7	17.1
Median	2.0	0.0	100.0	2.0	0.0	0.0
Std.d.	1.1	14.9	39.9	1.7	29.3	35.6
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	5	50.0	100.0	10	100.0	100.0
N texts with 0%		26	23		19	31

It is important to keep in mind that we are now not only comparing a feature which does not occur very often in the data set, but we are also comparing proportions in two rather small groups. Still, we note that there is a very different trend present in the incorrect encoding of PP and SP. Whereas the Somali and the Vietnamese use the SP incorrectly almost just as often (Vi 22.9, So 17.1), the Somali use the PP (19.7) much often incorrectly than the Vietnamese do (6.2). Because of the vast dispersion, we must be cautious in interpreting the tendencies seen in the proportions as representative for the group. Clearly, we need more information about the individual variation, and this information is provided by a couple of frequency tables below:

Table 58: Frequency table of proportion of PP in incorrect use by L1

PP used incorrectly	Frequency of texts	
	Vi (N=51)	So(N=58)
0.0	46	46
25.0	1	2
33.3	2	1
37.5	0	1
40.0	0	1
50.0	2	5
75.0	0	0
100.0	0	2
total N	51	58

Table 59: Frequency table of SP in incorrect use by L1

SP used incorrectly	Frequency of texts	
	Vi (N=51)	So (N=58)
0.0	42	50
25.0	0	0
33.3	1	0
50.0	2	2
66.7	0	1
100.0	6	5
total N	51	58

From the frequency table we see that there are more Vietnamese texts with incorrect use of the SP (9 in table 59) than texts with incorrect use of the PP (5 in table 58). The opposite trend can be observed in the Somali group: in the Somali group the number of texts with incorrect use of the PP (12 in table 58) is larger than the number of texts with incorrect use of SP (8 in table 59). This indicates that there is an L1 difference in the frequency of incorrect use of the PP. Incorrect use of the PP is more frequently found in Somali texts (12) than in Vietnamese texts (5).

Significance testing

Step 1 Mann-Whitney U: I need to perform a two-tailed Mann-Whitney U test to determine whether the observed tendency for Somali texts to have more incorrect use of the PP than Vietnamese texts is significant. The test produces a significant result, $U = 363.5$, $z = -2.108$, $p = 0.04$ (significant), effect size $r = 0.3$ (medium). Because post hoc testing would lead to small sample sizes (only 5 Vietnamese texts with incorrect use of PP), we do not analyse the statistical result any further.

The final analysis of PP and SP in incorrect use is a closer look on the contexts in which PP and SP are incorrectly distributed without statistical testing. The first table gives an overview of what contexts the altogether 45 occurrences of incorrect use of PP and SP are found:

Table 60: The number of PP and SP in incorrect use in three types of temporal contexts

	present context	preterite context	past perfect context	total incorrect use
incorrect use of PP	0	17	5	22
incorrect use of SP	15	6	2	23
total incorrect use	15	23	7	45

From table 60 we see that PP and SP are distinguished in the type contexts they are used incorrectly in. PP occurs incorrectly most often in preterite contexts (17 times) while SP appears incorrectly most often in present contexts (15). The following tables display the same information by L1 group:

Table 61: The number of PP and SP in incorrect use in temporal contexts in Vietnamese texts

Vietnamese (N=51)	present context	preterite context	past perfect context	total incorrect use
incorrect use of PP	0	4	1	5
incorrect use of SP	9	2	1	12
total incorrect use	9	6	2	17

Table 62: The number of PP and SP in incorrect use in temporal contexts in Somali texts

Somali (N=58)	present context	preterite context	past perfect context	total incorrect use
incorrect use of PP	0	13	4	17
incorrect use of SP	6	4	1	11
total incorrect use	6	17	6	28

First of all we see that the incidence of incorrect use of PP and SP is much higher in the Somali group (28 in table 62 versus 17 in table 61). Secondly, we observe the trend which in the previous analysis is analysed as statistically significant: SP is most often used incorrectly in Vietnamese texts (12 versus 5), and PP is most often used incorrectly in Somali texts (17 versus 11). In addition, this analysis also shows that this difference means that the Vietnamese-speaking and Somali-speaking learners fail to use the present perfect correctly in different types of contexts: whereas most of the incorrect use of the present perfect is found in present contexts in Vietnamese texts (9), most of the incorrect use of the present perfect is found in preterite contexts in Somali texts (17).

7.1.7.2.2 *Summing up*

The analysis of the use of prototypical perfect and secondary perfect in Vietnamese texts and Somali texts does not suggest that the L1 groups are distinguished in overall use of the two types of perfects. However, the analysis produces an interesting result which concerns an important finding in the analysis of L1 influence: the Vietnamese-speaking and the Somali speaking learners are distinguished in what type of perfect they seem to have a hard time using correctly, and connected to this observation, the Vietnamese-speaking and the Somali-speaking learners are also distinguished by the type of context with which they use the present perfect incorrectly.

7.1.8 Summing up findings from the analysis of L1 differences

This section summarises the findings from the analysis of L1 differences. The differences between the L1 groups detected are listed, and the significances and effect sizes are described in parentheses.

The analysis of temporal contexts (section 7.1.2) reveals an L1 difference at the A2 level: Vietnamese A2 texts show a significantly lower frequency of past contexts than Somali A2 texts (extremely significant, medium effect size). A closer inspection of the frequency of preterite contexts and present perfect contexts shows that Vietnamese A2 texts generally have lower frequency rates of preterite contexts than Somali texts have (significant, medium effect size), and that there are significantly more Vietnamese A2 texts with zero present perfect contexts than in the Somali group (significant, small effect size).

In the analysis of overall grammatical encoding (section 7.1.3), and grammatical encoding of preterite contexts and present perfect contexts, no significant differences between the groups are found. However, the analysis of use of particular forms (the present, preterite and present perfect) conducted under this section shows that the present is used significantly more often in Vietnamese A2 texts than in Somali A2 texts (extremely significant, medium effect size), and that the preterite is used significantly more often in Somali A2 texts than in Vietnamese A2 texts (highly significant, medium effect size). No L1 differences in use of any of the forms are detected at the B1 level.

In the analysis of correctness (section 7.1.4), L1 differences are revealed at the A2 level: firstly, the frequency of overall correct encoding of contexts in the texts is significantly higher in Vietnamese A2 texts than in Somali A2 texts (highly significant, medium effect size). Secondly, there are more Vietnamese A2 texts than Somali A2 texts with 100% correct encoding in present perfect contexts (marginally significant, small effect size). Similarly, the number of texts with 100% correct encoding in present contexts is marginally significantly higher in ViA2 than in SoA2 (marginally significant, small effect size).

The analysis of incorrect encoding (section 7.1.5) reveals several L1 differences which concern texts from both levels. Firstly, incorrect use of the preterite in present perfect contexts is found significantly more often in Somali texts than in Vietnamese texts (highly significant, medium effect size). Secondly, also incorrect use of the present perfect in preterite contexts is found significantly more often in Somali texts than in Vietnamese texts (significant, small effect size). Thirdly, the frequency of the present used incorrectly in preterite contexts is higher in Somali texts than in Vietnamese texts (marginally significant, small effect size).

Also, an L1 differences in incorrect encoding are found between Vietnamese and Somali texts at the B1 level: the number of texts with incorrect encoding of the preterite in present contexts is higher in ViB1 than in SoB1 (marginally significant, small effect size).

The analysis of non-encoding (section 7.1.6) reveals a difference between the L1 groups at the A2 level: the proportion of verbless clauses (no verb at all in the clause) is significantly higher in Vietnamese A2 texts than in Somali A2 texts (highly significant, medium effect size).

Finally, the analysis of effects of L1 influence also includes an analysis which examines a few selected variables that have revealed L1 differences. In this part I investigate whether these L1 differences (most of them listed in the passages above) are also present when the informants are grouped according to educational background and English skills. The result is, that when controlling for educational background and English skills, L1 differences in frequency of past contexts, proportion of verbless clauses, frequency of present use, preterite use, incorrect use of the preterite in present perfect contexts, and incorrect use of the present perfect in preterite contexts, do not emerge. The control analysis also includes an analysis of the prototypicality of the present perfect. This analysis indicates that the proportion of prototypical perfect (PP) and the secondary perfect (SP) are not distinguished between the L1 groups in overall use. However, the analysis of the incorrect use of PP and SP reveals an L1 difference which applies to both levels: compared to the Vietnamese texts, the Somali texts have more incorrect use of PP than SP (significant, medium effect size).

7.2 Effects of lexical-aspectual influence: findings

7.2.1 Introduction

This section will present and discuss the results concerning the influence of lexical aspect on the use of past morphology. The analysis of lexical-aspectual properties of finite verb phrases in the texts is based on clauses that have a verb inflected for the past (a preterite form or a present perfect form). Consequently, this part of the analysis only includes texts in which the preterite or the present perfect forms occur. Hence, 24 A2 texts and 11 B1 texts are excluded. In addition, the L1 variable will not be taken into account when analysing the texts, except for a section which separately analyses L1 differences in lexical-aspectual properties of verb phrases. This part of the chapter is organized in one main section and two other smaller sections. The main part consists of analyses of the influence of lexical-aspectual properties of verb phrases classified according to properties in telicity, and according to Vendler's four categories of lexical aspect in overall use and correct use of past morphology (that is, use of the preterite and the present perfect). The two smaller sections examine L1 differences in lexical-aspectual influence, and differences in lexical-aspectual properties between verb phrases with preterite use and verb phrases with present perfect use. Before we proceed to the first main part of the lexical-aspectual analysis, I will present some general remarks which concern the approach taken and features of the data.

The investigation of the influence of lexical-aspectual properties of verb phrases in overall use and correct use will primarily be analysed by means of a verb type analysis. As explained in the chapter on data and analysis procedures¹¹⁵, a verb type analysis is based on type counts instead of token counts. Each verb lexeme occurring inflected for the preterite or the present perfect in the data is only counted once per text regardless of the number of times the verb inflected occurs in the texts. Based on the type counts, the proportion of verb types is calculated for telic verb phrases and for atelic verb phrases, and also for each of the four Vendlerian classes of lexical aspect. As underscored in chapter 6, section 6.4.4, it is particularly important in the current study to analyse the influence of lexical aspect based on verb type proportions, and not on token frequencies. This is because some verbs, such as *be* and, to a certain extent, *have*, occur very frequently in learner languages, and thus give the

¹¹⁵ See chapter 6, section 6.4.4.

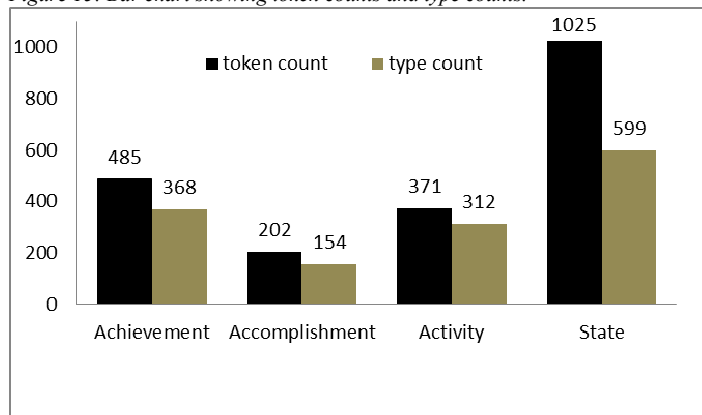
state category an artificially high representation in the analysis (*be* and *have* almost always add a stative value to the verb phrase). The verb type list of the ten most frequent verb used in the A2 data base and the B1 data base shows this is the case in the current study (see table 63 below). The verb *be* ('være' in Norwegian) is the most frequently used verb lexeme in both groups, and *have* ('ha' in Norwegian) is the second most frequently used. In fact, together *be* and *have* occur in 30% of the clauses with past morphology.

Table 63: Frequency word list by level

	A2 texts			B1 texts		
	verb type	no. of tokens	frequency	verb type	no. of tokens	frequency
1.	be	314	23.2	be	179	19.1
2.	have	77	5.7	have	48	5.1
3.	come	61	4.5	come	37	3.9
4.	become	47	3.5	become	36	3.8
5.	travel	34	2.5	get, must	30	3.2
6.	get	33	2.4	go	27	2.9
7.	go, must	26	1.9	live	24	2.6
8.	live, say	26	1.7	begin, will	19	2.0
9.	read, think	23	1.6	say	19	1.8
10.	begin, work	23	1.4	do	17	1.6
total tokens		1352			937	

The verb *be* appears 314 times in the A2 data set and 179 times in the B1 data set. This means that *be* occurs with a frequency of 23.2% in A2 texts ($314 \cdot 100 / 1352$) and 19.1% in B1 texts ($179 \cdot 100 / 937$). Again, the method of analysis becomes very important when distinct verb types occur with such different frequencies. The bar chart below illustrates the impact of different analyses. The bar chart gives the raw token counts and verb type counts. We see that the state category clearly dominates in both types of counts, but we also find that the distance between the token count and the type count is largest for states, which suggests that the lexical variation is more limited in the state category than in the other categories. Note that these bar charts represent group figures that illustrate a methodological point; they do not represent observations that contribute to the proper analysis of lexical aspect.

Figure 15: Bar chart showing token counts and type counts.



Again, in order to account for lexical variation, the evaluation of the influence of lexical aspect on the use of past morphology will rely on a verb type analysis. However, the initial analysis of differences between phrases with different lexical-aspectual properties will also include a token analysis. I find it relevant to conduct both a token analysis and type analysis in one part of the analysis in order to achieve a comprehensive picture of lexical-aspectual influence, and to investigate whether a token analysis and a type analysis yield different results in the current study. But again, it is the verb type analysis which will be given most emphasis in the evaluation of the data, and which is considered the most reliable approach in the current study (see chapter 6, section 6.4.4). Hence, except for the analysis of overall use, the analysis of lexical-aspectual properties will only be analysed by means of a verb type analysis. Finally, before proceeding to the first presentation of results, in table 64 below I will provide an overview of the variables and the raw figures that this part of the analysis is based on. The first two columns present the variables and their possible ratios. There are separate columns for each lexical-aspectual category. The group frequencies in bold are given first for the variable past morphology, which is the most central measure in the analysis.

Table 64: Overview of variables and data for the analysis of lexical-aspectual influence

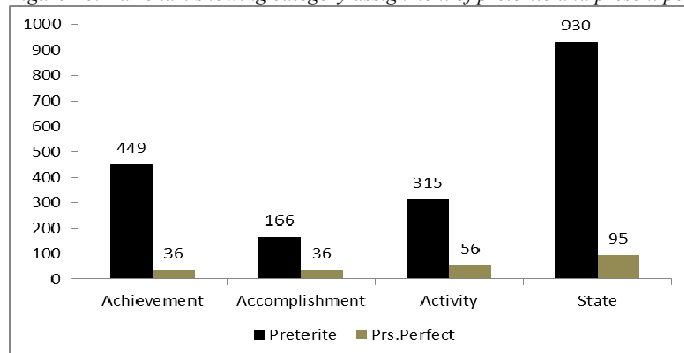
Variables	Value	Achievement	Accomplishment	Activity	State	Total
	Past morphology	485	202	371	1025	2083
USE	Preterite	449	166	315	930	1860
	Present Perfect	36	36	56	95	223
	Past morphology	448	178	336	928	1890
CORRECTNESS	Preterite	422	150	289	851	1712
	Present Perfect	26	28	47	77	178
	Past morphology	37	24	35	97	193
ERRONEOUSNESS	Preterite	27	16	26	79	148
	Present Perfect	10	8	9	18	45

We see that 485 of the verb phrases in clauses with past morphology are classified as achievements, 202 as accomplishments, 371 as activities, and 1025 as states. The left column labeled *total* adds up the frequencies of the Vendlerian categories; from those columns we know that the total number of clauses using past morphology is 2083. Each variable also gives information about which types of past morphology occur in the verb phrases. We observe, for instance, that a preterite form is found in 449 of the 485 occurrences of verb phrases with past morphology classified as achievements. However, as already stated, except for section 7.2.5, the lexical-aspectual analysis will mainly be based on the use of the preterite and the present perfect taken together as one category of past morphology.

The problem of comparing categories of different magnitudes, or frequencies, is one of the challenges of the current study. As we will presently see, it is problematic to analyse the lexical-aspectual properties separately for the present perfect category and the preterite category, yet it would be very interesting to perform separate analyses since the two categories are quite different¹¹⁶. Still, since they occur with such different frequencies, verb type proportion comparisons and statistical analyses are difficult to conduct. The vast difference between the frequencies of the two forms has been demonstrated in the analysis of L1 influence (see table 26); however, the histogram below shows the impact of this difference on category assignment:

¹¹⁶ See section 3.2.1 and 3.2.2.3 in chapter 3.

Figure 16: Bar chart showing category assignment of preterite and present perfect.



The frequency of present perfect verb phrases classified as any of the four categories is much lower than that of preterite verb phrases. The Aspect Hypothesis applies to both preterite morphology and present perfect morphology, and it is therefore a valid option to collapse the preterite and present perfect into one category of past morphology. Yet, as accounted for several times throughout the thesis, treating the present perfect category as merely a past category is not satisfactory. For that reason, despite the problematic aspect of comparing frequencies of such different magnitudes, I include a separate analysis which examines whether there are differences in lexical-aspectual properties between verb phrases with preterite use and verb phrases with present perfect use. However, I will be cautious in applying statistical testing on the potential differences found between the preterite and the present perfect category.

7.2.2 Use of past morphology

As accounted for in the introduction, lexical-aspectual properties of overall use will be analysed by means of a token analysis and a verb type analysis. I begin with token analyses of overall use in telic and atelic verb phrases and in the Vendlerian classes. Next verb type analyses will be conducted.

7.2.2.1 Token analysis of overall use: telic and atelic verb phrases

In the token analysis I use token frequency. The token frequency is simply a measure of how many times either a preterite or a present perfect form is used in the different lexical-aspectual categories of verb phrases. Firstly, we examine the token frequencies of telic and atelic verb

phrases, and secondly, we see how the tokens are distributed across the categories of achievements, accomplishments, activities and states.

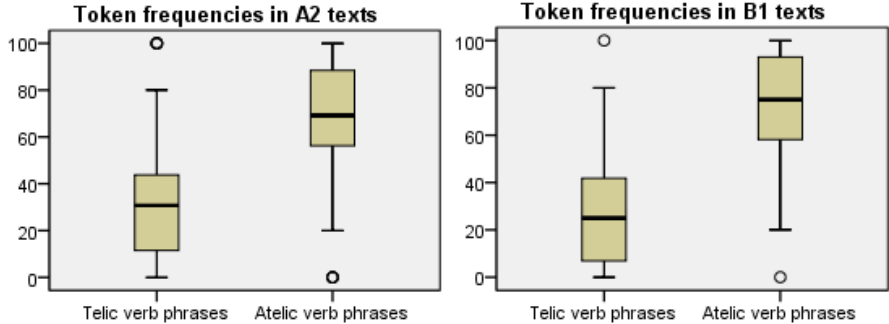
Data summary

Table 65: Token frequency in telic and atelic verb phrases by level. The first column reports the number of tokens, and the frequency of telic tokens and atelic tokens is given in the columns to the right.

	A2 texts (N=97)			B1 texts (N=64)		
	no. of tokens	frequency of telic tokens	frequency of atelic tokens	no. of tokens	frequency of telic tokens	frequency of atelic tokens
Mean	12.2	30.4	69.6	14.0	28.3	71.7
Median	6.0	30.8	69.2	9.0	25.0	75.0
Std.d.	12.2	24.5	24.5	12.4	23.3	23.3
Minimum	1	0.0	0.0	1	0	0.0
Maximum	51	100.0	100.0	49	100	100.0
N texts with 0%		22	4		15	1

The trend emergent in the table is similar at each level: the large majority of the verb phrases in the clauses are atelic (A2 69.6, B1 71.7). From the measures of dispersion, we see that this trend in central tendency is accompanied by a large variation in the distributions. This variation is also indicated by the box lengths in the two box plots below representing each level:

Figure 17: Box plots showing the distribution of token frequencies in telic and atelic verb phrases by level.



Moreover, the boxes in both plots are very differently situated. Whereas the telic boxes in the plots suggest right-skewed distributions with few high values, the atelic boxes are characterised by the opposite skewness. Also, the lines indicating the medians for the frequency of telic and atelic verb phrases are far from each other.

Significance testing:

Step 1 Wilcoxon signed rank test: I statistically test the differences in token frequency observed in the box plots above by means of a two-tailed Wilcoxon signed rank test. At the A2 level, the difference in token frequency between telic verb phrases (median 30.8) and atelic verb phrases (median 69.2) is extremely significant, $z = -6.271$, $N = 91$, $p < 0.001$ (extremely significant), effect size $r = 0.6$ (medium). The difference in token frequency between telic verb phrases (median 25.0) and atelic verb phrases (median 75.0) is also extremely significant at the B1 level, $z = -5.498$, $N = 62$, $p < 0.001$ (extremely significant), effect size $r = 0.7$ (large).

7.2.2.2 Token analysis of overall use: Vendlerian classes

The preceding token analysis of telic and atelic verb phrases shows that atelic verb phrases are significantly more frequent than telic verb phrases in the texts. Now we examine the internal distribution of token frequencies within the telic and atelic groups and compare them to each other:

Data summary

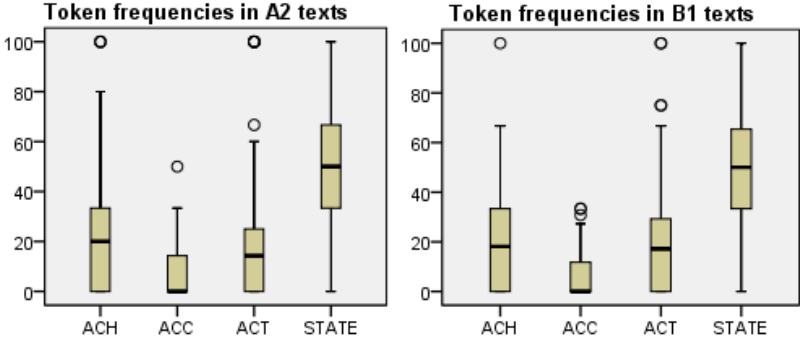
Table 66: Token frequency in Vendlerian classes by level. The first column reports the number of tokens, and the token frequencies in the four classes are given in the columns to the right.

A2 texts (N=97)					
	no. of tokens	frequency of achievement tokens	frequency of accomplishment tokens	frequency of activity tokens	frequency of state tokens
Mean	12.2	22.3	8.0	20.1	49.5
Median	6.0	20.0	0.0	14.3	50.0
Std.d.	12.2	22.7	10.7	24.7	29.6
Minimum	1	0	0.0	0.0	0.0
Maximum	51	100	50.0	100.0	100.0
N texts with 0%		29	49	32	13

B1 texts (N=64)					
	no. of tokens	frequency of achievement tokens	frequency of accomplishment tokens	frequency of activity tokens	frequency of state tokens
Mean	14.0	21.0	7.2	21.1	50.6
Median	9.0	18.2	0.0	17.2	50.0
Std.d.	12.4	20.2	9.7	23.1	27.0
Minimum	1	0.0	0.0	0.0	0.0
Maximum	49	100.0	33.3	100.0	100.0
N texts with 0%		17	33	18	6

As in the case of telicity, there is a high level of agreement between the groups regarding the frequencies of the four categories of lexical aspect. Despite the fact that the measures of central tendency indicate large variation, it is clear that the majority of the inflections, precisely half of all the tokens (A2 49.5, B1 50.6), occur in stative verb phrases. It is the accomplishment category that has the lowest frequency rates (A2 8.0, B1 7.2). The rest of the occurrences are split evenly between achievement (A2 22.3, B1 21.0) and activity (A2 20.1, B1 21.1). The box plots below give a visual impression of the distributions:

Figure 18: Box plots showing the distribution of token frequencies in the Vendlerian classes by level.



It is quite evident from the box plots that the state category and the accomplishment category differ considerably from all the other categories. There does not seem to be an important difference between achievement and activity.

Significance testing

Step 1 Friedman test: A two-tailed Friedman test reports that there is a significant difference in token frequency between the groups at both levels, for A2, $\chi^2 = 106.429$, $p < 0.001$ (extremely significant), and for B1, $\chi^2 = 81.931$, $p < 0.001$ (extremely significant). Consequently, a pairwise test is needed in order to locate the significant difference(s).

Step 2 Wilcoxon signed rank post hoc testing: Six pairwise Wilcoxon signed rank tests are performed. The significance level for the testing according to the Bonferroni adjustment is 0.008 (0.05 divided by the number of tests)¹¹⁷. The table below shows the results from each of the tests:

¹¹⁷ See section 6.6.2.2 for information about the need for Bonferroni correction in the post hoc testing using Wilcoxon signed rank test.

Table 67: Post hoc testing of token frequencies

Groups compared in A2	z-score	N	p-value	Effect size
Achievement - accomplishment	-5.132	66	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)
Achievement – activity	-1.225	79	p = 0.2 (not significant, alpha 0.008)	r = 0.1 (small)
Achievement – state	-5.271	81	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)
Accomplishment - activity	-4.264	60	p < 0.001 (significant, alpha 0.008)	r = 0.4 (medium)
Accomplishment – state	-7.520	84	p < 0.001 (significant, alpha 0.008)	r = 0.8 (large)
Activity – state	-5.254	88	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)

Groups compared in B1	z-score	N	p-value	Effect size
Achievement - accomplishment	-4.709	44	p < 0.001 (significant, alpha 0.008)	r = 0.6 (medium)
Achievement – activity	-0.405	48	p = 0.7 (not significant, alpha 0.008)	r = 0.05 (very small)
Achievement – state	-4.805	57	p < 0.001 (significant, alpha 0.008)	r = 0.6 (medium)
Accomplishment - activity	-3.869	47	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)
Accomplishment – state	-6.406	56	p < 0.001 (significant, alpha 0.008)	r = 0.8 (large)
Activity – state	-4.482	60	p < 0.001 (significant, alpha 0.008)	r = 0.6 (medium)

The results of the pairwise post hoc testing show that the state and the accomplishment categories differ significantly from all the other categories. This means that the state category has a significantly higher token frequency than the rest of the categories, and that accomplishments are significantly more infrequent than the rest of the categories. There is no difference in token frequency between achievements and activities. The effect sizes of the significant differences are all medium or large.

7.2.2.3 Token analysis of overall use surveyed

The results from the token analysis show that atelic verb phrases with past inflection are more frequent than telic verb phrases with past inflection. Furthermore, achievement is the most frequent category of the telic types, but not more frequent than any of the atelic types. Within the atelic group, state is the most frequent category, and moreover is the only atelic category that differs significantly from the two types of telic classes. State not only dominates within the atelic group, but is by far the most frequent category type in the texts: in approximately 50% of the clauses containing past inflection, the verb phrase is classified as state. Activity tokens are significantly more frequent than accomplishments, and equal in frequency to the dominating telic type, achievement. In analysis of the verb phrases conducted in the following section, the frequency of inflection will be disregarded. Instead, the verb type analysis focuses on the variation of which distinct verb types occur in verb phrases that are inflected for the preterite or the present perfect.

7.2.2.4 Verb type analysis of overall use: telic and atelic verb phrases

The verb type analysis counts the number of different verb lexemes inflected for the preterite or the present perfect for each text. Accordingly, a verb type analysis provides information about the number of distinct verb types used in the texts in different types of verb phrases. Again, I start by analysing the type proportion in telic and atelic verb phrases.

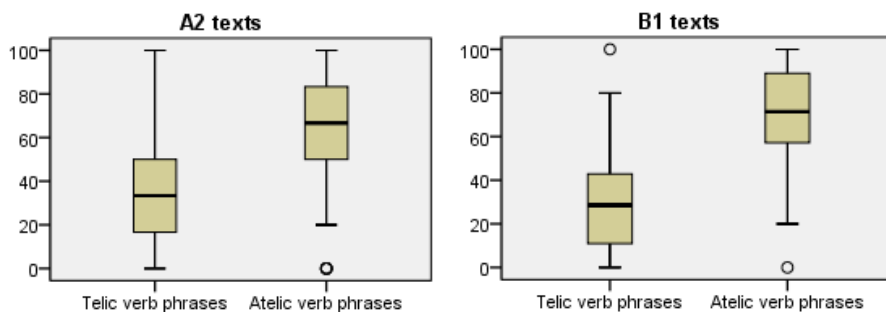
Data summary

Table 68: Verb type proportion in telic and atelic verb phrases by level. The first column reports the number of verb types, and the proportion of telic types and atelic types is given in the columns to the right.

	A2 texts (N=97)			B1 texts (N=64)		
	no. of verb types	proportion of telic verb types	proportion of atelic verb types	no. of verb types	proportion of telic verb types	proportion of atelic verb types
Mean	8.2	32.5	67.5	9.5	28.6	71.4
Median	5.0	33.3	66.7	7.0	29.0	71.0
Std.d.	7.4	23.8	23.8	7.3	21.6	21.6
Minimum	1	.0	0.0	1	0.0	0.0
Maximum	30	100.0	100.0	32	100.0	100.0
N texts with 0%		22	3		15	1

At both levels there is a much higher proportion of different verb types in atelic verb phrases (A2 67.5, B1 71.4) than in telic verb phrases (A2 32.5, B1 28.6). However, the measures of dispersion indicate that there is large variation in the distributions. The lengths of the boxes in the plots below representing each level illustrate the variation observed:

Figure 19: Box plots showing the distribution of type proportions in telic and atelic verb phrases by level.



The box plots are similar to the box plots showing the distribution of token frequencies (figure 17). The telic boxes in the plots are right-skewed with few high values, and the atelic boxes are left-skewed with many high values.

Significance testing

Step 1 Wilcoxon signed rank test: The differences in verb type proportion observed in the box plots above are tested by means of a two-tailed Wilcoxon signed rank test. The difference in type proportion between telic verb phrases (median 33.3) and atelic verb phrases (median 66.7) at the A2 level is extremely significant, $z = -6.105$, $N = 87$, $p < 0.001$ (extremely significant), effect size $r = 0.6$ (medium). At the B1 level, the difference in type proportion between telic verb phrases (median 29.0) and atelic verb phrases (median 71.0) is also extremely significant, $z = -5.782$, $N = 60$, $p < 0.001$ (extremely significant), effect size $r = 0.7$ (large).

7.2.2.5 Verb type analysis of overall use: Vendlerian classes

This section analyses the internal distribution of verb type proportion within the telic and atelic groups and compares them to each other:

Data summary

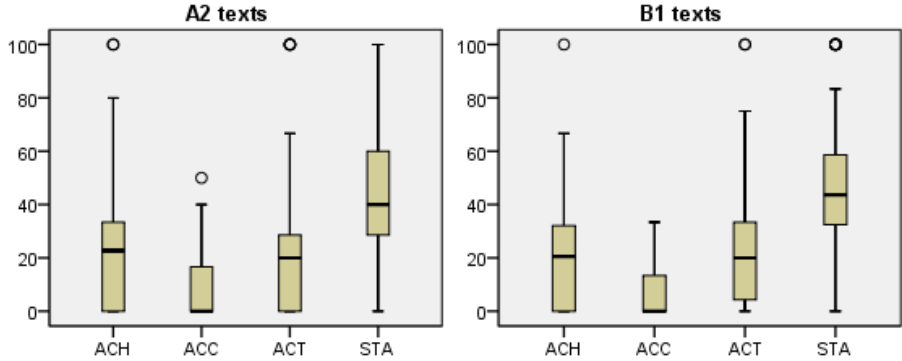
Table 69: Verb type proportion in Vendlerian classes by level. The first column reports the number of verb types, and the proportion of verb types in the four classes are given in the columns to the right.

A2 texts (N=97)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportion of activity verb types	proportion of state verb types
Mean	8.2	23.7	8.8	22.4	45.1
Median	5.0	22.7	0.0	20.0	40.0
Std.d.	7.4	21.6	11.2	24.5	28.2
Minimum	1	0.0	0.0	0.0	0.0
Maximum	30	100.0	50.0	100.0	100.0
N texts with 0%		29	49	32	12

B1 texts (N=64)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportion of activity verb types	proportion of state verb types
Mean	9.5	21.3	7.4	25.0	46.4
Median	7.0	20.5	0.0	20.0	43.6
Std.d.	7.3	19.6	9.2	23.9	26.2
Minimum	1	0.0	0.0	0.0	0.0
Maximum	32	100.0	33.3	100.0	100.0
N texts with 0%		18	33	16	6

The trend observed in the analysis of token frequencies in the Vendlerian classes is also evident in table 69. The pattern is similar at both levels. The largest proportion of verb types is found in stative verb phrases (A2 45.1, B1 46.4) and the lowest proportion is found in the accomplishment category (A2 8.8, B1 7.4). The proportion of verb types in the achievement category (A2 23.7, B1 21.3) and in the activity category (A2 22.4, B1 25.0) is almost the same. The box plots below visualize the distributions of verb type proportions:

Figure 20: Box plots showing the distribution of verb type proportions in Vendlerian classes by level.



Again, the box plots above showing verb type proportion are similar to the distribution displayed in the box plots showing token frequencies in the Vendlerian classes (figure 18). There does not seem to be difference of importance between achievement and activity; however, the state category and the accomplishment category stand out in comparison with all the other categories.

Significance testing

Step 1 Friedman test: A two-tailed Friedman test shows that there is a significant difference in type proportion between the groups at both levels, for A2, $\chi^2 = 100.219$, $p < 0.001$ (extremely significant), and for B1, $\chi^2 = 77.745$, $p < 0.001$ (extremely significant). Consequently, a pairwise test is needed in order to locate the significant difference(s).

Step 2 Wilcoxon signed rank post hoc testing: I conduct six pairwise Wilcoxon signed rank tests, and I operate with a significance level of 0.008 (Bonferroni adjustment). The table below provides the results from each of the tests:

Table 70: Post hoc testing of verb type proportions

Groups compared in A2	z-score	N	p-value	Effect size
Achievement – accomplishment	-5.228	66	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)
Achievement – activity	-0.985	72	p = 0.3 (not significant, alpha 0.008)	r = 0.1 (small)
Achievement – state	-4.759	78	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)
Accomplishment – activity	-4.708	60	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)
Accomplishment – state	-7.259	80	p < 0.001 (significant, alpha 0.008)	r = 0.7 (large)
Activity – state	-4.782	86	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)

Groups compared in B1	z-score	N	p-value	Effect size
Achievement – accomplishment	-4.482	44	p < 0.001 (significant, alpha 0.008)	r = 0.6 (medium)
Achievement – activity	-0.754	46	p = 0.5 (not significant, alpha 0.008)	r = 0.09 (very small)
Achievement – state	-4.590	58	p < 0.001 (significant, alpha 0.008)	r = 0.6 (medium)
Accomplishment – activity	-4.663	47	p < 0.001 (significant, alpha 0.008)	r = 0.6 (medium)
Accomplishment – state	-6.510	57	p < 0.001 (significant, alpha 0.008)	r = 0.8 (large)
Activity – state	-3.626	60	p < 0.001 (significant, alpha 0.008)	r = 0.5 (medium)

The pairwise post hoc testing shows that the state and the accomplishment categories differ significantly from all the other categories: the state category has a significantly higher verb type proportion than the rest of the categories, and the accomplishment category has a significantly lower verb type proportion than the rest of the categories. The sizes of the significant differences are all medium or large. Achievements and activities do not differ significantly from each other in verb type proportions.

7.2.2.6 Verb type analysis of overall use surveyed

The results from the verb type analysis align very much with the result from the analysis of token frequency. The highest values are found in atelic verb phrases with past inflection, and this is due to the fact that the state category has much higher verb type proportion than any of the other categories. The verb type proportion in the activity category is significantly higher than in the accomplishment category, and equal in proportion to the dominating telic category, achievements. Although achievement has the highest proportion of the telic types, the proportion is not higher than any of the atelic types.

7.2.3 Correct use of past morphology

The correct use of past morphology is only analysed by means of a verb type analysis. This section looks at the verb type proportions for those verb phrases in which the past context (a

preterite context or a present perfect context) is encoded correctly. In other words, I am analysing the correct uses of past morphology (preterite forms and present perfect forms).

7.2.3.1 Verb type analysis of telic and atelic verb phrases in correctly encoded clauses

The first analysis examines telic and atelic verb phrases with correct encoding.

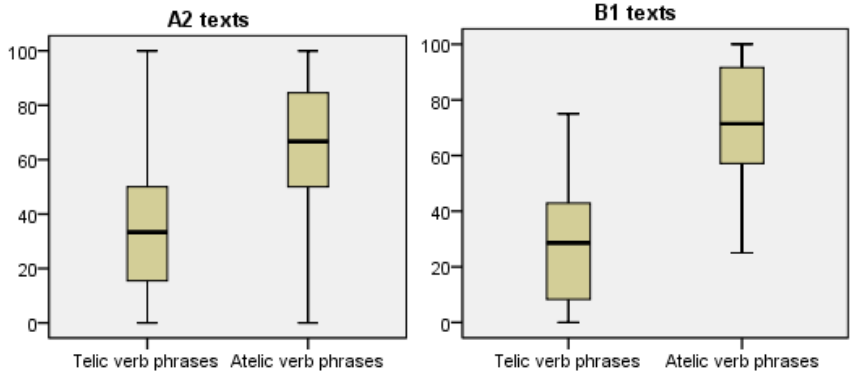
Data summary

Table 71: Verb type proportion in telic and atelic phrases with correct encoding by level. The total number of verb types is given in the first column, and the proportions are given in the columns to the right.

	A2 texts (N=97)			B1 texts (N=64)		
	no. of verb types	proportion of telic verb types	proportion of atelic verb types	no. of verb types	proportion of telic verb types	proportion of atelic verb types
Mean	7.4	33.1	66.9	8.9	28.1	71.9
Median	4.0	33.3	66.7	7.0	28.6	71.4
Std.d.	7.0	25.1	25.1	7.2	21.1	21.1
Minimum	0	0.0	0.0	0	0.0	25.0
Maximum	29	100.0	100.0	31	75.0	100.0
N texts with 0%		22	4		15	0

From the table we see that the differences in the proportions of distinct verb types in telic and atelic verb phrases bring about the same trend that was found in the analysis over overall use: the highest verb type proportions are found in the atelic group at both levels. Furthermore, the individual variation is large and the distributions are differently skewed:

Figure 21 : Box plots showing the distribution of verb type proportions by level in telic and atelic phrases with correct encoding.



The box plots showing the distribution of verb type proportion in telic and atelic verb phrases with correct encoding resemble the plots in figure 19 displaying verb type proportion in overall use. In addition to underline the large variation, the plots suggest that telic and atelic correctly encoded verb phrases differ considerable from each other.

Significance testing

Step 1 Wilcoxon signed rank test: A two-tailed Wilcoxon signed rank test supports the visual impression: The difference in the distribution of type proportion between telic and atelic verb phrases is significant. For the difference in type proportion between telic verb phrases (median 33.3) and atelic verb phrases (median 66.7) at the A2 level, $z = -5.628$, $N = 82$, $p < 0.001$ (extremely significant), effect size $r = 0.6$ (medium). For the difference in type proportion between telic verb phrases (median 28.6) and atelic verb phrases (median 71.4) at the B1 level, $z = -5.742$, $N = 59$, $p < 0.001$ (extremely significant), effect size $r = 0.7$ (large).

7.2.3.2 Verb type analysis of verb phrases in correctly encoded clauses: Vendlerian classes

This section looks at the proportion of different verb lexemes in correctly encoded clauses in the four Vendlerian classes.

Data summary

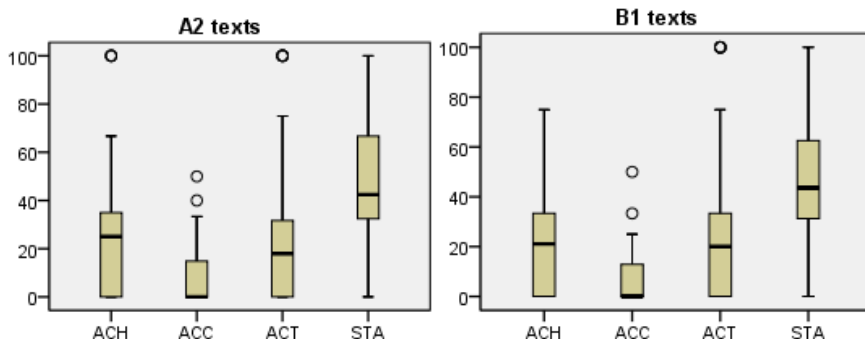
Table 72: Verb type proportion in phrases with correct encoding classified according to Vendler by level. The first column reports the total number of types, and the proportion of types is given in the other columns.

A2 texts (N=97)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportions of activity verb types	proportion of state verb types
Mean	7.4	25.2	7.8	20.8	46.2
Median	4.0	25.0	0.0	17.9	42.5
Std.d.	7.0	23.0	11.0	23.6	28.3
Minimum	0	0.0	0.0	0.0	0.0
Maximum	29	100.0	50.0	100.0	100.0
N texts with 0%		27	51	33	11

B1 texts (N=64)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportions of activity verb types	proportion of state verb types
Mean	8.9	20.6	7.5	25.3	46.6
Median	7.0	21.1	0.0	20.0	43.6
Std.d.	7.2	18.8	10.3	26.5	27.5
Minimum	0	0.0	0.0	0.0	0.0
Maximum	31	100.0	50.0	100.0	100.0
N texts with 0%		19	33	17	6

A similar pattern emerges in the verb type analysis of correctly encoded phrases in achievement, accomplishment, activity and state categories as in the verb type analysis of overall use. Verb phrases classified as states have the highest overall proportion, and achievement has the highest proportion of the telic categories.

Figure 22: Box plots showing the distribution of verb type proportions by level in phrases with correct encoding classified according to Vendler.



Also the box plots displaying the distribution of type proportion in correctly encoded verb phrases in the four Vendlerian classes agree with the equivalent box plots in the verb type analysis (figure 20).

Significance testing

Step 1 Friedman test: A two-tailed Friedman test reports that there is an extremely significant difference in type frequency within the data set. The same difference is found at both A2, $\chi^2 = 103.478$, $p < 0.001$ (extremely significant), and B1, $\chi^2 = 69.785$, $p < 0.001$ (extremely significant). I proceed to the post hoc testing to find where the significant differences occur.

Step 2 Wilcoxon signed rank post hoc testing: To find out which of the groups differ significantly from each other, I run six pairwise Wilcoxon signed rank tests, again with a significance level of 0.008:

Table 73: Post hoc testing verb type proportions

Groups compared in A2	z-score	N	p-value	Effect size
Achievement – accomplishment	-5.620	64	$p < 0.001$ (significant, alpha 0.008)	$r = 0.6$ (medium)
Achievement – activity	-1.711	70	$p = 0.09$ (not significant, alpha 0.008)	$r = 0.2$ (small)
Achievement – state	-4.361	74	$p < 0.001$ (significant, alpha 0.008)	$r = 0.5$ (medium)
Accomplishment – activity	-4.369	55	$p < 0.001$ (significant, alpha 0.008)	$r = 0.5$ (medium)
Accomplishment – state	-7.238	77	$p < 0.001$ (significant, alpha 0.008)	$r = 0.8$ (large)
Activity – state	-5.126	81	$p < 0.001$ (significant, alpha 0.008)	$r = 0.5$ (medium)

Groups compared in B1	z-score	N	p-value	Effect size
Achievement – accomplishment	-4.166	42	$p < 0.001$ (significant, alpha 0.008)	$r = 0.5$ (medium)
Achievement – activity	-0.688	42	$p = 0.5$ (not significant, alpha 0.008)	$r = 0.09$ (very small)
Achievement – state	-4.465	53	$p < 0.001$ (significant, alpha 0.008)	$r = 0.6$ (medium)
Accomplishment – activity	-4.370	40	$p < 0.001$ (significant, alpha 0.008)	$r = 0.5$ (medium)
Accomplishment – state	-6.289	53	$p < 0.001$ (significant, alpha 0.008)	$r = 0.8$ (large)
Activity – state	-3.524	56	$p < 0.001$ (significant, alpha 0.008)	$r = 0.5$ (medium)

Extremely significant differences are found between all the groups except for the comparison of achievements and activities. The significant differences are accompanied by medium or large effect sizes.

7.2.3.3 Verb type analysis of correct use surveyed

We can conclude that the pattern observed in the type analysis of overall use also arises when investigating the proportion with which different types of verb lexemes are correctly inflected for the preterite and the present perfect. The proportion of distinct verb lexemes is highest in the atelic verb phrases, primarily because of the state category. Whereas states have significantly higher verb type proportions than any other lexical-aspectual type, accomplishments have significantly lower verb type proportions than any of the other classes. Achievements and activities occur with similar proportions and do not differ significantly from each other.

7.2.4 L1 differences in lexical aspect

In this part of the lexical-aspectual analysis, I will take L1 background into consideration and conduct two different types of analyses. Firstly, I will investigate whether there are differences between texts written by Vietnamese and Somali informants in terms of verb types proportions of overall use and correct use. Secondly, I will examine whether there are L1 differences in the frequency of incorrect encoding in telic and atelic verb phrases with past contexts. This latter analysis relates to the research question and the hypothesis which predicts a connection between telicity and L1 influence (see chapter 4, section 4.2). Since the CEFR investigation presented appendix D and summarised in in chapter 6, section 6.5.3.1, reveals no significant difference in verb type frequency of telic verb phrases and atelic verb phrases between A2 texts and B1 texts, I do not take proficiency level into account. Consequently, I divide the texts into two groups according to L1 background only.

7.2.4.1 L1 differences in verb type proportion in overall use and correct use

The first part of the analysis of the proportion of verb types in telic and atelic verb phrases examines all the phrases that make use of past morphology (the preterite or the present perfect) regardless of correctness.

7.2.4.1.1 Verb type proportions in overall use of past morphology: telic and atelic verb phrases

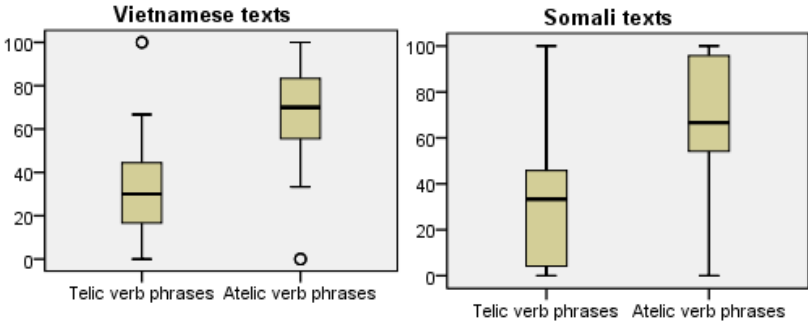
I begin by examining the overall use, and compare the verb type proportion of telic and atelic verb phrases.

Table 74: Verb type proportion in telic and atelic verb phrases by L1. The total number of verb types is given in the first column, and the proportions are given in the columns to the right.

	Vietnamese (N=73)			Somali (N=88)		
	no. of verb types	proportion of telic verb types	proportion of atelic verb types	no. of verb types	proportion of telic verb types	proportion of atelic verb types
Mean	8.8	30.9	69.1	8.6	31.0	69.0
Median	6.0	30.0	70.0	5.5	33.3	66.7
Std.d.	7.7	23.2	23.2	7.1	22.9	22.9
Minimum	1	0.0	0.0	1	0.0	25.0
Maximum	30	100.0	100.0	32	75.0	100.0
N texts with 0%		15	3		22	1

A similar pattern within both the L1 groups emerges that agrees with the trend found in the previous analysis of overall use: the verb type proportion in atelic verb phrases (Vi 69.1, So 69.0) is clearly higher than the verb type proportion in telic verb phrases (Vi 30.9, So 31.0). From the standard deviation, and from the distance between the minimum and maximum values, we see that the observations are widespread. This is also very clearly illustrated in the box plots below:

Figure 23: Box plots showing the distribution of verb type proportions in telic and atelic verb phrases by L1.



In both box plots the telic and atelic boxes are situated differently, however, the distance between them is seemingly larger in the Vietnamese group.

Significance testing

The differences in verb type proportion in this section are analysed according to the same stepwise approach¹¹⁸ applied in the analyses of L1 differences in the first part of the chapter,

¹¹⁸ This stepwise approach is accounted for in chapter 6, section 6.6.2.1.

section 7.1. Moreover, since telics and atelics are opposite categories, it is sufficient to analyse the difference between the L1 groups in one of them.

Step 1 Mann-Whitney U: For the difference in verb type proportion for telic phrases between the Vietnamese group (median 30.0) and the Somali group (median 33.3), a two-tailed Mann-Whitney U test produces a non-significant result, $U = 3081.5$, $z = -0.446$, $p = 0.7$ (not significant), effect size $r = 0.04$ (very small). Consequently, the difference in verb type proportion for atelic phrases is also non-significant because telic and atelic verb phrases are opposite categories.

7.2.4.1.2 Verb type frequencies in overall use of past morphology: Vendlerian classes

Next I investigate differences between the L1 groups in verb type proportion of verb phrases classified as any of the four Vendlerian classes:

Data summary

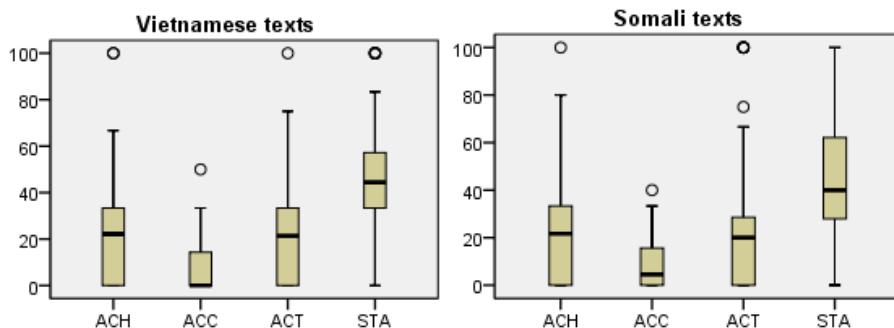
Table 75: Verb type proportion in Vendlerian classes by L1. The total number of types is given in the first column, and the proportions are given in the columns to the right.

Vietnamese (N=73)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportions of activity verb types	proportion of state verb types
Mean	8.8	23.1	7.8	23.0	46.1
Median	6.0	22.2	0.0	21.4	44.4
Std.d.	7.7	21.8	10.8	21.1	24.8
Minimum	1	0.0	0.0	0.0	0.0
Maximum	30	100.0	50.0	100.0	100.0
N texts with 0%		21	39	21	7

B1 texts (N=88)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportions of activity verb types	proportion of state verb types
Mean	8.6	22.4	8.6	23.8	45.2
Median	5.5	21.6	4.6	20.0	40.0
Std.d.	7.1	20.0	10.2	26.6	29.7
Minimum	1	0.0	0.0	0.0	0.0
Maximum	32	100.0	40.0	100.0	100.0
N texts with 0%		26	43	27	11

No large differences were detected in verb type proportion between the L1 groups. There seem to be only minor differences between the L1 groups. There is, for instance, a difference in medians of type proportion in accomplishments and states, the proportion for accomplishments being highest in the Somali group (So 4.6, Vi 0.0), and the proportion for states being highest in the Vietnamese group (Vi 44.4, So 40.0). These minor differences are also evident in the box plots below for each of the L1 group:

Figure 24: Box plots showing the distribution of verb type proportions in the Vendlerian classes by L1.



Despite the minor differences remarked above, the overall impression is that the proportion of verb types follows a similar pattern within the L1 groups.

Significance testing

Step 1 Mann-Whitney U: There are no significant differences between the L1 groups when testing with four two-tailed Mann-Whitney U tests for differences in the verb type proportion of achievements, accomplishments, activities, and states:

- For the difference in verb type proportion for achievements between the Vietnamese group (median 22.2) and the Somali group (median 21.6), $U = 3180.0$, $z = -0.108$, $p = 0.9$ (not significant), effect size $r = 0.009$ (very small).
- For the difference in verb type proportion for accomplishments between the Vietnamese group (median 0.0) and the Somali group (median 4.6), $U = 3017.0$, $z = -0.709$, $p = 0.5$ (not significant), effect size $r = 0.06$ (very small).
- For the difference in verb type proportion for activities between the Vietnamese group (median 21.4) and the Somali group (median 20.0), $U = 3037.5$, $z = -0.601$, $p = 0.5$ (not significant), effect size $r = 0.06$ (very small).

- For the difference in verb type proportion for states between the Vietnamese group (median 44.4) and the Somali group (median 40.0), $U = 2978.0$, $z = -0.797$, $p = 0.4$ (not significant), effect size $r = 0.05$ (very small).

In conclusion, no significant differences are detected in the analysis of overall use between the Vietnamese group and the Somali group. The pattern within both groups reflects a trend revealed in the verb type proportion analysis of the Vendlerian categories without considering the informants' L1 background: states have significantly higher type proportion than all the other classes, and accomplishments have significantly lower type proportion than all the other classes.

7.2.4.1.3 Verb type analysis: correct use of past morphology in telic and atelic verb phrases

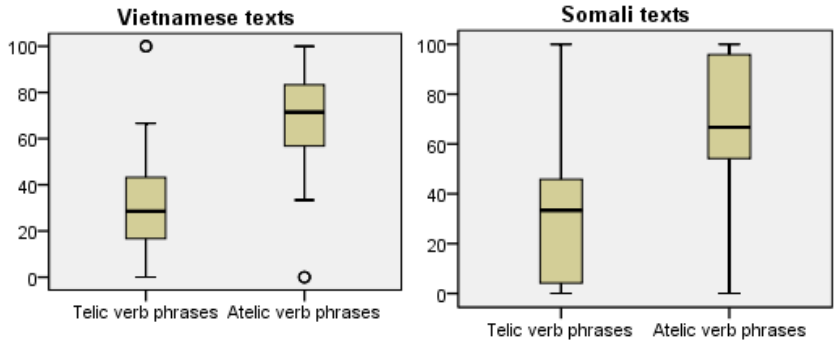
In this section I perform the same type of L1 comparisons that were used above, but only on texts and verb phrases with correct use of past morphology. For that reason, N is different here than in the previous analysis of overall use.

Table 76: Verb type proportion in correctly encoded telic and atelic verb phrases by L1. The first column reports the number of verb types, and the proportion of telic types and atelic types is given in the other columns.

	Vietnamese (N=72)			Somali (N=82)		
	no. of verb types	proportion of telic verb types	proportion of atelic verb types	no. of verb types	proportion of telic verb types	proportion of atelic verb types
Mean	8.1	29.5	70.5	7.9	32.5	67.5
Median	5.0	28.6	71.4	5.0	33.3	66.7
Std.d.	7.3	23.5	23.5	7.0	23.9	23.9
Minimum	0	0.0	0.0	0	0.0	0.0
Maximum	29	100.0	100.0	31	100.0	100.0
N texts with 0%		17	3		20	1

The verb type proportions for telic and atelic verb phrases are almost identical to the proportions obtained when considering all uses of the preterite and present perfect in the L1 groups, and not only the correct uses surveyed in this table. Also, the only difference observed between the box plots below displaying the distribution of type proportions in correctly encoded telic and atelic verb phrases in each L1 group from box plots above, concerns the length of the boxes.

Figure 25: Box plots showing the distribution of verb type proportions by L1 in telic and atelic verb phrases with correct encoding.



Significance testing

Step 1 Mann-Whitney U: Again, I only test the difference in verb type proportion for telic verb phrases. For the difference in verb type proportion for correct telic phrases between the Vietnamese group (median 28.6) and the Somali group (median 33.3) is not significant, $U = 2625.0$, $z = -1.193$, $p = 0.2$ (not significant), effect size $r = 0.1$ (small).

7.2.4.1.4 Verb type proportion in correct use of past morphology: Vendlerian classes

In the following, the same verb type analysis is conducted on verb phrases with correct encoding that are classified according to Vendler’s classes of lexical aspect.

Data summary

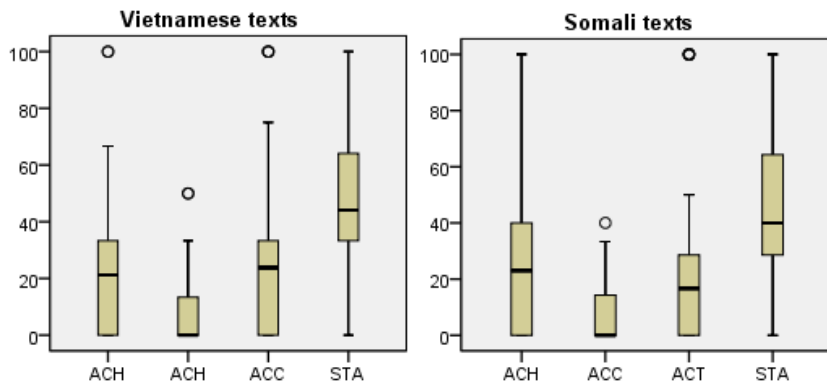
Table 77: Verb type proportion in correctly encoded Vendlerian classes by L1. The total number of verb types is given in the first column, and the proportions are given in the columns to the right.

Vietnamese (N=72)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportions of activity verb types	proportion of state verb types
Mean	8.1	21.6	7.9	24.8	45.7
Median	5.0	21.2	0.0	23.8	44.1
Std.d.	7.3	21.6	11.8	24.9	26.5
Minimum	0	0.0	0.0	0.0	0.0
Maximum	29	100.0	50.0	100.0	100.0
N texts with 0%		24	40	22	9

Somali (N=82)					
	no. of verb types	proportion of achievement verb types	proportion of accomplishment verb types	proportions of activity verb types	proportion of state verb types
Mean	7.9	24.9	7.5	20.6	46.9
Median	5.0	23.0	0.0	16.7	40.0
Std.d.	7.0	21.3	9.7	24.8	29.3
Minimum	0	0.0	0.0	0.0	0.0
Maximum	31	100.0	40.0	100.0	100.0
N texts with 0%		22	44	28	8

We observe the same trend here as in the analysis of L1 differences in table 75: in both groups the state category has a much higher proportion of types compared to all the other categories, accomplishments have by far the lowest proportion, and the proportion in achievements and states are quite similar. Again, the dispersion is vast and the distribution of the data is presented in the box plots below:

Figure 26: Box plots showing the distribution of verb type proportions in correctly encoded clauses by L1, Vendlerian classes.



Once again the same trend is found at both levels: it is the state category and the accomplishment category which differ considerable from the other Vendlerian categories.

Significance testing

Step 1 Mann-Whitney U: There are no significant differences between the L1 groups when testing with four two-tailed Mann-Whitney U tests for differences in the verb type proportions of achievements, accomplishments, activities, and states (correct use):

- For the difference in verb type proportion for achievements between the Vietnamese group (median 21.2) and the Somali group (median 23.0), $U = 2620.5$, $z = -1.217$, $p = 0.2$ (not significant), effect size $r = 0.1$ (small).
- For the difference in verb type proportion for accomplishments between the Vietnamese group (median 0.0) and the Somali group (median 0.0), $U = 2894.0$, $z = -0.229$, $p = 0.8$ (not significant), effect size $r = 0.02$ (very small).
- For the difference in verb type proportion for activities between the Vietnamese group (median 23.8) and the Somali group (median 16.7), $U = 2654.5$, $z = -1.429$, $p = 0.2$ (not significant), effect size $r = 0.1$ (small).
- For the difference in verb type proportion for states between the Vietnamese group (median 44.1) and the Somali group (median 40.0), $U = 2852.0$, $z = -0.363$, $p = 0.7$ (not significant), effect size $r = 0.03$ (very small).

To conclude, the examination of L1 differences in verb type proportion for overall use and correct use leads to the conclusion that no significant difference exists between the L1 groups with regard to lexical-aspectual properties of verb phrases.

7.2.4.2 L1 differences in the frequency of incorrect encoding in telic and atelic phrases

One of the research questions predicts an L1 difference in the frequency of incorrect encoding in telic verb phrases and and atelic verb phrases in past contexts (see chapter 4, section 4.2). The analysis to extract the information needed to answer this question looks at the frequency of incorrect use in past contexts, that is, preterite contexts and present perfect contexts taken together. Only texts with past contexts (either the preterite contexts or the present perfect contexts, or both) are included (77 Vietnamese texts and 88 Somali texts) in this analysis.

Data summary

Table 78: Frequency of incorrect encoding in telic and atelic verb phrases with past contexts by L1. The total number of past contexts is given in the first column, and the frequency incorrect encoding in telics and atelic verb phrases with past contexts is given in the second.

	Vietnamese (N=77)			Somali (N=88)		
	no. of past forms	freq. of incorrect encoding in telic phrases	freq. of incorrect encoding in atelic phrases	no. of past forms	freq. of incorrect encoding in telic phrases	freq. of incorrect encoding in atelic phrases
Mean	12.8	11.2	34.3	13.0	18.0	47.9
Median	7.0	0.0	0.0	9.0	0.0	50.0
Std.d.	13.1	26.2	44.3	11.6	32.2	45.5
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	51	100.0	100.0	49	100.0	100.0
N texts with 0%		62	46		61	38

We see that for both L1 groups, it is first and foremost the atelic verb phrases that exhibit incorrect encoding (Vietnamese mean 34.3, Somali mean 47.9). This is not surprising due to the fact that atelic verb phrases were found to have significantly higher token frequencies and verb type proportions compared to telic verb phrases, as described in section 7.2.2.3 and 7.2.2.6. From the measures of central tendency there does seem to be a difference in frequency of incorrect encoding in telic and atelic verb phrases between the L1 groups (e.g. Vietnamese telics 34.3, Somali telics 47.9) . However, the gap in means and medians in table 78 should instruct us not to emphasise the measures of centrality too much. From the measures of dispersion we indeed see that the individual variation is vast. This is also seen in

the frequency tables below showing the frequency of Vietnamese and Somali texts with incorrect encoding in telic phrases with past contexts:

Table 79: Frequency table of incorrect encoding in telic phrases

Incorrect encoding in telic phrases	Frequency of texts	
	Vi (N=77)	So(N=88)
0.0	62	61
1.0-10.0	0	0
11.0-20.0	2	0
21.0-30.0	1	1
31.0-40.0	1	3
41.0-50.0	6	5
51.0-60.0	0	1
61.0-70.0	1	4
71.0-80.0	0	2
81.0-90.0	0	3
91.0-99.0	0	0
100.0	4	8
total N	77	88

From the frequency table we note that the proportion of texts with incorrect encoding in telic phrases is higher in the Somali group than in the Vietnamese group: 27 out of 88 Somali texts (or 30.7% of the texts) 15 out of 77 Vietnamese texts (or 19.5% of the texts) use past morphology incorrectly in a telic verb phrase.

Significance testing:

The testing will be one-tailed because this analysis is connected to a hypothesis specifying the direction of the predicted difference. In addition, I only test for the difference in the frequency of incorrect encoding in telic phrases because this is the relevant difference for the testing of the hypothesis.

Step 1 Mann-Whitney U: A one-tailed Mann-Whitney U test shows that there is a significant difference in the frequency of incorrect encoding in telic verb phrases in past contexts between the Vietnamese group (median 0.0) and the Somali group (median 0.0), $U = 3007.0$, $z = -1.627$, $p = 0.05$ (significant), effect size $r = 0.1$ (small). Further post hoc testing is required because the statistical test reports a marginally significant result and because altogether 123 texts (62 Vietnamese texts and 61 Somali texts) with use of past morphology have no incorrect encoding in telic verb phrases.

Step 2 Chi-square post hoc testing: The proportions for the L1 groups are cross tabulated below:

Table 80: Cross tabulation of proportion of texts having 0% incorrect encoding in telic verb phrases.

	Vi (=77)	So (N=88)	total
N texts with incorrect encoding in telic phrases = 0%	62	61	123
N texts with incorrect encoding in telic phrases < 0%	15	27	42
total	77	88	165

A one-tailed chi-square test reports that the difference between the L1 groups in the proportion of texts having 0% incorrect encoding in telic verb phrases is significant, $\chi^2 = 2.715$, $p = 0.05$ (significant), effect size Cramer's $V = 0.1$ (small).

Step 3 Mann-Whitney U post hoc testing: Next I examine if there is a significant difference in frequency of incorrect encoding in telic verb phrases between the 15 Vietnamese texts (median 0.0) and the 27 Somali (median 0.0) that have this feature. The result turned out negative: $U = 201.0$, $z = -0.04$, $p = 0.9$ (not significant), effect size $r = 0.06$ (very small).

In conclusion, there is a significant L1 difference found in the frequency of texts with incorrect encoding in telic phrases with past contexts. The proportion is highest in the Somali group, however, the effect of this difference is analysed as small.

7.2.5 Category differences in lexical-aspectual properties

In the introduction to the lexical-aspectual analysis, I underscored that because the preterite and the present perfect forms are used with such different frequencies in the texts, I am reluctant to compare them statistically. Even though such a statistical analysis would indeed be interesting, bar chart 16 in the introduction clearly demonstrates that comparing verb phrases with preterite use to verb phrases with present perfect use, when the analysis includes a separation of two and/or four lexical-aspectual classes, would generate results that could not be considered valid. Nevertheless, it is possible to examine whether the verb type proportions within each tense group seem to agree with the findings from the verb type analysis of past morphology (preterite and present perfect taken together). I will also investigate the distribution of category assignment for the two categories. Yet, this last analysis is less quantitative, and only group frequencies are presented.

7.2.5.1 Category differences in verb type proportion of overall use: telic and atelic phrases

We begin by looking at the proportion of telic and atelic verb types in verb phrases with use of the preterite.

Data summary

Table 81: Verb type proportion in telic and atelic verb phrases with preterite use by level. The total number of types is given in the first column, and the proportions are given in the columns to the right.

	A2 texts (N=85)			B1 texts A2 (N=59)		
	no. of verb types	proportion of telic verb types	proportion of atelic types	no. of verb types	proportion of telic verb types	proportion of atelic types
Mean	8.1	33.5	66.5	9.1	30.5	69.5
Median	5.0	33.3	66.7	7.0	31.8	68.2
Std.d.	7.3	22.9	22.9	7.2	24.0	24.0
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	29	100.0	100.0	31	100.0	100.0
N texts with 0%		17	2		14	2

We see that the figures in the table above do not seem to deviate from the trend found in the previous verb type analyses of overall use of past morphology (see table 68 in section 7.2.2.4). There is a substantial difference in proportion between telic (A2 33.5, B1 30.5) and atelic verb phrases (A2 66.5, B1 69.5), and the proportions are more or less the same as the one observed in the analysis of verb type proportions in overall use of past morphology (table 68: telics A2 32.5, telics B1 28.6, atelics A2 67.5, atelics B1 71.4), and for which the difference has been analysed as statistically significant (see section 7.2.2.4).

Next we look at the proportion for telic and atelic verb phrases in clauses with present perfect use.

Table 82: Verb type proportion in telic and atelic verb phrases with prs. prf. use by level. The total number of types is given in the first column, and the proportions are given in the columns to the right.

	A2 texts (N=66)			B1 texts A2 (N=43)		
	no. of verb types	proportion of telic verb types	proportion of atelic types	no. of verb types	proportion of telic verb types	proportion of atelic types
Mean	1.6	32.2	67.8	2.0	27.0	73.0
Median	1.0	0.0	100.0	2.0	0.0	100.0
Std.d.	1.0	40.8	40.8	1.1	33.6	33.6
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	7	100.0	100.0	5	100.0	100.0
N texts with 0%		37	14		23	4

The only difference between the figures presented in table 82 above and the figures commented under table 81 displaying the proportions for verb phrases with use of the preterite, is that the figures are very small, and that the standard deviations are enormous. Otherwise the same pattern emerges, however, it is problematic to emphasise this pattern shown as proportions because they are generated on the basis of very low numbers.

To conclude, when inspecting the numerical summaries of verb type proportions differences between telic and atelic verb phrases in clauses with the preterite and the present perfect, we seem to find a trend similar to the one found in the preceding verb type analyses when the preterite and the present perfect were not separated: atelic verb phrases have higher verb type proportions than telic verb phrases do. However, this difference is not tested statistically, yet, we note that the proportions align very much with the ones analysed as statistically significant in the verb type analysis of overall use of past morphology. Hence, there are no indications that verb phrases with preterite use and verb phrases with present perfect use are distinguished in lexical-aspectual properties.

7.2.5.2 Category differences in lexical-aspectual category assignment of verb phrases

This section offers another view of lexical-aspectual properties of the preterite and present perfect categories separately. I will focus on the category assignment, and include the incorrect uses of the forms as well as the overall use. It should be noted that the figures presented in the tables in this section are by no means taken to be representative other than for the categorisation performed in the present study. The intention of this section is to show the category assignment of the two different categories separately because it is interesting to see if there are trends in the categorisation that are similar or dissimilar between the preterite category and the perfect category.

The first cross tabulation below displays group level numbers and group level frequencies of verb phrases classified as achievement, accomplishment, activity, and state in each category.

Table 83: Category assignment of verb phrases with preterite use and present perfect use

	Overall preterite use		Overall prs. perfect use	
	no. of	freq.	no. of	freq.
Achievement	449	24.1	36	16.1
Accomplishment	166	8.9	36	16.1
Activity	315	17.0	56	25.2
State	930	50.0	95	42.6
total	1860		223	

The frequency counts in this table are the same as in bar chart 16 in the introduction, and the table only adds information about the relative distribution in the data set. We cannot generalise from these raw counts, but we note that there does not seem to be a category difference of importance. For instance, for both categories, verb phrases classified as states dominate (preterite 50.0, present perfect 42.6).

The next cross tabulations show what type of category assignment is used for the occurrences of incorrect use of the preterite and incorrect use of the present perfect in different types of temporal contexts. We will start by looking at the classification of the 148 incorrect uses of the preterite in three types of contexts:

Table 84: Category assignment of verb phrases with incorrect use of the preterite

Preterite use	Preterite in a present c.		Preterite in a prs. perf. c.		Preterite in a past perf. c.	
	no. of	freq.	no. of	freq.	no. of	freq.
Achievement	15	15.0	9	23.0	3	27.3
Accomplishment	5	5.0	11	28.0	1	9.0
Activity	11	11.0	11	28.0	3	27.3
State	67	69.0	8	21.0	4	36.4
total	98		39		11	

Firstly, the absolutely largest proportion of incorrect use of the preterite form takes place in a present context (98). We see that there are some differences in category assignment in the group frequencies: the preterite is mainly used incorrectly in stative verb phrases when the temporal context in the clause needs a present form (69.0). When the preterite is used incorrectly in perfect contexts, the incorrect uses occur most often in telic verb phrases (present perfect contexts $23.0+28.0 = 51.0$, past perfect contexts $27.0+9.0 = 36.0$). However, note that the difference in total incorrect uses between present context (98) and present perfect context ($39+11$) is huge.

Next we look at the classification of the 45 incorrect uses of the present perfect in three types of contexts:

Table 85: Category assignment of verb phrases with incorrect use of the present perfect

Prs. perfect use	Prs. perf. in a present c.		Prs. perf. in a preterite c.		Prs. perf. in a past perf. c.	
	no. of	freq.	no. of	freq.	no. of	freq.
Achievement	4	27.0	4	17.0	2	29.0
Accomplishment	0	0.0	5	22.0	2	29.0
Activity	2	13.0	6	26.0	1	13.0
State	9	60.0	8	35.0	2	29.0
total	15		23		7	

The main difference is that the most frequent context for incorrect use of the present perfect is preterite contexts (23) and not present contexts (15). Otherwise the same trend can be observed in the incorrect use of present perfect forms. When the contexts require the present tense, the majority of the verb phrases incorrectly encoded by means of present perfect forms are classified as states (60.0). However, when the present perfect is used incorrectly in preterite contexts or past perfect contexts, more of the incorrect uses occur in telic verb phrases (present perfect context $17.0+22.0=39.0$, past perfect context $29.0+29.0=58.0$).

Again, since the present category is interesting to include in several of the analysis because the present perfect encodes both a past event and present state of affairs, we take a look at the distribution of the incorrect uses of the present in the four Vendlerian classes:

Table 86: Category assignment of verb phrases with incorrect use of the present

Present use	Present in a preterite c.		Present in a prs. perf. c.		Present in a past perf. c.	
	no. of	proportion of	no. of	proportion of	no. of	proportion of
Achievement	42	25.5	6	37.5	0	0.0
Accomplishment	12	7.2	0	0.0	0	0.0
Activity	32	19.4	3	18.8	0	0.0
State	79	47.9	7	43.7	1	100.0
Total	165		16		1	

The present is almost always used incorrectly in a preterite context (165). There are no large differences in category assignment observed except for a minor difference in the proportion of telic phrases in the incorrect use of the present in present perfect context (37.5) and preterite contexts (25.5).

7.2.5.3 Lexical-aspectual category assignment of verb phrases with PP and SP

The last category analysis examines the category assignment of prototypical perfect (PP) and secondary perfect (SP). From the analysis of prototypicality of the present perfect in Norwegian, we found L1 differences (see section 7.1.7.2). Here we investigate whether differences in category assignment can be found between verb phrases with PP and verb

phrases with SP. Table 87 below gives the classification of verb phrases with PP and SP in the Vendlerian classes:

Table 87: Category assignment of PP and SP

	Achievement	Accomplishment	Activity	State	total
PP	24	32	30	29	115
SP	12	4	26	66	108
total	36	36	56	95	223

We see that the number of telics is high in PP (24+32, or 48.7% of all use) compared to the number of the telic classes in the SP group (12+4, or 14.8% of all use). Although these are raw counts, this pattern suggests that PP as a grammatical category is more closely associated to telicity than SP is.

7.2.5.4 The analysis of category differences in lexical-aspectual properties summarised

To sum up, the analysis of differences in lexical-aspectual properties between verb phrases with preterite use and verb phrases with present perfect use demonstrates the problem of comparing the preterite and the present perfect in the current data set because they occur with such different frequency. Yet, the numerical summary of verb type proportions in both categories adheres to the verb type analysis of the uses of the preterite and the present perfect taken together, and of which the verb type proportions for atelic verb phrases are analysed as significantly higher than for telic verb phrases. Additionally, the exploring of the category assignment shows an interesting trend in that more incorrect uses of the preterite and the present perfect take place in stative verb phrases when the context of the clause requires the present tense. On the other hand, in cases where the preterite and the present perfect have been incorrectly used in place of each other, the verb phrases are more often telic. Finally, we have seen that PP much more often than SP occurs in telic verb phrases.

7.2.6 Summing up findings from the lexical-aspectual analysis

This section summarises the findings from the analysis of difference in lexical-aspectual properties of verb phrases. The differences detected are listed, and the significances and effect sizes are described in parenthesis.

The analysis of overall use of past forms, regardless of correctness, is analysed by means of two different types of analysis, token analysis (frequency of inflected forms) and verb type analysis (frequency of distinct verb types inflected). Generally speaking, the analysis of token frequencies and the analysis of verb type proportions generated the same findings in texts from both levels. Firstly, the token analysis in section 7.2.2.1 shows that the frequency of inflected past forms is significantly higher in atelic verb phrases than in telic verb phrases between in A2 texts (extremely significant, medium effect size) and in B1 texts (extremely significant, large effect size). The verb type analysis in section 7.2.2.4 shows that the proportion of distinct verb types is significantly higher in atelic verb phrases than in telic verb phrases between in A2 texts (extremely significant, medium effect size) and in B1 texts (extremely significant, large effect size). Next, the analysis of differences in token frequencies between the Vendlerian classes in section 7.2.2.2 shows firstly that there are no significant differences detected between the achievement category and the activity category. Secondly, the token analysis in section 7.2.2.5 finds that the frequency of inflected past forms is significantly higher in the state category than in any of the other categories in A2 texts and in B1 texts (significant, medium or large effect sizes), and that the frequency of inflected past forms is significantly lower in the accomplishment category than in any of the other categories in A2 texts and in B1 texts (significant differences, medium or large effect sizes). Again, the verb type analysis of difference in verb type proportion between the Vendlerian classes presented in section 7.2.2.5 aligns with the findings generated by the token analysis: There are no significant differences between achievements and activities, but states and accomplishments differ significantly from all the other categories of lexical aspect (significant differences, medium or large effect sizes), the proportion being higher in states and lower in accomplishments.

The analysis of correct use of past morphology conducted in section 7.2.3 only confirms the findings from the analysis of overall use. The verb type proportion is significantly higher in atelic verb phrases than in telic verb phrases in A2 texts (extremely significant, medium effect size) and in B1 texts (extremely significant, large effect size). Furthermore, the state category has significantly higher verb type proportions at both levels compared to any other category (significant differences, medium or large effect sizes). Again, the opposite is true for the accomplishment categories (significantly lower verb type proportions, significant differences, medium or large effect sizes) and there are no significances detected between achievements and activities.

The analysis of lexical-aspectual properties also includes a section which examines whether there are differences between the L1 groups in terms of verb type proportion in telic and atelic phrases, and in phrases classified in any of the Vendlerian classes (section 7.2.4). In addition, the L1 analysis looks into differences in the frequency of incorrect encoding in telic verb phrases. The verb type analysis does not reveal L1 differences: texts in both L1 groups follow the trend accounted for in the preceding passages summarising findings from verb type analysis of overall use and correct use. However, the analysis of frequency of incorrect use of past morphology in telic and atelic verb phrases reveals that the number of Somali texts with incorrect encoding in telic verb phrases with past contexts is significantly larger than the number of Vietnamese texts with this feature (significant, small effect size).

The final section explores verb type proportion and category assignment in verb phrases with the preterite and verb phrases with the present perfect separately (section 7.2.5). These analysis are not tested by means of inferential statistics; only numerical surveys are provided, and in the tables showing category assignment, only group counts are given. Hence, it is not possible to generalize from the trends observed in this section focusing on category differences. Still, we note that the proportions in each category conform with the pattern found in the verb type analysis of overall use when the preterite and the present perfect are not treated as one category of past morphology. The category assignment in the current study presented in section 7.2.5.2 provides some interesting findings suggesting that the preterite and the present perfect are more often used incorrectly in place of each other in telic phrases than is the case when the forms occur incorrectly in present contexts. Finally, the category assignment of prototypical perfect (PP) and secondary perfect (SP) shows a huge difference in telic and atelic counts (section 7.2.5.3).

7.3 Chapter summary

In this chapter the analysis and result of the research questions and associated hypotheses have been presented in two main sections, the first of which focuses on L1 differences and the second which focuses on lexical-aspectual differences. The chapter to follow will discuss the findings.

Chapter 8

DISCUSSION

The present chapter discusses results from the analysis of the effects of L1 influence and lexical-aspectual influence on the temporal encoding of past time. The first sections review and discuss the findings that relate to the first research questions and its hypotheses. The succeeding section surveys the findings of the analysis of research questions 2 and 3 and their related hypotheses, before discussing them together.

8.1 L1 influence

The first research question asks *whether the Vietnamese and the Somali learners display a pattern in their use/non-use of the present perfect and preterite in Norwegian that points to within-group similarities, between-group differences and cross-language congruity* (Jarvis 2000). In this section I will argue that there exists an empirical basis for responding positively to the question. L1 effects are documented in the analysis, and they are emergent in distinct patterns of use/non-use at rather specific areas in the grammatical encoding of time. I will begin by surveying the L1 differences detected in the analysis presented in the previous chapter in relation to Jarvis's (2000) methodological framework for transfer studies. Next, I will evaluate the findings in relations to the hypotheses predicting specific L1 effects. Finally, potential sources for the detected transfer effects in Vietnamese and Somali texts will be discussed. Even though the primary concern in this part of the chapter is the differences between the L1 groups revealed in the analysis presented in chapter 7, which I will claim can be attributed to L1 influence, the texts written by Vietnamese and Somali speakers are similar in several respects. Hence, I will start by briefly point to the trends and features in the grammatical encoding which are common to the texts, regardless of the writer's L1 background.

8.1.1 Similarities across L1 background

First, in all the groups the frequency of present contexts dominates. Secondly, the analysis of grammatical encoding demonstrates that the informants indeed have developed grammatical means of expressing temporality in Norwegian. The texts reflect interlanguages at the morphological stage in acquisition of temporal expression because the level of grammatical encoding is generally high: 97-98% of all temporal contexts are marked on the verb¹¹⁹. In addition, the overall correctness rate is high; except for a few texts, on average 90-96% of the contexts are correctly grammatically encoded. The analysis of frequency of use shows that the present tense is the most frequently used form in all the groups, and that the present perfect form is the most infrequent one. Furthermore, the correctness frequency for each of the forms partially aligns with Bardovi-Harlig's order of emergence presented in chapter 2, section 2.1, in the sense that frequency of correct encoding of present contexts is higher than the frequency of correct encoding of preterite contexts and present perfect contexts. However, it is only for the Somali groups that the frequency of correct encoding in preterite contexts exceeds the frequency of correct encoding in present perfect contexts. Finally, the only feature in common in the incorrect encoding is the fact that the present and the preterite are used most often incorrectly in place of each other. However, again, these are also the forms which are most frequently used in the texts.

8.1.2 The detected L1 differences and Jarvis's (2000) methodological framework

According to Jarvis (2000), there are three types of transfer effects which studies of transfer should aim at finding evidence for: intra-L1-group homogeneity, inter-L1-group heterogeneity and intra-L1-group cross language congruity. In addition, transfer studies should try to control for as many outside variables as possible¹²⁰. In the following sections I will address the detected L1 differences in relations to three effects, however, effect 1 and effect 2 (intra-L1-group homogeneity and inter-L1-group heterogeneity) will be commented

¹¹⁹ There are some texts which obtain lower encoding frequencies, and there is one outlier in the ViA2 group. In this text only 68.8% of the temporal contexts are grammatically encoded (see chapter 7, section 7.1.3.1, and table 23).

¹²⁰ Jarvis's methodological framework for investigating transfer effects is presented in chapter 5, section 5.2.1.

on in the same section. I will also review the results from the analyses in which I have tried to account for a few selected outside variables.

8.1.2.1 L1 differences that show within-group similarities and between-group differences

The general test used for identifying differences between the L1 groups, the Mann-Whitney U test, compares the group's internal behaviour to the differences in behaviour between the groups. Consequently, a significant result indicates that the observations in one group are sufficiently similar, and sufficiently dissimilar from the observations in the other group, to claim the existence of L1 differences. Hence, the statistical analysis of the observed differences in the encoding of past time in Vietnamese and Somali texts, which was carried out in chapter 7, satisfies criteria 1 and 2 in Jarvis's (2000) methodological framework for transfer studies:

1. Intra-L1-group homogeneity in learners' IL performance
(within-group similarities)
2. Inter-L1-group heterogeneity in learners' IL performance
(between-group differences)

In the following sections I will present the L1 differences that I consider to be effects of L1 influence. However, the analysis of L1 differences shows some differences between texts assessed at the same proficiency level, and some differences which concern the interlanguages observed both in A2 and B1 texts written by Vietnamese-speaking and Somali-speaking learners placed at both levels. I first comment on the differences found between texts at the same level.

8.1.2.1.1. L1 differences detected in the interlanguages found in texts placed at the same level

These are the main findings yielded by the analysis of L1 differences between interlanguages found in texts placed at the A2 level:

- Vietnamese texts assessed at the A2 level have a significantly lower frequency of past contexts in the texts. Compared to the Somali learners, the Vietnamese learners establish fewer contexts for use of the preterite, and more contexts for use of the present tense form (section 7.1.2.1 and section 7.1.2.2).

- There are also more Vietnamese A2 texts than Somali A2 texts with zero contexts for use of the present perfect form (section 7.1.2.2). The exploring of the relationship between writing topic and temporal context in section 6.5.2 shows that the type of temporal contexts depends on the topics written about, and moreover, that there are many texts written in a perspective which do not require use of past morphology. However, from the overview of the various writing topics we know that the L1 difference found in frequency of past context at the A2 level cannot be explained in terms of a difference in prompts responded to. This is because the number of prompts inviting to write primarily from a past perspective is roughly the same in the L1 groups. In fact, if there is a difference, it is the L1 group with most contexts for use of past morphology, the Somali A2 group, which contains fewer texts written as an answer to a topic favourable for eliciting past contexts.
- The difference in contexts is also evident as differences in encoding, which means that the L1 groups differ significantly in use of forms: at the A2 level, Vietnamese-speaking learners use the present tense forms more often than Somali-speaking learners do. On the other hand, Somali-speaking learners use the preterite form more often than the Vietnamese-speaking learners do (section 7.1.3.3).
- There is an L1 difference in the degree of overall correctness at the A2 level. The frequency of overall correctness is higher in Vietnamese A2 texts than in Somali A2 texts. There are more Vietnamese A2 texts with 100% correct encoding in present contexts and in present perfect contexts than in the Somali A2 group. However, the significances for these differences are only marginal and the effect sizes only small in both cases (section 7.1.4.1).
- Even though L1 effects are not detected on the level of grammatical encoding between A2 texts, that is, the use of finite forms expressing temporal content of some kind, another L1 difference is found which nevertheless concerns grammatical encoding. Clauses that are completely without a morphologically-marked form to encode the temporal content are more frequently found in A2 texts written by Vietnamese informants than Somali informants. In the majority of the occurrences, the verb *be* is lacking in a present context (section 7.1.6).
- The analysis of incorrect encoding reveals an L1 differences at the B1 level, but again, the difference is only marginal and the effect sizes small: the frequency of incorrect encoding of the preterite in present contexts is higher in Vietnamese B1 texts than in Somali texts (section 7.1.5.1).

8.1.2.1.2 L1 differences detected in the interlanguages found in texts regardless of level

Finally, I will review the L1 differences that apply for both proficiency levels and these are detected in the analysis of incorrect use of the preterite, the present perfect, and the present (section 7.1.5).

- Firstly, Somali texts have more incorrect use of the preterite in present perfect contexts.
- In addition, a significantly higher number of Somali texts have incorrect use of the present perfect in preterite contexts.
- Recall from chapter 7 that these results were also supported by a closer look at the texts that used the preterite and the present perfect incorrectly in those two types of temporal contexts: when a preterite form is used incorrectly, it is more likely to be found in a present perfect context if the writer of the text is Somali-speaking. If the text is written by a Vietnamese speaker and has incorrect distribution of the preterite, it is more likely that the incorrect use will be found in a present context.
- Also, the analysis of prototypical perfect (PP) and secondary perfect (SP) reveals that Vietnamese-speaking and Somali-speaking learners have difficulties with different types of perfect: PP is more challenging for the Somali-speaking learners than for the Vietnamese-speaking learners (section 7.1.7.2).
- Finally, Somali texts have more incorrect use of the present in preterite contexts, however, the difference is only marginally significant, and the effect size small.

8.1.2.2 L1 differences and cross-language congruity

The third criterion for claiming L1 effects, cross-language congruity, is a linguistic criterion and refers to the observation of correspondence between the learners' use of the L1 and their use of a feature in the L2 (Jarvis 2000: 258). However, as accounted for in the discussion of the present study's approach to identifying L1 influence (section 5.2.4 in chapter 5), this particular criterion is applied somewhat differently here than in Jarvis's original version. In order to detect L1-L2 correspondence of use, I conduct three types of comparisons at the language system level: Norwegian-Vietnamese, Norwegian-Somali, and Vietnamese-Somali. In addition, I also compare the informants' encoding of past time in Norwegian to the encoding of past time in native use of Vietnamese and Somali by means of a translation method (chapter 3, section 3.1.4). Even though I do not have access to the informants' use of past morphology in their native language, I do claim that there are parallels between the encoding of past time in the texts and the past time marking evident in the native translations

of the perfect questionnaire in Vietnamese and Somali. The different types of comparisons indicate that there is correspondence between findings in the analysis of L1 differences, and the Vietnamese and Somali language systems. To start with, both the reference grammars of Vietnamese and Somali, and the translated sentences show that whereas the content grammaticalised in the Norwegian preterite form is not marked linguistically in Vietnamese, in Somali, a general past form corresponds to many of the functions covered by the preterite in Norwegian. The correspondence for this feature is found in the A2 texts: as will be argued in the following sections, Vietnamese A2 learners seem to have more problems in encoding the basic distinction in Norwegian than Somali A2 learners do. In addition, findings from the analysis of A2 texts suggest that Vietnamese-speaking learners have a tendency to write in a perspective which does not require tense shifts between the present and the past. In Somali A2 texts, both contexts for use of past morphology, and use of past morphology, are significantly more frequent than in Vietnamese A2 texts. Next, there is a correspondence between the Norwegian perfect category, the system of encoding of past time in Vietnamese and Somali, and the use of the preterite and the present perfect in Vietnamese and Somali texts regardless of proficiency level. Furthermore, the strongest indication of cross-language congruity is found in this particular relationship: Somali-speaking learners have more problems encoding the preterite-present perfect distinction in Norwegian than Vietnamese-speaking learners do. This can be related to the learners' L1s. From the review of the translated sentences and passages of the perfect questionnaire (chapter 3, section 3.2.2 and 3.2.5), we saw that the content grammaticalised in the Norwegian present perfect form is not expressed through Somali verb inflection, and that the temporal distinctions encoded in the Norwegian present perfect are often expressed through time markers in Vietnamese. To sum up, the third criterion in Jarvis methodological framework is met because it is possible to establish congruity relations between findings in the interlanguages as found in the texts, and native use of Vietnamese and Somali as found in the translations. Yet, cross-language congruity is most easily established between information about Vietnamese and Somali extracted from reference grammars and the native translation of the perfect questionnaire, and the findings of the analysis of use of the preterite and the present perfect in the texts.

8.1.2.3 Outside variables

According to Jarvis's (2000) methodological requirement for transfer studies, a study should control for as many relevant outside variables as possible. In the present study, a few variables

other than L1 background and proficiency level are analysed in relation to the L1 differences detected in the analysis of encoding in Vietnamese and Somali texts. However, when the texts are analysed on the few selected variables, and only educational background and English skills are taken into consideration, the differences as observed between the L1 groups are not found (chapter 7, section 7.1.7.1). The results from these analyses imply that educational background and English skills do not play an important role for the specific features which distinguish the L1 groups in the encoding of time. At least, the information about the educational background and English skills in the current project leads to such a conclusion. However, I will be cautious in generalising too much from these analyses because the personal information is self-reported. Still, I would claim that the less I have conducted of control analyses only further strengthens the conclusion that L1 effects are evident in the current study. But again, there are many other relevant factors which are not controlled for. In addition, because of nature of the responses gathered to collect personal information about the informants, the groups compared in the analysis of the relevance of educational background and English skills are quite crude. The control analysis also includes an analysis of prototypicality of the present perfect uses. As implied in chapter 5, section 5.2.1, prototypicality is a linguistic feature, and can hardly be called an outside variable, at least, prototypicality is a variable of a quite different nature than for instance educational background is. This analysis is also conducted differently than the examination of the relevance of educational background and English skills. Still, the prototypicality analysis is conducted in the section which aims at accounting for some variables that might affect the acquisition. In this analysis the use of the perfect is classified in two types of perfect, prototypical perfect (PP) and secondary perfect (SP), in order to examine whether the L1 groups display different patterns in the overall use and incorrect use of PP and SP. The analysis shows that type of perfect does not rule out the differences detected in the analysis of incorrect use of the present perfect. Quite the opposite, the analysis suggests that type of perfect seems to interact with L1 background because the Vietnamese-speaking learners mainly have problems with SP, and the Somali-speaking have more problems with PP than the Vietnamese-speaking do (see chapter 7, section 7.1.7.2).

8.1.3 Outcome of the hypotheses predicting L1 effects

Two hypotheses were formulated predicting specific L1 effects based on earlier findings and L1-L2 comparisons. I will now evaluate the outcome of these hypotheses based on findings relevant for testing the hypotheses:

- 1.1 The Vietnamese-speaking learners will use the present perfect correctly more frequently than the Somali-speaking learners will.
- 1.2 The Somali-speaking learners will have a higher degree of incorrect use of the preterite in contexts where Norwegian requires the present perfect, and a higher degree of incorrect use of the present perfect in preterite contexts, than will Vietnamese-speaking learners.

Hypothesis 1.1 is not supported. The evidence for the present perfect form being used correctly more frequently in Vietnamese texts than in Somali texts are simply not solid enough. Even though a significant difference is found in correct encoding of present perfect contexts at the A2 level in the direction predicted, the result is only marginally significant ($p = 0.1$), and the effect size is only small (Cramer's $V = 0.1$) (see chapter 7, section 7.1.4.3). Hence, the statistical significance detected should not be a point of particular emphasis.

Hypothesis 1.2 is supported. The Somali-speaking learners use the preterite incorrectly in present perfect contexts more often than Vietnamese-speaking learners do, and the difference is highly significant ($p = 0.001$) with a medium effect size (Cramer's $V = 0.3$) (see chapter 7, section 7.1.5.1.2). As for the incorrect use of the present perfect in preterite contexts, the frequency of this type of incorrect distribution is also highest in the Somali group; however, this is a slightly weaker result than for the difference in incorrect use of the preterite in present perfect contexts. The difference in the incorrect use of the present perfect in preterite contexts between the Vietnamese group and the Somali group is significant ($p = 0.04$), but the size of this difference is small ($r = 0.2$) (see chapter 7, section 7.1.5.2.2).

8.1.4 A discussion of explanations for the detected L1 effects

The analysis of within-group similarities and between-group differences, the analysis of L1-L2 congruity at the language system level and level of use, and the outcome of the hypothesis testing suggest that there are L1-specific features in the encoding of time in texts written by

Vietnamese-speaking and Somali-speaking learners of Norwegian. Because these L1 differences have been rigorously tested, they qualify as *L1 effects*. The present section aims at discussing explanations for these detected L1 effects¹²¹.

In sum, it seems that the L1 difference in the use of the preterite and the present perfect, and in the encoding of time, is not so much about correctness, but instead constitutes a difference in distributional patterns that emerge as different types of incorrect encoding. The analysis supports one of the specific hypotheses for transfer: Somali-speaking learners use the preterite and the present perfect incorrectly in place of each other more often than Vietnamese-speaking learners do. In particular, the Somali-speaking learners' overuse of the preterite in Norwegian is solidly documented. However, even though the Somali learners have more difficulty distinguishing the preterite and the present perfect, we do not have firm evidence for claiming that the Vietnamese-speaking learners use the present perfect category more successfully than the Somali learners do. The correct encoding of present perfect contexts is significantly higher in Vietnamese A2 texts than in Somali A2 texts, but the effect size of this difference is small, which causes me to be reluctant about treating this result as an effect of L1 influence. Surely, the most solidly detected L1 effects in the current study are simply a matter of tense-marking errors: the Somali learners have more problems distinguishing the preterite and the present perfect form, and the clearest proof of that is the high frequency of incorrect use of the preterite in present perfect contexts. I will also claim that there are findings in the current study which demonstrate that Vietnamese *A2 learners* have more problems encoding the basic tense distinction in Norwegian, the past-nonpast distinction. The fact that verbless clauses form a type of error which is typical to the Vietnamese A2 learners indicates that the grammatical encoding of time is particularly challenging for these learners. In addition, I would also relate another finding at the A2 level to this pattern: the fact that Vietnamese writers of A2 texts seemingly avoid writing in a perspective which requires tense shifts from the present tense to the preterite tense. In the following section I will elaborate these different transfer effects further. However, before I proceed to the discussion of what causes these effects to take place, I must emphasise that the investigation of L1 influence in the current study is not designed to identify and reveal the sources of detected L1 effects. This is first and foremost a transfer investigation aiming to

¹²¹ In the discussion I will not emphasise those L1 differences which are only marginally significant (that is, a p-value of 0.06 or more), and for which the magnitude of this effect is considered small (that is, an effect size index of 0.1 or less). Even though these have been mentioned in the summarising of detected L1 differences, for the sake of ensuring that the stated transfer effects are rigorously tested, I will not emphasise on such findings even though they might reflect a systematic difference between the L1 groups.

provide a solid empirical basis for evidence of transfer effects in the domains of past time and verb morphology. Transfer is a psycholinguistic process that takes place in the individual learner. Consequently, a study which seeks to examine the sources of the influence, what causes transfer in the area of time and morphology, needs a different type of method and data than the type found in this particular study. Nevertheless, it is indeed interesting to discuss the potential sources of and explanations for the observed transfer effects in the current study in light of theoretical frameworks and previous findings of L1 influence on the grammatical encoding and conceptualisation of time outlined chapter 2. Why do we observe these differences between Vietnamese-speaking and Somali-speaking learners when other variables such as writing topic, proficiency level, English skills, educational background, and prototypicality are controlled for? What causes these transfer effects to take place, and what do these causes tell us about the role of transfer in the encoding of past time in an L2? Again, it is beyond the scope of the current study to answer such questions, yet in the following sections I will put forth some possible explanations which may account for the differences revealed, or at least suggest some answers. However, in order to address these questions, we need to consider the types of transfer proposed by Jarvis and Pavlenko, which were outlined in the thesis in chapter 2, section 2.2.2.1. Hence, I will start by briefly considering the main points in Jarvis and Pavlenko before I discuss the L1 effects identified in the Vietnamese texts, and finally consider the L1 effects identified in the Somali texts. However, the effects found in both L1 groups are interpreted in relation to each other, and thus several of the issues raised in the beginning of the discussion of the Vietnamese findings are also relevant to the section addressing the influence from Somali.

The finding revealed in the prototypicality analysis, indicating that Vietnamese-speaking learners and Somali-speaking learners differ in respect to which type of perfect they struggle to use correctly (section 7.1.7.2 in chapter 7), will not be addressed in the discussion in the following sections. Instead, this L1 specific pattern will be discussed in a later section discussing interaction of influences (section 8.4.3).

8.1.4.1 The transfer phenomenon: sources and types

As we saw in chapter 2, Jarvis and Pavlenko (2008: 1) define transfer on a general basis as “the influence of a person’s knowledge of one language on that person’s knowledge or use of another language”. Accordingly, L1 influence is transference of knowledge from one language to another language, and the relevant question in this context is what type of

knowledge is transferred from the informants' L1s, Somali and Vietnamese, to Norwegian that results in a different outcome in encoding the preterite and present perfect contexts in Norwegian. In order to account for the range of transfer types, Jarvis and Pavlenko discuss different aspects of the process across ten dimensions, with *type of knowledge* being one of them (ibid.: 20). On the dimension of knowledge, Jarvis and Pavlenko distinguish between linguistic and conceptual transfer. According to the authors, linguistic transfer refers to influence involving the transference of knowledge of forms and structure (Jarvis and Pavlenko 2008: 22, 61). It is the transfer type in Jarvis and Pavlenko's list that most resembles the traditional way of understanding transfer as an inherently linguistic process where form and structure are the sources of the influence. Conceptual transfer, on the other hand, refers to transference of knowledge of conceptual structures and categories underlying the linguistic structures and forms in the L1 (ibid: 22, 112). However, as accounted for in chapter 2, section 2.2.2.3, the distinction between linguistic and conceptual transfer is not completely clear. Yet, Jarvis's description of conceptual transfer as *inert outcome*, that is transfer arising as a consequence of a "shared conceptual structure underlying both L1 and IL structure" (Jarvis 2000: 250), contributes to clarify that linguistic and conceptual transfer are transfer resulting from different mechanisms which the L1 can act upon. Conceptual transfer is not a process of transference; it is the consequence of the learner exhibiting a particular language-specific conceptual knowledge base which can be similar or different to the conceptual structures lying under the linguistic encoding in the L2.

The area of language knowledge that is affected by the learners' L1s in the current study is the morphological domain. The traditional or default interpretation of transfer at the morphological level would be that Vietnamese-speaking and Somali-speaking learners of Norwegian behave differently when using past forms and encoding present perfect contexts in Norwegian because of the structural differences and similarities that exist between their L1 and L2. As a consequence of such linguistic transfer, and the fact that Somali and Vietnamese are very different languages and also very differently distinguished from Norwegian, the Vietnamese-speaking and Somali-speaking learners of Norwegian exhibit different types of linguistic knowledge when learning Norwegian. However, in light of the findings of studies presented in chapter 2, which investigate the relation between language-specific encoding and conceptualisation processes, and the impact of such relations for L2 acquisition in certain language domains, I believe that the transfer effects detected in the texts in the current study can be interpreted differently than stemming from a process of transference of linguistic

knowledge. In addition, if we take a closer look at what the contrastive differences between the L1s and the L2 consist of, we see that it is problematic to claim that the L1 differences observed in the texts are outcomes or examples of linguistic transfer. Particularly, this type of reasoning does not add up when explaining the transfer effects found in the Vietnamese group.

8.1.4.2 Influence from Vietnamese

There are two questions to be discussed in relation to transfer effects evident in the Vietnamese texts. The first relates to the present perfect category: *why is it that learners of a tenseless language, such as Vietnamese, seem to have an easier time coping with the present perfect category than learners of an inflectional language, such as Somali, when studies have shown that the present perfect category is established later in L2 acquisition than the preterite category (Bardovi-Harlig 2000: 419)?* The next question concerns the findings in texts placed at the A2 level, and asks *why the present-preterite distinction is more difficult for Vietnamese learners than for Somali learners.* These are the generalisations that can be drawn based on the findings in the Vietnamese texts in the present study. These also agree with Tenfjord's (1997) longitudinal study of the language development of four Vietnamese learners of Norwegian in which the present perfect category emerges before the preterite category (see chapter 2, section 2.4.1).

There is one basic problem with using the linguistic explanation, in which structural differences and similarities are regarded as the sources of transfer, to account for the effects found in the Vietnamese texts. The Vietnamese-speaking learners, especially those without knowledge of English or other inflectional languages, do not have any structure to transfer from their L1 to the L2 that would lead them to cope with the present perfect in Norwegian, or any structure that would cause them to use the Norwegian preterite incorrectly or to avoid using the form. Vietnamese verbs do not change form; they do not express past time. Time is predominantly expressed lexically and by means of different time markers in Vietnamese. Remember that I classify the relation between Norwegian and Vietnamese as a zero relation in Ringbom's (2007) frame on the basis of the fact that Norwegian is a tense prominent language and Vietnamese a tenseless language (chapter 3, section 3.2.5). Learners' own subjective evaluations of the relevance of their L1 for the learning of the target language is a point of emphasis in Ringbom's reasoning (chapter 3, section 3.2.5), and the average Vietnamese learner of Norwegian will probably not assume that there are items in Vietnamese

which can be transferred in order to ease the learning of the Norwegian inflectional system. However, if we focus on the perfect category, I argued for the existence of a similarity relation between the languages because the contrastive analysis reveals a correspondence between the system of marking time by verb morphology in Norwegian and the use of past time markers in Vietnamese (chapter 3, section 3.2.5). Yet, this particular similarity relation that was discussed in the contrastive analysis of Vietnamese¹²² is not a structural correspondence. Rather, it is first and foremost a semantic/functional correspondence which exists between the present perfect in Norwegian and *đã* and *rôi* in Vietnamese. Although the Norwegian present perfect form is an analytic form, and not a synthetic form such as the preterite, the present perfect form is still an inflectional category. So, even though it could be argued that there is some formal correspondence between the present perfect in Norwegian and the time markers in Vietnamese, which is not present between the Norwegian preterite and Vietnamese time markers, I do not consider this as an aspect of the present perfect which the average Vietnamese learner of Norwegian is likely to exploit. It is the functional/semantic correspondence I emphasise. Hence, the correspondence which exists between the present perfect in Norwegian and *đã* and *rôi* in Vietnamese does not lay the basis for transference of structural knowledge from Vietnamese to Norwegian L2 learning. Similarly, it makes little sense to talk about structural differences between Vietnamese and Norwegian. What the preterite encodes in Norwegian is not marked by inflection in Vietnamese. There is no structure available in Vietnamese from which the learners can infer differences or similarities to Norwegian. Accordingly, how can linguistic knowledge from the L1 cause transfer to take place in the L2 when a near-zero contrast is present between the languages? Clearly, it is fundamentally problematic to interpret the L1 effects found in the Vietnamese texts as linguistic transfer. Accordingly, if it is not linguistic differences and similarities that cause the transfer effects to take place, what is it then? I believe that it can be argued that the source of the transfer effects in the Vietnamese group as well as the Somali group is conceptual, or possibly both linguistic and conceptual. In my view, the mechanisms behind the transfer effects detected in the current study could be inert outcome just as well as a process of transference. At least, there is no reason to be more reluctant about classifying the detected L1 effects as conceptual than classifying them as linguistic. However, as has been made clear several times, this is merely an interpretation of the results in light of new theoretical accounts and studies of the impact of L1 conceptualisation of time on verbal encoding in the L1 and

¹²² Chapter 3, section 3.2.3.3.

L2. In the following I will elaborate more on why I find it reasonable to interpret the transfer effects found in the Vietnamese texts as conceptual.

Compared to many other European languages, the Norwegian language grammaticalises fewer distinctions in the past; however, it grammaticalises a distinction relevant for the present state which is lacking in many languages with a rich verbal morphological system. A peculiarity of the Scandinavian languages is the lack of past inflections other than the pure past reference form, the preterite, which in its basic meaning expresses a distinction from the present. Hence, compared to languages with several categories of grammatical aspect and tense, fewer distinctions are marked grammatically on the verb in Norwegian. The distinction grammaticalised through the present perfect usually provides information about a present result or a present state of affairs. Accordingly, it can be argued that the conceptualisation of time in Norwegian entails two fundamental distinctions: the past-nonpast distinction grammaticalised in the preterite-present opposition, and the past-present result distinction grammaticalised in the contrast between the preterite and the present perfect. According to Jarvis and Pavlenko, conceptual knowledge develops during the process of language socialisation (Jarvis and Pavlenko 2008: 73). Norwegians learning their L1 are tuned towards different distinctions than are native speakers of languages with other sets of grammatical categories, one of them being the fundamental distinction between pure reference to the past (the preterite) and reference to the present state resulting from a past event (the present perfect). In that case, despite the enormous contrast between the Norwegian language system and the Vietnamese language system, there would be a similarity in conceptualisation between the languages in that both languages direct the native speakers to pay attention the specific distinction in time accounted for here, and which in Norwegian requires the use of a present perfect tense form, and in Vietnamese requires use of *đã* and *rồi*. As stated before, in her survey of studies of L1 acquisition of tense and aspect, Bardovi-Harlig (2000) shows that the present perfect is established after the preterite form in Germanic L2 languages, assumingly because the present perfect is more difficult to acquire than the preterite¹²³. However, given the parallel in conceptualisation between Vietnamese and Norwegian, the Vietnamese speakers are perhaps supported by their L1 when acquiring the present perfect form in Norwegian. Recall also that the Vietnamese speakers have less trouble using the present perfect correctly in prototypical contexts, a result which aligns with the reasoning given here because the present perfect in Norwegian has the closest parallel to *đã*

¹²³ See also chapter 2, section 2.1.

and *rôi* in Vietnamese (chapter 3, section 3.2.3.3). This reasoning could be an answer to the question of why learners of a tenseless language, such as Vietnamese, seem to have an easier time coping with the present perfect category than learners of an inflectional language, such as Somali, even though studies have shown that the present perfect category is established later in L2 acquisition than the preterite category. There is a conceptual similarity lying underneath the particular time markers in Vietnamese and the present perfect in Norwegian which contributes to facilitate the learning of the Norwegian present perfect form.

I will also discuss the finding in the analysis of A2 texts showing that Vietnamese-speaking learners writing A2 texts have difficulties in encoding the basic tense distinction in Norwegian. This concerns the second question in the discussion which asks why the present-preterite distinction is more difficult for Vietnamese learners than for Somali learners. The Vietnamese-speaking write more often in a present perspective, and less often in a past perspective, than A2 Somali-speaking learners do. Also, the present form is more frequent, and the preterite less frequent, in Vietnamese A2 texts than in Somali A2 texts. In addition, the overall level of correctness is significantly higher in Vietnamese A2 texts, and a closer look seems to indicate that this is due to the fact that there are more A2 texts in the Vietnamese group that have 100% correct use of the present and the present perfect. However, at the B1 level, these differences cannot be observed. These results can be interpreted as supporting the claim that Vietnamese learning Norwegian need more time to learn to mark verbs for temporality, and to shift between tenses. Recall that this pattern is not observed in the interlanguages found in Vietnamese texts that have been assessed at a higher proficiency level. A much more recent study of Alloway and Corley's (2004) included in Jarvis and Pavlenko's discussion of conceptual transfer in the domain of time (Jarvis and Pavlenko 2008: 140)¹²⁴, indicates that speakers of tenseless languages, such as Vietnamese, need more time to grammatically encode temporal relations than speakers of tense languages do. This study supports the claim that Vietnamese learners need more time to acquire the basic idea that verbs change form according to temporal context. After surveying Alloway and Corley's study, Jarvis and Pavlenko say the following about conceptual transfer in the area of morphology:

¹²⁴ This study is presented in chapter 2, section 2.3.4.

Conceptual transfer in this area may thus be evident in difficulties experienced by speakers of tenseless languages in making systematically temporal distinctions obligatory in the target language, and, consequently, in the lack of or inappropriate tense marking (although tense marking error may also be affected by other factors) (Jarvis and Pavlenko 2008: 140).

I believe that the transfer effects found in the Vietnamese texts, which are evident in ease in encoding the distinctions of the perfect category, and problems for A2 Vietnamese with encoding the basic time distinction and marking the past-present relevance distinction in Norwegian (high frequency of verbless clauses, fewer past contexts, and less use of the preterite in A2 texts), can be interpreted as having a conceptual basis. Moreover, if this is the case, the conceptual transfer produces a positive outcome for the learning of the present perfect form in Norwegian, but a negative outcome for the learning of the basic tense distinction in Norwegian.

8.1.4.3 Influence from Somali

In the discussion of the transfer effects found in the Somali texts, I will concentrate on the question of *why Somali learners of Norwegian have more difficulty with the present perfect category than the Vietnamese learners, whose L1 does not encode time by means of verb inflection at all*. To start with, the finding in the current study that Somali learners of Norwegian whose L1 does not grammaticalise the distinction of the present perfect category aligns with previous findings that the present perfect category poses challenges for L2 learners who are not familiar with the category from their L1, or when there are formal or conceptual differences or similarities between a temporal category in the L1 and the perfect category in the L2¹²⁵. Firstly, in two studies Collins (2002, 2004) finds that Francophone learners of English overuse the present perfect in preterite contexts. Secondly, the same tendency is found in a study of French-speaking learners of English living in France, conducted by Ayoun and Salaberry (2008). In these studies, the native language of the learner does not lack a perfect category, as is the case in the native language of the Somali informants in the current study. The French language has a form which is similar to the English present perfect in structure, but dissimilar in function/semantic content. Furthermore, Moskvil (2004), Helland (2005), and Janik (2010) find that the preterite-present perfect distinction is difficult for learners whose L1 does not encode the distinction in the Norwegian present perfect.

¹²⁵ The studies briefly referred here are presented more in detail in several of the section in chapter 2, and they are summarised in table 88 in appendix A.

Finally, we have also seen that Somali learners of Swedish have more problems with the present perfect form compared to other L1 groups (Philipsson 2007, see chapter 3, section 3.1.1). It is my opinion that the analyses of L1 influence in the present study reveal, as do the findings summarised from other studies, that the present perfect category is a frequent source of transfer in the acquisition of temporal morphology in a second language. Furthermore, I would claim that these findings also allow us to generalise in the following manner: this type of transfer appears as inappropriate use of the present perfect and the preterite; these are uses which can be classified as errors. These errors take form as overgeneralisations of the present perfect in inappropriate contexts, typically contexts for a general/simple past form (e.g. the preterite in Norwegian) as well as underuse of the present perfect form in present perfect contexts, in which typically a general/simple past form would be used instead. However, even though L1-specific uses of the present perfect and a general/simple past form can be identified as effects of L1 influence in several studies comprising different L1s and L2s, how to interpret these effects, and how to explain the findings, is another question which cannot be given a unified answer. Even though the studies cited, including the current one, all have in common that L1-L2 differences in distinctions relevant for the perfect category seem to result in L1 influence; the sources of these similar observable effects do not need to be the same. Note that even though Jarvis and Pavlenko in their discussion of conceptual transfer in the domain of temporality point to tense marking errors as one of the manifestations of conceptual transfer, they underscore that such errors also can have other causes (Jarvis and Pavlenko 2008: 142). Hence, I only reflect upon potential sources for the detected transfer effects found in the current study.

I believe that the question of whether the Somali group's L1 effects on the use of preterite and present perfect have a linguistic or a conceptual basis is more open. There are arguments for both a linguistic interpretation and/or a conceptual interpretation. It could be that the Somali learners transfer linguistic knowledge from their native language when they use the preterite in Norwegian, which results in them having problems encoding present perfect contexts correctly. A reasonable interpretation of the L1 effects on the encoding of present perfect contexts is that the Somali learners overuse the preterite in present perfect contexts because they make intralingual identifications between the Somali general past and the Norwegian preterite. However, if we adopt Ringbom's perspectives on different types of crosslinguistic relations, this is less likely. In the case of Somali speakers learning Norwegian, the language distance is so immense that the learners are not likely to perceive the system of

inflecting verbs as relevant for learning Norwegian (chapter 3, section 3.2.5). Hence, it is problematic to argue that the relation between the Norwegian perfect and the Somali general past is a contrast relation, or a similarity relation, which in turn will foster intralingual identification and lead to L1 influence. The contrastive analysis and data presented in chapter 3 shows first and foremost very clearly that native speakers of Somali habitually encode temporal distinctions in their L1 other than the one found between past-present result distinction, which is encoded in the present perfect category in Norwegian. And this opens for another interpretation. Somali speakers are not socialized through their L1 to pay attention to this particular distinction when encoding events. This perhaps makes them less sensitive than Vietnamese learners of Norwegian to the distinction captured in the Norwegian present perfect. To put it differently, at this particular point in the encoding of time in Norwegian, the Somali learners might face a stronger challenge in restructuring their conceptualisation of time than the Vietnamese learners, who have probably developed a stronger awareness of this particular distinction, which enables them to encode present perfect contexts more easily and maybe also earlier than Somali learners. This interpretation of the difference in incorrect use of the preterite and encoding of present perfect contexts as a matter of conceptual transfer is supported by new theoretical accounts of the relation between cognition, language and crosslinguistic influence, as well as findings generated by studies within these new frameworks. For instance, the Heidelberg studies of the connection between linguistic structure and conceptualisation of time, as well as the impact of crosslinguistic differences on the encoding of time on L2 acquisition (see chapter 2, section 2.2.1.1) indicate that there is more than simple transference of structure involved when L1 differences are detected in the grammatical encoding of time. In one of those studies conducted by Carroll and Von Stutterheim (2003), the authors document L2 users' failure to act native-like when verbalising events in the L2 because they rely on L1 principles of structuring and encoding events. Carroll and Von Stutterheim interpret such findings in light of Slobin's thinking for speaking hypothesis, or their version of Slobin's thoughts¹²⁶. And the L1 effects documented in the Somali texts can be understood in the framework of Slobin's thinking for speaking hypothesis as well as Jarvis and Pavlenko's perspective on conceptual transfer because the L1-L2 differences analysed concern not only structural differences, but also conceptual differences that underlie the forms and structures. In addition, temporal distinctions are abstract relations and not visible distinctions that can be observed by the eye. According to Slobin, Kellerman

¹²⁶ This study of Carroll and Von Stutterheim mentioned here, and an account of their theoretical reasoning, is presented in chapter chapter 2, section 2.2.1.1.

(1995), and the more recent theoreticians exploring the relation between language and cognition, linguistic categories coding such notions are the ones which learners typically will have a hard time restructuring when learning a new and different language. Again, Jarvis and Pavlenko do consider “L2 learners’ failure to mark temporality in accordance with the language-specific temporal system of the target language” (Jarvis and Pavlenko 2008: 142) as one of the possible outcomes of transfer originated at the conceptual level. In that case, if we bring in Jarvis’s (2000) thoughts on conceptual transfer resulting from something very different than a process of transference based on intralingual identifications between L1 items and L2 items, the transfer effects observed in the Somali texts in the current study become a matter of L1 influence arising as inert outcome.

However, regardless of how we interpret the sources of the transfer evident in the Somali texts, the transfer effects doubtless arise as a result of differences. The pair of languages is highly distinguished in the semantic distinctions marked on the verb. This is interesting in light of Ringbom (2007) who advocates that perceived similarities in the learners is what makes transfer happen (Ringbom 2007: 1,5): “Similarity is basic, difference is secondary. The search for similarities is an essential process in learning” (ibid.: 5). However, in the case of the transfer effects revealed in the Somali material, it is differences that are basic, or as Kellerman (1995) puts it, in some cases “there can be transfer which is not licensed by similarity to the L2, and where the way L2 works may very largely go unheeded” (Kellerman 1995: 137).

8.1.4.4 Summing up

Again, in the current study we can only draw educated conclusions about what causes the documented L1 effects to take place; we cannot know for sure. However, in my view, the patterns of use/non-use of the preterite and present perfect in texts written by the two L1 groups are quite different and they reflect differences in the encoding of time in Vietnamese and Somali. I will argue that if we define conceptual transfer in the domain of time as effects of differences and similarities in how the temporal concepts are structured in the L1 and L2, with type of temporal distinctions made being one of those, the fact that the Somali speakers overuse the preterite in present perfect contexts and have more problems with the present perfect is an instance of conceptual transfer or both conceptual and linguistic transfer. In addition, the fact that the Vietnamese speakers have less difficulty with the present perfect, and fewer problems in distinguishing the preterite and the present perfect in Norwegian, but

more problems with basic tense distinction in the early stages of the L2 acquisition is best understood primarily as an instance of conceptual transfer.

8.2 Lexical-aspectual influence

The second research question asks *whether the learners' use of the preterite and present perfect in Norwegian agree with the earlier findings that support the Aspect Hypothesis*. The analysis of lexical-aspectual influence has been carried out on the use of preterite and present perfect forms treated as one category of past morphology. However, some analyses of the impact of lexical aspect have been performed on use of the two forms separately as well, but the results from those will be discussed later in section 8.4 - the role of telicity. In the following I will put forth results from the analyses which show that the current study does not support the prediction in the Aspect Hypothesis, which in turn claims the acquisition of past morphology to be influenced by the telicity in verb phrases. Next, I will discuss potential reasons for the lack of consistency between the findings in the current study and findings from previous research on the Aspect Hypothesis. However, this discussion will evolve around issues of data, method and approach. The role of telicity in the acquisition of past morphology in an L2, which is essentially what hypothesis 2.1 and 2.2 are about, will be addressed in a separate section after the results from the third and final research question have been summarised, and the outcome of its associated hypothesis has been evaluated. This order has been adopted because findings from the analysis of the potential interaction of L1 background and telicity (research question 3) are highly relevant for the discussion of telicity.

8.2.1 Differences in lexical-aspectual properties summarised

The analysis of overall use of past forms, regardless of correctness, is conducted by means of a token analysis and a verb type analysis. In the token analysis, the number of inflected forms for the preterite or the present perfect is counted, and the token frequency for each category of lexical-aspectual categories is computed. In the type analysis, each verb lexeme that occurs inflected is counted only once, and the proportion of distinct verb types for each lexical-aspectual category is calculated. However, as argued in chapter 6 (section 6.4.4) and chapter 7 (section 7.2.1), I consider the analysis of verb type proportion to be the most appropriate measure of lexical-aspectual influence in this particular study. It is also only in the analysis of

overall use that I have conducted both a token analysis and a verb type analysis. The reasoning behind this decision was to minimize the risk of biasing either of the lexical-aspectual categories because a few verbs occur with very high frequencies in the texts. As we have learnt, the verb *være* ('be') occurs very frequently compared to the rest of the verb lexemes in the current study (see table 63, section 7.2). In A2 texts, *være* is used in 23.2% of all the clauses, while the second most frequent verb lexeme, *ha* ('have'), occurs with a frequency of 5.7%. In B1 texts, *være* is used in 19.1% of all clauses, and also here *ha* is the second most frequently used verb (5.1%). Because *være* is used so much more often than the other verb types, and because in this study, *være* always occurs in a stative verb phrase, the method of analysis becomes important (see also Bardovi-Harlig 2000: 236 and Collins 2002: 48). Consequently, a verb type analysis in which lexical variation is taken into consideration is more appropriate than a token analysis which is only based on the frequency of inflected forms. Furthermore, the application of two types of analysis methods in one point in the analysis of lexical-aspectual properties has also been motivated by the wish to find out whether the method of analysis plays a role for the outcome. However, we have seen from the analysis of overall use that similar results emerge from the token analysis and the verb type analysis. Hence, the analysis of overall use does not indicate that type of analysis matters so much in the current study. The results will be briefly summarised in the subsequent passages.

The analysis of differences between telic and atelic verb phrases in token frequency and verb type proportion of overall use generates the same result: the atelic group obtains the highest values. Accordingly, the number of inflected past forms in atelic verb phrases is significantly higher than in telic verb phrases, and a larger proportion of the verb lexemes inflected for the past occur in atelic verb phrases than in telic verb phrases. The differences analysed are extremely significant at both levels, and accompanied by a medium effect size at the A2 level and large effect size at the B1 level. The token analysis and verb type analysis also reveal that the atelic group obtains the highest values regardless of analysis method because the state category dominates both in frequency of use and in lexical variation. Within the telic group, achievements have the highest token frequency and the highest proportion of verb types. Accomplishments are significantly less frequent than any of the other categories, and also reveal a lower type proportion than the rest. Activities and achievements are not different either in token frequency or in verb type proportion (see section 7.2.2.3 and 7.2.2.6). The analysis of verb type proportion of correct use reveals a similar pattern as described here (section 7.2.3.3).

8.2.2 Outcome of the hypotheses testing the Aspect Hypothesis

In this section the results from the lexical-aspectual analysis are reviewed in evaluating the specific hypothesis associated to the research question about influence of lexical aspect:

- 2.1 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportion in telic verb phrases (achievements and accomplishments) with preterite and present perfect inflection than in atelic verb phrases (states and activities) with preterite and present perfect inflection.
- 2.2 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportion in telic verb phrases (achievements and accomplishments) with correct preterite and present perfect inflection than in atelic verb phrases (states and activities) with correct preterite and present perfect inflection.

Neither hypothesis is supported in the current study because atelic verb phrases with preterite and present perfect inflection have significantly higher verb type proportions than telic verb phrases with preterite and present perfect inflection in overall use as well in correct use. Hypotheses 2.1 and 2.2 primarily predict a difference between telic and atelic verb phrases, however, inherent in the Aspect Hypothesis is also the claim that the use of morphology expands from achievement – accomplishment – activity – state. Such a pattern is not observed either in the current study of the Aspect Hypothesis. Quite the reverse, it is the state category which differs significantly from the other classes of lexical aspect. In addition, the analysis reveals that it is the state category which contributes to the fact that atelic verb phrases have a significantly higher proportion of verb types inflected for the past.

Surely, the findings from the current study contradict one of the core predictions in the Aspect Hypothesis, a prediction which has also prompted the firmest evidence for the importance of telicity in the acquisition of verb morphology in an L2 (Bardovi-Harlig 2000, Collins 2000). The findings are moreover inconsistent with the range of studies that documents the predicted semantic bias towards telic verb phrases in the emergence, and continuing development and use, of past morphology in the L2 (see section 2.3 in chapter 2). The question which then arises is the reason for this discrepancy: is it because telicity does not play a role after all; are the claims made in the Aspect Hypothesis false? Or is it simply so that telicity is affecting the acquisition, but this influence has not been detected in the current study for various reasons. I would argue that even though it is clear that the current study does

not lend support to the predictions in the Aspect Hypothesis, I will not claim that this finding will lead to the conclusion that telicity in verb phrases is not a relevant factor in acquisition. It could be the case, but it may well be that it is not possible to test the Aspect Hypothesis with data such as in the current study, for reasons I will account for in the forthcoming section.

8.2.3 A discussion of the lack of consistency between findings

In this section I will address the findings from the analysis of lexical-aspectual influence, or the lack of it, in terms of data and method.

First of all, even though Bardovi-Harlig's (2000: 197-205) survey of studies investigating the Aspect Hypothesis shows quite a lot of diversity in data and approach¹²⁷, studies investigating written language use data produced in a test situation, such as in the current study, do not seem to be a part of the empirical base Bardovi-Harlig reviews. Written narratives are used as data, however, the written data are typically collected by means of various retell tasks, e.g. film retells, in order to provide comparable data samples (Bardovi-Harlig 2000: 201). Hence, the texts analysed in the studies reviewed by Bardovi-Harlig are often written as responses to the same task, or as responses to the same stimuli. As accounted for chapter 6, section 6.5.2, this is not at all the case in the current study. The texts investigated in this study are written over 31 topics many of which do not elicit use of past forms at all. This is probably a fact which contributes to complicating the testing of the Aspect Hypothesis in this study, because the texts might not include the type of language use, or contexts, needed in order to test the predictions. As pointed out by Bardovi-Harlig, even texts responding to the same type of task can be problematic, and for that reason, many Aspect Hypothesis studies have relied on cloze tasks, as well, or instead of, narratives. The disadvantage of narratives lies in the risk of not being able to pre-determine verb types in order to elicit a sufficient number of types from each lexical-aspectual class, a problem less persistent when using cloze tests:

¹²⁷ In a separate table, Bardovi-Harlig summarises the most important features of a lot studies researching the Aspect Hypothesis, see chapter four in Bardovi-Harlig (2000).

In spite of the combined advantages of the film retell tasks that elicit comparable language samples across learners while maintaining learner control over the construction of the narratives, there are some disadvantages as well. In spite of the fact that retelling a story has the potential of increasing production from learners who would otherwise say very little, there is still noteworthy variation in number of the tokens that learners produce. A second problem is related specifically to the testing of the aspect hypothesis: Certain types of predicates occur more frequently than others. In an effort to solve these problems, language samples have been collected via more directed elicitation tasks such as cloze passages that form complete texts (Bardovi-Harlig, 1992a; Bergström, 1995), short contextualized passages (Bardovi-Harlig & Reynolds, 1995; Collins, 1997, in a replication of Bardovi-Harlig & Reynolds, 1995), and short contextualized passages which form a guided narrative (Collins, 1999a). Cloze passages were used to control for the inherent unevenness in the number of tokens produced in each aspectual class in spontaneous production (Bardovi-Harlig & Reynolds, 1995; Collins, 1999b). Narratives and cloze passages share the feature of providing contexts for learners that are framed in the past (Bardovi-Harlig 2000: 201).

The problem of lack of lexical diversity is closely connected to data type. In the current study, it has not been possible to control the temporal perspective in the texts or the verb types used; hence it has not been possible to ensure a certain amount of lexical diversity. Thus, the type of data can be a potential explanation of why the findings in the current study do not align with findings from previous research testing the hypothesis predicting influence of telicity on the acquisition of past morphology. We have seen that even though the use of past morphology in the texts has been analysed by means of a verb type analysis, the state category obtains significantly higher verb type proportions. In addition, the analysis of overall use has been examined by means of two different types of analysis methods, token analysis and verb type analysis. The result turns out to be the same even though the verb type analysis is not affected by the frequency of verb lexemes. This finding solidly documents the frequency of which the verb *be* occurs in learner languages: the number of inflected verbs is highest in stative category, and the number of different verb types is also highest in the state category. Variation of verb types in the stative category is also a point of discussion in Bardovi-Harlig (2000: 236). In her discussion of the often limited number of different stative verb types in learner data, she refers to findings by Cadierno (2000) (cited in Bardovi-Harlig 2000: 236), a study of Danish advanced learners of Spanish L2, who finds that the number of stative tokens is higher than the number of achievement tokens. Cadierno only uses token analysis, and as underscored by Bardovi-Harlig, without knowledge about lexical diversity within the lexical-aspectual categories, we do not know the proportion of the stative tokens that are uses of the Spanish equivalent of *to be* or the number of types the inflected verbs occurring in stative

verb phrases are spread across. Also Collins (2002: 48), in her discussion of inconsistent result in research on the Aspect Hypothesis, emphasises the need for information about distribution of verb types in some studies. She points to the fact that in studies like Cadierno's mentioned above, it can be difficult to interpret the findings because lexical variation is not accounted for:

One reason for the inconsistency may be the methodological challenge of eliciting sufficient numbers of stative verb types. In conversational and narrative tasks there is a tendency for lexical *be* (and to a lesser degree, *have*, particularly in L2 acquisition of French; Bardovi-Harlig & Bergström, 1996; Bergström, 1995, 1997; Harley & Swain, 1978; Salaberry, 1998) to be overrepresented in the stative category. The interpretation of the findings is further complicated by the fact that *be* tends to be marked for tense in learner production earlier and more consistently than other statives (Collins 2002: 48).

However, the past forms in the current study have been analysed by using verb type proportions, and not token frequencies. Consequently, despite the fact that *be* is very frequent in the texts, the findings from the analysis still generate the opposite results of the predictions based on the Aspect Hypothesis. Hence, this result should be reliable in the sense that lexical diversity is controlled for, and the inconsistency between findings from the current study and previous studies cannot be explained in terms method of analysis as implied in the quote from Collins (2002) above. However, there is another aspect of the lexical variation in the stative group which does not come through from the verb type analysis presented in chapter 7, and which perhaps sheds further light on the results of the verb type analysis. A closer look into the data demonstrates that even though a verb type analysis takes lexical variation into consideration, because each verb inflected is only counted once, in many cases, the verb type counted is *være* ('to be'): in fact, 113 out of 157 texts with stative tokens (or 72% of the texts) have on average 4.3 uses of *være* in their texts. The second most frequent verb type in A2 and B1 texts, *ha* ('have'), also a stative, occurs in 59 of the 157 texts (or 38% of the texts). Moreover, 52 of the 157 texts have use of both these two most frequent verb lexemes; both always occurring in stative verb phrases in the current study. In comparison, the most frequent verb appearing in the achievement category, *bli* ('become') is found in 43 out 138 texts with telic tokens (or 31% of the texts) which gives an average use of 1.9¹²⁸. In other words, the type analysis in the current study does rule out the overrepresentation of *være* because it appears in so many texts and because the other verbs occur in much fewer texts. In that case,

¹²⁸ The number of tokens is found in table 63 in chapter 7, section 7.2.1.

it might be that even though a type analysis is used in the current study, the current study still has ended up saying more about the verb *være*, and to a certain extent also *ha*, as well as their frequency, and less about the stative category in general as implied in Collin's continuing of the discussion of the overrepresentation of particular stative verb types in learner production. "Because many studies have used token analyses only, it is difficult to know whether the findings are representative for the stative category in general, or rather, reflect behavior particular to *be*" (Collins 2002: 48).

There are also other aspects of the study that might help bring about an explanation of the lack of support of one of the core predictions in the Aspect Hypothesis; one of them being the acquisitional stage of the learners. As we have seen from the analysis of the encoding of past time in the texts, the level of grammatical encoding in both the A2 texts and the B1 texts is generally high (section 6.5.3.1 in chapter 6 and table 91 in appendix D). In addition, we have seen that the average correctness frequency in use of temporal morphology is 92.1% in A2 texts and 94.2% in B1 texts (section 6.5.3.1 in chapter 6 and table 93 in appendix D). So, although the tests have been assessed at an intermediate level of proficiency according to the CEFR scale, the level of grammatical encoding and the level of correctness in the texts are generally high. Although that does not equal an advanced language level in using temporal morphology, it still indicates that the learners have reached the morphological stage in the acquisition. The question which then arises is whether the L2 learners who have written the texts investigated in the current study have come so far in their acquisition of verb morphology in Norwegian that it is not possible to detect the influence of lexical aspect. The next question which arises, is whether I might have observed another result if I had investigated texts written by the same learners earlier in their acquisition of Norwegian. Such an inference implies that the influence of telicity in the acquisition of past morphology is only relevant in the initial phases of the language development. However, several studies mentioned by Bardovi-Harlig (2000: 197-205) as examples of studies supplying empirical evidence for the Aspect Hypothesis include advanced learners as well as learners at basic or intermediate stages. Furthermore, one of the studies presented in the discussion of transfer within research on the Aspect Hypothesis in chapter 2, section 2.3.4, Ayoun and Salaberry (2008), claims, on basis of their findings, that the predictions of the Aspect Hypothesis hold for all stages of the learning process:

The specific findings of the study underscore the effect of lexical aspect in the use of past tense morphology even among students with extensive academic training in the L2 (up to 7 years of instruction), thus expanding the distributional effect of lexical aspect to more advanced stages of learning as predicted earlier (Ayoun and Salaberry 2008: 583).

In other words, it is more likely that it is the data type and not the stage or level which is the reason, if any, for the failure of the current study to detect a similar pattern in the use of past morphology than in the studies documenting that the telicity of verb phrases has an effect on L2 morphology.

Finally, yet another potential reason for the discrepancy between the findings in the current study and previous Aspect Hypothesis studies must be mentioned, although, as I will put forth reasons for, I do not consider it as an aspect which can explain the matter. In chapter 5, section 5.3, I have discussed the problems connected to classifying verb phrases in distinct classes of lexical aspect, and I have claimed that there is some uncertainty connected to the manner in which the coding and classification have been conducted within research on the Aspect Hypothesis. Against the backdrop of the complexity involved in classifying verb phrases in lexical aspect, and the lack of information about the detailed coding procedures in many of the previous studies, it could be that there is inconsistency in how I have coded my data and how the coding has been carried out in studies to which I am comparing my results. It could be that I have applied a different set of coding procedures, or that I have a different understanding of what the Vendlerian classes imply, which causes me to classify the occurrences in the texts differently than has been done in other studies. For instance, the fact that I code all negated verb phrases as states, e.g. the underlined verb phrases containing the verb *see* in this sentence *Jeg har hørt at det er midnattsol i Nord-Norge men jeg har ikke sett engang* (I've heard that there is midnight sun in Northern Norway, but I haven't seen), can perhaps exemplify types of contexts which are considered differently in other studies¹²⁹. However, examples like these are not many in number, and can thus not explain the obvious and very clear contradictive findings demonstrated in the present analysis. Yet, this is just one of the coding decisions I have made, which potentially could be examples of category assignment, which in turn may differ across studies. Because the contexts matter a great deal for the classification of verb phrases in lexical-aspectual categories (see the discussion in chapter 2, section 2.3.3.1), and because the coding in some cases ends up bearing on the researcher's interpretation, it is highly likely that a certain, but still unidentified, number of

¹²⁹ The coding procedures are presented in chapter 5, section 5.3.2.

verb phrases in the current study would be assigned a different lexical-aspectual category in another study testing the same prediction. However, since the results from the current study so clearly do not support the predictions in the Aspect Hypothesis, it is not very likely that the inconsistent results can have much to do with the way in which lexical-aspectual properties of verb phrases have been coded.

So far I have discussed various factors that might contribute to explain why the findings from the current study are inconsistent with previous findings that corroborate the predictions in the Aspect Hypothesis, from a point of view of data and method. However, the lack of support for the Aspect Hypothesis will be further explored. Lexical-aspectual influence, more specifically the role of telicity, will be addressed after research question 3 and its related hypothesis has been reviewed.

8.3 Interaction of influences

The third research question asks *whether the learners' L1s affect the sequence of development of past morphology as described in the Aspect Hypothesis*. This research question is based on previous findings (e.g. Collins 2002, 2004, see section 2.3.4 in chapter 2) that the L1 can influence the rate at which learners pass through the stages in the acquisition of temporal morphology common to L2 learners. Based on the contrastive relations between Norwegian and Somali analysed in chapter 3, the following hypothesis is formulated:

3.1 The Somali-speaking learners will have a higher degree of incorrect encoding with telic verb phrases, in contexts that require the present perfect or the preterite in Norwegian, than will Vietnamese-speaking learners.

The results from the analysis support the hypothesis. The analysis shows that there is a significantly higher number of texts that have incorrect encoding in telic verb phrases with past contexts in the Somali group than in the Vietnamese group (significance, small effect size). Accordingly, the current project is consistent with Collins' (2002, 2004) studies as well as Ayoun and Salaberry (2008). These studies document that for some L1 learners, difficulties with the English present perfect take place in telic verb phrases. Such results are interpreted as examples of the interaction of influence of telicity and L1 influence (see chapter 2, section 2.3.4). This third research question is also motivated by these findings. The thinking behind

this research question, and the hypothesis, was to see whether it is possible to detect some connection between L1 influence and lexical-aspectual influence. This finding suggests that there is: however, to what degree this result really is an example of influence of telicity, is questionable. In particular, in light of the results from the analysis of the second research question discussed in the preceding section connecting the Aspect Hypothesis, which is unconfirmed, this remains an open question. It could be argued that this first and foremost says something about the semantic/functional nature of the present perfect forms as a temporal category as such, and less about the impact of telicity in the acquisition of past forms, and moreover, that the result indicates how prototypicality interacts with L1 influence in the acquisition of temporality in the L2. These are issues that will be discussed in the subsequent section.

8.4 The role of frequency, telicity and prototypicality in the acquisition of past morphology

The point of departure for the discussion in this section is the findings presented in the preceding sections which show that 1) the prediction that telic verb phrases will have higher type proportion than atelic verb phrases does not hold for the current study, and 2) the frequency of incorrect encoding in telic verb phrases is significantly higher in Somali texts than in Vietnamese texts. Apparently, these two findings contradict each other because 1) does not support the prediction in the Aspect Hypothesis, while 2), which indirectly builds on the Aspect Hypothesis due to its basis in studies of the interaction between telicity and L1 influence (Collins 2002, 2004; Izquierdo and Collins 2008), in fact supports the Aspect Hypothesis. In short, at one point in the analysis the findings do not support previous research on the Aspect Hypothesis, but at another point in the analysis, they do. In the subsequent passages I will look for different explanations for this apparent contradiction, and raise a few issues which I currently consider relevant for making sense of the findings in focus here. However, the relationships presented in the subsequent passages are not fully worked out as yet. Furthermore, I will also include theoretical perspectives which so far have not been explored in the thesis. Accordingly, the present discussion is necessarily a tentative one.

8.4.1 Frequency

The issue of frequency has already been addressed in the section 8.2.3. We have seen that the verb *være* is not only the most frequent verb in individual A2 texts and B1 texts; we have also seen that the verb is more frequent across texts than the other verbs are. Even though lexical variation has been considered, the fact that one verb is found in so many texts, while the rest of the verbs are lacking in more than half of them, demonstrates that frequency indeed is a factor contributing to the results of the analysis of use. Frequency of items and patterns in input is an increasingly important issue in SLA research, and is connected to theoretical perspectives examining interlanguage processing, which are often based on psycholinguistic and cognitive theories of language acquisition. Nick Ellis (2002) is an important contributor¹³⁰ to this area of study, and in his view, frequency plays an important role in language acquisition and language change:

Frequency is a necessary component of theories of language acquisition and processing. In some guises it is a very rudimentary causal variable. Learners analyze the language input that they are exposed to; practice makes perfect. In other guises it is incredibly complex (Ellis 2002: 178).

However, the issue of frequency is a rather complex one, and one which is related to several other factors commonly associated with processing-oriented explanations and approaches, such as semantic prototype. Moreover, frequency is the subject of interest in many different models of second language processing, such as exemplar-models, connectionist models, schema models, semantic network models, and prototype models (Ellis 2002: 147), as well as in models combining several different approaches. Consequently, this is a field encompassing a variety of perspectives and models which share a common interest in language processing; however, as Gass and Selinker (2008: 255) point out, how the different factors contribute to the structuring of the interlanguages is not clear. Still, according to Ellis, what unifies the different views is the frequency perspective: the counting of features, or combinations of features, of some kind:

Type or token units, exemplar, prototype, or connectionist mechanism, these are importantly different variants of figuring, but it is all counting, one way or another, and it is all unconscious (Ellis 2002: 148).

¹³⁰ For instance, a special issue of *The Modern Language Journal*, in which Collins and Ellis co-authored the introductory article (Ellis and Collins 2009), is devoted to the role of input frequency in second language acquisition (2009, volume 93, issue 3).

The present discussion will not address the role of frequency in the current data analysis. Here I merely point to the fact that a type of verb, *be*, is overrepresented, and moreover, imply that this finding suggests that frequency has something to do with the acquisition of verb morphology as observed in the current study. However, the role of frequency and the nature of frequency are not clear.

8.4.2. Prototypicality

Again, we do not find support for the claim that telicity plays a role in the use of past forms. However, although the current study does not corroborate the predictions in the Aspect Hypothesis, I will argue that the theoretical underpinnings of the Aspect Hypothesis are still relevant. As accounted for in chapter 2, section 2.3.2, one of the proposed explanations describes the influence of telicity as a consequence of the fact that learners more easily develop prototypical meanings of verbs than non-prototypical meanings.

It is known that there are strong associations between tense-aspect markers and lexical aspect of verbs (Comrie 1976: 72; Bybee 1985: 77). This is based on the naturalness of combination, according to Comrie. Some tense-aspect markers are more naturally attached with some situation types (Shirai 2009: 176).

Although the findings from the analysis of the hypothesis that tests the impact of telicity probably say more about the importance of frequency, and less about the importance of telicity, there still are findings that support the claim that a connection exists between semantic prototype and inflectional category. Firstly, there are indications in the lexical-aspectual analysis suggesting that there is a correspondence between lexical aspect of verb phrases and verb inflection. The strongest indication for this is revealed in the analysis of the present perfect in prototypical and secondary uses, which I will address shortly. However, the analysis of the category assignment of incorrect uses of the preterite, present perfect and present is also relevant in this context, and I will begin by commenting on this analysis.

The pattern of incorrect uses of the preterite, present perfect and present (chapter 7, section 7.2.5.2) shows that when the preterite and present perfect are used incorrectly in place of each other, the verb phrases are more often telic, and when the past form is incorrectly used in the present tense context, the verb phrase is less often telic. This could be because the past forms in their prototypical sense express completeness. They occur in telic verb phrases

because the learners associate past morphology with completeness. In other words, there are findings that seem to support the claim set forward in the prototype account that there exists a connection between telicity and past morphology, which builds on typological studies of temporal categories in languages (e.g. the works of Bybee and Dahl).

As to the analysis of prototypical perfect and secondary perfect, the analysis suggests that prototypical perfect and secondary perfect are distinguished in lexical-aspectual properties (section 7.2.5.3 in chapter 7). Firstly, there is a much larger proportion of PPs occurring in telic verb phrases (48.7%) than the proportion of SPs occurring in telic verb phrases (14.8%) (table 87 in section 7.2.5.3). This pattern in the use of the present perfect in the texts (223 occurrences) supports the analysis of the prototypical perfect as more associated with telic aspect than the secondary uses of the form. In addition, the analysis of the incorrect use of PPs and SPs shows that a PP is always used incorrectly to encode a preterite context and never occurs in present contexts. On the contrary, SPs predominantly occur incorrectly in present contexts and seldom in preterite contexts (table 60 in section 7.1.7.2). This pattern in incorrect distribution of PP and SP further indicates that PP is more connected to telicity because the analysis of incorrect uses of the present perfect, preterite and the present in different temporal contexts suggests that preterite contexts to a larger extent than present contexts are telic.

These findings relate to Marc Moens's (1987) analysis of the present perfect. His account of aspect and temporal reference can explain why the prototypical uses of the present perfect category have a tendency to occur in telic verb phrases, as observed in the current study. Moens's analysis of the present perfect applies to the uses of the forms which I call prototypical perfect, PP. Moens describes the present perfect category as telic in nature, and argues that the present perfect basically expresses a "consequent state". The core of Moens's analysis is the concept of a nucleus, "which can be thought of as an association of a goal event, or 'culmination', with a 'preparatory process' by which it is accomplished, and a 'consequent state', which ensues" (Moens and Steedman 1988: 15). Moens's nucleus gives rise to four classes of lexical aspect: culminations, culmination processes, punctual events, and processes. According to Tenfjord (1997: 102) culminations and culmination processes correspond to Vendler's achievements and accomplishments. In Moens's analysis of the present perfect, the form always refers to the consequent state of the nucleus (Moens and Steedman 1988: 20) which comprises culminations and culmination processes, or Vendler's achievements and accomplishments. Consequently, Moens's analysis provides an explanation

of why the present perfect category in the prototypical contexts has a tendency to occur in telic verb phrases: the form naturally combines with telicity because it expresses a present state as resulting from a past event.

In the section to come I will discuss the analysis of PP and SP in relation to the learners' L1 background, and suggest that prototypicality might also interact with L1 influence.

8.4.3 L1 influence, again

In the preceding section we have seen that although the prediction about the role of telicity in acquisition of past morphology is not supported, findings from different analyses support the theoretical assumption of the Aspect Hypothesis that there are associations between past morphology and telicity. However, the analysis of the use of past morphology does not indicate that these associations affect the *acquisition* of past forms, which is what the Aspect Hypothesis makes predictions about. In fact, the analysis of prototypical perfect (PP) and secondary perfect (SP) shows that Vietnamese-speaking learners and Somali-speaking learners behave differently (section 7.1.7.2). The prototypical function of the perfect is used with greater success in the Vietnamese texts than in the Somali texts. In order to make sense of this pattern emerging in the analysis of PP and SP, we have to explore the contrastive relations that exist between the learners' L1s and the L2. I would claim that the Vietnamese-speaking learners have an easier time coping with PP than SP because a semantic/functional correspondence exists between Vietnamese time markers and PP in Norwegian. Moreover, I would argue that the Somali-speaking learners have more problems with PP because this type of PP is often used to code contexts which would be candidates for the Somali general past, a form which resembles the preterite in Norwegian. Somali learners of Norwegian might identify the Norwegian preterite as similar to the Somali general past, although as accounted for previously in section 8.1.4.3, it is not clear if the Somali learners are making interlingual identifications between the preterite in Norwegian and the general past in Somali. Remember that there is no perfect category in Somali. Contrastive relations also help us understand the results of the analysis of frequency of incorrect encoding in telic verb phrases (hypothesis 3.1, section 8.3 in the current chapter). The Somali-speaking learners have more errors in telic verb phrases with past contexts than Vietnamese-speaking learners do because PP is more telic than SP is, and because Somali-speaking learners have more problems with PP than SP

(see section 7.1.7.2 in chapter 7). Hence, although Collins (2002: 85) interprets her Francophone learners' difficulties with using the preterite correctly in telic phrases as evidence that the L1 interacts with the influence of telicity (see chapter 2, section 2.3.4), my opinion is that this probably has more to do with L1 influence and contrastive relations between the L1 and the L2. Apparently, prototypicality is perhaps interacting with L1 influence in some contexts, which in turn can interact with other factors that affect the acquisition of past time marking, such as the role of telicity in verb phrases. Remember also that there has been an increasing focus on the L1 variable within research on the Aspect Hypothesis. Shirai (2009) even suggests that because of the lack of knowledge about how the L1 affects the acquisitional stages accounted for in Aspect Hypothesis research, we cannot be certain that the theoretical assumptions of this research are relevant in all types of language contexts: "this prototype account works very well with English, but not in some other languages such as Japanese (Shirai 1998), where past tense form is associated with stative verbs quite early" (Shirai 2009: 182).

8.4.4 Summing up: interaction and complexity

In the preceding section, I have pointed out several factors that contribute to the encoding of past time as observed in the learners' texts. Altogether, the issues raised underscore the complexity involved in the acquisition of temporal morphology. There seem to be several factors coming into play, which in turn makes it difficult to tease out the isolated effects of each of them, e.g. the effect of lexical-aspectual properties of verb phrases. The fact that the data in the current study have not been designed for the purpose of testing one specific hypothesis, but instead are language use data produced for the specific aim of passing the official language test in Norwegian, makes it more likely that various factors affecting the acquisition process come into play at the same time. Even though there is, of course, the option that the findings from this study demonstrate that the predictions set forward in the Aspect Hypothesis are not valid, in my view, this is not the right conclusion for several reasons. First of all, it is not possible to ignore the many studies corroborating the prediction that the acquisition of past morphology is influenced by the telicity in verb phrases. Secondly, the type of data in the current study is different from the type of data commonly used as an empirical basis for testing the Aspect Hypothesis. As argued previously, this might be a reason why the findings in the present study are inconsistent with previous findings. Still, in

my opinion, there are reasons for questioning the rather strong formulation in the Aspect Hypothesis, and in the much of the literature surveying this line of research, that identifies lexical-aspectual influence as *the factor* in the acquisition of temporal morphology. In other words, in my view, telicity most likely has a role to play; however, under some circumstances, other factors might override, conceal, or conflate its influence.

A study done by Halverson (2003) in another area of bilingual language production can be interpreted as supporting a claim regarding the cognitive complexity of temporal morphology. In Halverson's study of Norwegian-English translations, several types of analyses were carried out on the sources and distribution of the present progressive form in the English translations from Norwegian. In one analysis, which is of particular interest for the present study, Halverson compared the lexical-aspectual properties of verb phrases (analysed according to Vendler), or as she calls it, distribution of event types (ibid.: 177), in the Norwegian source text to the lexical-aspectual properties of verb phrases in the corresponding English translations. Firstly, she found that the progressive construction was overrepresented in the translations (ibid.: 194). Secondly, she found that a redistribution of event type had taken place during the process of translation: the number of activities, which according to the Aspect Hypothesis and many other accounts of the progressive form, represent the prototypical contexts for the present progressive, were significantly higher in the English-translated sentences than in the Norwegian source sentences. Furthermore, there was a significantly higher number of states and accomplishments in the Norwegian source texts than in the English-translated texts. Apparently, a semantic shift took place in the translation process, which essentially means that the translators actually changed the semantics of the phrases in order to use the English present progressive construction (ibid.: 194). This result is interesting in light of the Aspect Hypothesis because it demonstrates that language users in some contexts are willing to alter the semantics of verb phrases, which necessarily means that the impact of telicity on use of temporal morphology is minimized, or overridden by other factors. Halverson interprets her findings in light of the *gravitational pull hypothesis* (Halverson 2003, 2010)¹³¹, in which several of the issues from the preceding sections, such as frequency and prototypicality, are important elements. The highly frequent structure in English, the progressive form, exerts a cognitive 'gravitational pull', which then leads to

¹³¹ Although the gravitational pull hypothesis is a theory of translation, it is relevant in this context because it draws on cognitive theory (e.g. the works of Langacker) and theories of bilingualism (e.g. the works of de Groot and Jarvis and Pavlenko) (Halverson 2010). However, the point of interest in this section is the semantic shift that Halverson reveals in the translation process.

overrepresentation of the structure in a body of translated text. It is against this backdrop that Halverson (2007: 194) interprets the semantic shift observed in the verb phrases: “If, in order to use the construction [present progressive], it is necessary to switch event type, the translators seem to be willing to do that”.

Halverson’s study and the gravitational pull hypothesis highlight the complexity of the factors at play in the use of temporal morphology. The complexity issue plays a larger role in the more recent investigations of the Aspect Hypothesis as well. For instance, a study by Wulff et al. (2009) explores how various factors affect the acquisition of temporal morphology, and concludes that “Rather than testifying to the effect of 1 factor alone, the results suggest that frequency, distinctiveness, and prototypicality jointly drive acquisition” (Wulff et al. 2009: 354). These types of studies reflect perhaps a growing acknowledgement of the fact that there are multiple factors contributing simultaneously to acquisition, and that, consequently, it is difficult, and maybe also less interesting, to study the different factors in isolation. The current study, as well as the other studies cited in this section, Wulff et. al. (2009) and Halverson (2003), surely demonstrates that the picture that emerges is quite complex, and that it is difficult to pinpoint the various factors involved in acquisition and use. Complexity is an important issue in Shirai (2009). He lists several factors affecting acquisition, some of which have been addressed here, such as frequency and the learners’ L1 background. His point is that the complexity of the object of research makes it difficult in many studies to detect the potential influence of lexical aspect. In addition, in some cases it could also be that the various factors contribute to minimize the role of lexical-aspectual influence:

In sum, available crosslinguistic data suggest that children make semantic representations predicted by the Aspect Hypothesis, but the degree to which each language (or even each tense-aspect marker) does this is highly influenced by how the tense-aspect system is organised, and multiple factors, including (input) frequency, complexity of form-function mapping, saliency to children, and typological characteristics, determine the degree to which the data conform to the hypothesis (Shirai 2009: 178).

In my opinion, the current study lends support to Shirai’s quote. The acquisition of past morphology is affected by several factors, among them frequency, L1 influence, and prototypicality, in which telicity plays a part. Furthermore, it is probably also true that the type of factors revealed in studies depends very much on the type of interlanguage data used,

as well as on the type of approach taken. Hence, a “flexible approach” is called for (Shirai 2009: 208).

8.5 Chapter summary

In this chapter, the results from the analysis of the three research questions and their associated hypotheses have been discussed. The first part of the chapter was devoted to L1 influence. Firstly, transfer effects were surveyed in relation to Jarvis’s (2000) requirements for transfer studies, and secondly, the sources of the detected transfer effects were discussed. In the discussion I have referred to Jarvis and Pavlenko’s theories about sources and types of transfer and the findings of the studies focused on in chapter 2. The second part of the chapter encompasses a review of the analysis of lexical-aspectual influence, and the analysis of the interaction of the two types of influences addressed in this study. The lack of support for the predictions in the Aspect Hypothesis was firstly discussed in terms of data and method. Secondly, an effort was made to understand the findings in the analysis of lexical-aspectual influence. The role of telicity was discussed in relation to other issues which were assumed to be interacting in a complex picture, whereby effects of various factors currently seem difficult to sort out.

Chapter 9

CONCLUDING REMARKS

In the present study, I have investigated the grammatical encoding of past time in texts written by 99 Vietnamese-speaking learners and 97 Somali-speaking learners of Norwegian. This chapter briefly outlines the aims and research questions of the thesis, and summarises the main findings. The end of the chapter features remarks about the limitations of the current study, implications of the study, and suggestions for further research.

9.1 Aims and research questions summarised

The learners' grammatical encoding has been explored from two principally different theoretical positions: one which emphasises the universal, common path of the acquisition of tense and aspect morphology in the L2, and one which stresses the importance of influence from previously acquired languages in L2 acquisition. The overall aim of the thesis was firstly to empirically investigate the role of L1 influence in the learners' grammatical encoding of past time in Norwegian. This part of the study relates to Jarvis's (2000) methodological framework for investigating transfer effects. The second aim was to investigate the role of verb semantics as described in The Aspect Hypothesis—in particular, to examine whether the predictions concerning the role of telicity in acquisition of L2 verb morphology hold for the current interlanguage data. Finally, the study also aimed to investigate whether there is interaction between influence from the learner's L1 and verb semantics, as described in some previous studies (e.g. Collins 2002, 2004). In order to reach these aims, three research questions and associated hypotheses have been examined:

1. *L1-influence*: Do the Vietnamese and the Somali learners display a pattern in their use/non-use of the present perfect and preterite in Norwegian that points to within-group similarities, between group differences and cross-language congruity?

- 1.1 The Vietnamese-speaking learners will use the present perfect correctly more frequently than the Somali-speaking learners will.
 - 1.2 The Somali-speaking learners will have a higher degree of incorrect use of the preterite in contexts where Norwegian requires the present perfect, and a higher degree of incorrect use of the present perfect in preterite contexts, than will Vietnamese-speaking learners.
2. *Lexical aspect*: Do the learners' use of the preterite and present perfect in Norwegian agree with the earlier findings that support the Aspect Hypothesis?
- 2.1 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportion in telic verb phrases (achievements and accomplishments) with preterite and present perfect inflection than in atelic verb phrases (states and activities) with preterite and present perfect inflection.
 - 2.2 The Vietnamese-speaking and Somali-speaking learners will have higher verb type proportion in telic verb phrases (achievements and accomplishments) with correct preterite and present perfect inflection than in atelic verb phrases (states and activities) with correct preterite and present perfect inflection.
3. *Interaction between L1 influence and lexical aspect*: Do the learners' L1s affect the sequence of development of past morphology as described in the Aspect Hypothesis?
- 3.1 The Somali-speaking learners will have a higher degree of incorrect use with telic verb phrases, in contexts that require the present perfect or the preterite in Norwegian, than will Vietnamese-speaking learners.

The main findings from the analyses of the research questions and hypotheses will be summarised in the subsequent section.

9.2 Main findings

These are the main findings yielded by the analysis of the 196 texts, as guided by the research questions and hypotheses presented above:

L1 influence

- Transfer effects are documented in the analysis. The Vietnamese and the Somali learners display a pattern in their use/non-use of the present perfect and preterite in Norwegian that points to within-group similarities, between group differences and cross-language congruity (Jarvis 2000).
- The detected transfer effects are emergent in distinct patterns of use/non-use at rather specific areas in the grammatical encoding of time, and primarily take form as tense errors: Vietnamese-speaking learners of Norwegian have more problems encoding the present-past distinction in Norwegian than Somali-speaking learners do. On the other hand, Somali-speaking learners have more problems encoding the preterite-present perfect distinction in Norwegian than Vietnamese-speaking learners do. In addition, the Vietnamese-speaking and Somali-speaking learners have problems with the different uses of the Norwegian present perfect form: the prototypical perfect is more difficult for the Somali-speaking learners than the Vietnamese-speaking learners.
- Some of the transfer effects are detected only in Vietnamese-speaking and Somali-speaking learners whose texts have been assessed to be at the A2 level on the CEFR-scale, while some transfer effects are found at both proficiency levels. However, the clearest incidents of L1 influence (those related to the problems encoding the preterite-present perfect distinction) are evident at both levels.

Lexical-aspectual influence

- Lexical-aspectual influence is not detected in the analysis. The current study does not indicate that telicity is a factor which comes into play when the learners at this stage in the acquisitional process write texts in Norwegian.
- The analysis of lexical-aspectual properties of verb phrases shows first and foremost that the verb *være* ('be') is frequently used by all learners regardless of L1 background and proficiency level.
- However, the analysis reveals that there is a connection between semantic prototype and inflectional category; hence, the theoretical underpinnings of the Aspect Hypothesis are supported in the current project.

Interaction of influences

- The analyses of L1 influence and lexical-aspectual influence do indicate that there is some interaction of influences.
- However, it is not clear from the analyses that learners' L1s affect the sequence of development of past morphology as described in the Aspect Hypothesis. Hence, on the basis of the current study, we cannot claim that there is an interaction between L1 influence and influence of telicity properties of verb phrases.
- Instead, it could be that the interaction observed is the interaction of L1 influence and prototypicality and/or frequency.

9.3 Limitations and considerations

In this section I will identify some of the limitations of the study with regard to the approach, the data, and the methods employed.

Firstly, in this study, a broad approach has been adopted. By combining two principally different theoretical accounts, the thesis necessarily has become comprehensive in scope, encompassing a range of theoretical views, citing a number of studies, and conducting many different analyses. Consequently, the current analyses yield information about the encoding of time in the texts on several levels, including the level of inflection and the level of semantics. Furthermore, learners across the dimensions of L1 background as well as proficiency level have been compared. However, the broad scope of the thesis is also one of its limitations. A closer look into particular issues could have been beneficial; for instance, in light of the analysis of prototypical perfect and secondary perfect, it is clear that the present perfect uses could have been analysed in more detail from the start, and not only as part of a control analysis. In addition, because the lexical-aspectual analysis suggests that there are differences in telicity associations between the preterite category and the perfect category, a larger and more systematic focus on the differences between these two categories could have been advantageous for the analysis. Moreover, some theoretical topics which have only been touched upon superficially and sporadically could have been examined more thoroughly; for instance, the thesis would indeed benefit from including more theory about the role of frequency in second language acquisition, as well as the importance of prototypicality. However, the importance of prototypicality is an insight which arose during the process of conducting the study; against the backdrop of the findings, it is clear that prototypicality

should have been more integrated in the thesis, in the theoretical considerations as well as in the study's design.

Regarding limitations of the data set, as the analysis has also revealed, this type of language data only generated a limited number of contexts and uses of the present perfect, which not only makes it problematic to study the category in itself, but also makes it nearly impossible to compare the preterite and the present perfect. Surely a secondary, and different, source of data in addition to the texts would strengthen the study, and could have given more data on the use of the present perfect. Furthermore, an additional data set of another kind of data, preferably produced in a more controlled research environment, could have also increased the lexical diversity and ensured a sufficient number of types from each lexical-aspectual class. It would indeed have been interesting to test the predictions in the Aspect Hypothesis on another type of data set as well, maybe of the type frequently used in research on the Aspect Hypothesis (e.g. short passages of texts with contexts aimed at a broad elicitation of verb types), and compare them to the analysis of the texts.

Finally, there are also limitations of the statistical method applied in the current study. Although the data have been analysed by means of a systematic statistical approach, I have not used a statistical method which can capture and analyse the interaction between several factors at the same time. The method adopted here is simplistic in the sense that it only analyses one of the factors at a time. In the current study, the effects of L1 influence and lexical-aspectual influence have been analysed separately, and the results have been evaluated separately in relation to the research questions and hypotheses. Although one of the hypotheses relates to both sources of influence, or theoretical accounts, the statistical method employed is the same as for the testing of the other hypotheses. Clearly, multivariate statistical techniques, which can deal with several variables at the same time, and can test the relationships between different factors, would have been advantageous for the analysis in this study. In particular, I believe it could be fruitful, or at least highly interesting, to use correspondence analysis on the data set because this method of multivariate analysis allows for testing data of different types (both categorical data and continuous data at the same time) across several dimensions¹³².

¹³² For instance, Carlsen (2010b) uses correspondence analysis on texts from the ASK corpus in a study testing the predictions in the CEFR about the uses of discourse connectives at different proficiency levels against authentic learner data. According to her, correspondence analysis is a useful tool (ibid.: 198).

9.4 Implications and future research

Despite the limitations of the study regarding its approach, data, and method, I would say that the current study sheds some light on the issues raised in the research questions. Accordingly, there are theoretical and pedagogical implications of this study.

In terms of theoretical implications, the current study supports the claim that learners' L1 can influence the acquisition of an L2 in the domains of temporality and morphology. Furthermore, this study documents that transfer effects can arise as a consequence of differences between the L1 and the L2, and that it is not just learners' perceptions of similarities that cause transfer effects to take place. I would also say the analysis of L1 influence in this study demonstrates the importance of cautious contrastive analysis of the languages in question, as well as the importance of detailed analysis of the interlanguages. In fact, although Bardovi-Harlig states—on the basis of an extensive survey of much of the research on L2 acquisition of temporal morphology—that the L1 seemingly does not affect acquisition (Bardovi-Harlig 2000: 411), she adds that it may be “in the details rather than in the larger picture that first language influence is found” (*ibid.*). Perhaps this what the analysis of L1 influence in the current study actually demonstrates: there is no doubt that the Vietnamese and Somali learners share many features in their encoding of past time in Norwegian; however, at specific points in the use of the preterite and the present perfect, transfer effects emerge. Furthermore, the second theoretical implication I will emphasise concerns the complexity which is revealed in the analysis by means of the broad approach taken. Clearly, because L2 acquisition is guided by many factors coming into play at the same time, a rather intricate picture emerges which makes it difficult to test effects in isolation (e.g. the effect of telicity), to interpret the results and to pinpoint what is actually in play.

There are pedagogical implications of the study as well. The findings in the current study document that learners from quite different languages, where the contrastive L1-L2 relations can be quite different, are both influenced by their L1 in learning the L2. Furthermore, the current study suggests that L1 influence is particularly prevalent when there are differences at the conceptual level between the L1 and L2, and not only at the formal level of language. Consequently, in order to facilitate the restructuring of L1 concepts, and to increase the awareness of L1-L2 differences as well as similarities, teachers should not be reluctant to bring the learners' L1 into the classroom. As underscored by Jarvis and Pavlenko, the learners' first language should not be looked upon as “the enemy” of the L2 (Jarvis and

Pavlenko 2008: 217). Instead, teachers should take advantage of the native language competence in order to “facilitate positive transfer and the internalization of new concepts and to raise awareness of negative transfer through crosslinguistic comparisons” (ibid.).

Finally, even though the current study has provided some answers concerning patterns of L2 acquisition and the effects of L1 influence, it is true that this study has raised many questions as well. These are questions about the role of prototypicality and frequency in L2 acquisition, sources of L1 influence, the effect of telicity, and above all, about the interaction of several factors coming into play at the same time. Accordingly, the findings from the current study indeed call for further research on these issues, as well as use of different types of data, and use of more sophisticated statistical techniques designed to analyse the interaction between several factors.

References

- Alderson, J. Charles. 2007. The CEFR and the need for more research. *The Modern Language Journal* 91 (4):659-663.
- Alloway, Tracy Packiam, and Martin Corley. 2004. Speak before you Think: The Role of Language in Verb Concepts. *Journal of Cognition and Culture* 4:319-345.
- Alonso, Rosa Alonso. 2002. Transfer: constraint, process, strategy or inert outcome? *Revista de Filología y su Didáctica* 25:85-101.
- Andersen, Roger. 1983. Transfer to somewhere. In *Language transfer in language learning*, edited by S. Gass and L. Selinker. Rowley, Massachusetts: Newbury House.
- . 1991. Developmental sequences: the emergence of aspect marking in second language acquisition. In *Crosscurrents in second language acquisition and linguistic theories*, edited by T. Huebner and C. A. Ferguson. Amsterdam: John Benjamins.
- . 2002. The dimension of "Pastness". In *The L2 acquisition of tense-aspect morphology*, edited by R. M. Salaberry and Y. Shirai. Amsterdam/Philadelphia: John Benjamins.
- Andersen, Roger, and Yasuhiro Shirai. 1994. Discourse motivations for some cognitive acquisition principles. *Studies in second language acquisition* 16:133-156.
- . 1996. The Primacy of aspect in first and second language acquisition: The pidgin-creole connection. In *The handbook of second language acquisition*, edited by W. C. B. Ritchie, Tej K. San Diego, CA: Academic Press.
- Antinucci, Francesco, and Ruth Miller. 1976. How children talk about what happened. *Journal of Child Language* 3:167-189.
- Ayoun, Dalila, and Rafael M. Salaberry. 2008. Acquisition and English tense-aspect morphology by advanced French instructed learners. *Language Learning* 58 (3):555-595.
- Bache, Carl. 1997. *The study of aspect, tense, and action: towards a theory of the semantics of grammatical categories*. Frankfurt am Main: Peter Lang.
- Bardovi-Harlig, Kathleen. 1998. Narrative structure and lexical aspect. Conspiring factors in second language acquisition of tense-aspect morphology. *Studies in second language acquisition* 20 (4):471-508.
- . 2000. Tense and aspect in language acquisition: Form, meaning and use. *Language Learning* 50 (Supplement 1):xi-491.
- Behrens, Heike. 1993. Temporal reference in German child language: form and function of early verb use, Universiteit van Amsterdam.
- Berggreen, Harald, and Kari Tenfjord. 1999. *Andrespråklæring*. Oslo: Ad Notam Gyldendal.
- Bhat, D. N. S. 1999. *The prominence of tense, aspect and mood*. Amsterdam: John Benjamins.
- Biber, Douglas. 1988. *Variation across speech and writing*. Cambridge: Cambridge University Press.
- Bickerton, Derek. 1981. *Roots of language*. Ann Arbor, Mich.: Karoma.
- Bley-Vroman, Robert. 1983. The comparative fallacy in interlanguage studies: the case of systematicity. *Language Learning* 33:1-17.
- Bloom, Lois, Karin Lifter, and Jeremie Hafitz. 1980. Semantic verbs and the development of verb inflection in child language. *Language* 56:386-412.
- Boroditsky, Lera, and Eugenia Trusova. 2003. Cross-linguistic differences in the representation of events: Verb aspect and completion in English and Russian. In *Paper*

- presented at the 25th Annual Conference of the Cognitive Science Society. Boston: MA.
- Bowerman, Melissa, and Stephen C. Levinson. 2001. *Language acquisition and conceptual development*. Cambridge: Cambridge University Press.
- Bronckart, J. P., and H. Sinclair. 1973. Time, tense and aspect. *Cognition* 2:107-130.
- Brown, Roger. 1973. *A first language: the early stages*. Cambridge, Mass.: Harvard univ. press.
- Butler, Christopher. 1985. *Statistics in linguistics*. Oxford: Blackwell.
- Bybee, Joan. 1985. *Morphology: a study of the relation between meaning and form*. Amsterdam: Benjamins.
- Bybee, Joan L., and Östen Dahl. 1989. The creation of tense and aspect systems in the languages of the world. *Studies in Language* 13 (1):51-103.
- Bybee, Joan, Revere Perkins, and William Pagliuca. 1994. *The evolution of grammar: tense, aspect, and modality in the languages of the world*. Chicago: University of Chicago Press.
- Carlsen, Cecilie. 2010a. Å knytte ASK til rammeverket - hvorfor og hvordan. In *Systematisk, variert, men ikke tilfeldig*, edited by H. Johansen, A. Golden, J. E. Hagen and A.-K. Helland. Oslo: Novus.
- . 2010b. Discourse connectives across CEFR-levels: A corpus based study. In *Communicative proficiency and linguistic development: intersections between SLA and language testing research*, edited by I. Bartning, M. Martin and I. Vedder: European second language association 2010.
- . 2012. Proficiency level - a fuzzy variable in computer learner corpora. *Applied Linguistics* 33 (1):1-24.
- , ed. 2013. *NORSK PROFIL - Det felles europeiske rammeverket spesifisert for norsk. Et første steg*. Oslo: Novus.
- Carroll, Mary, and Christiane Von Stutterheim. 2003. Typology and information organisation: perspective taking and language-specific effects in the construal of events. In *Typology and second language acquisition*, edited by A. G. Ramat. Berlin: Mouton de Gruyter.
- Carroll, Mary, Christiane Von Stutterheim, and Ralf Nüse. 2004. The *language and thought* debate: a psycholinguistic approach. In *Approaches to language production*, edited by C. Habel and T. Pechmann. Berlin: Mouton.
- Chesterman, Andrew. 1998. *Contrastive functional analysis*. Amsterdam: John Benjamins.
- Chomsky, Noam. 1959. Review of Skinner's *Verbal Behaviour*. *Language Learning* 35:26-58.
- . 1965. *Aspects of the theory of syntax*. Cambridge, Mass.: M.I.T. Press.
- Collins, Laura. 2002. The Role of L1 Influence and Lexical Aspect in the Acquisition of Temporal Morphology. *Language Learning* 52 (1):43-94.
- . 2004. The Particulars on Universals: A comparison of the acquisition of tense-aspect morphology among Japanese and French-speaking learners of English. *Canadian Modern Language Review* 61:251-274.
- Common European framework of reference for languages: learning, teaching, assessment*. 2001. Cambridge: Cambridge University Press.
- Comrie, Bernard. 1976. *Aspect: an introduction to the study of verbal aspect and related problems*. Cambridge: Cambridge University Press.
- . 1985. *Tense*. Cambridge: Cambridge University Press.
- Corder, Pit. 1967. The significance of learner's errors. *International review of applied linguistics in language teaching* 5:161-170.
- Croft, William. 2001. *Radical construction grammar: syntactic theory in typological perspective*. Oxford: Oxford University Press.

- Dahl, Östen. 1981. On the definition of the telic-atelic (bounded-nonbounded) distinction. In *Tense and aspect*, edited by P. J. Tedeschi and A. Zaenen: Academic Press.
- . 1985. *Tense and aspect systems*. Oxford: Blackwell.
- . 2000. *Tense and aspect in the languages of Europe*. Berlin: Mouton de Gruyter.
- Dietrich, Rainer, Wolfgang Klein, and Colette Noyau. 1995. *The acquisition of temporality in a second language*. Amsterdam: J. Benjamins.
- Dowty, David R. 1979. *Word meaning and Montague grammar: the semantics of verbs and times in generative semantics and in Montague's PTQ*. Dordrecht: Reidel.
- Dulay, Heidi C., and Marina K. Burt. 1974. Natural sequences in child second language acquisition. *Language Learning* 24 (1):37-53.
- Durst-Andersen, Per. 2010. *Linguistic supertypes: a cognitive-semiotic theory of human communication*. Berlin: De Gruyter.
- Dzamarija, Minja Tea, and Trygve Kalve. 2004. *Barn og unge med innvandrerbakgrunn, Notater*. Oslo: Statistisk sentralbyrå.
- Ellis, Nick C. 2002. Frequency effects in language processing: A review with implications for theories of implicit and explicit language acquisition. *Studies in second language acquisition* 24 (2):143-188.
- Ellis, Nick C., and Laura Collins. 2009. Input and Second Language Acquisition: The Roles of Frequency, Form, and Function Introduction to the Special Issue. *The Modern Language Journal* 93 (3):329-336.
- Ellis, Rod. 1994. *The study of second language acquisition*. Oxford: Oxford University Press.
- Elsness, Johan. 2000/2001. A contrastive look at the present perfect/preterite opposition in English and Norwegian. *Languages in Contrast* 3 (1):3-40.
- Enger, Hans-Olav, and Kristian Emil Kristoffersen. 2000. *Innføring i norsk grammatikk: morfologi og syntaks, Skriftserie*. Bergen: Fagbokforlaget.
- Evans, Vyvyan, and Melanie C. Green. 2006. *Cognitive linguistics: an introduction*. Edinburgh: Edinburgh University Press.
- Faarlund, Jan Terje, Svein Lie, and Kjell Ivar Vannebo. 1997. *Norsk referansegrammatikk*. Oslo: Universitetsforl.
- Flecken, Monique. 2011. Event conceptualization by early Dutch-German bilinguals: Insights from linguistic and eye-tracking data. *Bilingualism: Language and Cognition* 14 (1):61-77.
- Fulcher, Glenn. 2004. Deluded by Artificies? The Common European Framework and harmonization. *Language Assessment Quarterly* 1 (4):253-266.
- Gabbay, Dov M., and F. Guenther. 2002. *Handbook of philosophical logic*. Dordrecht: Kluwer Academic.
- Gass, Susan. 1996. Second Language Acquisition and Linguistic Theory: The Role of Language Transfer. In *Handbook of second language acquisition* edited by T. K. Bhatia and W. C. Ritchie. San Diego, California: Academic Press.
- Gass, Susan M., and Larry Selinker. 2008. *Second language acquisition: an introductory course*. New York: Routledge.
- Giacalone Ramat, Anna. 2002. How do learners acquire the classical three categories of temporality? Evidence from L2 Italian. In *The L2 acquisition of tense-aspect morphology*, edited by R. M. Salaberry and Y. Shirai. Amsterdam, Philadelphia, PA: John Benjamins.
- Gilquin, Gaëtanelle 2008. Combining contrastive and interlanguage analysis to apprehend transfer: detection, explanation, evaluation In *Linking up contrastive and learner corpus research*, edited by G. Gilquin, S. Papp and M. Belén Díez-Bedmar. Amsterdam: Rodopi.
- Givón, Talmy. 1979. *On understanding grammar*. New York: Academic press.

- . 1984. *Syntax: a functional-typological introduction*. Amsterdam: John Benjamins.
- Golden, Anne, Lise Iversen Kulbrandstad, and Kari Tenfjord. 2007. Norsk andrespråksforskning - utviklingslinjer fra 1980 til 2005. *Nordand* 2 (1):5-41.
- Gómez-González, María Ángeles, J. Lachlan Mackenzie, and Elsa González Alvarez. 2008. *Current trends in contrastive linguistics: functional and cognitive perspectives*. Amsterdam: John Benjamins.
- Granger, Sylviane. 1996. From CA to CIA and back: An integrated approach to computerized bilingual and learner corpora. In *Languages in contrast: papers from a symposium on text-based cross-linguistic studies, Lund 4-5 March 1994*, edited by K. Aijmer, B. Altenberg and M. Johansson. Lund: Lund University Press.
- . 2002. A bird's-eye view of learner corpus research. In *Computer learner corpora, second language acquisition and foreign language teaching*, edited by S. Granger, J. Hung and S. Petch-Tyson. Amsterdam: Benjamins.
- . 2003. The corpus approach: a common way forward for Contrastive Linguistics and Translation Studies? In *Corpus-based Approaches to Contrastive Linguistics and Translation Studies*, edited by S. Granger, J. Lerot and S. Petch-Tyson. Amsterdam: Rodopi.
- . 2009. The contribution of learner corpora to second language acquisition and foreign language teaching. A critical evaluation. In *Corpora and language teaching*, edited by K. Aijmer.
- Gujord, Ann-Kristin Helland. 2013. Tempus og rammeverksnivå. In *NORSK PROFIL - Det felles europeiske rammeverket spesifisert for norsk. Et første steg.*, edited by C. Carlsen. Oslo: Novus.
- Gumperz, John J., and Stephen C. Levinson, eds. 1996. *Rethinking linguistic relativity*. Edited by J. J. Gumperz and S. C. Levinson. Cambridge: Cambridge University Press.
- Hagen, Jon Erik. 1998. *Norsk grammatikk for andrespråklærere*. Oslo: Ad Notam Gyldendal.
- Halverson, Sandra. 2003. The cognitive basis of translation universals. *Target* 15 (2):197-241.
- . 2010. Cognitive translation studies: developments in theory and method. In *Translation and cognition*, edited by G. M. Shreve and E. Angelone. Amsterdam: John Benjamins.
- Hammarberg, Björn, and Åke Viberg. 1977. The place-holder constraint, language typology, and the teaching of Swedish to immigrants. *Studia Linguistica* 31 (2):106-163.
- . 1979. *Platshållartvånget, ett syntaktiskt problem i svenskan för invandrare*. Stockholm: Stockholms universitet, Institutionen för lingvistik.
- . 1984. *Forskning kring svenska som målspråk*. Stockholm: Universitetet.
- Haugen, Einar. 1972. The inferential perfect in Scandinavian: a problem for contrastive linguistics. *The Canadian Journal of Linguistics* 17:132-139.
- Helland, Ann-Kristin. 2005. I møte med eit tempusprominent språk: ei undersøking av mellomspråka til vietnamesiske norskinnlærarar, Unpublished M.A. thesis. Faculty of Humanities, University of Bergen.
- . 2008. Utvikling av perfektum i individ og språksamfunn. *NOA* 24 (2):23-49.
- Henriksen, Kristin, Lars Østby, and Dag Ellingsen. 2010. *Immigration and immigrants 2010, Statistiske analyser*. Oslo: Statistisk sentralbyrå.
- Hinton, Perry R. 2004a. *Statistics explained*. London: Routledge.
- . 2004b. *SPSS explained*. London: Routledge.
- Hopper, Paul J., and Elizabeth Closs Traugott. 2003. *Grammaticalization*. Cambridge: Cambridge University Press.
- Hulstijn, Jan H. 2007. The shaky ground beneath the CEFR: Quantitative and qualitative dimensions of language proficiency. *The Modern Language Journal* 91 (4):663-667.

- Husby, Olaf. 2001. *En kort innføring i somali*. Trondheim: Tapir.
- Izquierdo, Jesús, and Laura Collins. 2008. The facilitative role of L1 influence in tense-aspect marking: A comparison of Hispanophone and Anglophone learners of French. *The Modern Language Journal* 92:350-368.
- Jackendoff, Ray. 1990. *Semantic structures*. Cambridge, Mass.: MIT Press.
- James, Carl. 1980. *Contrastive analysis*. Harlow: Longman.
- Janik, Marta Olga. 2010. En polakk i norsk fortid. Om feil de polskspråklige norskinnlærerne gjør i bruk av perfektum og preteritum. *Folia Scandinavia* 11:87-100.
- Jarvis, Scott. 1998. *Conceptual transfer in the interlingual lexicon*. Bloomington, Ind.: Indiana University Linguistics Club Publications.
- . 2000. Methodological Rigor in the Study of Transfer: Identifying L1 Influence in the Interlanguage Lexicon. *Language Learning* 50 (2):245-309.
- . 2007. Theoretical and methodological issues in the investigation of conceptual transfer. *Vigo International Journal of Applied Linguistics* 4:43-71.
- . 2010. Comparison-based and detection-based approaches to transfer research. In *EUROSLA Yearbook*, edited by L. Roberts, M. Howard, M. Ó Laoire and D. Singleton: John Benjamins Publishing Company.
- . 2011. Conceptual transfer: Crosslinguistic effects in categorization and construal. *Bilingualism: Language and Cognition* 14 (1):1-8.
- Jarvis, Scott, and Terence Odlin. 2000. Morphological type, spatial reference, and language transfer. *Studies in second language acquisition* 22:535-556.
- Jarvis, Scott, and Aneta Pavlenko. 2008. *Crosslinguistic influence in language and cognition*. New York: Routledge.
- Jensen, Bård Uri. Forthcoming 2013. Leksikosyntaktiske trekk i tastede og håndskrevne elevtekster, Faculty of Humanities, University of Bergen.
- Johansen, Hilde. 2011. Språklig relativisme og andrespråklæring. Om mormålspåvirket tenkning og kognisjon i studiet av transfer: Unpublished theory of science essay, University of Bergen.
- Johansson, Stig. 2003. Contrastive Linguistics and Corpora. In *Corpus-based Approaches to Contrastive Linguistics and Translations Studies*, edited by S. Granger, J. Lerot and S. Petch-Tyson. Amsterdam: Rodopi.
- Jordan, Geoff. 2004. *Theory construction in second language acquisition*. Amsterdam: Benjamins.
- Kamp, Hans. 1979. Some remarks on the logic of change. In *Time, tense and quantifiers*, edited by C. Rohrer. Tübingen: Niemeyer.
- Karrer, Irene Undheim. 1999. *Falske venner?: en studie av preteritums- og perfektumsformene i tyske språkinnlæreres norske mellomspråk*. Unpublished M.A. thesis. Faculty of Humanities.
- Kellerman, Eric. 1978. Giving learners a break: native language intuitions as a source of predictions about transferability. *Working Papers on Bilingualism* 15.
- . 1983. Now you see it, now you don't. In *Language Transfer in Language Learning*, edited by S. Gass and L. Selinker. Rowley, Mass.: Newbury house.
- . 1995. Crosslinguistic influence: Transfer to nowhere? *Annual Review of Applied Linguistics* 15:125-150.
- Klein, Wolfgang. 2009. How time is encoded. In *The expression of time*, edited by W. Klein and P. Li. Berlin: Walter de Gruyter.
- Klein, Wolfgang, and Ping Li. 2009. *The Expression of time*. Berlin: Mouton de Gruyter.
- Kløve, Marit Helene. 1997. Second language syllabification: elements of a prosodic theory based on the acquisition of Norwegian by Cantonese speakers, Doctoral dissertation.

- Department of Linguistics and Comparative Literature, Section for Linguistic Studies, University of Bergen.
- Kohn, K. 1986. The analysis of transfer. In *Crosslinguistic influence in second language acquisition*, edited by E. Kellerman and M. Sharwood Smith. New York: Pergamon.
- Krifka, Manfred. 1998. The origins of telicity. In *Events and Grammar*, edited by S. D. Rothstein. Dordrecht: Kluwer.
- Krzyszowski, Tomasz P. 1990. *Contrasting languages: the scope of contrastive linguistics*. Berlin: de Gruyter.
- Kulbrandstad, Lars Anders. 1998. *Språkets mønstre : grammatiske begreper og metoder*. Oslo: Universitetsforl.
- Lado, Robert. 1957. *Linguistics across cultures: applied linguistics for language teachers*. Ann Arbor, Mich.: The University of Michigan Press.
- Lakoff, George. 1987. *Women, Fire, and Dangerous things: What categories reveal about the mind*. Chicago: University of Chicago Press.
- Landis, Richard, and Gary G. Koch. 1977. The measurement of observer agreement for categorial data. *Biometrics* 33 (1):159-174.
- Lardiere, Donna. 2003. Revisiting the comparative fallacy: A reply to Lakshmanan and Selinker, 2001. *Second Language Research* 19 (2):129-143.
- Larson-Hall, Jenifer. 2010. *A guide to doing statistics in second language research using SPSS*. New York ; London: Routledge.
- Levelt, Willem J. M. 1989. *Speaking: from intention to articulation*. Cambridge, Mass.: MIT Press.
- Levinson, Stephen C. 1996. From outer to inner space: Linguistic categories and non-linguistic thinking. In *Language and conceptualization*, edited by J. Nuyts and E. Pederson. Cambridge, UK: Cambridge University Press.
- . 2003. Language and mind: Lets get things straight! In *Language in mind: Advances in the study of language and thought*, edited by D. Gentner and S. Goldin-Meadow. Cambridge, MA: MIT Press.
- Lie, Svein Erik. 1972. Bruk av ha og være i perfektum i moderne norsk, Unpublished M.A. thesis. Faculty of Humanities, University of Oslo.
- Lindstedt, Juko. 2000. The perfect - aspectual, temporal and evidential. In *Tense and Aspect in the Languages of Europe*, edited by Ö. Dahl. Berlin: Mouton de Gruyter.
- Lucy, John A. 1992. *Grammatical categories and cognition: a case study of the linguistic relativity hypothesis*. Cambridge: Cambridge University Press.
- . 1992. *Language diversity and thought: a reformulation of the linguistic relativity hypothesis*. Cambridge: Cambridge University Press.
- . 1997. Linguistic relativity. *Annual Review of Anthropology* 26:291-312.
- McNamara, Tim. 2011. Managing learning: Authority and language assessment. *Language Teaching* 44 (4):500-515.
- Mittwoch, Anita. 1991. In defence og Vendler's achievements. *Belgian Journal of Linguistics* 6.
- Moens, Marc. 1987. Tense, aspect and temporal reference, The University of Edinburgh.
- Moens, Marc, and Mark Steedman. 1988. Temporal ontology and temporal reference. *Computational Linguistics* 14 (2):15-28.
- Moskvil, Maria Elisabeth. 2004. Temporalitet i morsmål, målspråk og mellomspråk, Unpublished M.A. thesis. Faculty of Humanities, University of Bergen.
- Mourelatos, Alexander, P. D. 1981. Events, processes and states. In *Syntax and semantics: Tense and aspect*, edited by P. Tedeschi and A. Zaenen. New York: Academic Press.

- Nedjalkov, Vladimir P., and Sergej Je. Jaxontov. 1988. The typology of resultative constructions. In *Typologi of resultative constructions*, edited by V. P. Nedjalkov and S. J. Jaxontov. Amsterdam: Benjamins.
- Ngo, Binh N., and Bac Hoai Tran. 2001. The Vietnamese Language Learning Framework *Journal of Southeast Asian Language Teaching* 10.
- Nguyễn, Đinh Hoà. 1995. *NTC's Vietnamese-English dictionary*. Lincolnwood: NTC.
- Nistov, Ingvild. 2001. Referential choice in L2 narratives: a study of Turkish adolescent immigrants learning Norwegian, Doctoral dissertation. Faculty of Arts, University of Oslo.
- Odlin, Terence. 1989. *Language transfer: cross-linguistic influence in language learning*. Cambridge: Cambridge University Press.
- . 1998. On the Affective and Cognitive Bases for Language Transfer. In *Compare or Contrast?* Tampere English Studies 6, edited by R. Cooper. Tampere, Finland: University of Tampere.
- . 2003. Cross-linguistic influence. In *The handbook of second language acquisition*, edited by C. J. Doughty and M. H. Long. Oxford: Blackwell.
- . 2005. Crosslinguistic influence and conceptual transfer: What are the concepts? *Language Learning* 25:3-25.
- . 2008. Conceptual transfer and meaning extensions. In *Handbook of cognitive linguistics and second language acquisition*, edited by P. Robinson and N. C. Ellis. New York: Routledge.
- . 2010. Conclusion: On the interdependence of conceptual transfer and relativity studies. In *Linguistic relativity in SLA*, edited by Z. Hang and T. Cadierno. Bristol: Multilingual Matters.
- Paquot, Magali. 2010. *Academic vocabulary in learner writing: from extraction to analysis*. London: Continuum.
- Pavlenko, Aneta. 1997. Bilingualism and cognition, Unpublished doctoral dissertation. Cornell University.
- . 2005. Bilingualism and thought. In *Handbook of bilingualism: Psycholinguistic approaches*, edited by J. F. Kroll and A. M. B. de Groot. Oxford: Oxford University Press.
- Philipsson, Anders. 2007. Interrogative clauses and verb morphology in L2 Swedish: Theoretical interpretations of grammatical development and effects of different elicitation techniques, Doctoral dissertation. Centre for Research on Bilingualism, Stockholm University.
- Polunenko, Anzhela. 2004. English past tense forms in Russian's speakers oral and written production, Unpublished M.A thesis. Department of Linguistics, Ohio University.
- Randen, Gunhild Tveit. 1999. *Aspektualitet: en sammenlignende studie av norsk, russisk og russiske informanternes norske mellomspråk*. Unpublished M.A. thesis. Faculty of Humanities, University of Bergen.
- Reichenbach, Hans. 1947. *Elements of symbolic logic*. New York: Macmillan.
- Ringbom, Håkan. 2007. *Cross-linguistic similarity in foreign language learning*. Clevedon: Multilingual Matters.
- Ringbom, Håkan, and Scott Jarvis. 2009. The Importance of Cross-Linguistic Similarity in Foreign Language Learning. In *The Handbook of Language Teaching*, edited by M. H. Long and C. Doughty: John Wiley & Sons.
- Robison, Richard E. 1990. The primacy of aspect: Aspectual marking in English interlanguage. *Studies in second language acquisition* 12:315-330.

- Rocca, Sonia. 2002. Lexical aspect in child second language acquisition of temporal morphology. In *The L2 acquisition of tense-aspect morphology*, edited by R. M. Salaberry and Y. Shirai. Amsterdam/Philadelphia: John Benjamins.
- . 2007. Child second language acquisition: A bi-directional study of English and Italian tense-aspect morphology. J. Benjamins, Amsterdam.
- Rosén, Victoria. 2001. *Vietnamesisk: en kontrastiv og typologisk introduksjon*. Trondheim: Tapir akademisk forl.
- Rothstein, Susan D. 2004. *Structuring events: A study in the semantics of lexical aspect*. Malden, Mass.: Blackwell.
- Ryle, Gilbert. 1949. *The concept of mind*. London: Hutchinson.
- Saeed, John Ibrahim. 1993. *Somali reference grammar*. Kensington, Md.: Dunwoody Press.
- Sajavaara, Kari. 1996. New challenges for contrastive linguistics. In *Languages in Contrast. Papers from a Symposium on Text-based Cross-linguistic Studies, Lund 4-5 March 1994.*, edited by K. Aijmer and M. Johansson. Lund: Gleerup.
- Salaberry, Rafael M. 1999. The development of past tense verbal morphology in classroom L2 Spanish. *Applied Linguistics* 20:151-178.
- Salkie, Raphael. 2002. How can linguists profit from parallel corpora? In *Parallel corpora, parallel worlds: selected papers from a symposium on parallel and comparable corpora at Uppsala University, Sweden, 22-23 April, 1999*, edited by L. Borin. Amsterdam: Rodopi.
- Sandström, Görel. 1993. When-clauses and the temporal interpretation of narrative discourse, Universitetet, Umeå.
- Sato, Charlene J. 1990. *The syntax of conversation in interlanguage development*. Tübingen: Gunter Narr.
- Schachter, Jacquelyn. 1983. A new account of language transfer. In *Language transfer in language learning*, edited by S. Gass and L. Selinker. Rowley, Mass.: Newbury House.
- Shirai, Yasuhiro. 1991. The primacy of aspect in language acquisition: Unpublished doctoral dissertation, University of California, Los Angeles.
- . 1993. Inherent aspect and the acquisition of tense/aspect morphology in Japanese. In *Argument structure: its syntax and acquisition*, edited by H. Nakajima and Y. Otsu. Tokyo: Kaitakusha.
- . 1994. On the overgeneralization of progressive marking on stative verbs: Bioprogram or input? *First Language* 14:67-82.
- . 2007. The aspect hypothesis, the comparative fallacy and the validity of obligatory context analysis, a reply to Lardiere, 2003. *Second language research* 23 (1):51-64.
- . 2009. Temporality in first and second language acquisition. In *The expression of time*, edited by K. Wolfgang and P. Li. Berlin: Walter de Gruyter.
- Shirai, Yasuhiro, and Roger Andersen. 1995. The acquisition of tense-aspect morphology: A prototype account. *Language* 71 (4):743-762.
- Shirai, Yasuhiro, and Atsuko Kuroko. 1998. The acquisition of tense-aspect marking in Japanese as a second language. *Language Learning* 48 (2):245-279.
- Shirai, Yasuhiro, and Y. Nishi. 2003. Lexicalization of aspectual structures in English and Japanese. In *Typology and second language acquisition*, edited by A. Giacalone Ramat. Oxford: Blackwell.
- Slobin, Dan I. 1993. Adult language acquisition: A view from child language study. In *Adult language acquisition: Cross-linguistic perspectives*, edited by C. Perdue. Cambridge, UK: Cambridge University Press.

- . 1996. From 'thought and language' to 'thinking for speaking'. In *Rethinking linguistic relativity*, edited by J. J. Gumperz and S. C. Levinson. Cambridge: Cambridge University Press.
- . 2003. Language and thought online: Cognitive consequences of linguistic relativity. In *Language in mind: Advances in the study of language and thought*, edited by D. Gentner and S. Goldin-Meadow. Cambridge, MA: MIT Press.
- Smith, Carlota S. 1980. The acquisition of time talk: Relations between child and adult grammars. *Journal of Child Language* 7:263-278.
- Snow, C. 1976. Semantic primacy in first and second language acquisition. *Interlanguages Studies Bulletin* 1:137-165.
- Strömqvist, Sven, and Ludo Th Verhoeven. 2004. *Relating events in narrative: volume 2 : typological and contextual perspectives*. Mahwah, N.J.: Lawrence Erlbaum.
- Tallerman, Maggie. 2005. *Understanding syntax*. London: Hodder Arnold.
- Teacher's guide to the Common European Framework. Pearson Longman.
- Tenfjord, Kari. 1995. On the Acquisition of tense... In *Nordens språk som andraspråk 3: tredje forskarsymposiet i Jväsckylä 24.-25.3.1995*, edited by M. Kalin and S. Latomaa: Jväsckylä universitet, Högskolornas språkcentral.
- . 1997. Å ha en fortid på vietnamesisk: en kasusstudie av fire vietnamesiske språkinnlæreres utvikling av grammatisk fortidsreferanse og perfektum, Doctoral dissertation. Faculty of Humanities, University of Bergen.
- . 2004. ASK – A Computer learner Corpus. In *CALL for the Nordic languages : Tools and methods for Computer Assisted Language Learning*, edited by P. J. Henriksen. Frederiksberg: Samfundslitteratur.
- . 2009. Grammatikalisering og andrespråkstilegnelse. *Nordisk tidsskrift for andrespråkstilegnelse* 4 (1):7-30.
- Tenfjord, Kari, Jon Erik Hagen, and Hilde Johansen. 2006. The *hows* and *whys* of coding categories in a learner corpus (or "how and why an error-tagged learner corpus is not *ipso facto* one bif comparative fallacy"). *Rivista di psicolinguistica applicata* 6 (3):93-108.
- Tenfjord, Kari, Paul Meurer, and Knut Hofland. 2006. The ASK Corpus—a Language Learner Corpus of Norwegian as a Second Language. Paper read at Proceedings from 5th International Conference on Language Resources and Evaluation (LREC), at Genova.
- Theil, Rolf. 2007. Prosessar. Aspekt ved ein semantisk klassifikasjon av verb. *NOA* 23 (2):67-91.
- Thompson, Laurence C. 1965. *A Vietnamese grammar*. Seattle: University of Washington Press.
- Tonne, Ingebjørg. 2001. Progressives in Norwegian and the theory of aspectuality, Det humanistiske fakultet, Universitetet i Oslo, Oslo.
- Utdanningsdirektoratet. 2011. *Det felles europeiske rammeverket for språk: læring, undervisning, vurdering*. Oslo: Utdanningsdirektoratet.
- Vannebo, Kjell Ivar. 1969. *Aksjonsart i norsk: Ein syntaktisk funksjonsanalyse, Skrifter fra Instituttene for nordisk språk og litteratur ved Universitetene i Bergen og Oslo*. Oslo: Universitetsforlaget.
- . 1979. Tempus og tidsreferanse: Tidsdeksis i norsk, Novus forlag, Oslo.
- . 1989. Rekonstruerende perfektum. *Norsk Lingvistisk Tidsskrift* 1:3-16.
- Vendler, Zeno. 1967. *Linguistics in philosophy*. Ithaca, N.Y.: Cornell University Press. Original edition, 1957.
- Verkuyl, Henk J. 1972. *On the compositional nature of the aspects*. Dordrecht: D. Reidel Publishing Company.

- . 1989. Aspectual classes and aspectual composition. *Linguistics and Philosophy* 12:39-94.
- Von Stechow, Hans, Christiane, Mary Carroll, and Wolfgang Klein. 2009. New perspectives in analyzing aspectual distinctions across languages. In *The expression of time*, edited by W. Klein and P. Li. Berlin: Mouton de Gruyter.
- Von Stechow, Hans, Christiane, and Mary Carroll. 2006. The impact of grammatical temporal categories on ultimate attainment in L2 learning. In *Educating for advanced foreign language capacities*, edited by H. Byrnes, H. Weger-Guntharp and K. Sprang. Georgetown: Georgetown University Press.
- Von Stechow, Hans, Christiane, and Wolfgang Klein. 1987. A concept-oriented approach to second language studies. In *First and second language acquisition processes*, edited by C. Pfaff. Cambridge: Newbury House Publishers.
- Von Stechow, Hans, Christiane, and Monique Lambert. 2005. Cross-linguistic analysis of temporal perspectives in text production. In *The structure of learner varieties*, edited by H. Hendriks. Berlin: de Gruyter.
- Von Stechow, Hans, Christiane, and Ralf Nüse. 2003. Processes of conceptualization in language production: Language-specific perspectives and event construal. *Linguistics* 41 (5):851-881.
- Weist, Richard M., Wysocka H., Witkowska-stadnik K., E. Buczowska, and E. Konieczna. 1984. The defective tense hypothesis: On the emergence of tense and aspect in child Polish. *Journal of Child Language* 11:347-374.
- Whorf, Benjamin Lee, and John B. Carroll. 1956. *Language, thought, and reality*. New York: The Technology Press of Massachusetts Institute of Technology.
- Wulff, Stefanie, Nick C. Ellis, Ute Römer, Kathleen Bardovi-Harlig, and Chelsea J. Leblang. 2009. The acquisition of tense-aspect: Converging evidence from corpora and telicity ratings. *The Modern Language Journal* 93:354-369.

Appendix A: A Summary of studies cited in the current study

Table 88: Summary of the most important features and findings of studies cited in chapter 2

Author(s)	Number of informants and L1(s)	L2	Structure or concept investigated	Theoretical framework/assumptions	Design	Overall findings/conclusions
Collins (2002) study 1	French living in Québec (N=70)	English	Tense and aspect marking in past contexts in English	Investigates whether the L1 influences the developmental sequence described in the Aspect Hypothesis.	Cross-sectional. Cloze task (passages).	The findings are consistent with the predictions in the Aspect Hypothesis, but the French learners are also influenced by their L1 in their non-target like use of the present perfect. Also, this influence seems to increase with proficiency level.
	French living in Québec (N=91)				Cross-sectional. Three instruments: cloze task used in study 1 revised, preference task, film retellings.	
Collins (2004)	French living in Québec (N=70) Japanese (N=69)	English	The past simple, the perfect and the progressive in English	Investigates whether the L1 influences the developmental sequence described in the Aspect Hypothesis.	Cross-sectional, cloze task (passages)	The French learners have more problems with the perfect category compared to the Japanese learners. The author interpreted the results as underscoring the importance of lexical aspect, and that the L1 can influence the magnitude of its importance, but not the direction.
Ayoun and Salaberry (2008)	French living in France (N=21)	English	Tense and aspect marking in past contexts in English	Investigates if very advanced L2 learners of English are influenced by lexical aspect (the Aspect Hypothesis), and if the L1 plays a role.	Cross-sectional. Cloze task and production task (a personal narrative).	The findings underscore the effect of lexical aspect on the development of past morphology in the late stages of L2 acquisition. The L1 seems to play a limited role; however, some learners systematically use the present perfect instead of the simple past in English.
Izquierdo and Collins (2008)	Spanish (N=17) English (N=15)	French	The perfective-imperfective distinction in French	Investigates whether the L1 influences the developmental sequence described in the Aspect Hypothesis	Cross-sectional. Cloze task and retrospective interviews with the informants discussing their tense-aspect choices.	Even though findings from both L1 groups support the Aspect Hypothesis, the English learners seem to be informed to a higher degree by lexical aspect. The Spanish learners seem to benefit from the facilitating effect of L1 influence.
Roca (2002)	English (N=3) Italian (N=3)	Italian English	Tense and aspect morphology in English and	Investigates whether the L1 influences the developmental sequence described in the Aspect	Longitudinal. Bidirectional. Spontaneous production data and production data elicited	The children in both the L1 groups confirm the predictions in the Aspect Hypothesis. There is also evidence from transfer in that both L1

Author(s)	Number of informants and LI(s)	L2	Structure or concept investigated	Theoretical framework/assumptions	Design	Overall findings/conclusions
			Italian	Hypothesis:	from a retell task and a cloze task.	groups overuse progressive forms, but the author finds reasons to claim that influence from lexical aspect is primary and that transfer effects are secondary.
Von Stutterheim and Nüse (2003) study 1	English (N=17) German (N=17)		The segmentation of event sequences	Based on thinking for speaking and Levelt's model of speech production. Examines the relationships between the planning processes in the conceptualizer and linguistic structures in the L1.	Cross-sectional. Film-retellings online. The participants saw <i>The Quest</i> and were asked to tell what they saw.	The L1 speakers verbalise differently given the same visual input. The English speakers mentions more events, and several "smaller" events, than the German speakers do. This pattern is interpreted to reflect language-specific patterns of event construal.
Von Stutterheim and Nüse (2003) study 2	English (N=20) German (N=20)		The selection of event components		Cross-sectional. The participants saw animated film clips of different types of situations and were asked to tell what was happening.	German and English speakers select different aspects of a situation for encoding: The Germans mention endpoints, and the English prefer to encode situations as ongoing. This pattern is interpreted to reflect language-specific patterns of event construal.
Von Stutterheim, Carroll and Klein (2009)	English (N=20) Duth (N=20) German (N=20)		The aspectual distinction ongoing – not ongoing Expressions that refer to endpoints.	Based on thinking for speaking and Levelt's model of speech production. Investigates the relationships between patterns of event construal and the presence or absence of aspect as a grammatical category.	Cross-sectional. Three instruments: film retellings (<i>The Quest</i>), speech onset time and eye tracking.	There were clear differences in what the German and English speakers produced when retelling the film, and the authors connected the results to grammatical properties of the L1s. The findings from the speech onset time and the eye tracking support this interpretation of the film retelling pattern. The Dutch results are situated in between, which according to the authors make sense because the Dutch language marks the aspectual distinction in question to a lesser extent than English, but to a greater extent than German.
Von Stutterheim and Carroll (2006)	English (N=20) German (N=20)	German English	The aspectual distinction ongoing – not ongoing Expressions that refer to endpoints	Investigates whether L2 learners at a very advanced stage rely on L1 principles of information structuring when reporting events.	Cross-sectional. Film retellings based on short scenes ("what is happening?") and speech onset time.	Even though the two tests showed somewhat dissimilar significant differences between the L1 groups, the results displayed the same tendency, which confirmed the assumption that L2 learner are guided by L1 principles when reporting events.
Alloway and Corley (2004)	Tamil (N=20)			Thinking for speaking/conceptual	Cross-sectional, the same data type in both the experiments.	Speakers from both L1s displayed similar patterns in their similarity judgments, and the

Author(s)	Number of informants and LI(s)	L2	Structure or concept investigated	Theoretical framework/assumptions	Design	Overall findings/conclusions
experiment 1	Mandarin (N=36)		The conceptual representation of dynamic events	transfer: investigates if the verbal encoding of time influences how language speakers think about events and perceive events in their L1.	but different tasks: participants asked to judge the similarity of picture pairs of objects and actions, and various combinations of them, expressing a dynamic event. In exp. 2 the response time was also measured.	authors therefore conclude that language-specific morphological structures have only a moderate effect on verb concepts. However, there was a significant difference in the response time. The Mandarin speakers needed more time, and this finding suggests that tense marking is less automatized in speakers from non-L1 languages.
	Alloway and Corley (2004) experiment 2	Tamil (N=30) Mandarin (N=30)				
Boroditsky and Truskova (2003)	Russian and English bilinguals (N=30)		The concept, and linguistic marking, of completeness in Russian and English	Conceptual transfer: Examines if the aspectual encoding in languages affects the speakers' conceptualization of events.	Cross-sectional. Bidirectional Russian and English speakers were asked to describe situations that included completed or non-completed events. The same informants were tested for reaction time.	The bilingual Russian speakers, regardless of language, reported more often on the complete-non-complete distinction, and noticed it faster, than the English bilinguals. The result was interpreted to support the assumption that the L1 affects the representation and linguistic coding of events.
Tenford (1997)	Vietnamese (N=4)	Norwegian	The present perfect and the preterite in Norwegian	Functionalism, Discourse Representation Theory, L1 influence	Longitudinal, oral data (recordings).	The author finds that the present perfect emerges before the preterite. This is interpreted as a result of functional aspects of the categories and L1 influence.
Moskvil (2004)	Turkish (N=51) Vietnamese control group (N=9)	Norwegian	The present perfect and the preterite in Norwegian	Investigates L1 influence	Cross-sectional, texts (as responses to a language test).	The Turkish learners have a more frequent target-like use of the present perfect compared to the Vietnamese control group. The author discusses influence from the L1 as an explanation for the group differences.
Helland (2005)	Vietnamese (N=36) Turkish control group (N=15)	Norwegian	The present perfect and the preterite in Norwegian	Investigates L1 influence	Cross-sectional, texts (as responses to a language test).	The Vietnamese learners have a more frequent target-like use of the present perfect compared to the Turkish control group. The author suggests L1 influence as an explanation for the group differences.
Polunenko (2004)	Russian (N=129)	English	Paste tense forms in English	Investigates L1 influence	Cross-sectional, cloze task (passages) and interviews.	The Russian learners overuse the progressive and perfect in English, and it is claimed that this is because the learners transfer the Russian aspect system to English tense-aspect forms.

Author(s)	Number of informants and LI(s)	L2	Structure or concept investigated	Theoretical framework/assumptions	Design	Overall findings/conclusions
Jamik (2010)	Polish (N=100) German (N=100) English (N=100)	Norwegian	The present perfect and the preterite in Norwegian	Investigates L1 influence and relates to the conceptual transfer hypothesis	Cross-sectional, texts produced as responses to a language test in Norwegian, and extracted from the ASK-corpus.	The Polish learners have more problems in distinguishing the preterite from the perfect in Norwegian as compared to the German and English L2 learners. The author claims the L1 influence to be conceptual.

Appendix B: The Perfect Questionnaire (Dahl 2000: 801-806)

Nr. 1

[A: I want to give your sister a book to read, but I don't know which one. Are there any of these books that she READ already?]

B: Yes, she READ this book.

Nr. 2

[A: It seems that your sister never finishes books.]

B: (That is not quite true.) **She READ this book** (= all of it).

Nr. 3

[Question: Is the king still alive?]

No, he DIE.

Nr. 4

Question: **You MEET my sister?** (at any time in your life up to now?)

Nr. 5

[A child asks: Can I go now?]

Mother: **You DO your homework?**

Nr. 6

[Question: do you know my sister?]

Answer: **Yes, I MEET her** (so I know her).

Nr. 7

[Can you swim in this lake? (=Is it possible for anybody to swim in this lake?)]

Answer: **Yes, at least I SWIM in it several times.**

Nr. 8

[Do you know what happened to me just an hour ago?]

I WALK in the forest. Suddenly I STEP on a snake. It BITE me in the leg. I TAKE a stone and THROW (it) at the snake. It DIE.

Nr. 9

[Do you know what happened to me yesterday?]

I WALK in the forest. Suddenly I STEP on a snake. It BITE me in the leg. I TAKE a stone and THROW (it) at the snake. It DIE.

Nr. 10

[Do you know what happened to my brother yesterday? I saw it myself]

We WALK in the forest. Suddenly he STEP on a snake. It BITE him in the leg. He TAKE a stone and THROW (it) at the snake. It DIE.

Nr. 11

[Do you know what happened to once when I was a child? (Note: The speaker was, however, old enough to remember the incident.)]

I WALK in the forest. Suddenly I STEP on a snake. It BITE me in the leg. I TAKE a stone and THROW (it) at the snake. It DIE.

Nr. 12

[This happened to me just an hour ago]

I SIT under a tree, an apple FALL on my head. (Or, if more natural: While I SIT under a tree, an apple FALL in my head.)

Nr. 13

[Do you know what happened to once when I was a child? (Note: The speaker was, however, old enough to remember the incident.)]

I SIT under a tree, an apple FALL on my head. (Or, if more natural: While I SIT under a tree, an apple FALL in my head.)

Nr. 14

[It is morning. A wakes up, looks out of the window and sees that the courtyard (or the streets) is wet.]

A: It RAIN during the night.

Nr. 15

[Question: You meet my sister? (at any time in your life up to now)?]

Answer: **Yes, I MEET her several times.**

Nr. 16

[A question asked at 9 o'clock A.M.: Why do you look so tired?]

Answer: **I WAKE up at 4 o'clock this morning** (or: today).

Nr. 17

[A question asked at 3 o'clock P.M.: Why do you look so tired?]

Answer: **I WAKE up at 4 o'clock today.**

Nr. 18

[A question asked at 9 o'clock A.M.: Why do you look so tired?]

Answer: **I NOT SLEEP well during the night**

Nr. 19

[A question asked at 3 o'clock P.M.: Why do you look so tired?]

Answer: **I NOT SLEEP well during the night**

Nr. 20

[A got his wages and says:]

I GET my wages today, so I can now BUY you a beer

Nr. 21

[A got his wages and says:]

I GET my wages yesterday, so I can now BUY you a beer

Nr. 22

[Note: These sentences do not necessarily imply the passive voice though BE BORN happens to be formally the passive in English. Treat it as a single lexical unit.]

A: When you BE BORN? B: I BE BORN on the first of June 1950.

Nr. 23

[A guide presenting his home town to tourists. Note: These sentences do not necessarily imply the passive voice, unless it really is the most natural way of expressing this sentence in L.]

Our town BE FOUNDED in 1550

Nr. 24

[Question: Do you know what remarkable event TAKE PLACE in 1550? Note: as in 23.]

Answer: **In that year, our town BE FORUNDED**

Nr. 25

[Question: When Columbus ARRIVE at America for the first time?]

Answer: **He ARRIVE at America in 1492.**

Nr. 26

[Question: What do you know about this novel? Note: this sentence does not necessarily imply the active voice or the word order given here if it is not natural in L.]

Answer: **Graham Green WRITE it.**

Nr. 27

[Question: Your sister still BE at home?]

Answer: **No, she already GO AWAY.**

Nr. 28

[B's sister is known to have gone to another town. Question: Your sister COME BACK? (Note: a free translation may be needed for B' answer.)]

Answer: **No, she still GO AWAY**

Nr. 29

[B's sister is known to have gone to another town. Question: Your sister COME BACK? (Note: a free translation may be needed for B' answer.)]

Answer: **No, she NOT CAME BACK yet.**

Nr. 30

[A: Don't talk so loud! You'll wake the baby.]

Answer: **He WAKE up already.**

Nr. 31

[The baby wakes up one hour earlier than expected and starts screaming.]

Mother (in another room): **Oh no! He WAKE UP already!**

Nr. 32

[Note: use BE or VISIT, or some other predicate, according to what sounds the most natural in L.]

You BE to VISIT Australia (ever in your life)?

Nr. 33

[These are alternative answers to 32]

No, I never BE (VISIT) there. – Yes, BE (VISIT) there. – Yes, BE (VISIT) there several times. Yes, BE (VISIT) in January 1987.

Nr. 34

[A has been talking about the way of life in Australia. Note the sentence construction may have to be changed – even in English.]

B: **You BE to (VISIT) Australia as you know all that? –A: Yes, I BE (VISIT) there, so I know.**

Nr. 35

[Question: You meet my sister? (at any time in your life up to now?)]

No, I never MEET her. – Yes, I MEET her once. –Yes, I MEET her in January 1987.

Nr. 36

[A has been talking to B about C's personal tastes. Note: the sentence construction may have to be changed – even in English.]

B: **You MEET her (sometime) as you know all that? –A: Yes, I MEET her, so I know.**

Nr. 37

[It is cold in the room. The window is cold.]

Question: **You OPEN the window (and close it again)?**

Nr. 38

[This is an answer to 37.]

Yes, I OPEN it.

Nr. 39

[This is an answer to 38.]

No, I NOT OPEN it.

Nr. 40

[The window is open but A has not noticed that. A asks B: why is it so cold in the room?]

I OPEN the window.

Nr. 41

[Question: Is your sister still abroad?]

Answer: **No, she COME BACK and is no staying with us.**

Nr. 42

[Question: I was told you are writing a book. How many pages you WRITE by now?]

Answer: **I WRITE fifty pages.**

Nr. 43

[Question: I was told you collect dolls. You COLLECT many of them?]

Answer: **I COLLECT some two hundred dolls by now.**

Nr. 44

[Question: I was told you intend to collect 300 different dolls. How many you already COLLECT?]

Answer: **I COLLECT some two hundred dolls by now.**

Nr. 45

[Question: I was told you always forget your umbrella somewhere. Is it true?]

Answer: **Yes, this year I LOSE five umbrellas.**

Nr. 46

[A is setting out on a long journey in an old car. B asks: What if something goes wrong with your car on the way?]

A: **I BUY spare parts and tools in case something happens** (= I have got them now).

Nr. 47

[Question: Why do you look so tired? (Note: you may replace 'three days' by 'three nights' or whatever seems most natural.)]

Answer: **I NOT SLEEP for three days.**

Nr. 48

[She is still watching television! How long she DO that?]

Answer: **She WATCH (it) for three hours.**

Nr. 49

[A is still living in this town]

A: **I LIVE here for seven years.**

Nr. 50

[A is still living in this town. As in 49, the intended meaning of LIVE is 'to dwell somewhere', not to 'spend one's life'.]

A: **I LIVE here all my life.**

Nr. 51

[A is visiting a town she used to live in several years ago; now she lives somewhere else.]

A: **I LIVE here, so I know every street here.**

Nr. 52

[As in 51. A now she lives somewhere else.]

A: **I LIVE here for seven years, so I know every street here.**

Nr. 53

[As in 51 and 52.]

A: **I LIVE here for seven years, but then I had to move away.**

Nr. 54

[The speaker meets his friend about once a week; "the film" refers to a different film each time.]

Every time I MEET him, he TELL about the film he (just) SEE.

Nr. 55

[A has just seen the king arrive and reports it to B, who knows that the king has been expected to visit their town but does not know that he has now actually arrived.]

A. **The king ARRIVE.**

Nr. 56

[A has just seen the king arrive. The event is totally unexpected.]

A. **The king ARRIVE!**

Nr.57

[Telling what a baby just DO. "N" should be replaced with a girl's name.]

N just said her first word!

Nr.58

[A comes from the kitchen very agitated] and tells B what he just has seen happen.

The dog EAT out cake!

Nr.59

[A comes from the kitchen where he has just seen the sad remains of the cake. He tells B what he assumes to happened.]

The dog EAT out cake!

Nr. 60

[Do you know what happened to my brother yesterday? I did not see, but he told me.]

He WALK in the forest. Suddenly he STEP on a snake. It BITE him in the leg. HeTAKE a stone and THROW (it) at the snake. It DIE.

Nr. 61

[This is the beginning of a story (tale). "Once upon a time" should be replaced with the formula stories typically begin with in.)]

Once upon a time there was a man. He WALK in the forest. Suddenly he STEP on a snake. It BITE him in the leg. HeTAKE a stone and THROW (it) at the snake. It DIE.

Nr.62

[A tells what she has heard from her father. Nothing shows that she would believe it.]

A. **When my father BE a child, schools BE better than nowadays.**

Nr.63

[A tells what she has heard from her father. Nothing shows that she would believe it.]

A. **My father TELL me that when he BE a child, schools BE better than nowadays.**

Nr. 64

[A tells what she had heard people saying. Nothing shows that she would believe it, but she does not present this as her own opinion. Add words if needed!]

A. **Sixty years ago schools BE better.**

Nr.65

[A doubts what her father has told her.]

A. **My father CLAIM that when he BE a child, schools BE better than nowadays.**

Nr.66

[A does not believe what she has heard from her father; she only reports what he has told her.]

A. **When my father BE a child, schools BE better than nowadays.**

Nr. 67

[Said by a person who has just heard about the event but has not yet seen it.]

A. **The king ARRIVE!**

Nr. 68

[Said by a person who has just heard about the event but has not yet seen it.]

A. The king ARRIVE!

Nr. 69

[Investigation a burglary, seeing footprints beneath a window.]

The thief ENTER the house by this window.

Nr. 70

[A and B are not in the room in which B's son has been doing his homework. Question: A: Is your son still doing his homework?]

B: No, (I think) he FINISH (it) by now (or: already).

Nr. 71

[An archaeologist, having investigated an excavation site, says:]

This BE a huge city.

Nr. 72

[An archaeologist, having investigated an excavation site, says:]

This city BE DESTROYED about three thousands years ago.

Nr. 73

[A guide, showing ruins to tourists:]

This BE a huge city.

Nr. 74

[A guide, showing ruins to tourists:]

This city BE DESTROYED about three thousands years ago.

Nr. 75

[A's sister finished writing two letters just before A came home. A tells:]

When I COME home yesterday, my sister WRITE two letters.

Nr. 76

[A's sister was not at home when A arrived. Question: Did you find your sister at home? A answers:]

No, I did not (find her). She LEAVE.

Nr. 77

[A meets B's sister. Later A moves to the town where B and B's sister live. Still later, B asks A: When you came to this town a year ago, did you know my sister? A answers:]

Yes, I MEET her.

Nr. 78

[Question: Why did you believe what she told you about Paris? Note: use BE or VISIT or whatever is most natural in L.]

Answer: **I BELIEVE her, because she BE (VISIT) Paris.**

Nr. 79

[The speaker used to meet his friend once a week, but nowadays he does not see him at all. "The film" refers to a different film each time.]

Every time I MEET him in those years, he TELL about the film he (just) SEE.

Nr. 80

[Looking at a house.]

Who BUILD this house?

Nr. 81

[Looking at a picture of a house which has been torn down.]

Who BUILD this house?

Nr. 82

[Question: Can I get my wages now?]

Answer: **I NOT PAY you your wages before you FINISH the entire job.**

Nr. 83

[As in 82 above]

Answer: **I PAY you your wages after you FINISH the entire job.**

Nr. 84

[B is setting out on a journey. A intends to sell her own house while B is away. A tells B about this:]

A: **When you COME BACK next year, I SELL my house.**

Nr. 85

[A began working here in June for almost thirty years ago. It is April and A tells that the anniversary is approaching.]

A: **In June this year I WORK here for thirty years.**

Nr. 86

If I GET my wages tomorrow, I BUY you a beer.

Nr. 87

[The speaker has not received his wages yet.]

The day I GET my wages tomorrow, I BUY you a beer.

Nr. 88

Those who GET their wages tomorrow certainly GO to have beer.

Appendix C: Two texts from the data

The first text is written by a Somali-speaking test taker and the second one by a Vietnamese-speaking test taker. Both texts are assessed to be at the A2 level according to the CEFR scale.

s0623: En bok du har lest

Oppgave 1

Skriv en tekst om en bok du har lest.

En bok som jeg har lest . |

Her skal jeg skrive en bok som jeg har lest. Boken handler om en eventyr som ble skrevet i ca. 800-900 tallet . Det var en gang en mann som har vært sjøfarer for mange år. Denne mannen tjente masse penger av denne jobben. Mannen het sinbad-sjøfareren .

En dag en fattig mann tenkte på å snakke med sinbad-sjøfareren , og en vakter spurte ham hva han vil , og mannen sa til vakteren at han het Sinbad - den fattige og han ville snakke med Sinbad-sjøfareren .

Vakteren gikk til arbeidsgiveren sin (Sinbad - sjøfareren) og ga ham beskjeden fra den fattige mannen som venter ham utenfor.

Han visste at det er noe sjalu i mannen , og han bestemte seg til å invitere mannen til middag.

Han sa til vakteren at det er greit , at mannen kan komme inn og prate med ham. vakteren hentet mannen.

De satt sammen et rundt bord med nesten alle slags frukt og grusaker , i tillegg lame skjott og ris.

Sinbad - sjøfareren fortalte mannen eventyrer som han selv opplevde , mens de spiser . Denne eventyrere var basert et faktum som sier " Det som intet våger , intet vinner" , det vil si at man må jobbe hardt og seile farlige steder i verden for å tjene lykken , etter flere forsøk man kan oppnå lykken .

Denne var en bok som jeg har lest da jeg var 11 år. For denne alderen visste jeg ikke om hva boken handler om , men når jeg blitt ca. 19 år leste jeg den igjen og har jeg forstått hva-det egentlig boken handler om.

Fra denne dagen legget jeg merke til å jobbe hardt hvis jeg lærer noen eller hvis jeg jobber , for å oppnå lykken .

s0626: En bok du har lest

OM EN BOK JEG HAR LEST . |

Denne stilen vil jeg fortelle litt om ei bok som jeg har lest. Boka som heter " ET FATTIG JENTE" , forfatteren er Thai . Denne boka inneholdte en gammel dame , hun hadde to barn en gutt og ei jente. Naboen hennes var ei jente. Boka handlet om livet av den gamle damen og naboen hennes.

Det var en gang i Thailand i en by som heter Bangkok , hadde en familie de var tre . Mannen hennes døde i løpet av ti år siden , derfor ble så vanskelig for henne , hun måtte jobbe hardt til å tjene penger for å alierere barna. Etter noen år ble hun vedstående da barna også begynte på skolen og sluttet hun på jobb. Hun tenkte at hun måtte ha mye tid til å passe på barna. Hjemme leide hun ei jente kommet hver dag til å hjelpe rydde , vaske klær , lage mat. Den jenta var kjempet snill mot henne. Plutselig hørte hun at datteren hennes ble sluttet på skolen. Da gikk hun i niene klassen . Hun var vant til å gå på paren spille kort , drikke vin , røyke dvs. hun ble bortsemt .

Den gamle damen ble trist og vært lei seg . fordi hun ga mye penger for dem til skoler . Så ble hun syk. Etter et par år døde hun alle pengene hennes ga til pikejenta .

Tilslut vil jeg si at denne boka passer for barna fra 15 år - 20 år. Når de leser den , fører til dem respekt. Denne boka vil forfatteren opplyse at man ikke må stole på familien vår er rik , trenger vi ikke gå på skolen o.s.v.

I tillegg synes jeg den boka passer også for meg. Etter har jeg lest , opplevet jeg litt bedre.

Appendix D: Temporal morphology and the Common European Framework of Reference for Languages

Q1: Is there a difference in length between A2 texts and B1 texts?

The first question concerns the length of the texts. In this investigation, the total number of clauses in the texts (the total number of units of analysis) serves as a measure of text length¹³³.

Table 89 gives the number of clauses in texts placed at the A2 level and the B1 level:

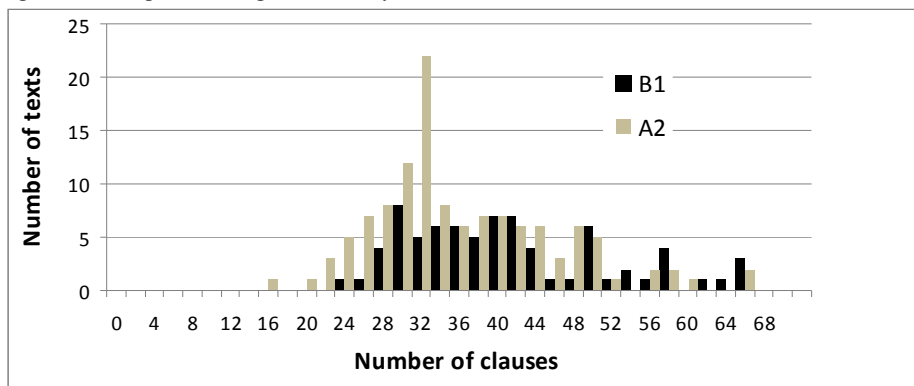
Table 89: The number of clauses in the texts by level

	A2 (N=121)	B1 (N=75)
	no. of clauses	no. of clauses
Mean	35.8	40.7
Median	33.0	39.0
Std.d.	9.6	10.6
Minimum	16	24
Maximum	65	66

From the table we see that texts at the A2 level typically consist of 33-35 clauses, while texts at the B1 level are longer, and consist of about 39-40 clauses. Whereas the measures of central tendency indicate that the texts at the B1 level are longer than the texts at the lower level, we also note that the text length varies greatly within both levels: from 16 to 65 at A2, and from 24 to 66 at B1. This leads us to the conclusion that the individual variation in text length has to be investigated further before testing the group difference statistically. For the purpose of inspecting the distributions visually, I display the distribution of the total number of clauses in the histograms below. The bar height represents the number of informants and the bins indicate the frequency of clauses where values from several individuals are grouped together in proportions:

¹³³ Of course, one might argue that the number of words in the texts could have been a more suitable measure of text length. However, in this inquiry we settle on the number of finite clauses as a simple measure of text length.

Figure 27: Histogram showing the number of clauses in A2 texts and B1 texts



From the histogram we see that the two distributions do not have the same shape. The A2-distribution is slightly more centred than the B1-distribution because it has a more defined peak. However, there are more outliers in the A2 distribution. The distribution for the B1 group lacks a distinct peak, and the area where the scores cluster almost resembles a plateau.

Significance testing

Step 1 Mann-Whitney U: In order to statistically test if the differences between the L1 groups within the two levels are significant, I apply a two-tailed Mann-Whitney U test, which reveals that there is a highly significant difference between the A2 group (median 33) and the B1 group (median 39), $U = 3330.0$, $z = -3.131$, $p = 0.002$ (highly significant), $r = 0.2$ (small effect). In the case of text length, post hoc testing is not required because the distributions are not strongly left-skewed or right-skewed.

In conclusion, texts placed at the B1 level are significantly longer (highly significant) than texts placed at the A2 level when text length is defined by the number of clauses in a text (units of analysis). However, note that the magnitude of this effect is considered small.

Q2: Is there a difference in the number of contexts between A2 texts and B1 texts?

The second question concerns the distribution of the various temporal contexts in the texts placed at the A2 level and the B1 level. Table 90 gives the frequencies of the four possible types of temporal contexts. We see that for the A2 level, on average 72.0% (mean) of all the clauses in a text, refer to present time, and should be marked by the present tense:

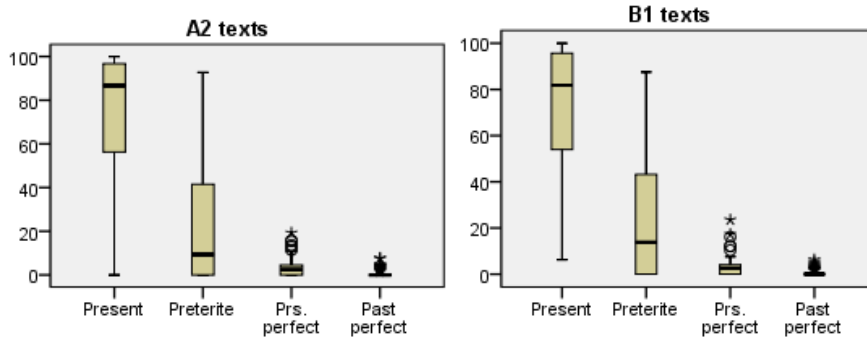
Table 90: Frequency of temporal contexts of various types by level. The first column gives the total number of contexts, and the other columns give the frequency of different types of contexts.

A2 (N=121)					
	no. of contexts	freq. of present contexts	freq. of preterite contexts	freq. of prs. prf. contexts	freq. of prs. prf. contexts
Mean	35.8	72.0	24.3	3.2	0.5
Median	33.0	86.7	9.4	2.6	0.0
Std.d.	9.6	31.7	30.9	3.8	1.4
Minimum	16	0.0	0.0	0.0	0.0
Maximum	65	100.0	92.7	19.2	7.7
N texts with 0%		2	40	47	105

B1 (N=75)					
	no. of contexts	freq. of present contexts	freq. of preterite contexts	freq. of prs. prf. contexts	freq. of prs. prf. contexts
Mean	40.7	71.4	24.8	3.2	0.5
Median	39.0	81.8	13.8	2.6	0.0
Std.d.	10.6	29.2	27.9	4.4	1.4
Minimum	24.0	6.3	0.0	0.0	0.0
Maximum	66.0	100.0	87.5	23.5	7.7
N texts with 0%		0	22	30	61

If we look at the rows that show the frequency of the different types of temporal contexts, we find a similar pattern within each proficiency level. From the means we see that just over 70% of the clauses in the texts in both groups express a temporal content that requires a present tense in Norwegian. Furthermore we see that approximately 24% of the clauses in the texts in both groups refer to the past, and are thus obligatory contexts for the Norwegian preterite form. The contexts that I have identified as contexts for the perfect categories in the texts are much lower in both the groups: 3.2% of the contexts in the texts in both groups require the present perfect in Norwegian while the median for the frequency of past perfect contexts is zero. To sum up, from this table it does not seem like texts at the B1 level are characterised by a higher number of temporal contexts than texts at the A2 level. However, we notice that there is quite a big difference between the mean and the median for some of the contexts, particularly for past time contexts, and we also notice that the range is very large for present time contexts and past time contexts. This indicates that there is considerable individual variation within the groups. In order to get a clearer picture of the distributions, I will illustrate the numerical information in table 90 by means of a box plot for each of the groups:

Figure 28: Box plots showing the distribution of frequencies of temporal contexts in A2 texts and B1 texts.



Just a short glance at the box plots confirms the tendencies inferred from the table: The distribution of the various types of temporal contexts seems so be the same within the groups because the boxes in both the tables are situated very similarly in relation to each other in both plots. In addition, the box plots quite effectively bring forward the fact that the individual variation is considerable, particularly for the perfect categories where there are several outliers, indicated by circles, as well as some extreme values indicated by asterisks.

Significance testing

Step 1 Mann-Whitney U: Four two-tailed Mann-Whitney U tests are conducted to examine whether there are significant differences between A2 and B1 texts in the frequencies of the four types of temporal contexts. They all report insignificant results:

- The difference in frequency of present contexts between A2 (median 86.7) and B1 (median 81.8) is not significant, $U = 4403.5$, $z = 0.348$, $p = 0.7$ (not significant), effect size $r = 0.02$ (very small).
- The difference in frequency of preterite contexts between A2 (median 9.4) and B1 (median 13.8) is not significant, $U = 4344.5$, $z = 0.508$, $p = 0.6$ (not significant), effect size $r = 0.04$ (very small).
- The difference in frequency of present perfect contexts between A2 (median 2.6) and B1 (median 2.6) is not significant, $U = 4424.0$, $z = 0.303$, $p = 0.8$ (not significant), effect size $r = 0.02$ (very small).
- The difference in frequency of past perfect contexts between A2 (median 0.0) and B1 (median 0.0) is not significant, $U = 4318.5$, $z = 0.906$, $p = 0.4$ (not significant), effect size $r = 0.06$ (very small).

I conclude that there are not significant differences between the distribution of temporal contexts in A2 and B1 texts, and that texts at both levels are dominated by present tense contexts. This indicates that A2 and B1 texts are not distinguished by the number of temporal contexts in the texts.

Q3: Is there a difference in encoding frequency between A2 texts and B1 texts?

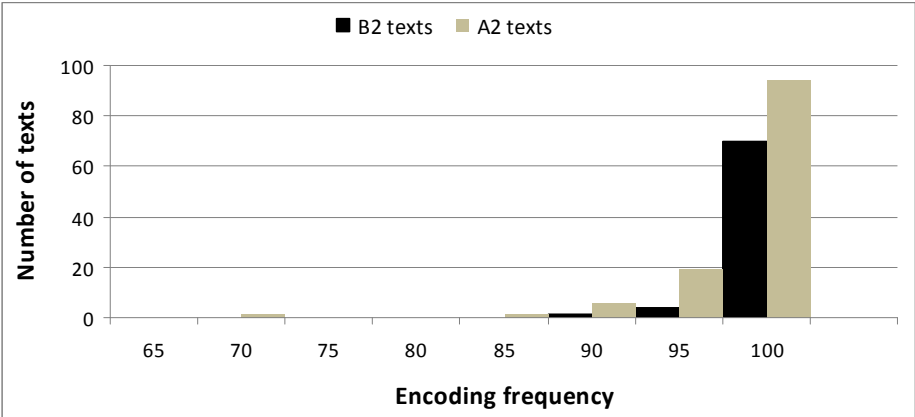
Question 1 and 2 both relate to the variable of temporal context. Question 1 looks at all contexts in the texts at the same time, and question 2 looks at the frequency of the various types of temporal contexts in the texts. The particular question explored in the present section, question 3, asks to what degree the temporal contexts expressed in the clauses are encoded grammatically in the texts. Table 91 presents the number of encoded contexts and the overall frequencies of grammatical encoding in temporal contexts (regardless of the types of temporal contexts expressed, and regardless of correctness):

Table 91: Overall frequency of grammatical encoding by level. The first column gives the total number of contexts, and the frequency of grammatical encoding in the contexts is given in the second column.

	A2 (N=121)		B1 (N=75)	
	no. of contexts	freq. of encoded contexts	no. of contexts	freq. of encoded contexts
Mean	35.8	97.2	40.7	98.5
Median	33.0	98.5	39.0	100.0
Std.d.	9.6	4.3	10.6	2.4
Minimum	16	68.8	24	86.0
Maximum	65	100.0	66	100.0
N texts with 100%		60		43

From the central tendencies we see that there is not much difference between the groups. Nevertheless, the highest relative frequency is found in the B1 group (mean 98.5, median 100.0). However, there is a relatively big difference between the levels in the minimum frequencies (11 in A2 and 24 in B1), and the text that has the lowest overall relative frequency of grammatical encoding (68.8), is placed at the A2 level. In addition, the standard deviations are large. The histograms below illustrate the relative frequencies of grammatical encoding for both of the groups:

Figure 29: Histogram showing frequencies of overall grammatical encoding by level.



The histograms illustrate a point made previously in the section about the statistics: For many of the variables the distributions tend to be highly skewed either to the left or to the right because many observations cluster around the higher end of the scale (left skewed) or towards the lower end of the scale (right skewed). In this case, both the distributions are skewed to the left. Furthermore, there is an outlier in the A2 group that encodes the temporal contexts in the text in only 68% of the clauses.

Significance testing

Step 1 Mann-Whitney U: As in the case of text length, I apply a two-tailed Mann-Whitney U test in order to find out whether or not the difference in frequency of grammatical encoding is significant. The Mann-Whitney U test shows that the difference between the A2 group (median 98.5) and the B1 group (median 100.0) is significant, $U = 3831.5$, $z = -1.978$, $p = 0.05$ (significant), effect size $r = 0.1$ (small). Because the distributions are highly skewed to the left and the number of texts with a 100% score exceeds the 30% limit, I proceed with post hoc testing.

Step 2 Chi-square post hoc testing: A two-tailed chi-square test is performed to see if the significant difference is the result of more texts obtaining 100% encoding in the B1 group than in the A2 group. The proportions are cross-tabulated below:

Table 92: Cross tabulation of proportion of texts with 100% encoding frequency

	Vi (=121)	B1 (N=75)	total
N texts with encoding frequency = 100%	60	43	103
N texts with encoding frequency < 100%	61	32	93
total	121	75	196

The chi-square test reveals that there is no significant difference between the groups in the proportion of texts encoding the temporal contexts with 100% frequency, $\chi^2 = 1.114$, $p = 0.3$ (not significant), effect size Cramer's $V = 0.08$ (very small).

Step 3 Mann-Whitney U post hoc testing: Next I carry out a two-tailed Mann-Whitney U test on a subset of the data, which only contains texts with less than 100% encoding frequency (61 A2 texts, 32 B1 texts). This way I can check if the significant difference between the groups in encoding frequency involves a significant difference in the distribution of texts not obtaining a 100% score. The test yields a significant result between the A2 group (median 96.2) and the B1 group (median 97.2), $U = 621.5$, $z = -2.868$, $p = 0.04$ (significant), effect size $r = 0.3$ (medium).

To conclude, texts placed at the B1 level have a significantly higher frequency of grammatical encoding than texts placed at the A2 level, and the effect size of this difference is medium.

Q4: Is there a difference in correctness frequency between A2 texts and B1 texts?

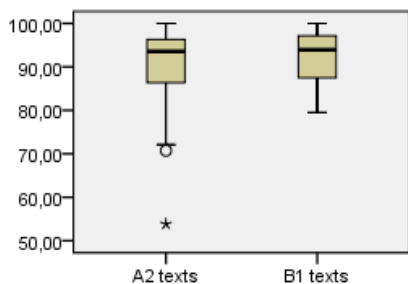
The variable inspected in question 3, 'grammatical encoding', only tells if the clauses in a text contain a finite verb form, and does not give information about whether or not the verb forms encode the temporal context in the clauses correctly. However, this part of the investigation focuses on correctness. Table 93 displays the overall frequencies of correct use of temporal morphology for all types of temporal contexts:

Table 93: Overall frequency of correctness by level. The first column reports the number of encoded contexts, and the frequency of correct encoding is given in the second column.

	A2 (N=121)		B1 (N=75)	
	no. of contexts	freq. of correctly encoded contexts	no. of contexts	freq. of correctly encoded contexts
Mean	35.8	92.1	40.7	94.2
Median	33.0	93.8	39.0	95.2
Std.d.	9.6	8.0	10.6	5.7
Minimum	16	53.9	24	79.5
Maximum	65	100.0	66	100.0
N texts with 100%		24		20

From the mean and the median we notice that texts at the B1 level typically use verb morphology with a slightly higher frequency compared to texts at the A2 level (94.2 % versus 92.1%). By inspecting the box plot below we get an idea of the individual variation in the groups:

Figure 30: Box plots showing the distribution of overall correctness frequencies by level.



We see that the variation is largest in the A2 group, and there is apparently not a big difference between the groups in terms of correctness.

Significance testing

Step 1 Mann-Whitney U: A two-tailed Mann Whitney U test shows that the difference in frequency of correct use between the A2 group (median 93.8) and the B1 group (median 95.2) is marginally significant, $U = 3852.0$, $z = -1.786$, $p = 0.07$ (marginally significant), effect size $r = 0.1$ (small). Post hoc testing is not required because there are fewer than 30% of the texts in the data set which have a 100% score.

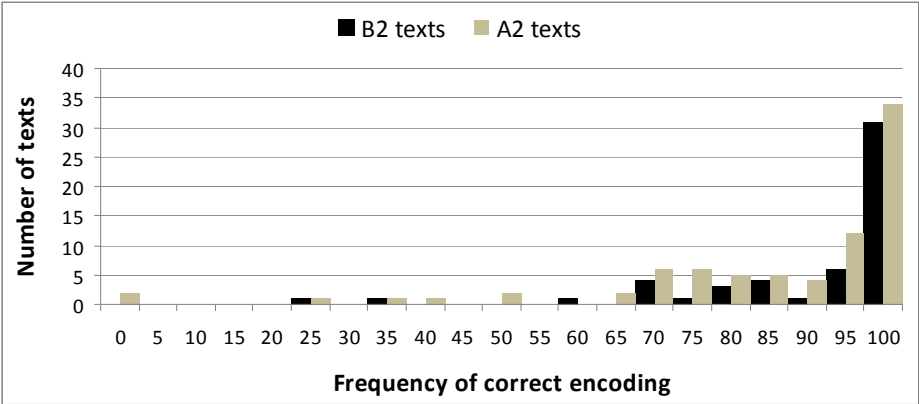
So far we have looked at the overall frequency of correctness and found a marginally significant difference in that B1 texts have higher frequency rates than A2 texts. However, the significance is marginal, and is also accompanied by a small effect size. In the following section I investigate the frequency of correct encoding of past morphology contexts, which is the encoding of preterite contexts and present perfect contexts by means of the preterite form and the present perfect form. Because the frequencies are calculated only for those texts having the specific contexts mentioned above, the sample sizes are altered:

Table 94: Frequency of correctness in preterite contexts by level. The first column reports the number of preterite contexts, and the frequency of correct encoding is given in the second column.

	A2 (N=81)		B1 (N=53)	
	no. of preterite contexts	freq. of correctly encoded preterite contexts	no. of preterite contexts	freq. of correctly encoded preterite contexts
Mean	9.4	84.4	10.6	89.5
Median	3.0	93.5	5.0	97.1
Std.d.	12.5	21.6	12.7	16.5
Minimum	0	0.0	0	25.0
Maximum	45	100.0	53	100.0
N texts with 100%		32		24

We start by focusing on the correct encoding of preterite contexts. We notice that there is some difference in the relative frequencies of correct use between texts at the A2 level (mean 84.4) and texts at the B1 level (mean 89.5), indicating that the correctness increases with proficiency level. However, individual variation needs to be controlled for. The histograms below show that the observations do not form bell shaped curves:

Figure 31: Histogram showing frequencies of correct encoding in preterite contexts by level.



Besides the extreme value (0% correct use), and the outliers that clearly exist in the A2 group as well as in the B1 group, both the histograms have a rather similar shape: strongly skewed to the left because a large number of the observations have 100% correct use of the preterite. However, this tendency is stronger for the B1 group. Whereas 32 out of the 81 A2 texts have a 100% score, 24 out of the 53 B1 texts have a 100% score. The observations are more spread out in the texts placed at the lower level, A2, which also includes one text in which none of the past time contexts are encoded correctly through the preterite form.

Significance testing

Step 1 Mann-Whitney U: Again I apply a two-tailed Mann-Whitney U test to determine if the difference in correct use of the preterite between texts in the A2 group (median 93.5) and in the B1 group (median 97.1) is significant. The test reports an insignificant result, $U = 1860.5$, $z = -1.352$, $p = 0.2$ (not significant), effect size $r = 0.1$ (small). Consequently, post hoc testing is not required and I conclude that there is not a level difference in correct encoding of preterite contexts.

I now turn to the correct use of the present perfect given in table 95 below:

Table 95: Frequency of correctness in prs. prf. contexts by level. The first column reports the number of prs. prf. contexts, and the frequency of correct encoding is given in the second column.

	A2 (N=74)		B1 (N=45)	
	no. of prs. prf. contexts	freq. of correctly encoded prs. prf. contexts	no. of prs. prf. contexts	freq. of correctly encoded prs. prf. Contexts
Mean	1.1	79.8	1.3	73.5
Median	1.0	100.0	1.0	100.0
Std.d.	1.3	36.8	1.7	38.3
Minimum	0	0.0	0	0.0
Maximum	6	100.0	8	100.0
N texts with 100%		54		28

The difference between the levels in correct use of the present perfect is larger than the difference in correct use of the preterite (79.8 versus 73.5 if we look at the mean). Furthermore, the frequency of correctness apparently declines with proficiency level. However, from the measures of dispersion we register that the observations in the data are widely spread, ranging from texts with zero correct clauses of correct use to texts with 100% correct use. In fact, the size of the standard variations in correct use of the present perfect makes the measures of central tendency nearly useless because they cannot be taken to be

representative. The variation is too large. Instead it can be useful to take a closer look at the frequency tables¹³⁴ of correct use for both the groups. The column to the left in the table indicates the variable values, which in this case are percentages of correct use of the present perfect. The right column gives the frequencies of each variable value, which in this case is the number of texts. We observe, for instance, that whereas 54 out of 74 A2 texts obtain 100% correctness, only 28 out of 45 B1 texts do the same:

Table 96: Frequency table of correct encoding in present perfect contexts in A2 texts

Correctness frequency in prs. prf c.	Frequency of A2 texts
0.0	11
20.0	1
50.0	3
66.7	5
100.0	54
Total N	74

Table 97: Frequency table of correct encoding in present perfect contexts in B1 texts

Correctness frequency in prs. prf c.	Frequency of B1 texts
0.0	7
33.3	2
40.0	2
50.0	2
57.1	1
62.5	1
66.7	1
75.0	1
100.0	28
Total N	45

We find that there are more texts in the A2 group with 100% correct encoding in present perfect contexts than in the B1 group.

Significance testing

Step 1 Mann-Whitney U: A two-tailed Mann-Whitney U test shows that the difference in frequency of correctness in present perfect contexts between the A2 group (median 100) and the B1 group (median 100) is not significant, $U = 1497.0$, $z = 1.125$, $p = 0.3$ (not significant),

¹³⁴ The frequency bands in these frequency tables are generated by SPSS based on the characteristics of the data set.

effect size $r = 0.1$ (small). We do not perform post hoc testing because a non-significant result is detected.

To sum up, there is a marginally significant difference in overall correctness between the levels in that B1 texts use verb morphology significantly more correctly than A2 texts do. However, no significant difference between the levels exists in correct encoding in preterite contexts and present perfect contexts.

Q5: Is there a difference in erroneousness between A2 texts and B1 texts?

Question 5 examines the whether A2 texts and B1 texts are distinguished in types of errors. Clauses in which the temporal context is not correctly encoded are categorized as either ‘incorrect encoding’ (an inflectional ending occurs in a non-appropriate context) or ‘non-encoding’ (the context is not encoded grammatically by means of verb inflection)¹³⁵. The table below shows how the incorrect encoded clauses are distributed across the two categories of erroneousness in A2 texts and in B1 texts:

Table 98: Proportion of error types by level. The first column reports the number of clauses with erroneousness, and the proportion of incorrect encoding and non-encoding is given in the second column.

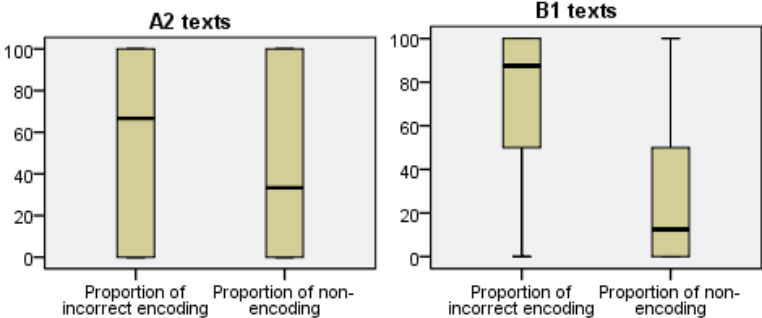
	A2 texts (N=97)			B1 texts (N=55)		
	no. of erroneousness	proportion of incorrect encoding	proportion of non-encoding	no. of erroneousness	proportion of incorrect encoding	proportion of non-encoding
Mean	3.7	56.5	43.5	3.4	68.2	31.8
Median	3.0	66.7	33.3	2.0	87.5	12.5
Std.d.	3.8	42.6	42.6	2.6	36.9	36.9
Minimum	1	0.0	0.0	1	0.0	0.0
Maximum	30	100.0	10.0	12	100.0	100.0
N texts with 0%		30	36		9	23

The measures of central tendency indicate that clauses, in which the temporal contexts are not correctly encoded, have in the majority of the cases been classified as incorrect encoding (A2 56.6, B1 68.2). Furthermore, we also see that the incorrect encoding category dominates more in B1 texts than in A2 texts. Since incorrect encoding and non-encoding are mutually exclusive categories, this necessarily means that the clauses with non-encoding are more often

¹³⁵ See section 6.4.3 about analysis of correctness and categories of erroneousness in the current chapter.

found in A2 texts than in B1 texts because the proportion of non-encoded clauses takes up a larger part of the instances of errors (A2 43.5 versus B1 31.8). Yet, from the first row that gives the number of errors made in the clauses, we know that the proportions given in other columns are computed based on low figures. Also, the standard deviations are very large. Hence, we should be careful in the interpretation of the summary given in table 98. The lengths of the boxes in the plots below illustrate very clearly that the dispersion is vast, particularly in the A2 group:

Figure 32: Box plots showing the distribution of proportions of incorrect encoding and non-encoding by level.



The box plots also display the trend emerging in table 98: The distance between the median lines in the boxes representing the proportions in the B1 are larger than in the A2 box plot suggesting that the proportion of non-encoding is smaller in B1 texts than in A2 texts.

Significance testing

Because incorrect encoding and non-encoding are opposite categories I only test statistically whether there is a difference between in proportion of non-encoding in A2 (median 33.3) texts and B1 (median 12.5) texts by means of a two-tailed Mann-Whitney U test. A marginal significant difference is found, $U = 2310.5$, $z = 1.425$, $p = 0.1$ (marginally significant), effect size $r = 0.1$ (small). Post hoc testing is required because marginally significant result is detected and because more than 30% texts of the texts (36 A2 texts and 23 B1 texts) have 0% proportion of non-encoding.

Step 2 Chi-square post hoc testing: A two-tailed chi-square test is performed to see if the significant difference is the result of more texts obtaining 0% proportion of non-encoding in the B1 group than in the A2 group. The proportions are cross-tabulated below:

Table 99: Cross tabulation of proportion of texts with 0% non-encoding

	A2 (=97)	B1 (N=55)	total
Texts with non-encoding proportion = 0%	36	23	59
Texts with non-encoding proportion > 0%	61	32	93
total	97	55	152

The chi-square test reveals that there is no significant difference between the groups in the proportion of texts, $\chi^2 = 0.327$, $p = 0.6$ (not significant), effect size Cramer's $V = 0.05$ (very small).

Step 3 Mann-Whitney U post hoc testing: Next I carry out a two-tailed Mann-Whitney U test on a subset of the data, which only contains texts with more than 0% non-encoding proportion (61 A2 texts, 32 B1 texts). This way I can check if the significant difference between the groups in proportion involves a significant difference in the distribution of texts not obtaining a 0% score. The test yields a significant result between the A2 group (median 69.1) and the B1 group (median 54.6), $U = 744.5$, $z = -1.954$, $p = 0.05$ (significant), effect size $r = 0.2$ (small).

To conclude, texts placed at the A2 level do have a significantly higher proportion of non-encoding than texts placed at the B1 level. However, the effect size is small.

Q6: Is there a level difference in verb type proportion in telic and atelic phrases?

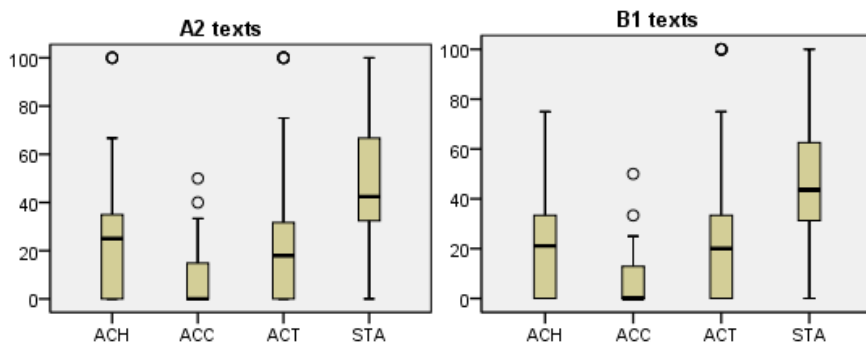
The last questions concern the proportion of distinct verb lexemes in telic and atelic verb phrases, and relates to the Aspect Hypothesis introduced in chapter 2, section 2.3. The Aspect Hypothesis predicts that past inflection emerges in telic verb phrases before atelic verb phrases. As accounted for in section 6.4.4 in the chapter 6, this prediction is analysed by means of a verb type analysis of clauses with use of the past morphology (that is preterite and present perfect taken together), which instead of counting the number of inflected verbs in telic and atelic verb phrases (token analysis), counts the number of verb types which occur inflected (verb type analysis). Next, on the basis of the type counts, the proportion of inflected verb types in telic and atelic phrases are computed and compared. In the table below we see that the largest proportion of verb types is found in atelic verb phrases in both groups (A2 67.5, B1 71.4):

Table 100: Verb type proportion in telic and atelic verb phrases by level. The first column reports the total number of types, and proportion of types in telic and atelic phrases is given in the other columns.

	A2 texts (N=97)			B1 texts (N=64)		
	no. of verb types	proportion of telic verb types	proportion of atelic verb types	no. of verb types	proportion of telic verb types	proportion of atelic verb types
Mean	8.2	32.5	67.5	9.5	28.6	71.4
Median	5.0	33.3	66.7	7.0	29.0	71.0
Std.d.	7.4	23.8	23.8	7.3	21.6	21.6
Minimum	1	.0	0.0	1	0.0	0.0
Maximum	30	100.0	100.0	32	100.0	100.0
N texts with 0%		22	3		15	1

There are no particular level differences observed. From the central tendency measures at both levels, we see that the highest proportion of distinct verb types is found in atelic verb phrases at both levels (A2 67.5% and B1 71.4%) and the difference between the proportion of verb types in atelic verb phrases is small. Evidently from the box plots below, within both levels there are important differences in telicity; however, in this investigation the primary concern is to detect potential level differences, and we note that the same pattern seems to exist in both A2 texts and B1 texts:

Figure 33: Box plots showing the distribution of verb type proportions in telic and atelic phrases by level.



Significance testing

Step 1 Mann-Whitney U: A two-tailed Mann-Whitney U tests are performed to test if the difference in verb type proportion for telic verb phrases between the levels is significant. The test produces a result that is not significant. For the difference in verb type proportion for telic phrases between A2 texts (median 33.3) and B1 texts (29.0), $U = 2782.5$, $z = -1.118$, $p = 0.3$ (not significant), effect size $r = 0.09$ (very small). Because telic verb phrases and atelic verb

phrases are opposite categories, a negative result for the difference in verb type frequency of telic verb phrases necessarily means that there is no significance difference in verb type frequencies for atelic verb phrases as well.

In summary, there are no significant differences detected in proportion of telic and atelic verb phrases between texts assessed at the A2 level and texts assessed at the B1 level.

Appendix E: Testing for normality

Table 101: Results from normality testing with the Shapiro Wilk test

Group	Variable	Test statistics	p-value	Conclusion
ANALYSIS OF L1 INFLUENCE				
TEMPORAL CONTEXT				
ViA2	Past contexts frequency	w = 0.693	p < 0.001	Observation not normally distributed
SoA2	Past contexts frequency	w = 0.850	p < 0.001	Observation not normally distributed
ViB1	Past contexts frequency	w = 0.844	p < 0.001	Observation not normally distributed
SoB1	Past contexts frequency	w = 0.848	p = 0.001	Observation not normally distributed
ViA2	Preterite contexts frequency	w = 0.651	p < 0.001	Observation not normally distributed
SoA2	Preterite contexts frequency	w = 0.821	p < 0.001	Observation not normally distributed
ViB1	Preterite contexts frequency	w = 0.812	p < 0.001	Observation not normally distributed
SoB1	Preterite contexts frequency	w = 0.826	p < 0.001	Observation not normally distributed
ViA2	Prs. perfect contexts frequency	w = 0.798	p < 0.001	Observation not normally distributed
SoA2	Prs. perfect contexts frequency	w = 0.822	p < 0.001	Observation not normally distributed
ViB1	Prs. perfect contexts frequency	w = 0.761	p < 0.001	Observation not normally distributed
SoB1	Prs. perfect contexts frequency	w = 0.733	p < 0.001	Observation not normally distributed
GRAMMATICAL ENCODING				
ViA2	Overall encoding frequency	w = 0.556	p < 0.001	Observation not normally distributed
SoA2	Overall encoding frequency	w = 0.769	p < 0.001	Observation not normally distributed
ViB1	Overall encoding frequency	w = 0.745	p < 0.001	Observation not normally distributed
SoB1	Overall encoding frequency	w = 0.676	p < 0.001	Observation not normally distributed
ViA2	Encoding frequency preterite c.	w = 0.400	p < 0.001	Observation not normally distributed
SoA2	Encoding frequency preterite c.	w = 0.356	p < 0.001	Observation not normally distributed
ViB1	Encoding frequency preterite c.	w = 0.471	p < 0.001	Observation not normally distributed
SoB1	Encoding frequency preterite c.	w = 0.215	p < 0.001	Observation not normally distributed
ViA2	Encoding frequency prs. prf. c.	w = 0.628	p < 0.001	Observation not normally distributed
SoA2	Encoding frequency prs. prf. c.	w = 0.713	p < 0.001	Observation not normally distributed
ViB1	Encoding frequency prs. prf. c.	w = 0.793	p < 0.001	Observation not normally distributed
SoB1	Encoding frequency prs. prf. c.	w = 0.753	p < 0.001	Observation not normally distributed
ViA2	Present use frequency	w = 0.701	p < 0.001	Observation not normally distributed
SoA2	Present use frequency	w = 0.876	p < 0.001	Observation not normally distributed
ViB1	Present use frequency	w = 0.846	p < 0.001	Observation not normally distributed
SoB1	Present use frequency	w = 0.856	p < 0.001	Observation not normally distributed
ViA2	Preterite use frequency	w = 0.644	p < 0.001	Observation not normally distributed
SoA2	Preterite use frequency	w = 0.861	p < 0.001	Observation not normally distributed
ViB1	Preterite use frequency	w = 0.820	p < 0.001	Observation not normally distributed
SoB1	Preterite use frequency	w = 0.838	p < 0.001	Observation not normally distributed
ViA2	Prs. perfect use frequency	w = 0.807	p < 0.001	Observation not normally distributed
SoA2	Prs. perfect use frequency	w = 0.712	p < 0.001	Observation not normally distributed
ViB1	Prs. perfect use frequency	w = 0.756	p < 0.001	Observation not normally distributed
SoB1	Prs. perfect use frequency	w = 0.835	p < 0.001	Observation not normally distributed
CORRECTNESS				
ViA2	Overall correctness frequency	w = 0.679	p < 0.001	Observation not normally distributed
SoA2	Overall correctness frequency	w = 0.930	p = 0.001	Observation not normally distributed
ViB1	Overall correctness frequency	w = 0.872	p < 0.001	Observation not normally distributed
SoB1	Overall correctness frequency	w = 0.890	p = 0.005	Observation not normally distributed
ViA2	Correctness frequency preterite c.	w = 0.715	p < 0.001	Observation not normally distributed
SoA2	Correctness frequency preterite c.	w = 0.758	p < 0.001	Observation not normally distributed
ViB1	Correctness frequency preterite c.	w = 0.620	p < 0.001	Observation not normally distributed
SoB1	Correctness frequency preterite c.	w = 0.744	p < 0.001	Observation not normally distributed
ViA2	Correctness frequency prs. prf. c.	w = 0.744	p < 0.001	Observation not normally distributed
SoA2	Correctness frequency prs. prf. c.	w = 0.616	p < 0.001	Observation not normally distributed

ViB1	Correctness frequency prs. prf. c.	w = 0.602	p < 0.001	Observation not normally distributed
SoB1	Correctness frequency prs. prf. c.	w = 0.787	p = 0.001	Observation not normally distributed
ViA2	Correctness frequency present c.	w = 0.494	p < 0.001	Observation not normally distributed
SoA2	Correctness frequency present c.	w = 0.821	p < 0.001	Observation not normally distributed
ViB1	Correctness frequency present c.	w = 0.495	p < 0.001	Observation not normally distributed
SoB1	Correctness frequency present c.	w = 0.735	p < 0.001	Observation not normally distributed
INCORRECT ENCODING				
ViA2	Preterite incorrect in prs. c. freq.	w = 0.558	p < 0.001	Observation not normally distributed
SoA2	Preterite incorrect in prs. c. freq.	w = 0.510	p < 0.001	Observation not normally distributed
ViB1	Preterite incorrect in prs. c. freq.	w = 0.562	p < 0.001	Observation not normally distributed
SoB1	Preterite incorrect in prs. c. freq.	w = 0.520	p < 0.001	Observation not normally distributed
Vi	Preterite in prs. prf. c. freq.	w = 0.378	p < 0.001	Observation not normally distributed
So	Preterite in prs. prf. c. freq.	w = 0.816	p < 0.001	Observation not normally distributed
ViA2	Prs. prf. incorrect in prs. c. freq.	w = 0.272	p < 0.001	Observation not normally distributed
SoA2	Prs. prf. incorrect in prs. c. freq.	w = 0.302	p < 0.001	Observation not normally distributed
ViB1	Prs. prf. incorrect in prs. c. freq.	w = 0.514	p < 0.001	Observation not normally distributed
SoB1	Prs. prf. incorrect in prs. c. freq.	w = 0.253	p < 0.001	Observation not normally distributed
Vi	Prs. prf. in preterite c. freq.	w = 0.640	p < 0.001	Observation not normally distributed
So	Prs. prf. in preterite c. freq.	w = 0.611	p < 0.001	Observation not normally distributed
Vi	Present incorrect in prt. c. freq.	w = 0.426	p < 0.001	Observation not normally distributed
So	Present incorrect in prt. c. freq.	w = 0.529	p < 0.001	Observation not normally distributed
ViA2	Prs. incorrect in prs. prf. c. freq.	w = 0.190	p < 0.001	Observation not normally distributed
SoA2	Prs. incorrect in prs. prf. c. freq.	w = 0.216	p < 0.001	Observation not normally distributed
ViB1	Prs. incorrect in prs. prf. c. freq.	w = 0.500	p < 0.001	Observation not normally distributed
SoB1	Prs. incorrect in prs. prf. c. freq.	w = 0.275	p < 0.001	Observation not normally distributed
NON-ENCODING				
ViA2	Proportion of verbless clauses	w = 0.757	p < 0.001	Observation not normally distributed
SoA2	Proportion of verbless clauses	w = 0.574	p < 0.001	Observation not normally distributed
ViB1	Proportion of verbless clauses	w = 0.649	p < 0.001	Observation not normally distributed
SoB1	Proportion of verbless clauses	w = 0.576	p < 0.001	Observation not normally distributed
ACCOUNTING FOR SOME OUTSIDE VARIABLES				
EDUCATIONAL BACKGROUND (h.e. = higher education, zero h. = no higher education)				
h.e..	Past contexts frequency	w = 0.814	p < 0.001	Observation not normally distributed
zero h.	Past contexts frequency	w = 0.838	p < 0.001	Observation not normally distributed
h.e..	Proportion of verbless clauses	w = 0.662	p < 0.001	Observation not normally distributed
zero h.	Proportion of verbless clauses	w = 0.674	p < 0.001	Observation not normally distributed
h.e..	Present use frequency	w = 0.823	p < 0.001	Observation not normally distributed
zero h.	Present use frequency	w = 0.853	p < 0.001	Observation not normally distributed
h.e..	Preterite use frequency	w = 0.809	p < 0.001	Observation not normally distributed
zero h.	Preterite use frequency	w = 0.842	p < 0.001	Observation not normally distributed
h.e..	Preterite in prs. prf. c. freq.	w = 0.376	p < 0.001	Observation not normally distributed
zero h.	Preterite in prs. prf. c. freq.	w = 0.340	p < 0.001	Observation not normally distributed
h.e..	Prs. prf. in preterite c. freq.	w = 0.401	p < 0.001	Observation not normally distributed
h.e.	Prs. prf. in preterite c. freq.	w = 0.516	p < 0.001	Observation not normally distributed
ENGLISH SKILLS (E. b/l = English basic level or lower, E. int. = English intermediate)				
E b/l	Past contexts frequency	w = 0.837	p < 0.001	Observation not normally distributed
E int.	Past contexts frequency	w = 0.834	p < 0.001	Observation not normally distributed
E b/l	Proportion of verbless clauses	w = 0.677	p < 0.001	Observation not normally distributed
E int.	Proportion of verbless clauses	w = 0.675	p < 0.001	Observation not normally distributed
E b/l	Present use frequency	w = 0.845	p < 0.001	Observation not normally distributed
E int.	Present use frequency	w = 0.849	p < 0.001	Observation not normally distributed
E b/l	Preterite use frequency	w = 0.807	p < 0.001	Observation not normally distributed
E int.	Preterite use frequency	w = 0.831	p < 0.001	Observation not normally distributed
E b/l	Preterite in prs. prf. c. freq.	w = 0.374	p < 0.001	Observation not normally distributed
E int.	Preterite in prs. prf. c. freq.	w = 0.380	p < 0.001	Observation not normally distributed
E b/l	Prs. prf. in preterite c. freq.	w = 0.409	p < 0.001	Observation not normally distributed

E int.	Prs. prf. in preterite c. freq.	w = 0.503	p < 0.001	Observation not normally distributed
Vi	Proportion of PP in overall use	w = 0.796	p = 0.006	Observation not normally distributed
So	Proportion of PP in overall use	w = 0.796	p = 0.006	Observation not normally distributed
Vi	Proportion of PP in incorrect use	w = 0.720	p = 0.001	Observation not normally distributed
So	Proportion of PP in incorrect use	w = 0.720	p = 0.001	Observation not normally distributed
ANALYSIS OF LEXICAL-ASPECTUAL INFLUENCE				
OVERALL USE OF PAST MORPHOLOGY				
A2	Token frequency in telic phrases	w = 0.910	p < 0.001	Observation not normally distributed
B1	Token frequency in telic phrases	w = 0.927	p = 0.001	Observation not normally distributed
A2	Token frequency achievement	w = 0.842	p < 0.001	Observation not normally distributed
B1	Token frequency achievement	w = 0.878	p < 0.001	Observation not normally distributed
A2	Token frequency accomplishment	w = 0.775	p < 0.001	Observation not normally distributed
B1	Token frequency accomplishment	w = 0.765	p < 0.001	Observation not normally distributed
A2	Token frequency activity	w = 0.761	p < 0.001	Observation not normally distributed
B1	Token frequency activity	w = 0.815	p < 0.001	Observation not normally distributed
A2	Token frequency state	w = 0.949	p = 0.001	Observation not normally distributed
B1	Token frequency state	w = 0.950	p = 0.011	Observation not normally distributed
A2	Type proportion in telic verb p.	w = 0.925	p < 0.001	Observation not normally distributed
B1	Type proportion in telic verb p.	w = 0.932	p = 0.002	Observation not normally distributed
A2	Type proportion achievement	w = 0.882	p < 0.001	Observation not normally distributed
B1	Type proportion achievement	w = 0.882	p < 0.001	Observation not normally distributed
A2	Type proportion accomplishment	w = 0.791	p < 0.001	Observation not normally distributed
B1	Type proportion accomplishment	w = 0.882	p < 0.001	Observation not normally distributed
A2	Type proportion activity	w = 0.795	p < 0.001	Observation not normally distributed
B1	Type proportion activity	w = 0.877	p < 0.001	Observation not normally distributed
A2	Type proportion state	w = 0.940	p < 0.001	Observation not normally distributed
B1	Type proportion state	w = 0.934	p = 0.002	Observation not normally distributed
CORRECT USE OF PAST MORPHOLOGY:				
A2	Type proportion in correct telics	w = 0.917	p < 0.001	Observation not normally distributed
B1	Type proportion in correct telics	w = 0.933	p = 0.002	Observation not normally distributed
A2	Type proportion correct ach.	w = 0.877	p < 0.001	Observation not normally distributed
B1	Type proportion correct ach.	w = 0.898	p < 0.001	Observation not normally distributed
A2	Type proportion correct acc.	w = 0.745	p < 0.001	Observation not normally distributed
B1	Type proportion correct acc.	w = 0.755	p < 0.001	Observation not normally distributed
A2	Type proportion correct activity	w = 0.789	p < 0.001	Observation not normally distributed
B1	Type proportion correct activity	w = 0.826	p < 0.001	Observation not normally distributed
A2	Type proportion correct state	w = 0.939	p < 0.001	Observation not normally distributed
B1	Type proportion correct state	w = 0.943	p = 0.007	Observation not normally distributed
L1 DIFFERENCES IN LEXICAL ASPECT				
Vi	Type proportion in telic verb p.	w = 0.908	p < 0.001	Observation not normally distributed
So	Type proportion in telic verb p.	w = 0.930	p < 0.001	Observation not normally distributed
Vi	Type proportion achievement	w = 0.869	p < 0.001	Observation not normally distributed
So	Type proportion achievement	w = 0.892	p < 0.001	Observation not normally distributed
Vi	Type proportion accomplishment	w = 0.755	p < 0.001	Observation not normally distributed
So	Type proportion accomplishment	w = 0.811	p < 0.001	Observation not normally distributed
Vi	Type proportion activity	w = 0.893	p < 0.001	Observation not normally distributed
So	Type proportion activity	w = 0.786	p < 0.001	Observation not normally distributed
Vi	Type proportion state	w = 0.952	p = 0.008	Observation not normally distributed
So	Type proportion state	w = 0.920	p < 0.001	Observation not normally distributed
Vi	Type proportion in correct telics	w = 0.893	p < 0.001	Observation not normally distributed
So	Type proportion in correct telics	w = 0.932	p < 0.001	Observation not normally distributed
Vi	Type proportion correct ach.	w = 0.842	p < 0.001	Observation not normally distributed
So	Type proportion correct ach.	w = 0.916	p < 0.001	Observation not normally distributed
Vi	Type proportion correct acc.	w = 0.719	p < 0.001	Observation not normally distributed
So	Type proportion correct acc.	w = 0.780	p < 0.001	Observation not normally distributed
Vi	Type proportion correct activity	w = 0.852	p < 0.001	Observation not normally distributed

So	Type proportion correct activity	w = 0.751	p < 0.001	Observation not normally distributed
Vi	Type proportion correct state	w = 0.955	p < 0.011	Observation not normally distributed
So	Type proportion correct state	w = 0.917	p < 0.001	Observation not normally distributed
ANALYSIS OF THE RELATION BETWEEN TEMPORAL MORPHOLOGY AND CEFR				
A2	Total number of clauses	w = 0.952	p < 0.001	Observation not normally distributed
B1	Total number of clauses	w = 0.935	p = 0.001	Observation not normally distributed
A2	Present tense, contexts frequency	w = 0.798	p < 0.001	Observation not normally distributed
B1	Present tense, contexts frequency	w = 0.849	p < 0.001	Observation not normally distributed
A2	Preterite contexts frequency	w = 0.759	p < 0.001	Observation not normally distributed
B1	Preterite contexts frequency	w = 0.819	p < 0.001	Observation not normally distributed
A2	Prs. perfect, contexts frequency	w = 0.801	p < 0.001	Observation not normally distributed
B1	Prs. perfect, contexts frequency	w = 0.722	p < 0.001	Observation not normally distributed
A2	Past perfect contexts frequency	w = 0.403	p < 0.001	Observation not normally distributed
B1	Past perfect contexts frequency	w = 0.497	p < 0.001	Observation not normally distributed
A2	Overall encoding frequency	w = 0.669	p < 0.001	Observation not normally distributed
B1	Overall encoding frequency	w = 0.664	p < 0.001	Observation not normally distributed
A2	Overall correctness frequency	w = 0.836	p < 0.001	Observation not normally distributed
B1	Overall correctness frequency	w = 0.876	p < 0.001	Observation not normally distributed
A2	Correctness frequency preterite c.	w = 0.736	p < 0.001	Observation not normally distributed
B1	Correctness frequency preterite c.	w = 0.686	p < 0.001	Observation not normally distributed
A2	Correctness frequency prs. prf. c.	w = 0.574	p < 0.001	Observation not normally distributed
B1	Correctness frequency prs. prf. c.	w = 0.690	p < 0.001	Observation not normally distributed
A2	Proportion of non-encoding	w = 0.784	p < 0.001	Observation not normally distributed
B1	Proportion of non-encoding	w = 0.787	p < 0.001	Observation not normally distributed
A2	Type proportion in telic verb p.	w = 0.925	p < 0.001	Observation not normally distributed
B1	Type proportion in telic verb p.	w = 0.932	p = 0.002	Observation not normally distributed

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