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[Department of Language and Linguistics]

**[A Comparative Study of L1 Norwegian and L1 Chinese Learners' Acquisition of L2 English
Subject-verb Agreement and Word Order]**

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Master's thesis in [English Acquisition and Multilingualism] [ENG-3991] [November 2021]

Acknowledgment

The two years' postgraduate study has passed so quickly, and it becomes a valuable part of my academic life at UiT, Tromsø. Its value and influence on my future life are immeasurable. Thanks to numerous people who provided me with guidance and support, I was able to complete the research.

My deepest gratitude goes first and foremost to my supervisor, Natalia Mitrofanova, not only her heuristic guidance, insightful comments, patient explanation, and constant encouragement throughout the whole process of selecting a topic, preparing, and writing the thesis, but also for her kind support and supervision. Her extensive knowledge, illumination instructions, and rigorous attitude towards academic research have lighted up the path for me in the field of linguistic study. Without her time and efforts spent on the careful modification and refinement of my drafts, the thesis couldn't have reached its present form.

Secondly, I also owe huge thanks to Myrte Vos, who helped me with the survey in JATOS for randomization and gave many sound suggestions for further data analysis. Meanwhile, my deep appreciation would also be shown to Nadine Kolb, who spared her valuable time to help me bridge the connection with a Norwegian teacher, Katharina Bernstein who facilitated the survey distribution among her Norwegian students from secondary school. Also, I am indebted to Isabel Nadine Jensen for her valuable opinions and comments. Thanks to them, I have a certain amount of data for further analysis in my thesis.

Furthermore, my great gratitude must go to all the teachers and professors who have taught me during my studying period at The Arctic University of Norway. All those wonderful and enlightening lectures, workshops from the LAVA group, and various kinds of on-site language exhibitions (eg. *Mitt språk - min arv* from 2020 and the presentation of SMART TOOL launched by Laura Janda in 2020) have greatly benefited my knowledge and research in linguistics.

Finally, I would like to express my gratitude to all of the research participants for their kind cooperation and participation. Likewise, I am grateful to my dearest parents for their everlasting love, my sister (Ning Tong)'s enduring moral support and inspiring motivation, my friends and classmates for the continuous encouragement. Without their understanding and care, I would not have been able to accomplish so much over the past few years.

Abstract

Nowadays, English has become an international communicative language. There has been laid more and more importance to the study of English, so its importance has already gone beyond the range of a foreign language. With respect to L1 Chinese and L1 Norwegian speakers in the process of English learning, both groups are prone to a range of errors, but the difficulty concerning different domains of English grammar seems to vary. More specifically, errors related to subject-verb agreement and word order have been found to be common problems for both L1 Norwegian and L1 Chinese L2 English learners. For a long time, SLA research has been focusing primarily on the general second language learning and teaching process, and acquisition environment. More recently, detailed studies of morphological and syntactic research have become more and more numerous. However, there are still not enough detailed comparative studies on cross-linguistic influence examining learners with different L1s. The current thesis aims at bridging this gap and explores L1 Chinese and L1 Norwegian's English learning difficulties in subject-verb agreement and word order and makes a comparison between the two groups. The study also further seeks to investigate whether morphology or syntax is more difficult for L2 English learners and examines the influence of other intra- and extralinguistic factors (proficiency, gender, chronological age, etc.) on their grammaticality judgments. The core research questions of the study are formulated below.

1. Are the challenges in learning English subject-verb agreement the same for L1 Chinese and L1 Norwegian learners?
2. Do L1 Chinese and L1 Norwegians struggle with learning English word order in the same way?
3. Which linguistic domain is more challenging for L2 English learners, morphology (subject-verb agreement) or syntax (word order in declaratives)?
4. What are the other factors that might impact L2 English learners' performance on a grammaticality judgment task?

The study of linguistic features in subject-verb agreement and word order starts with the execution of an experiment based on JATOS, an online survey tool. It consists of three sections, a background information questionnaire, a grammaticality judgment task (GJT), and a proficiency test. Among the three sections, the GJT is the primary technique of data collection. The GJT includes four lists, each list containing 32 sentences in total, and the lists were distributed to participants randomly. All the 32 items of each list contained 16 stimuli targeting subject-verb agreement and 16 stimuli testing word order sentences. In addition, the experiment included a subset of a Standardized Oxford English proficiency test with 40 multiple-choice questions. Finally, the demographic questions listed in the first part of the questionnaire were included to investigate whether further factors might explain the L2 English learners' performance on the grammaticality judgment task.

Through the analysis and findings from the questionnaire. I made the following conclusions: 1) Both L1 Norwegian and L1 Chinese have the same struggle with English subject-verb agreement. 2) L1 Norwegian and L1 Chinese have a considerable difference in the performance of word order, the results further illustrate that L1 Chinese participants have greater difficulties in learning word order than L1 Norwegian participants. 3) The findings are not confident enough to lend credence support to state that morphology is harder to learn than syntax. 4) Finally, it is found that only native language and L2 English proficiency influence the performance of grammaticality judgment, excluding other factors in age, gender, or English study length.

With the background framework of markedness theory, language interference phenomenon, bottleneck hypothesis, and contrastive analysis, the current study observed the judgments, make a comparison between two groups with different L1s as well as analyzed the two structures of the relative difficulty in English subject-verb agreement and word order. The thesis is divided into six chapters. The first chapter outlines the research background, objectives, and the importance of the study as well as the organization of the research. The second chapter is a historical overview of previous research on subject-verb agreement and word order among Chinese and Norwegian English learners. There is also a discussion of research on the descriptions of subject-verb agreement and word order in English. The third chapter lays out the theoretical foundations that will serve the baseline of the thesis, namely the contrastive analysis, the markedness theory, and the bottleneck hypothesis are introduced. Plus, cross-linguistic influence will also be mentioned in the thesis. The fourth chapter discusses the research design, comprising the research questions, predictions, describes the participants, the methodology, and the procedures. Afterward, the data analysis and discussion in the results of the proficiency test, grammaticality judgment test, and other independent variables of the demographics section are covered in the fifth chapter. The sixth chapter is the conclusion, which includes some implications and limitations of the current study.

Key Words: Norwegian; Chinese; English; Subject-verb agreement; Word order; Contrastive analysis; Cross-linguistic influence; Second language acquisition

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Chapter 1 Introduction

In this section, I will introduce the background information of the study, the objectives of this study, and the significance of the study, as well as the organization of this thesis.

1.1 Research Background

Second language acquisition is primarily concerned with the process and principles of second language learning once people have mastered their first language. SLA (Second Language Acquisition) has become a popular research topic of great importance in various disciplines of linguistics.

During the process of native language acquisition, complex factors and phenomena occur which leads to different voices in linguistics making assumptions from different angles, such as, the theory of "*imitation-stimulus*", "*the innate theory*" determined by a biological genetic mechanism, and so on. They are all aimed at finding a way to break through from mother-tongue acquisition to facilitate second language acquisition. And mainly language comes into being because of communication and language changes because of communication. Although there are still obvious differences among linguistic schools on language acquisition, everyone recognizes that language acquisition is a complex process, and difficult to understand comprehensively and thoroughly how human beings acquire language from the study of mother tongue acquisition alone. The study of second language acquisition has naturally piqued the interest and research of different linguistic schools from different perspectives.

The learning of a first language is difficult, but the acquisition of a second language is considerably more difficult, including far more factors involved compared to the first language acquisition. For example, the role of mother tongue knowledge, the universal grammar of the human language, the degree of similarity between the second language and the mother tongue, the learning context (various social and cultural backgrounds), the individual factors of learning (individual psychological factors, motivation, etc.), and age are among the major factors. The investigation into these factors and difficult grammatical features of English language acquisition as a second language (e.g., subject-verb agreement and word order) can promote and contribute to the field of second language acquisition. That is to say, the study of second language acquisition is very helpful to explore the mechanism of human language acquisition.

When studying second language acquisition, researchers wouldn't put aside the functional role of the first language and paid high attention to how L1 is acquired. As early as the 1950s, linguist Lado (1957) proposed the contrastive analysis based on the recognition of the effect of mother language on second language learning, and also further pointed out that language transfer is the most significant barrier to second language acquisition. Although Brown (1973), Dulay & Butt (1974), Bailey, Madden & Krashen (1974), and other scholars were against the whole idea based on the philosophy of "*cognitive science*", explaining from the perspective of native language transfer in adults' and the sequence of morpheme acquisition in children's second language learning. However, there were a bulk of unfavorable reactions due to the overall negative mother tongue impacts point of view. According to Schachter's (1974) research, L2 learners tend to avoid utilizing some knowledge of the target language based on the linguistic rules of the native language. The research results of Sjöholm(1976), Kleinmann (1977), Schachter (1983), Zobl (1982), Dugut & Laufer(1985), Ard & Homburg(1992), and Laufer & Eliasson(1993) have proved that the mother tongue has an impact on learners' various aspects of second language acquisition. However, the current studies of the native language transfer function are no longer based on a contrastive analysis hypothesis "*similarities between languages mean easy to learn while differences mean difficult to learn*" hypothesis, but from a human universal grammar mechanism (i.e., linguistics), all human languages display mode (the perspective of typology), language function (such as the perspective of functional linguistics) and multiple perspectives with an overview of the native language transfer. These studies attempt to put the study of the transfer influence of mother tongue into the cognitive field, to reveal the transfer influence of mother tongue more scientifically and reasonably.

In line with the rapidly growing interests and many types of research conducted in the second language acquisition field, the present study selects two grammatical categories, namely word order, and subject-verb agreement. The reasons I find it interesting to include these two grammatical features and compare between the acquisition of L1 Norwegian and L1 Chinese are because inflectional morphology seems to cause great difficulties in foreign language learning and the two linguistic features demonstrate great typological variation between Norwegian and English, Chinese and English. Besides, doing a comparative study could enrich language research and L2 English teaching.

Number and gender agreements are essential elements of the S-V concord requirement in English. For example, verbs are marked for person and number agreement. There should be an agreement between the subject and verb of a sentence, the agreement between pronoun and its antecedent, and the agreement between noun and its adjective. However, Norwegian verbs do not have overt agreement marking. The following examples illustrate the differences between Norwegian and English in subject-verb agreement.

- 1) a. I/We/You/They study Norwegian
b. He/she/Mary studies Norwegian

- 2) Infinitive: å studere (to study) present tense: studerer
 - a. Jeg/Vi/Du/De **studerer** russisk.

“I/We/You/They study Russian.”

 - b. Han/ Hun/ Mary **studerer** russisk.

“He/she/Mary studies Russian.

As we can see from the above examples, *-r*, as the inflectional morpheme is added to the infinitive verbal root after *I, you, he, she, it, we, you, they, and Proper noun (Mary)* in Norwegian to form present tense. It doesn't matter who is carrying out the verb as an action, the form remains the same. Recent studies (Jensen 2016; Jensen et.al.2017, 2019) provide evidence that because of local and long-distance agreement, subject-verb agreement is a challenging functional morphological characteristic for L1 Norwegian English learners, and they tend to overuse *-s* in English. As the complex nature of functional morphology in English, findings from Jensen's studies show that even when L2 learners reached advanced English level, S-V agreement remains a stagnant issue, the errors persist until high proficiency stages (Slabakova 2013). In comparison, there is no existence in grammatical morphology change in Chinese to mark gender, number, or case. Take the following sentences for examples from “*A practical Chinese Grammar for Foreigners*” (Li, 2008):

3) a. Ni/ Wo/ Ta/ Lee qu Nanfang.

You(singular)/ I/He,She/ Lee(Proper noun) go the south

You/I/He/She/Lee goes to the south.

b. Ni men/ Wo men/ Ta men qu Nanfang.

You (Plural)/ We/ They go the south

You /We/They go to the south.

Although the persons, genders, and numbers of the subjects in the preceding phrases change, the form of the verb “*qu*” remains the same. According to the study “*ERP(event-related-potential) signatures of subject-verb agreement in L2 learning*”(Chen et al.,2007), the Chinese syntax does not need subject-verb agreement due to the lack of grammatical morphology. Therefore, any nominal subject can take any verb form. As a result, learning subject-verb agreement becomes a substantial challenge for L2 Chinese learners, they tend to use the bare form in English and S-V agreement mistakes typically persist even after the student has achieved proficiency in the target L2.

Regarding the word order, English (West Germanic Language) as a subject-prominent language has a typical and rigid word order of SVO. As Thompson (1978) describes “*English is a language in which basic grammatical relations are signaled by word order. Specifically, it is a language in which there must be a noun phrase immediately preceding the verb in main clauses and that noun phrase, if unmarked, is the subject.*” (p25). Sentence structures containing a “dummy” or “empty” subject needs to be obliged to fill the subject position, such as “*it*” despite the fact that it has no lexical meaning.

In contrast, the question of whether Chinese (Sino-Tibetan language) is SVO or SOV in terms of word order has aroused substantial controversy. According to Chu (1998), it is mainly due to the fact that Chinese word order not only identifies grammatical functions but also additional functions such as noun definiteness/indefiniteness and discourse cohesiveness. The following pair of three-word sentences (Li&Thompson,1985) demonstrate how word order is arranged and it indicates additional functions as definiteness and indefiniteness:

4) 来 人 了。

Lai Ren le.

Come person/people

The person/people has/have come.

5) 人 来 了。

Ren lai le.

Person/people come.

The person/people (we are expecting) has/have come.

From the perspective of sentence structure, "*Lai Ren Le*" is a verbal non-subject-predicate sentence. "*Ren lai le*" is a verbal subject-predicate sentence. From a semantic point of view, "*Lai ren le*" is unknown, and people may be uninvited guests when they arrive without a request. "*Ren lai le*" is known, indicating that they are invited. As a result, the role of word order in Chinese is complex, which is unsurprising that many word order errors also occur among Chinese learners of English. For example, errors occur for those who are at the beginning level in L2 English. James (2013) mentions "*L2 word order is more influenced by L1 word order; misordering is often the result of learners relying on carrying out a word-for-word translation of native language surface structures when producing written or spoken utterances in the TL(Target Language)*".(p110)

Furthermore, Norwegian (North Germanic Language) is an SVO language with infinite main sentences that shows the verb-second (V2) word order (Anderssen et al, 2010). Concerning the verb placement, the distinction between Norwegian and English can be illustrated in the following examples.

6) Tom **drar** alltid hjem på sykkel.

*Tom **goes** always home by bike.

Tom always goes home by bike.

Several studies have demonstrated that errors occur in English acquisition in terms of word order. According to Westergaard's study (2003), learners with a V2 language who learn a

language where the same rule does not apply must forget the V2 rule to master the target language's syntax. Therefore, English word order becomes a stumbling block, especially for Norwegian English learners.

1.2 Objectives of the Study

The goal of this research is to apply markedness theory, crosslinguistic theory, and the bottleneck hypothesis to the core grammatical characteristic of subject-verb agreement and word order in second language learning. Firstly, it examines and explains the error rate in the grammatical judgment task by L2 English learners through the lens of markedness, delving into the nature of the representation that underpins singular and plural nouns in English, as well as how that representation interacts with the process that implements agreement during production. Another goal is to investigate the phenomenon of cross-linguistic influence on the syntactic level (here, the sentence is seen as a sequence of words, such as noun, verb, adjective, and number, tense, aspect, and voice, etc.) in word order in the process of L2 English learning for both L1 Norwegian and L1 Chinese, and to try to figure out the underlying reasons resulting in the results. Finally, the study continues the investigation include the effect of different factors such as typological variance between languages, age, gender, L2 learning period duration, L2 proficiency, and other language background are all crucial in the cross-linguistic field. Meanwhile, based on the study of Jensen (2016) and the bottleneck hypothesis (Slabakova, 2008, 2013), the study further illustrates subject-verb agreement as the functional morphology is more difficult to acquire than syntactic operation in word order for both two L2 groups despite the speakers' proficiency in English increases.

1.3 Significance of the Study

Bearing the objectives in mind, the study adopts an online survey, which conducts a major part of grammaticality judgment task followed by demographics and English proficiency test. The experiment on SLA in subject-verb agreement and word order involving L1 Chinese and L1 Norwegian are relatively rare, little research has been done on a comparative study about how these two groups learn English in S-V agreement and word order. The study might be one of the initial attempts, which extend the scope of the participants in the study of foreign language acquisition and it is also unique since the three languages involved belong to different phyla.

Therefore, the present study has its significance in both theory and practice. Firstly, the findings of this study will provide evidence that supports markedness theory in the acquisition of subject-verb agreement for L2 learners and complements cross-linguistic influence in the acquisition of word order for L2 learners; and the identification of the relationship among the three languages can serve as a springboard for further research into other subfields. In addition, the findings of the study on the two linguistic characteristics were analyzed in terms of probable attributing variables, namely, language distance, L2 proficiency, age, gender, and language background can account for the theoretical reasons for the constraints on the cross-linguistic influence in EFL studies. Furthermore, to some extent, this study will also enrich the research findings concerning the minority students' learning English. Secondly, by providing a detailed contrastive analysis on the three languages and assisting them in becoming more efficient in English learning, the error rates or characteristics of the negative syntactic influence found in this study can be used as a guide for the acquisition of English word order and S-V agreement. As for the language teachers, the current study is beneficial for them because it emphasizes the relevance of cross-linguistic impact in the acquisition of word order and S-V agreement. During the teaching of English word order and S-V agreement, the language instructor might take appropriate immediate action to assist a more favorable transition from L1 to L2. In this approach, the instruction may start on the proper foot and pave the path for a brighter future in English learning. It is also hoped that this research would draw the attention of curriculum developers and academics to the problems that students face when learning English.

1.4 Organization of the Thesis

There will be six chapters in this thesis. The research background, the objectives, significance, and thesis layout are all presented in the first chapter.

Chapter two is a literature review. The definitions of subject-verb agreement and prior studies on subject-verb agreement among Chinese English learners are presented first, followed by earlier research on subject-verb agreement among Norwegian English learners. The following is a definition of word order, as well as the prior study on word order in L2 among Chinese and Norwegian English learners.

Chapter three introduces the theoretical foundations of this study, and the framework of Contrastive Analysis, Markedness theory, Cross-linguistic influence theory, and Bottleneck Hypothesis are introduced in detail.

Chapter four describes the research design, including research questions and predictions, participants, methodology, and procedures.

Chapter five, the most important part of the thesis, presents the data and discusses the details of the research findings.

Chapter six demonstrates a summary of findings, the implication for theoretical building, learning and teaching, and limitations will also be stated in this chapter.

Chapter 2 Literature Review

2.1 Definition of subject-verb agreement

A subject-verb agreement is a connection between two grammatical components in which if one of them has a certain property (for example, plurality), the other must also have that feature. Overall, agreement relationships may be discovered among the items listed below:

- (a) Internally, determiner and noun, attribute and noun, possessor and possessed noun are all NP- (or DP-) terms.
- (b) a predicate and its arguments, such as verb-subject, verb-object, preposition-object, predicative noun/adjective-agreement.
- (c) a pronoun or anaphor and its antecedent.

The relationship of agreement between subject and verb is called subject-verb concord/ subject-verb agreement. Singular verbs are used with singular subjects, whereas plural verbs are used with plural subjects. This is the English subject-verb number agreement simple descriptive rule (Quirk, Greenbaum, Leech, & Svartvik, 1985). Sentence examples are listed:

7) A boy is sitting at the table.

8) Some boys are sitting at the table.

However, the subject-verb agreement has two significant drawbacks. To begin with, the agreement solely applies to third-party subjects. There is no difference between a first-person singular and a first-person plural subject, for example:

9) I howl all night.

10) We howl all night.

And secondly, the subject-verb agreement only applies when the verb “*be*” is in the present tense. In the past tense, there is no overt concord between the subject and the verb. For example:

11) The dog howled all night.

12) The dogs howled all night.

Except for the verb “*be*”, which is confined to the present tense, the subject and verb phrase in number and person are as indicated in Table 1. The s-form of lexical verbs and main auxiliaries is employed with a third-person singular subject in the present tense indicative, according to the basic grammatical norm.

	Present tense			Past tense
Lexical verb	Do	Have	Be	Be
I walk	do	have	am	was
You walk	do	have	are	were
He/she/It walks	does	has	is	was
We/You/They walk	do	have	are	were

Table 1. Verbs inflectional forms in the present and past tense

There is no subject-verb concord with the modal auxiliaries (which lack *s*- forms), verb forms in non-finite clauses (which are not marked for tense), or imperative clauses. Similarly, subject-verb agreement is not shown in subjunctive forms, which are used in some finite dependent clauses. For example,

13) I told her she could stay with me until she found a place, but she insisted that she pay her own way.

14) The way in which we work, whether it be in an office or on the factory floor, has undergone a major transformation in the past decade.

15) My head felt as if it were split open.

The base form of the verb is used in the present subjunctive (as in (13 and 14)), and the form were in the past subjunctive (as in (15)).

Agreement patterns are not always straightforwardly obvious in practice. The form of the subject, the meaning of the subject, and the distance between the head of the subject noun phrase and the verb phrase all cause difficulties. Therefore subject-verb agreement is dominated by three different principles together, which are principles of grammatical agreement, notional agreement, and proximity.

2.1.1 Subject-verb agreement in English

With all the condemnation of the prescriptive grammar, which insisted rather rigidly on the agreement solely based on grammatical features, the grammatical principle remains far more popular than the other two, namely the notional principle and the principle of proximity. Problems often arise with agreement when the subject is a collective noun, a coordinated noun phrase, an indefinite expression of amount, a nominal clause, or there in the existential sentence. Such a subject often invalidates the grammatical principle and other principles have been to be resorted to justifying the agreement. The following three principles in example sentences are demonstrated:

16) Everybody was happy with the decision. (the grammatical principle)

17) The audience were brought to their feet at the sight of Superman in his wheelchair. (the notional principle)

18) Either you or I am responsible for the mistake. (the principle of proximity)

The grammatical principle shows that the verb matches its subject in both person and in number. There is a complete well-developed set of rules governing the Subject-verb agreement on the grammatical basis---an outstanding achievement of prescriptive grammar. English learners have been taught to abide by these rules since they started to learn the language, with the result that learners are so familiar with the rules that they seem to have been built in their mind and learners often apply them before they know it. However, issues might occur when the grammatical principle and the other two principles are in disagreement. The notional principle, as the name suggests, is concerned with the Subject-verb agreement on the semantic basis. That is, based on the concept of number rather than the actual existence of the grammatical marker of that concept. Such an agreement is especially common between a verb and its subject that contains a collective noun. Whether plural or singular is largely determined by the speaker's understanding of what such a noun refers to, e.g., to a group of people as a whole or as individuals:

19) The average family is a great deal smaller than it used to be. (singular)

20) His family were at variance with him in their opinions about his plan to join the army. (plural)

The family in example (19) is singular because it is regarded as referring to a particular social group as a whole rather than as individual members. In (20), however, things are just the other way round, where the plural notion is indicated not just by the plural verb *were* but also by the pronoun *their*. The agreement built on the notional principle is well received in so many cases that it is in effect a useful complementary principle to the grammatical agreement.

A third agreement principle, i.e., the principle of proximity, stipulates “*agreement of the verb with a closely preceding noun phrase in preference to agreement with the head of the noun phrase that functions as the subject.*” (Quirk et al., 1985, p.757). Bock (1991) defines this

case as agreement attraction, that is when learners agree with the verb to the local noun instead of the head noun. For example:

21) Neither my wife nor I am coming to the ceremony,

22) There is a bed, a desk, two bookcases, and two comfortable chairs in the room.

The principle of proximity is especially common if the subject and the verb are kept apart by an intervening modifier. The greater the distance between the subject and the verb, the stronger the attraction of the verb to its adjacent item. For example:

23) Dr. Black together with his crew was going to stay in the observation station for a whole winter.

The notional principle and the principle of proximity, on the other hand, play an auxiliary role in supporting the grammatical principle in English. Thus, sentence (24) is correct, (25) contains a Subject-Verb agreement error.

24) The road to the mountains was long.

25)*The road to the mountains were long.

In English, although the subject noun and verb are often contiguous, they can be separated by intervening phrases, e.g. (24) and (25). In these examples the subject head noun (road) is separated from the verb (was/were) by a different constituent, the prepositional phrase (“to the mountains”). That makes (25) what Zandvoort (1961) referred to as an “*attraction error*,” a sentence in which the verb agrees with the number of the “local” noun directly preceding it, instead of with the number of the head noun. Thus, sentence (25) is ungrammatical.

In the remainder of this article, the grammatical principle will also be applied to discuss subject-verb agreement in second language acquisition.

2.1.2 Previous research on subject-verb agreement among Chinese learners of English

Lardiere's series of studies (1998a.b.c.d, 2000,2008,2009) are well-known among several studies concerning L2 learners 'use of 3 *sg-s*. She examined the usage of inflectional morphemes by her Chinese informant, Patty. Her English proficiency was regarded to be very high. Lardiere found that Patty could proficiently use sentential subjects, pronominal cases, auxiliary verbs, and copula to create sentences in a native-like manner. However, inflectional morphemes such as *past-ed* and *3sg-s* were always omitted. Moreover, by comparing the results of the first recording and the second and third recordings, it was found that Patty's tendency to omit *past-ed* and *3sg-s* did not alter even after residing in the United States of America for twenty years. This study indicated that even after using English for a very long time, certain inflectional morphemes were still challenging for L2 learners to generate.

Another study from Fang (2013) used a grammaticality task to test Chinese EFL learners' learning of English subject-verb agreement at different levels. He took samples from middle school students and each group had 50 students. He found that Chinese EFL learners did not acquire the knowledge of subject-verb agreement completely, besides, their acquisition did not improve along with the improvement of English proficiency. There might be stabilization in the process of acquisition, and if this difficulty could not be overcome, it would result in fossilization. Just as some studies have demonstrated that it was extremely uncommon for L2 learners to achieve native speaker competency in employing all inflectional morphemes (Lardiere 1998a; Long 2003; White 2003b). Fang pointed out that Chinese students' acquisition of subject-verb agreement exhibited universal interlanguage development features, which could be attributed to cognitive and native language variables. The cognitive factor referred to the knowledge system in mind, and the native language factor referred to the adverse impact of the negative transfer of mother tongue in English learning.

These studies suggest that Chinese EFL learners find it challenging to fully acquire the knowledge of the subject-verb agreement, and their acquisition did not improve along with the improvement of English proficiency. Their acquisition of *3sg- s* has the trend of fossilization.

2.1.3 Previous research on subject-verb agreement among Norwegian learners of English

Subject-verb agreement is a complex and essential aspect of grammar. The misuse of subject-verb agreement not only occurs in English learners in China but also is a problem for Norwegians of English learners. Jensen (2016, et. al,2017,2019) used acceptability assessment tasks to evaluate the current status quo of subject-verb agreement among Norwegian L2 English learners. Her studies, which are the first experimental studies to test the Bottleneck Hypothesis, show that L1 Norwegian English learners omit or overuse the 3sg-s suffix and that there is a positive correlation between participants' proficiency and their performance in the acceptability judgment test in 2016; Her subsequent publication (2017) revealed that subject-verb agreement was more difficult to achieve than the other constructs examined (past tense-ed and non-subject initial clauses and subject-initial clauses); Jensen et al(2019) concluded that their findings support the Bottleneck Hypothesis by stating participants have more difficulties to detect ungrammatical sentences with S-V agreement as functional morphology than word order as narrow syntax.

Garshol(2019) is a corpus research investigating subject-verb agreement errors in Norwegian school pupils' English writing (15-16 years old). Her study (2019) suggests that overgeneralization errors are most predominant when NP subjects are complex; Meanwhile, she also mentioned in her study that other factors include proficiency and cross-linguistic influence (Norwegian learners may perceive the present tense-s similar to -r in Norwegian, thus choose the marked form-s as a default choice influenced by L1) may also play a role in the acquisition of subject-verb agreement. According to Killie's (2019a, 2019b) studies, young Norwegian learners make more overgeneralization mistakes than omission errors, especially between the ages of 15 and 16 years old.

To summarise, despite the complicated NP subject structure, young Norwegian English learners continue to struggle with NP subject agreement (Garshol,2019, Killie, 2019a). According to Jensen's research, Norwegian students tend to overuse 3g-s rather than eliminate it, which is attributed to L1 impact (Garshol,2019).

2.2 Definition of Word order

Linguists define word orders from different points of view. Hartmann and Storke (1972) state that the definition of word order is as follows: word order involves the position of the words in the sequence under the practice of a language. Here it refers not only to the order of subject + verb + object but also includes the order of noun phrases and verb phrases. In other words, word order means the arrangement of words in a sentence, or in a broad sense, word order can be interpreted as the arrangement of the positions of language units, such as morphemes, words, phrases, and clauses. In recent years, other scholars put forward definitions of word order. “*Word order is an enthralling, highly structured, pulsing, and segmented structure that natural language employs to grasp and modify the temporal linearity of verbal communication.*” (Koktova,1999). Along with the more importance attached to the communicative function in linguistics, the content of word order study not only includes morphemes and sentence structures but also includes sentence groups now. According to several research, word order not only conveys grammatical meaning but also conveys pragmatic meaning. Even sometimes, it has a great relationship with language expression and understanding, language features and types, and language theories, etc. Therefore, we can say that word order study is developing from unitarity to multifariousness, and from the static study field into a dynamic one. In this thesis, word order will be explained from the position of words in a sequence. In other words, the word order in this thesis will include the orders of words and sentence elements.

2.2.1 Word Order in English

The study of word order in English is carried out on order morpheme and syntactic structures. Actually, English word order follows the rule: morpheme<word<phrase<clause<sentence. It is considered that the subject, the object, and the verb are the main sentence elements in most languages. Hence, most foreign language learners will naturally follow these rules and will produce sentences as the rules require. English is a typical language that uses the SVO “Subject-Verb-Object” word order, which is not that much different from Chinese and Norwegian as the basic sentence structure. However, several studies, such as Jensen (2016, et. al,2017,2019), Westergaard(2003), Mao lingli& Wang lingxia(2006), and Han Shuangyan (2010) showed that difficulties can still occur in the course of L2 English acquisition.

In this thesis, it is interesting to look at the position of adverbials in English because this syntactic structure appears to be one of the difficulties in the SLA learning process. In English, an adverbial is a type of modifier; however, it is a clause element rather than a modifier in a noun phrase. There are three types of adverbials: adjuncts, disjuncts, and conjuncts. Only the first category—the adjunct—can properly be called an adverbial, as it modifies or restricts the predicate and is typically considered as one of the five parts of a sentence. As a clause element, adjuncts are normally realized by adverb phrases, prepositional phrases, noun phrases, as well as finite, non-finite, and verbless clauses. Semantically, adjuncts can represent time, location, manner, purpose, cause, outcome, condition, concession, and accompanying circumstances. Those different adjuncts are relatively mobile, being able to take the initial, middle, or end position. Generally speaking, time adjuncts may occur at all three positions. For example:

26) *Recently* I had headaches.

I *recently* had headaches.

I had headaches *recently*.

By contrast, habitual adjuncts appear more often at the initial position or the middle:

27) *Always* I go home on foot.

I *always* go home on foot.

In English, if words serve as adverbial to modify adjectives or other adverbials, they are often in front of the modified adjective or adverbial, which is the same as in Chinese. For example, *The girl is remarkably beautiful.*; If an adverb modified the verb, it is usually placed behind the verb. Adverbials that indicate degree can both be placed in front or behind the verb in English, while it is generally in the front in Chinese; English prepositional phrases, participle phrases, or infinitives as adverbials, can be placed before the modified verb or be placed thereafter.

In Chinese, the order of time and place adverbials is always descending, from big to small, while English ascending way, from small to big (Li,1930). For example, “The general meeting of shareholders will be held at two o’clock tomorrow afternoon”. Except that

frequency adverbials may remain before the predicate; the other adverbials should be moved behind predicate or object (except in special cases or for emphasis). For example, “The children went to the class happily yesterday morning. Yesterday morning, the children went to the class happily (emphasize time)”. In the following part, we'll go through some more specific instances.

In Norwegian, the crucial feature of a declarative main clause is the fact that only one phrase may precede the finite verb and the finite verb always happens to be in the second position. As named the V2 constraint, this characteristic shares with almost all other Germanic languages, except English. For example,

28) Han bor i Tromsø.

He live in Tromsø.

He lives in Tromsø.

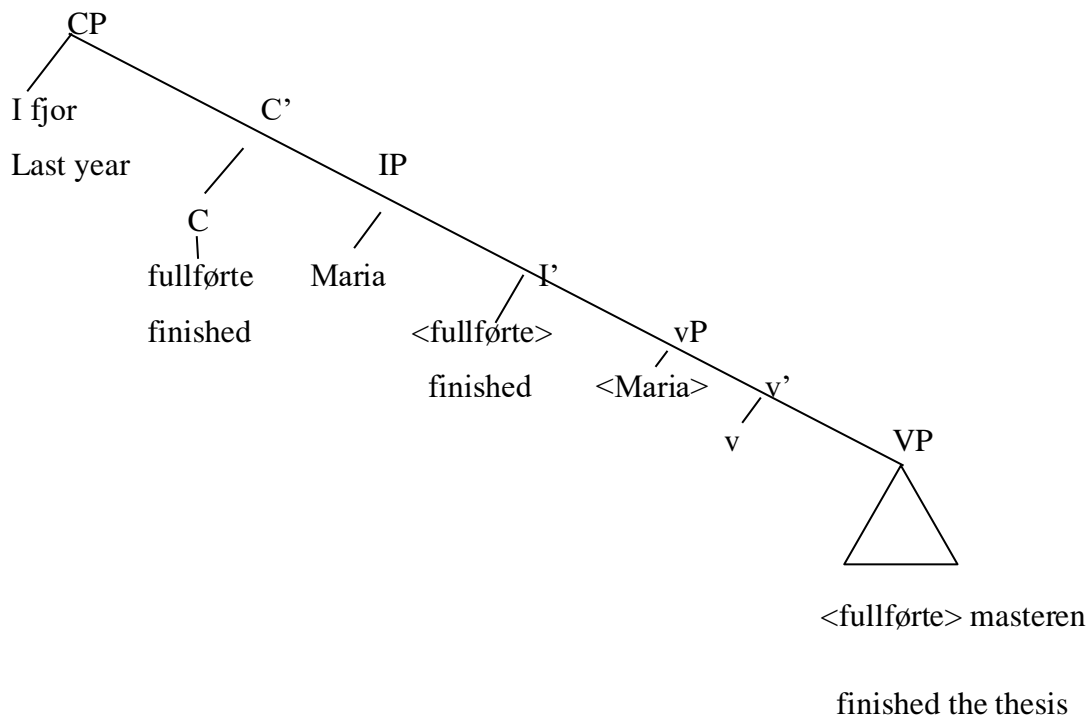
29) I fjor fullførte Maria masteren.

Last year finished Maria the thesis.

Last year Maria finished the thesis.

The V2 language word order in Norwegian can be explained in the following way. The verb movement is triggered in sentence 29) because of the extended projection principle (EPP) in the C-domain, which requires C to be lexicalized (Westergaard,2003). As demonstrated in the syntactic tree in figure 1, it shows that the finite verb has moved to the C-position of the sentence structure to fulfill the EPP.

Figure1 Syntax Tree



However, English is a rigid SVO language, which implies that in major sentences, the verb always comes after the subject. According to Jensen(2016), “*In the C domain, there is no significant EPP-feature that has to be lexicalized in English, and the lexical verb remains in the VP.*”(p28). Norwegian learners find the English word order challenging due to CL1 from Norwegian. In other words, when Norwegian learners acquire English as a second language, they have to unlearn the V2 rule.

2.2.2 Previous research on word order among Chinese learners of English

In Chinese, the position of the adjunct adverbials is not absolutely defined; however, it couldn't be changed as freely as that in English. Generally, the adjunct adverbial of Chinese is placed between the subject and the predicate or the initial position of the sentence. Different from English, the adjunct adverbial of Chinese has no end position. For example:

30) 张三 昨天 来过 ;

Zhangsan zuotian laiguo ;

Zhangsan yesterday came ;

昨天 张三 来过;

Zuotian Zhangsan laiguo;

Yesterday Zhangsan came ;

* 张三 来过 昨天

* Zhangsan laiguo zuotian

Zhangsan came yesterday

Li Jinxi (1930) in the *New Chinese Grammar* referred to “*Chinese is an analysis language of isolated words. It relies on the arrangement of words to express the meaning.*”(p1). Due to the different word order between Chinese and English, several pieces of research have been conducted to analyze the acquisition problem of word order by L1 Chinese. Fan Xiao (2002) began an in-depth study of coordination modes of semantic components, primarily from the perspective of rules restricting Chinese word order. Mao Haiyan (2003), from a cognitive perspective, thought that Chinese word order copies conceptual distance.

2.2.3 Previous research on word order among Norwegian learners of English

In Norwegian, as previously stated, verbs occur in the second place in main clauses. Like other Germanic languages, including Swedish, German, and Danish, they all have the language rule of V2. Bohnacker and Rosen (2008) stated that if both the L1 and the L2 are V2 languages, learners do not have any problems with the syntax of V2. Brautaser (1996)

provides the information that the Norwegian V2 word order has been a challenge for certain learners whose previously acquired languages do not have a V2 requirement. Westergaard's (2003) study used acceptability assessment tests and prompted production tasks to explore word order in L1 Norwegian L2 English learners (7 to 12 years old). The experiment finds that unlearning the V2 rule for L1 Norwegian is difficult because English is an SVO language. It is also discovered that individuals of all ages demonstrated significant V2 word transfer (Westergaard, 2003).

To reinstate Jensen (2016)'s study, she outlines the difference in word order in English and Norwegian. In Norwegian, the verb moves to the C-domain in declarative main clauses whereas it stays in the VP in English. In other words, there is a V-to-C movement in Norwegian (Westgaard 2003:78). In some types of main clauses, such as non-subject-initial declaratives and sentences containing adverbs, this results in word order are incompatible between Norwegian and English. (Jensen, 2016). The examples are illustrated as follows:

31) I går dro Daniel til butikken. (non-subject-initial declarative)

Yesterday went Daniel to the shop.

Yesterday Daniel went to the shop.

32) Daniel går ofte til butikken. (subject-initial declarative with adverb)

Peter goes often to the shop.

Daniel often goes to the shop.

As a result, the cross-linguistic impact may be inferred to play an important role during language learning. The interaction of linguistic features of L1 on L2 acquisition is worth exploring.

Chapter 3 Theoretical Foundation

3.1 Contrastive Analysis

During the 1950s and 1960s, Contrastive Analysis was a popular paradigm for learning a foreign language (FL) or a second language (SL). Charles Fries, one of the top applied linguists of the time stated that: *“The most efficient materials are those that are based on a scientific description of the language to be taught, carefully contrasted with a parallel description of the learner's native language.”* (Fries, 1945, p9). Fries' former classmate and subsequent colleague at the University of Michigan, Lado, illustrated:

Individuals tend to transfer the forms and meanings and the distribution of forms and meanings of their native language and culture to the foreign language and culture-both productively when attempting to speak the language and to act in the culture and receptively when attempting to grasp and understand the language and the culture as practiced by natives. (Lado,1957, p2).

Anyone who has attempted to learn a foreign language may relate to Lado's assertion. Foreign language learners are all too aware of their L1's interfering effects, which might range from accented speech to improper nonverbal conduct. (Larsen-Freeman and Long, 2014).

According to James (1980, 2013), the procedure involved first describing comparable features of Markedness Theory and Target Language (e.g., tense, cooking verbs, consonants clusters, the language of apologizing), and then comparing the forms and resultant meaning between the two languages to identify the mismatches that would predictably lead to interference and error.

In short words, Contrastive Analysis is an applied contrastive study, which studies not only with differences and similarities among languages but also with the identification of difficulty areas in learning the target language.

Contrastive Analysis was based on the behaviouristic and structuralist approaches. According to behaviorists, human behavior is the total sum of its smallest elements, thus language learning may be described as the acquisition of all of these discrete units. Behaviorists also believed that learning is a kind of habit formation development. Old habit gets in the way of learning new habits and the effects of one habit on learning another are known as the study of

transfer in psychology. During the process, negative transfer, also known as interference, happens when the two languages' structures disagree. As a consequence, the disparity between the first and second languages generates learning barriers that lead to mistakes, but the similarities between the first and second languages facilitate L2 acquisition.

Then Oller and Ziahosseiny (1970) argued that "*similarities and differences constitute the foundation for learning; thus, confusion may occur whenever patterns are marginally distinctive in form of meaning in one or more systems.*" (p186). To put it another way, acquiring sounds, sequences, and meanings will be the most challenging because they involve the most nuanced distinctions, either between the target language and the native language or within the target language itself.

According to them, the greatest difficulties in L2 learning are neither apparent similarities nor differences, but subtle distinctions between two languages, interference can be greater where such subtle distinctions exist. In this study, Contrastive Analysis is used to analyze syntactic structures involving mother tongue (Chinese/ Norwegian) and second language (English) to have a better understanding of the negative syntactic transfer.

3.2 Markedness theory

In the 1930s, Markedness Theory was first presented by Prague School when they investigated phonological opposition. Later, Roman Jakobson introduced it into morphosyntactic categories and syntax to describe grammar and semantics phenomena. Its basic meaning is that the distribution of many linguistic phenomena is unsymmetrical. Those linguistic phenomena that are basic and universal are regarded as "unmarked", while other linguistic phenomena that are special and infrequent are called "Marked", (Croft, 1990,2002). Markedness Theory is a theory about this asymmetry in language.

Up to now, no unified definition of markedness has been made, for different linguistic schools define it in their ways. One concept of "Markedness" comes from Chomsky's universal grammar theory, which differentiates core and peripheral rules in a language, as seen in Figure 2.

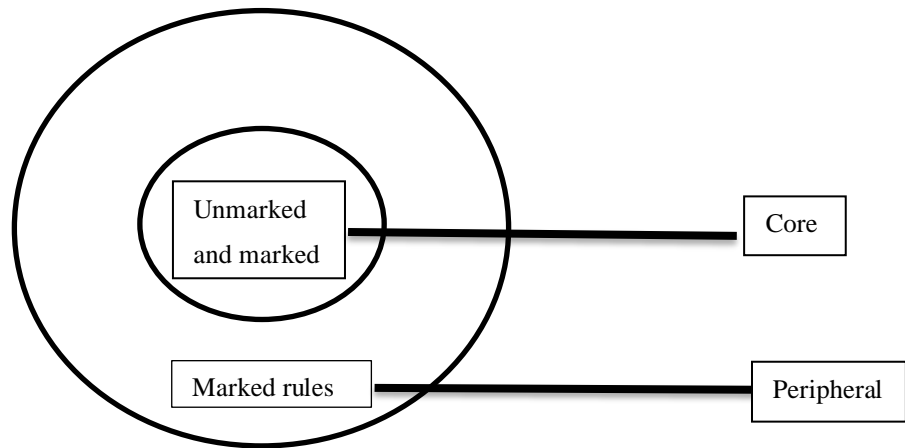


Figure 2. Markedness in core and peripheral grammar

Core rules are those that can be determined by applying broad, abstract principles of language structure, which Chomsky and other generative linguists believe are inherent. (Ellis,1994). For instance, basic word order is regarded as the core. Peripheral rules are distinctive and reflect their unique historical origins which are not controlled by universal standards and they are idiosyncratic. In English, the construction "*the more...the more*" is an example of a peripheral rule. The rules on the periphery have been marked. Core rules can be both unmarked and well-marked. It is worth mentioning that the grammatical terms of marked and unmarked are not absolute and separated, but rather are relative, constituting a markedness continuum in which the markedness of core grammar and peripheral grammar is just a matter of degree, depending on its parameter setting.

Later, this kind of markedness concept defined by Chomsky was applied to second language acquisition by some other scholars such as Eckman (1977), Zobl(1983), Hyltenstam(1984), and Ellis(1985). According to Ellis (1985), some linguistic characteristics are "unique" in comparison to others that are more "basic." Markedness defined by language typology is the same as the definition given by Chomsky. Both of them hold that markedness is a matter of degree, and the marked and the unmarked language system make up for a relative hierarchy or a continuum.

After having introduced the connotations of Markedness and its basic features, we are confronted with some questions: What are the criteria for judging markedness? Or how can we judge the markedness degree of different linguistic categories? For this issue, many

scholars have endeavored to provide a system of criteria for markedness judgment, including Greenberg (1966), Lyons (1977a.b.c), Givón (1995), and Croft (2002). Among these, linguist Joseph Greenberg (1966) made the most detailed conclusion of the criteria for markedness identification, consisting of thirteen criteria, five of which involved phonology, and the other eight dealt with the morphological and syntactical grammatical categories. Later, William Croft (1990), whose teacher was Greenberg, sorted out these thirteen criteria into four major categories which are explained as follows.

- 1) Structural criterion. It is connected with the number of morphemes of the grammatical elements and the number of marked morphemes in the unmarked type is either fewer than or equal to that of the marked type. For instance, in the English grammatical category of *number*, the singular form of the noun is unmarked for it doesn't have the addition of "s", yet the plural form is marked because generally, it needs the addition morpheme of "s".
- 2) Behavioral criterion. It can be analyzed from two perspectives, namely the distributional(syntactic)perspective, and the inflectional(morphological) perspective.
Behavior (inflectional): under an inflectional paradigm, if the marked item has a given number of unique forms, the unmarked item will have at least as many distinct forms.
Behavior (distributional): If the marked item appears in a given number of unique grammatical (language) contexts, the unmarked item will likewise appear in at least those situations. Take voice in English as an example, the active voice is unmarked relating to the passive voice. Therefore, the active voice can be used in most of the expressions whereas the usage of passive voice is limited to certain circumstances.
- 3) Frequency criterion. It signifies that the usage frequency of the unmarked element is higher than that of the marked one or at least the same. For instance, the singular form of the noun is used more frequently than the plural form; from the aspect of cross-language or language typology, the unmarked word order of SVO has a higher usage frequency than the SOV word order. Thus, the markedness hierarchy is SVO<SOV<VSO.

- 4) Neutral value criterion. It argues that the neutral position can only be occupied by the unmarked element. For instance, the semantic meaning of the term "man" might refer to just male, or it can also indicate the whole human including male and female.

Markedness Theory originated from structuralism in 1931 and has been developed by many scholars. It enjoys widespread application for there are markedness phenomena in every aspect of human language. It has been employed in various linguistic areas, such as phonology, morphology, semantics, pragmatics, and second language acquisition (Tang, 2005). In the 1974s, Eckman first applied the Markedness Theory to research questions in the field of SLA, which made enormous contributions to the acquisition order and acquisition difficulty prediction. According to the markedness hypothesis that the unmarked items or elements with a lower degree of markedness are acquired earlier than marked elements. Later on, Eckman (1977) put forward the “Markedness Differential Hypothesis”, which makes three predictions of the learning difficulties in SLA. It claims that by comparing the markedness of the target language and the markedness of the native language, a second language learner's learning problems may be predicted. Figure 3 is the detailed information of Markedness Differential Hypothesis:

Target language	Native language	Learning difficulties
More marked	Less marked	Those areas of the target language will be difficult
Less marked	More marked	Those areas of the target language will not be difficult

Figure 3 Information of Markedness Differential Hypothesis

This hypothesis doesn't simply equal the learning difficulties to the difference like the traditional contrastive analysis but combines the factors of learning difficulties, language difference, and markedness degree. It can offer a good explanation to the issues like why some language differences cause learning difficulties while other differences don't; why some language differences bring about unidirectional learning difficulties, namely among the

differences between A and B, why learners with A as L1 have learning difficulties while learners with B as L1 don't have. Moreover, it can also predict and explain the degree of learning difficulties in SLA. The difficulty degree of SLA is in direct proportion to the markedness degree, namely the higher the markedness of the grammatical category in L2 is, the tougher it is to learn.

3.3 Cross-linguistic Influence

The development of mentalist and cognitive science has evoked the issue of defining cross-linguistic influence. The phrase "cross-linguistic influence" was coined by Kellerman and Sharwood Smith (1986):

...the term 'cross-linguistic influence'...is theory-neutral, allowing one to subsume under one heading such phenomena as 'transfer', 'interference', 'avoidance', 'borrowing', and L2-related aspects of language loss and thus permitting discussion of the similarities and differences between these phenomena. (p1).

Odlin offered his working concept of "substratum transfer" as a foundation for his thoughtful analysis of such influence: "*transfer is the influence resulting from similarities and differences between the target language and any other language that has been previously acquired*" (Odlin, 1989, p130). This view is widely accepted by linguists. However, he just mentioned the cause of the transfer, but he didn't explain why it happened from a cognitive standpoint.

According to Krashen (1983), second language learners use L1 solely as a pseudo-acquisition production technique to bridge a gap before real L2 acquisition takes place. Corder (1992) claims that "*any native language influence would inhibit, prevent, or make more difficult the acquisition of some features of the target language*" (p87). Both Krashen and Corder focus on negative transfer, or the creation of non-target-like forms, and do not consider the original language's possible facilitative function or other non-production-related L1 impacts. For example, consider the development of comprehension ability or time needed for target language acquisition. According to Shirtin Murphy's (2003) description in terms of Schachter (1983)'s statement "*Second language acquisition is driven by inference and hypothesis testing*

which are influenced by mother tongue variables and the migration from L1 to L2 is not a process in and of itself.”(p4).

The importance of mother tongue in second language learning is seen differently by several academics. As previously stated, Corder, Krashen, and Schachter held the opinion that native language impact is not a process that may help with second language learning. Despite their different points of view on how the second language acquisition process and cross-linguistic influence occurs. Selinker(1992) considers language transfer to be one of the five processes fundamental to language learning. The other four processes are the transfer of training, strategies of L2 learning, strategies of L2 communication, and over-generalization. According to Gass(1984), language transfer, which she describes as the superposition of L1 patterns (both form and function) onto L2 patterns, is likewise an essential L2 learning process.

For at least a century, transfer has been a critical topic in practical linguistics, such as L2 acquisition and language instruction. It interacts with a variety of other variables in ways that are still unknown. In language acquisition and usage, the transfer occurs not only in linguistic elements, but also in non-linguistic variables such as cultural, social, and personal factors.

3.4 Bottleneck Hypothesis

The Bottleneck Hypothesis (Slabakova,2008,2013) proposes that the bottlenecks of L2 acquisition include functional morphology and its characteristics, which flow easily in the learning of universal syntax, semantics, and pragmatics. In other words, compared to other language areas like syntax, semantics, and pragmatics, functional morphology is more difficult to master. Built on the insights of White (2003, chapter 4) who names the two views “*morphology-before-syntax*” and “*syntax-before-morphology*”, as well as Lardiere’s (2005,2009) Feature re-assembly hypothesis. It is about figuring out how to do “mapping” at the initial stage of L2 learning by associating certain L1 feature combinations with the closest L2 lexical items; then followed by “reassembly”, it involves complex operations where learners rearrange the formal features of the native language and those accessible from UG into new or different features in L2. Against this background, Slabakova(2006) also argues that there is no critical time for the acquisition of semantic competence, implying that if a learner's functional morphosyntactic competence is already in place, the meaning follows naturally.

Illustration Figure 3 from Slabakova(2013) states that lexicon is usually expressed through functional morphology into the computational system, where syntactic operations like select, merge and agree combine the lexis into phrases and larger chunks to give a clear picture of how various linguistic properties proceed and interact. (p10-15). When all lexical elements in the numeration have been exhausted and all linguistic characteristics have been verified, the procedure will terminate. Till then it passes on employing Spell-out to the phonetic-phonological system for linearization and pronunciation and the semantic system for interpretation. The discourse-pragmatics of the dialogue's message, for example, has a strong influence on semantic processes and interacts with the computational system.

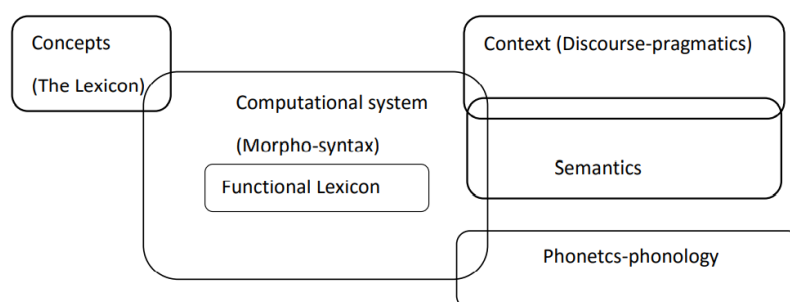


Figure 4. The language faculty

To exemplify, the morphology in sentence1 doesn't entail the information of interpretable feature (singular) but also the uninterpretable feature which ensures subject-verb agreement.

33) The boy likes ice cream.

Interpretable feature: singular

Uninterpretable feature: subject-verb agreement

Therefore, before entering into the functional lexicon with lexis features, L2 learners have to encode in the target functional morphology. This is obviously to be an issue for L2 learners, as the mix of characteristics differs from language to language (Slabakova 2013,p8).

In conclusion, second language acquisition is a process of learning the novel configurations where the native interpretable and uninterpretable characteristics are mapped onto the functional morphology of the target language. The bottleneck hypothesis capitalizes on this language architecture which illustrates as follows, Figure 5.

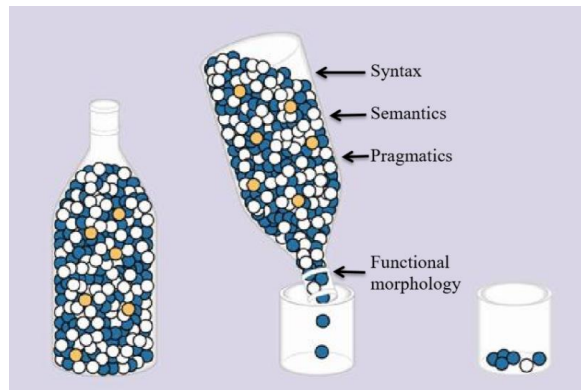


Figure 5. The bottleneck of second language acquisition (Slabakova,2014)

In the picture, the left bottle represents one's native language whereas the right bottle depicts L2 learners attempting to use the same grammar and other pieces of knowledge to utilize the target language. However, the procedure is carried out by leaking some beads, implying that L2 learners will not be able to go as quickly as they would want due to a bottleneck at work. This picture demonstrates that even if L2 learners reached advanced levels in the target language, the little words and word ends with grammatical meaning are the tight places through which it all pours out. In a nutshell, functional morphology distinguishes languages the most, followed by semantics, syntactic, and phonological features.

Several research studies provide evidence to support the bottleneck hypothesis, for example, Jensen(2016, p99)concludes in her thesis that L2 speakers' functional morphology performance is poorer than their syntactic operations and that although speakers' proficiency in English increases, their functional morphology seems to become stagnant. Recent studies Jensen et all (2019) also lends tentative support to the bottleneck hypothesis by finding out that the subject-verb agreement (functional morphology) is more difficult for participants than word order (syntax).

Chapter 4 Research Design

4.1 Research Questions and Hypothesis

The research questions are presented in this chapter. The thesis uses contrastive analysis, markedness theory, cross-linguistic influence, and bottleneck theory to address the study objectives and results. Besides this, the research questions are as followed:

Question 1. Are the challenges in learning English subject-verb agreement the same for L1 Chinese and L1 Norwegian learners?

Question 2. Do L1 Chinese and L1 Norwegian struggle with learning English word order in the same way?

Question 3. Which linguistic domain is more challenging for L2 English learners, morphology (subject-verb agreement) or syntax (word order in declaratives)?

Question 4. What are the other factors that might impact L2 English learners' performance on a grammaticality judgment task?

And the hypothesis is

1. L1 Chinese learners of English have the same difficulties as L1 Norwegian learners of English in the acquisition of subject-verb agreement
2. L1 Chinese and L1 Norwegian learners of English both have the same struggle in the acquisition of word order.
3. Subject-verb agreement as functional morphology is more difficult to acquire than word order as the syntax for L2 English learners.
4. Native languages, English Proficiency, age, gender, and English study length as independent variables correlate with participants' performance in the accuracy of English subject-verb agreement and word order.

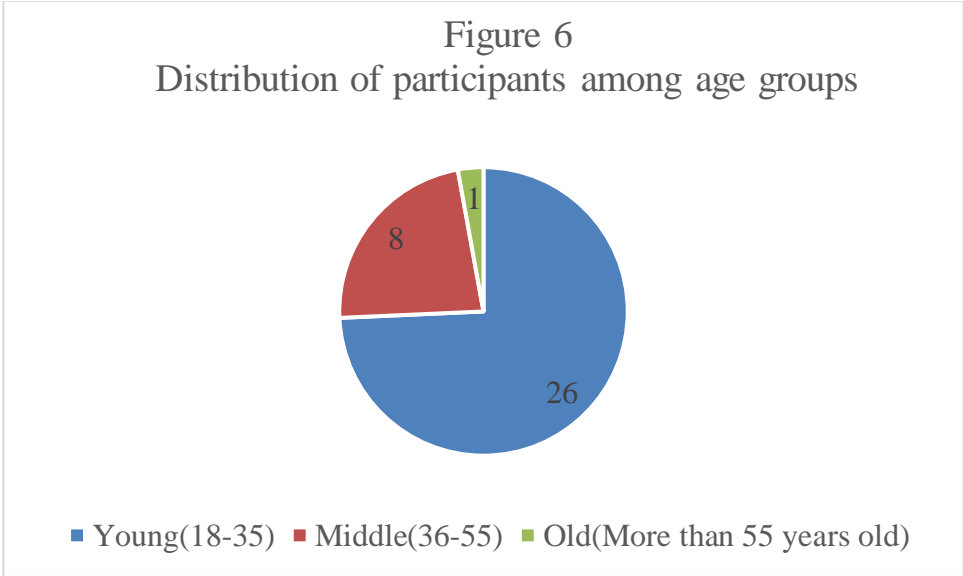
4.2 Research Participants

A total of 35 participants filled the online survey, with 20 L1 Norwegian and 15 L1 Chinese learners of English. The participants are chosen by random samplings of different English proficiencies aged from 10 to over 50 years old. The proportion of males and females are

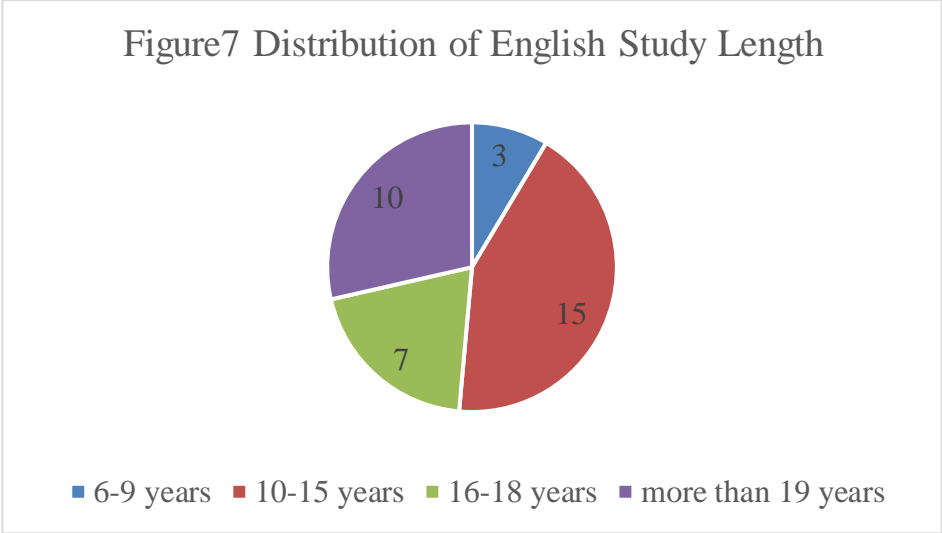
8/27. To be specific, among them, there are 15 female Norwegian participants and 5 male Norwegian participants; 12 female Chinese participants and 3 male Chinese participants. Overall, the number of female participants overruns the number of male participants. The specific detailed information can be seen as followed in table 2.

Table 2. Information about L2 English learners			
Native Language	Number	Gender	Number
Norwegian	20	Female	15
		Male	5
Chinese	15	Female	12
		Male	3
Female	27		
Male	8		

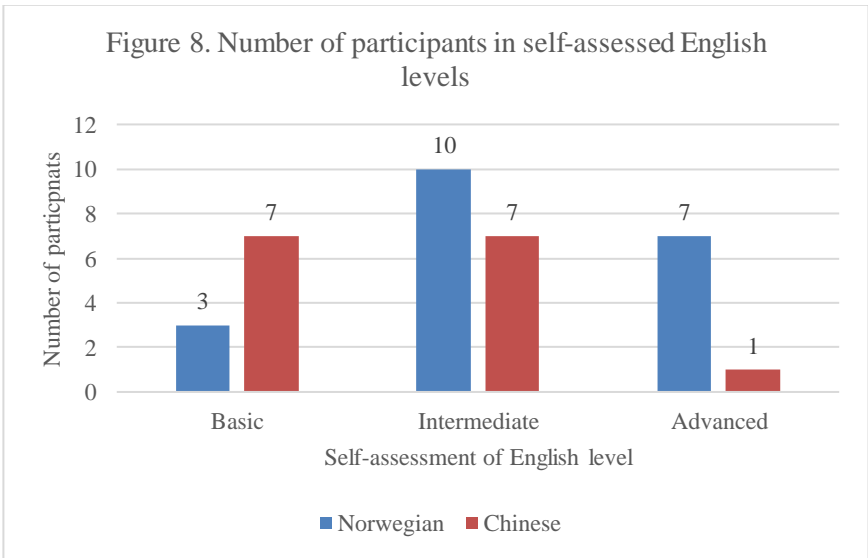
Based on the collected data, it is also found out that most participants(n=26) reside in the young age group between 18 to 35 years old; there are also 8 participants in the middle age group between 36 to 55 years old, but there is only 1 participant in the old age group which is more than 55 years old. The visual figure 6 is presented below.



Meanwhile, the data in Figure 7 shows the distribution of participants' English study length. Among them, 3 participants have learned English for 6-9 years; 15 participants learned English for 10-15 years so far, which occupied the most percentage; 7 participants learned English for 16-18 years and 10 participants learned English for more than 19 years.



Interestingly, a lot of time and effort has been put into learning English as the norm currently due to English as a lingua franca. The self-assessed English levels distribution can be illustrated as followed. The majority of participant(n=17) is at the intermediate level according to their self-assessment, which includes 10 Norwegian and 7 Chinese. There are 10 participants at the basic level, including 3 Norwegian and 7 Chinese; At self-assessed advanced English level, 8 participants are claimed, consisting of 7 Norwegian and 1 Chinese.



4.3 Research Methodology

The research experiment has been designed based on an online survey named “JATOS”. Its full name is “*Just Another Tool for Online Studies*”: *an open-source, cross-platform web application with a graphical user interface (GUI) for hosting online studies developed in JavaScript that considerably simplifies setting up and connecting with a web server.* (Lange et al.,2015, p6). The main purpose for adopting JATOS is because it offers the option to structure different components and the randomization feature makes the data valid and reliable. In this thesis, I gathered the data by the quantitative research method. According to Johnson (2008,p4), a quantitative method collects numeric data, and statistical analyses can be used to look for common features or trends. The online survey included three parts, namely a background questionnaire, a grammaticality judgment task, and an English proficiency test.

4.3.1 Background Information Questionnaire (Demographics)

Part one is to give the brief background information of the participants, such as native language, other languages they know, age, gender, when they start learning English and English study length, and self-assessment of English level. The whole idea of this part is to test if these independent variables will influence participants’ performance of grammaticality test in subject-verb agreement and word order.

4.3.2 Grammatical Judgement Test

A grammaticality judgment test (GJT) is one of several methods for assessing language proficiency and grammar knowledge. In the mid-1970s, it was first used in second language studies. GJT is based on the concept that being fluent in a language requires two forms of language knowledge: receptive knowledge (language competence) and productive knowledge (language performance). And GJT is to test the former. (Tan, B.H, 2015). In this thesis, the second part of the grammaticality judgment test (GJT) is the main component, which is designed to measure participants’ knowledge of grammar in subject-verb agreement and word order. The test is composed of four versions of each sentence list, each of the lists consists of 32 sentences created based on different scenarios. For each sentence list, the first section on subject-verb agreement sentence grammaticality has 16 items with four different grammatical features, two correct subject-verb agreement (a singular noun takes a singular verb; a plural

noun takes a plural verb) while two incorrect subject-verb concords (a singular noun takes a plural verb; a plural noun takes a singular verb). Among them, there are 8 regular animate nouns and 8 irregular animate nouns. With the help of JATOS, the 32 sentences in each list and four-sentence lists are randomized, and participants are asked to make a judgment about the 32 sentences by responding either “correct” or “incorrect” in the Latic square. The following sentences are examples from the subject-verb agreement list design.

34) a. The teacher goes to school every day.

b. *The teacher go to school every day.

c. *The teachers goes to school every day.

d. The teachers go to school every day.

35) a. Her child grows up so fast.

b. *Her child grow up so fast.

c. *Her children grows up so fast.

d. Her children grow up so fast.

The second section on word order sentence grammaticality also has 16 items by using habitual adverbs and time adverbs in a different order. Among which, habitual adverbs “*always, often, never, and rarely*” are positioned in different places in a sentence; time adverbs “*yesterday, today, last month, and next week*” are used in sentences with different sequences. And the correct grammatical sentences and incorrect grammatical sentences regarding word order linguistic features are equally assigned to make the study valid. The following sentences are examples with habitual adverb and time adverbs:

36) a. I always play basketball with my friends on weekends.

b. *I play always basketball with my friends on weekends.

c. Always I play basketball with my friends on weekends.

d. *Always play I basketball with my friends on weekends.

- 37) a. Susan went shopping yesterday.
- b. *Susan yesterday went shopping.
- c. *Yesterday went Susan shopping.
- d. Yesterday Susan went shopping.

4.3.3 Proficiency Test

The proficiency test is adopted to test if there is a direct correlation between correct grammaticality judgment and proficiency scores. The test is a subset of the Standardize Oxford Proficiency test, which consists of 40 multiple choice items containing three elective answers for each question, and participants get one point for each correct answer. That means the highest English proficiency score is 40. This test has been used in Jensen's (2016)'s language acquisition study and it is freely available online from the Oxford English Proficiency Test website. The test has two parts with 20 questions in each, and in the second part, the sentences are combined as a continuous story. In the experiment, individuals with a score of less than 10 are classified as beginners, those with a score of 10 to 32 are classified as intermediate speakers, and those with a score of more than 32 are classified as advanced speakers (Jensen,2016).

4.4 Research Procedure

The software JATOS is used to conduct data collection procedures. It is an online survey including a background questionnaire, grammaticality judgment test, and proficiency test. The entire survey and its link can be found in the appendix.

Given the research questions, first of all, the participants are informed about the purpose of the study and given detailed instructions not to refer to any resources and complete the task. Furthermore, a set of background questionnaires is included, for example, native language, other languages they know, age, gender, English learning starting year, and the period they learned English as well as the self-assessment of English level. All the items are marked mandatory to answer to avoid useless data which makes sure the reliability of the test. Most of the participants completed the test in 20-30 minutes.

In the second part of the survey, the grammaticality judgment test is followed with 32 sentences randomized. Participants are asked to judge the sentence by clicking “*correct*” or “*incorrect*” in the Latic square.

The final part is the English proficiency test consisting of 40 multiple-choice items. It is based on a subset of the Standardized Oxford Proficiency Test, which was used in Jensen’s study (2016) “*The Bottleneck Hypothesis in L2 acquisition*” and can be also accessible on the Oxford English Proficiency Test Website. Participants are asked to complete the task by judging the sentences as either correct or incorrect.

Chapter 5 Data Analysis and Discussion

This chapter focuses on reporting and discussing the results of the survey, including participants’ background information, the Grammaticality Judgment Test, and the English Language Proficiency Test. The present research aims mainly at comparing the error rate of L2 English learners of Chinese and Norwegian in the acquisition of subject-verb agreement and word order among L2 English speakers of different proficiency levels; it further investigates to test the Bottleneck hypothesis and investigate whether functional morphology is more difficult to acquire than the syntax for both groups by comparing the error rate of subject-verb agreement and word order; finally, the study also tries to analyze the independent variables, such as age, gender and study period having an impact on the result of Grammaticality judgment and further provides the reasons.

The following research questions listed are placed here again to facilitate discussion and reading.

1. Are the challenges in learning English subject-verb agreement the same for L1 Chinese and L1 Norwegian learners?
2. Do L1 Chinese and L1 Norwegian struggle with learning English word order in the same way?
3. Which linguistic feature is more challenging for L2 English learners, morphology (subject-verb agreement) or syntax (word order in declaratives)?

4. What are the other factors that might impact L2 English learners' performance on a grammaticality judgment task?

With the help of R, the statistical methods ANOVA is conducted to display the results of the test. The details will be presented in the following sub-sections.

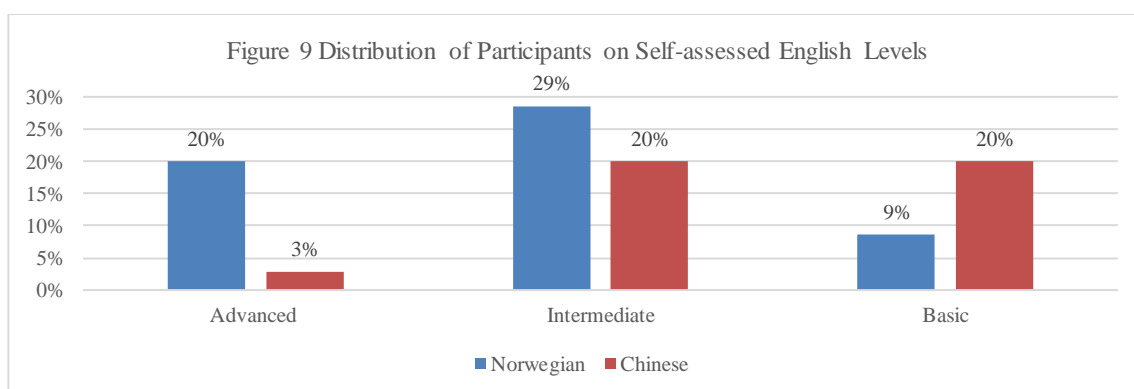
5.1 Results of the English Proficiency Task

5.1.1 Results of the self-assessed English language proficiency

The first part of the survey is a self-assessed English proficiency task where the participants are asked to rate their proficiency level, basic, intermediate, or advanced. Table 3.

summarizes the results of the collected data for L1 Norwegian and L1 Chinese learners. And figure 9 presents the distribution of self-assessed English proficiency levels among the participants.

English Level	L1Norwegian (N=20)	Percentage (L1 Norwegian)	L1 Chinese (N=15)	Percentage (L1 Chinese)	Total number	Percentage (all participants)
Advanced	7	20%	1	3%	8	23%
Intermediate	10	29%	7	20%	17	49%
Basic	3	9%	7	20%	10	29%
Sum	20	57%	15	43%	35	100%



Of the 35 participants in total, 29% reported a tendency to evaluate themselves to be at the basic English proficiency level, and about 49% were assessed to be at the intermediate level, while 23% were believed to be at the advanced level. Among 20 Norwegian participants, only 9% claimed to be at the basic level, 29% asserted to be at the intermediate level and 20% stated that they were at the advanced level. This contrasts with the distribution of proficiency for the 15 Chinese participants, where the majority rated themselves to be at the basic (20%) and intermediate levels (20%), only 3% believed to be advanced.

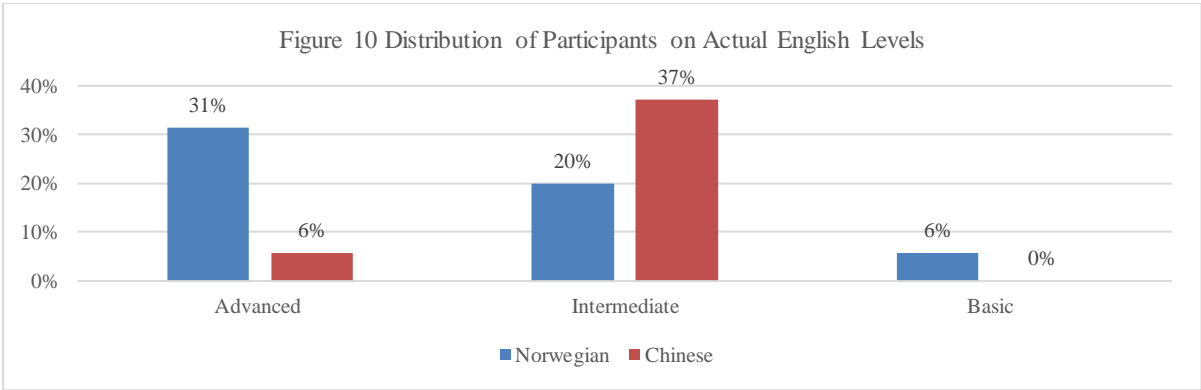
5.1.2 Results of the English language proficiency test

The English Proficiency Test was used to assess the participants' English language acquisition background and the distribution of different English levels which could provide a foundation for further analysis in the comparison of L1 Norwegian and L1 Chinese on the acquisition of subject-verb agreement and word order. At the same time, participants' age, gender, and English studying learning period were examined to test the correlation between these independent variables and the English proficiency level as the dependent variable.

This English language test constituted part 3 of the survey and was an adopted version of the standardized Oxford proficiency test. The test consists of 40 questions with three alternative choices for participants to choose from, only one of which is correct. Participants got one point for a correct answer, with the highest score of 40. If participants achieved a score higher than 32, then they were considered advanced English speakers; if participants were in the range between 10 and 32 scores, they were regarded as intermediate proficiency speakers, and scores lower than 10 correspond to the basic proficiency level.

The participants' results on the English proficiency level are summarized in Table 4 and visually presented in Figure 10.

English Level	L1Norwegian (N=20)	Percentage (L1 Norwegian)	L1 Chinese (N=15)	Percentage (L1 Chinese)	Total number	Percentage (all participants)
Advanced	11	31%	2	6%	13	37%
Intermediate	7	20%	13	37%	20	57%
Basic	2	6%	0	0%	2	6%
Sum	20	57%	15	43%	35	100%

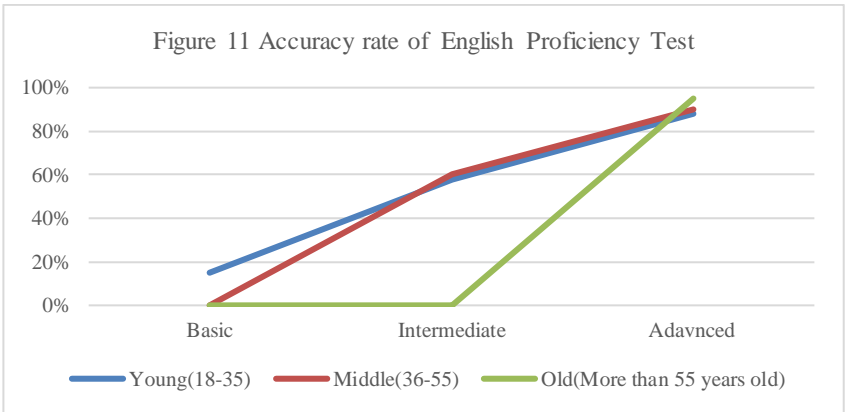


To find out whether there was a significant difference between the self-assessed English level and actual English proficiency level, an independent sample T-test was taken, and the data revealed that there were no significant differences between the self-assessed English level and the proficiency level obtained via the Proficiency test ($t=2.9, p=0.5$). We can conclude that the participants had a reliable self-estimation of their proficiency level in English.

As mentioned above, the English proficiency test was an adapted version of the Oxford proficiency test, in which the score ranged from 0 to 40 scores. The participants' scores ranged from a minimum of 6 to a maximum of 38. According to the scoring criteria, the results showed that the basic level group consisted of 2 speakers, the intermediate group had 20 speakers and the advanced group had 13 speakers. Based on their age, the participants

were classified into the “younger group” (18-35 years old) with 26 people and the “middle-aged” (36-55 years old) with 8 participants and 1 participant belonged to the “older” group (above 55 years old).

An analysis of the effect of age on the participants' accuracy rate on the English proficiency test was conducted with the help of the ANOVA test. The results revealed a significant positive correlation($p=0.015$). We can conclude that age is a significant predictor of English proficiency in our dataset. The distribution of participants' proficiency levels by age group is presented in Figure 11 below.



From the data displayed, it can be predicted that the older English learners are, the higher the accuracy rate of their English is. The reasons may be because of the language retention, enough language exposure or the data is an outlier.

Other independent variables, namely participants' gender and length of L2 learning experience were also assessed as predictors of the proficiency score. A summary of the analysis is represented in Table 5. Neither gender nor length of the L2 learning experience was a significant predictor of proficiency.

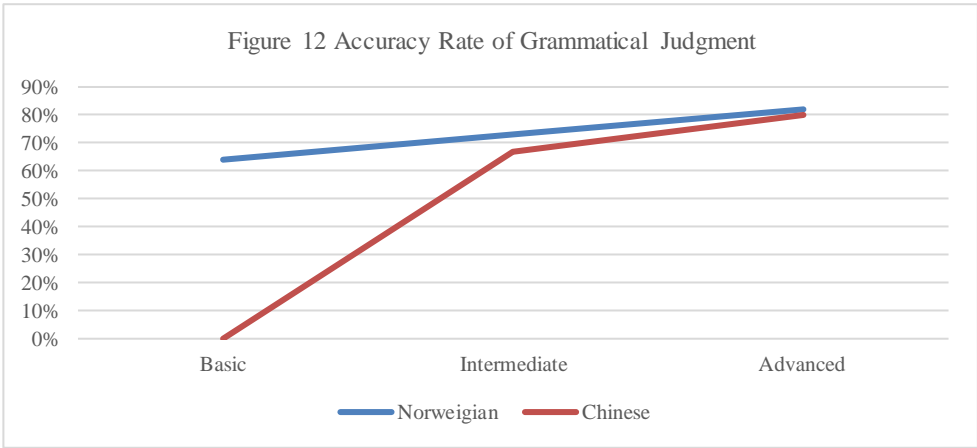
Factors	Age	Gender	English Learning Length
P value	0.015	0.4	0.15
	<0.05	>0.05	>0.05
Correlation	Yes	No	No

5.2 Data Analysis of the Grammaticality Judgment Task

In the grammaticality judgment task, the participants were asked to determine the grammaticality of 32 sentences from one of the four lists, which were assigned randomly. Each contained 16 stimuli testing subject-verb agreement and 16 stimuli targeting word-order. Among these sentences, there were 8 grammatically correct and 8 incorrect sentences for each condition. When judging the sentences, the participants were asked to indicate if they sounded *correct* or *incorrect*. All the sentences were compulsory to judge in order to move to the next task.

The data were analyzed with the help of Microsoft Excel and R statistical software. Many participants, especially the ones from the basic proficiency level group, had the lowest accuracy rate. This means, that they couldn't spot the errors and judge the ungrammatical sentences as wrong. At the same time, many of the participants at the intermediate and advanced levels have higher accuracy rates. The two groups are inclined to stay parallel in the accuracy range between 60% and 85%. To sum up, the higher proficiency levels correlated with higher accuracy on the grammaticality judgment task. This is illustrated in Figure 4 below.

In addition, we could also tell that the accuracy rate of L1 Norwegians is higher than L1 Chinese in the acquisition of English grammaticality. This might have close relationships with the different linguistic typologies in English, Norwegian and Chinese.



In the remaining subsections, I will discuss the participants’ judgments on the subject-verb agreement and word order conditions separately. I will then compare the judgments provided by the participants on the two conditions. I will also further compare and discuss the different performances of the L1 Norwegian and L1 Chinese groups on the subject-verb agreement and word order sentences. Finally, I will discuss the accuracy across the two conditions in the three proficiency level groups. The exploratory part of my analysis includes testing other variables that may potentially play a role in explaining participants’ performance on the grammaticality judgment task.

5.2.1 Subject-verb Agreement

To compare the overall differences in the acquisition of subject-verb agreement between L1 Norwegian and L1 Chinese, ANOVA is adopted. According to Natalia Levshina(2015), ANOVA is a typical application method in order to investigate the differences between any number of groups.

With the help of the ANOVA test, we established that the calculated p-value is 0.697, which is not significant (greater than 0.05). Table 6 below summarizes the model outcome. Consequently, we can conclude that our data doesn’t allow us to reject the hypothesis that there are no differences between groups. Based on the revealed data, I tentatively suggest that this result may be attributed to the lack of subject-verb agreement in the participants’ native languages: Norwegian and Chinese. This may be the reason why both groups find subject-verb agreement in English quite challenging.

Table 6 ANOVA Test of Subject Verb Agreement between L1 Norwegian and L1 Chinese

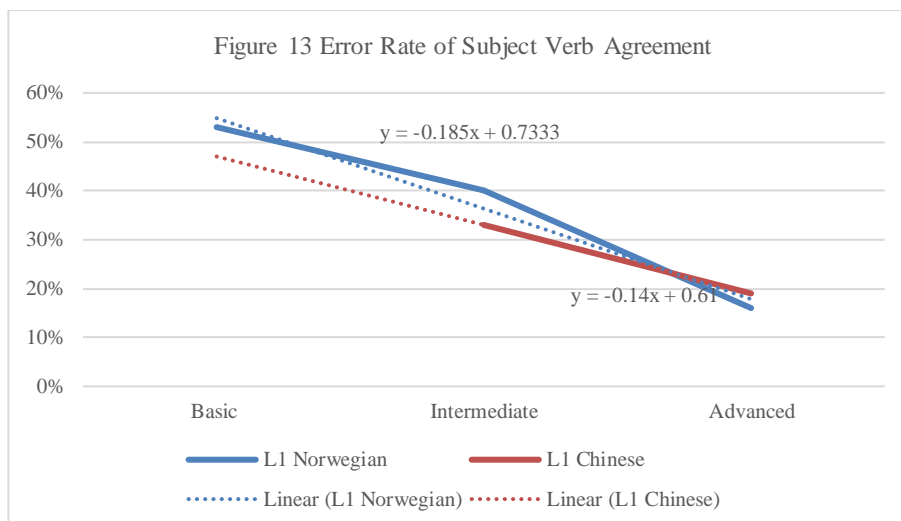
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1.6404648	1	1.640464798	0.15478846	0.696693633	4.159615
Within Groups	328.54135	31	10.59810817			
Total	330.18182	32				

However, it is worth taking the English proficiency further into account to test if there is a correlation between error rate and English proficiency of learners. As the data in Table 7 shows p-value is 0.015 which is lower than 0.05, which means that there is a direct link between error rate in the acquisition of subject-verb agreement and English proficiency levels.

Table 7 ANOVA Test of Subject Verb Agreement between English Proficiency and Error Rate

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	84.31524123	2	42.1576	4.85815	0.01515	3.32765
Within Groups	251.6535088	29	8.67771			
Total	335.96875	31				

With the calculated data in mind, the error rate of L2 English speakers at three proficiency levels (i.e. Basic, Intermediate and Advanced) in the subject-verb agreement condition is presented in Figure 13 below and the p-value among these proficiency levels was 0.0151(lower than 0.05). In other words, there are significant differences among the different English proficiency levels. For L1 Chinese, it can be predicted that with the exponential number of negative 0.14, the higher the English level, the fewer mistakes participants make; and for L1 Norwegian, the exponential number is negative 0.185, steeper than the formula of L1 Chinese. Overall, the results indicate that the higher the L2 English proficiency level is, the lower the error rate (with adjusted r²-values for L1 Norwegian and L1 Chinese -0.185 and -0.14, respectively). Interestingly, the data reveals that L1 Chinese English learners have a numerically lower error rate than L1 Norwegian speakers of the same proficiency level. For further reference to check the significant difference between L1 Chinese and L1 Norwegian, the p-value was calculated as great than 0.05(p=0.697). However, when both groups reach the advanced level, L1 Norwegian English learners make fewer mistakes than L1 Chinese English learners.



5.2.2 Word Order

In terms of word order, the p-value 0.00197 (Table 8) for the grammatical judgment of word order, lower than 0.05 reveals that there is a statistically significant difference between L1 Norwegian and L1 Chinese of English learners in the acquisition of word order. In other words, the groups have different degrees of difficulty in the acquisition of English word order.

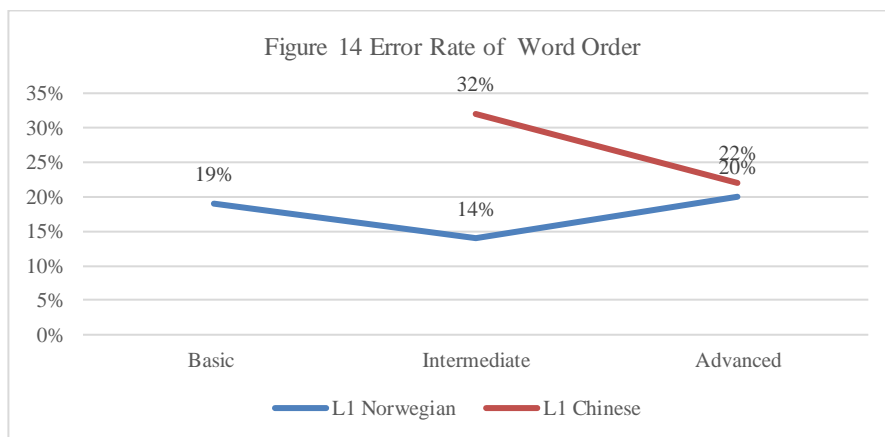
Table 8 ANOVA Test of Word Order Error Rate between L1 Norwegian and L1 Chinese

Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	28.82308043	1	28.82308043	11.4338346	0.001965874	4.159615098
Within Groups	78.14661654	31	2.520858598			
Total	106.969697	32				

According to the result of the ANOVA test, the study takes a further step to analyze the error rate at different English proficiency levels between L1 Norwegian and L1 Chinese groups. A contrastive data results (Figure 14) show that L1 Chinese participants have greater difficulties in learning word order than L1 Norwegian participants, especially those from the intermediate English level. Despite the fact that the Chinese word order (SVO) is closer to English than Norwegian being a V2 language, the data provide evidence against the prediction that L1

Norwegian learners have greater difficulties in the acquisition of word order compared to L1 Chinese participants.

Whereas both of the two group participants at advanced level tend to have similar accuracy scores on word order properties tested in the experiment with the respective error rates of 20% in the L1 Norwegian group and 22% in the L1 Chinese group. Except for L1 Norwegian participants, the data shows that those participants who are with high English proficiency levels have relatively near a target-like knowledge of word order from the start. This result also makes complementary evidence and supports Karlsen Lajord's study (2019). In Karlsen Lajord's study, the intervention to check students' improvement in word order didn't reveal significant progress and the declarative with an adverb in the middle position proved to be more challenging for the participants than sentences with tropicalized adverbs(p53).



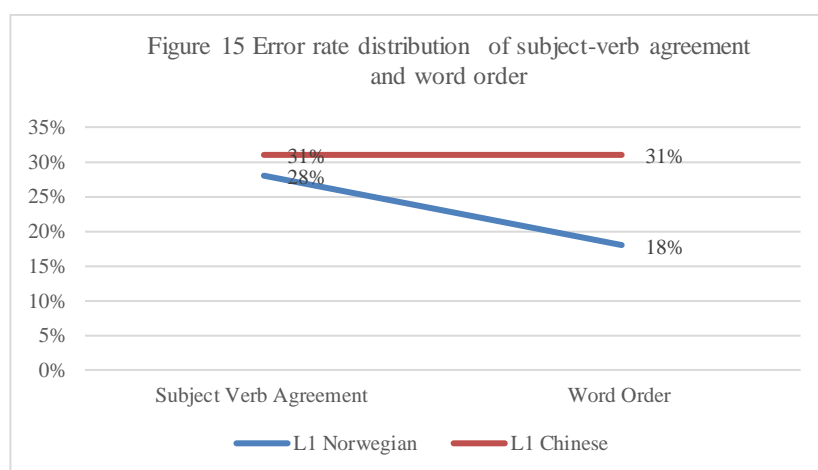
5.2.3 Comparison of Subject-verb Agreement and Word Order

In addition to the above analysis, an ANOVA test was performed to investigate if there is a significant difference between the participants' performance on the subject-verb agreement and word order. The findings of this research indicate that L2 English learners with Chinese and Norwegian L1s did not show variable sensitivity to grammaticality judgment in terms of subject-verb agreement and word order. Table 9 shows that the p-value is 0.22, greater than 0.05, which means that there are no significant differences between the errors on the subject-verb agreement and word order conditions in our sample.

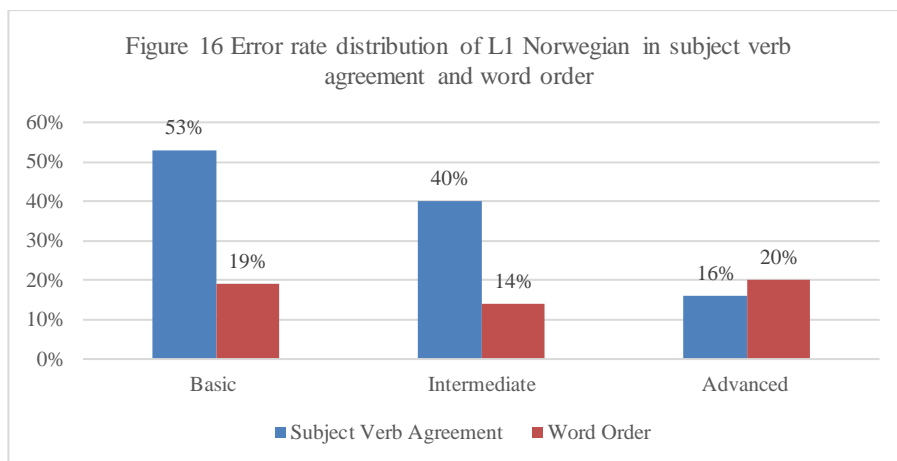
Table 9 ANOVA Test of Errors in the acquisition of subject-verb agreement and word order

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	10.72058824	1	10.72058824	1.512543225	0.223117437	3.986269479
Within Groups	467.7941176	66	7.087789661			
Total	478.5147059	67				

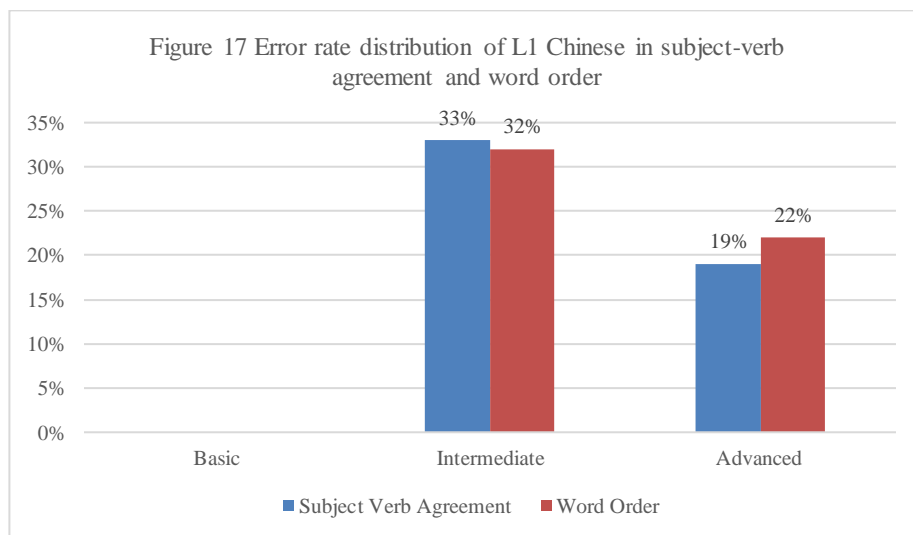
However, to find out the pattern of L2 English learners have in the two linguistic features, the study compares the mean scores of error rate in subject-verb agreement and word order between L1 Norwegian and L1 Chinese English learners. The data shows that L1 Norwegian did better in the acquisition of subject-verb agreement and word order than L1 Chinese generally, as the visual graph (Figure 15) indicates below. However, for L1 Chinese, the acquisition performance in subject-verb agreement and word order maintains stable.



Considering L2 English proficiency levels in mind, the study further analyses participants' performance in subject-verb agreement and word order, then makes a comparison. It is found that the mean score of error rate for subject-verb agreement is higher than word order at basic and intermediate English levels for L1 Norwegian. However, when L1 Norwegian L2 English learners reach to advanced level, the mean scores of error rate for subject-verb agreement and word order do not differ significantly, as illustrated in Figure 16.



Similarly, as for L1 Chinese of different English proficiency levels, the study finds out that the mean score of error rate for subject-verb agreement is slightly higher than word order at the intermediate level. However, due to lack of enough L1 Chinese participants of English beginners' level, the study goes to advanced level for further analysis and interpretation, the performance of the subject-verb agreement and word order acquisition do not differ significantly from one another, which is similar compared to L1 Norwegian advanced English learners. The mean scores of error rate in subject-verb agreement and word order are demonstrated below in figure 17.



5.2.4 Other factors resulting in the performance of Grammaticality Judgment Test

With respect to the above-demonstrated data, other factors are also included for analysis to check if they have an influence on the grammaticality judgment for the purpose to make the study comprehensive.

From the data displayed below in Table 10, the p-value (English proficiency) =0.007 is less than 0.05, followed by p-value (native language) =0.043<0.05, which indicates that participants' native language variation and their English proficiency level are associated with grammatical judgment in subject-verb agreement and word order. However, the p-value of age, gender, and English learning length are respectively 0.3255, 0.19, and 0.3, greater than 0.05, which means that these variables are not related to their performance in grammatical judgment.

Factors	Native Language	Age Group	Gender	English Learning Length	English Proficiency
P value	0.043	0.3255	0.19	0.3	0.007
	<0.05	>0.05	>0.05	>0.05	<0.05
Correlation	Yes	No	No	No	Yes

5.3 Discussion

In this section, I will discuss the results in light of the previously mentioned four research questions. Bearing the objectives in mind, this thesis will try to account for the observed results in terms of markedness theory, cross-linguistic influence, the Bottleneck hypothesis, and adopting the framework of Contrastive analysis. The study aims to answer four research questions related below for convenience.

Research Questions:

1. Are the challenges in learning English subject-verb agreement the same for L1 Chinese and L1 Norwegian learners?
2. Do L1 Chinese and L1 Norwegian struggle with learning English word order in the same way?
3. Which linguistic feature is more challenging for L2 English learners, morphology (subject-verb agreement) or syntax (word order in declaratives)?
4. What are the other factors that might impact L2 English learners' performance on a grammaticality judgment task?

Predictions:

5. L1 Chinese English learners and L1 Norwegian English learners have the same difficulties in the acquisition of English subject-verb agreement.
6. L1 Norwegian have more difficulties in the acquisition of English word order than L1 Chinese.
7. Functional morphology of English subject-verb agreement is more difficult to acquire than the syntax of English word order for L2 English learners.
8. Variables of age, native language, gender, English proficiency, and years of English learning study all have an effect on their acquisition of subject-verb agreement and word order for L2 English learners.

In relation to RQ1, it is predicted that L1 Chinese learners of English have the same difficulties as L1 Norwegian learners of English in the acquisition of subject-verb agreement. The study found no significant differences between the groups (p -value=0.69), which doesn't contradict the prediction. However, it is worthwhile to keep in mind that a lack of statistical differences should be taken with a grain of salt, as they cannot be taken as uniformly supporting the prediction. Overall, we can provisionally still accept this as not going against the predictions. In addition, the data also shows a positive correlation between L2 English learners' proficiency and their subject-verb error rate: the higher level their L2 English is, the fewer mistakes they make. These results are in agreement with the markedness theory and direction of cross-linguistic influence. More specifically, both Chinese and Norwegian languages don't use overt subject-verb agreement, hence second language learners are expected to transfer the structure from their mother tongue to the target language. In this case, both Norwegian and Chinese languages are considered unmarked, whereas English has a marked structure. Therefore, beginner L2 learners of English have difficulties with a marked feature. The reasoning is based on previous research, for instance, Eckman (1977) claims that if the mother tongue is unmarked but the target language is marked, the transfer is very likely to occur. Kellerman (1986) pointed out that the second language learners tend to transfer the marked and unmarked constituent at an early stage, although this process can gradually level out as the learner improves their target language competency. Like Eckman (1977), Zobl(1983) also found that the unmarked item is more likely to be transferred in second language acquisition. Hyltenstam (1984) had a similar discovery, the marked item is seldomly transferred and is prone to be eliminated in the target language. Ellis (1985), having analyzed a great amount of data, also concluded that, the unmarked term is easier to be transferred in second language acquisition. Also, according to Jensen's recent study (2016, p 30), she concluded that *English subject-verb agreement is difficult for Norwegian learners to acquire because Norwegian doesn't have overt agreement morphology while English marks the verb when the subjects are 3rd person singular*. Both Norwegian and Chinese are regarded as unmarked languages that convey grammatical relationships without using inflectional morphemes in subject-verb agreement. Verbs stay the same regardless of different subjects for Norwegian and Chinese, which indicate no overt agreement in marking. But it is worth noting that the inflectional morpheme-r in Norwegian only means the tense of verbs is

present. Based on the markedness theory, it makes sense that Chinese learners overuse the unmarked form in English while Norwegian overuse the form with -s.

The second research question aims to find out if L1 Norwegian and L1 Chinese perform comparably in the acquisition of English word order. The model shows a p-value of 0.00197 stating that L1 Chinese and L1 Norwegian don't have the same difficulties in the acquisition of word order. The data resulting from the present study further reveal that L1 Chinese participants have greater difficulties in learning English word order than L1 Norwegian despite Chinese sentence structure (SVO) being closer to L2 English than Norwegian (a V2 language). This finding shows the mean error rate of word order, as L1 Norwegian 18% and L1 Chinese 27% (L1 Norwegian made fewer mistakes than L1 Chinese in word order), which is contrary to the prediction. Interestingly, Jensen (2016) found that L1 Norwegian performed exceptionally well in verb movement. This might be because of Norwegian as a V2 language, in which the verb always stays in the second place of a sentence. According to Westerggard (2010,p130), movement in Norwegian is triggered due to the Extended Projection Principle in the C-domain. On the other hand, Chinese word order can be arranged or altered to convey a distinct meaning. The disparity result of the two group performance in word order may be explained by a variety of factors, including language exposure, competence, language recency, typological proximity, and so on (Murphy S,2003). This thesis adopts the approach to assume that the flexibility of Chinese word order adds another layer to make L2 Chinese English learners perform slightly worse than L1 Norwegian English learners. It is obvious that Chinese word order has an impact on learners' English acquisition in word order because L1 Chinese are more confused about how to position the word order in English.

With regard to the third question of the study, the data revealed a non-significant effect of condition, with that p-value (0.22). This indicates that the overall performance on the subject-verb agreement and word order was not comparable. Despite the result, there are several studies to demonstrate their view of points on child and adult L2 acquisition in terms of morphology and syntax. The first view argues that functional morphology drives syntax (*morphology-before-syntax*), as supported by Clahsen, Penke and Parodi(1993,1994), Radford(1991), Eubank(1994), Vainikka and Young Scholten(1994). However, current numerous studies demonstrate that syntax comes before functional morphology(*syntax-before-morphology*), which is supported by the bottleneck hypothesis. Furthermore, the view

also illustrates that L2 learners can still have abstract syntactic characteristics reflected in their interlanguage grammar despite their performance on inflectional morphology isn't ideal. Table 11 summarized by White(2003) lends evidence to support *syntax before morphology view*. Haznedar(2001) looked at L1 Turkish children in L2 English acquisition, Ionin and Wexler(2002) studies about L1 Russian Children and Lardiere(1998, a,b) investigated L1 Chinese in the acquisition of English grammar feature. As the table illustrates below, we observed three of the studies have the common aspect that accuracy rates of syntactic phenomena (e.g. overt subject, case, and verb staying in the VP) are higher than morpho-syntactic phenomena (e.g. 3sg agreement on lexical verbs, past tense and suppletive forms). It is noted that accuracy rates for morpho-syntactic phenomena range from 4.5% to 90% versus the accuracy rates of syntactic phenomena range between 98% to 100%.

Table 11: the accuracy rate of L2 English functional morphology in obligatory contexts						
	3 rd sg agreement on lexical verbs	Past tense	Suppletive forms of be (aux/copula)	Overt subjects	Nom. case	V in VP
Haznedar (2001)	46.5%	25.5%	89%	99%	99.9%	-
Ionin&Wexler (2002)	22%	42%	80.5%	98%	-	100%
Lardiere (1998a,b)	4.5%	34.5%	90%	98%	100%	100%

(Slabakova 2008, p102)

In that case, the above data support the statement that syntactic features are easier to acquire than functional morphology. In addition, it is argued that the reason why functional morphology is more challenging than the syntax for L2 English learners is that of lexical learning involved. According to Slabakova (2013), lexical learning is regarded as a challenging task, whereas functional morphology must be acquired based on the lexicon. In contrast, syntax can be obtained through positive transfer or access to UG based on the Full Transfer/Full Access Hypothesis. What's more, Ullmann (2007) argues that functional morphology comprises explicit memory which doesn't only need to carry interpretable features but also uninterpretable feature while syntax contains implicit memory. Therefore,

functional morphology bears heavier information than syntax. Consequently, functional morphology is harder than the syntax for L2 English learners. As Krashen (1981) claimed that the transmission of bound morphology is weaker than the transfer of syntactic procedures such as verb movement. These studies concluded that L2 learners of English generally perform better on syntax than functional morphology and support the *syntax before morphology hypothesis*. Studies by Slabakova(2013) and Jensen (2016) argued that functional morphology may be the bottleneck of L2 acquisition. Jensen et al (2019,p1) further explained that “*functional morphology bundles a variety of semantic, syntactic & phonological features that affect the meaning & acceptability of the whole sentence*”. With these current studies as the backbone, this thesis lends a tentative tendency to be sided with functional morphology is more difficult than syntax for L2 English learners.

In terms of QR4, the present study makes an effort to discover other factors that might influence participants’ performance on grammaticality judgment. As previously mentioned, the result showed that participants’ native language($p=0.043$) and their L2 English proficiency($p=0.007$) are significant predictors of accuracy. At the same time, such factors as age($p=0.3$), gender($p=0.19$), and length of learning English (0.3) turned out to not significantly affect the results.

Based on cross-linguistic influence, it can be explained by Odlin's statement that “*language transfer is the influence resulting from similarities and differences between the target language and any other language that has been previously acquired*”(2001, p.37). Most researchers, such as Selinker(1992), Gass(1984) consider that language transfer is central to L2 language learning and to be a necessary L2 learning process.

Chapter 6 Conclusion

This chapter concludes the thesis by summarizing its findings. Furthermore, pedagogical implications for second language acquisition instructions are proposed. Finally, I discuss the limitations of the study and sketch possible lines of further research.

6.1 Findings

This thesis investigated L2 English acquisition of L1 Norwegian and L1 Chinese learners focussing on subject-verb agreement and word order in declaratives. We designed and conducted an online survey programmed in JATOS.

First of all, with the help of the ANOVA test, quantitative analysis of scores by L1 Norwegian and L1 Chinese in the English proficiency test, we found a relatively positive correlation between self-assessed English and actual English proficiency level. The result denotes that these participants are very much aware of their L2 English levels. Further analysis also suggests that age has an impact on L2 English proficiency, however, exclude other independent variables, such as gender and English learning length.

First, we observed a positive correlation between the participants' performance and L2 English Proficiency levels. That is not surprising, and it is in line with all theories of L2A.

The acquisition of English subject-verb agreement was found to be difficult for both Norwegian and Chinese participants. In terms of English word order acquisition performance, the result indicates that L1 Norwegian and L1 Chinese differ significantly, with L1 Chinese individuals having more difficulty learning word order than L1 Norwegian participants.

Furthermore, in terms of morphology(subject-verb agreement) and syntax (word order), the data is not confident to show that subject-verb agreement (functional morphology) is more difficult for all learners than word order in declaratives(syntax) due to limited data.

Finally, other independent variables were classified and analyzed to test if they affect the participants' performance. We found out that participants' native languages and L2 English proficiency had an impact on the accuracy (L1 Norwegians significantly outperformed L1 Chinese learners, and more proficient learners scored significantly higher than the less

proficient ones). At the same time, other factors, such as age, gender, or English study length did not significantly predict the participants' accuracy on the AJT.

6.2 Implications

Through the analysis and comparison of error rate in English subject-verb agreement and word order by L1 Norwegian and L1 Chinese, some pedagogical implications are raised in this section.

The framework of markedness theory suggests that English instructors should put more emphasis on the marked linguistic feature of English, such as e.g., subject-verb agreement through increasing input intensity and occurrence frequency. In this way, it helps to advance their comprehensive linguistics competence and facilitate the acquisition. According to Lydia White (1987), if the occurrence frequency and input intensity of marked elements are higher than those of unmarked ones, the learners would acquire the marked categories earlier than the unmarked ones. Therefore, occurrence frequency and input intensity have a positive relationship with language acquisition.

Meanwhile, because first language transfer may be responsible for many grammatical errors in L2 language acquisition, comparing grammars and structures between languages during the instructional process would help improve students' proficiency in the target language.

Furthermore, researchers could take advantage of corpus studies to investigate the grammatical characteristics of developing Interlanguages, focussing on particularly challenging aspects. It can help both the students to be aware of the typical errors in L2 English, and the teachers to adjust their teaching strategies accordingly.

6.3 Validity and Limitations

In this thesis, I conducted an online survey tool via JATOS. This is an extremely useful tool because it allows for speeded data collection with participants despite the geographical barriers. Also, it reduces the cost of conducting empirical research. In addition, the study has a broad range of participants aged from 10 to over 50 years old, which makes the data more representative and solid. It is easier to analyze the participants' actual English levels and focus on specific challenging areas for different participant groups.

However, limitations do exist. Firstly, the survey covers just limited types in grammatical judgment sentences design. In addition, there are only 35 participants took the survey test, it is suggested that larger samples should be chosen for more reliable statistics.

Furthermore, a longitudinal study will be more convincing and preferable in terms of the acquisition process. And on account of time constraints, other extralinguistic factors, such as learners' attitude towards L2 English learning, learning strategies, motivation would be taken into account in the study by conducting a qualitative study of interview.

Finally, further exploration on second language acquisition of another subfield, such as semantics, pragmatics, etc could be conducted by replicating the research methods of the present study, which helps to contribute to delineating the whole picture of second language acquisition.

References

- Anderssen, M., Bentzen, K., Rodina, Y., & Westergaard, M. (2010). The acquisition of apparent optionality: Word order in subject and object shift constructions in Norwegian. In *Studies in Theoretical Psycholinguistics* (pp. 241–270). Springer Netherlands. http://dx.doi.org/10.1007/978-90-481-9207-6_10
- Ard, J., & Homburg, T. (1992). Verification of language transfer. In *Language Transfer in Language Learning* (p. 47). John Benjamins Publishing Company. <http://dx.doi.org/10.1075/lald.5.06ard>
- Bailey, N., Madden, C., & Krashen, S. D. (1974). IS THERE A “NATURAL SEQUENCE” IN ADULT SECOND LANGUAGE LEARNING? *Language Learning*, 24(2), 235–243. <https://doi.org/10.1111/j.1467-1770.1974.tb00505.x>
- Bock, K., & Miller, C. A. (1991). Broken agreement. *Cognitive Psychology*, 23(1), 45–93. [https://doi.org/10.1016/0010-0285\(91\)90003-7](https://doi.org/10.1016/0010-0285(91)90003-7)
- Bohnacker, U., & Rosén, C. (2008). THE CLAUSE-INITIAL POSITION IN L2 GERMAN DECLARATIVES : Transfer of information structure. *Studies in Second Language Acquisition*, 30(4), 511–538. <https://doi.org/10.1017/s0272263108080741>
- Brautaset, A. (1996). *Inversjon i norsk mellomspråk: En undersøkelse av inversjon i stiler skrevet av innlærere med norsk som andrespråk*. Novus.
- Brown, R. (1973). *A First Language: The Early Stages*. Cambridge, Mass. : Harvard University Press.
- Chen, L., Shu, H., Liu, Y., Zhao, J., & LI, P. (2007). ERP signatures of subject-verb agreement in L2 learning. *Bilingualism: Language and Cognition*, 10(2), 161–174. <https://doi.org/10.1017/s136672890700291x>
- Chu, C. C. (1998). *A discourse grammar of Mandarin Chinese*. Peter Lang Pub Incorporated.
- Clahsen, H., Penke, M., & Parodi, T. (1993). Functional categories in early child German. *Language Acquisition*, 3(4), 395–429. https://doi.org/10.1207/s15327817la0304_3

- Clahsen, H., Penke, M., & Parodi, T. (1994). Functional categories in early child German. *Language Acquisition*, 3(4), 395–429. https://doi.org/10.1207/s15327817la0304_3
- Corder, S. P. (1992). A role for the mother tongue. In *Language Transfer in Language Learning* (p. 18). John Benjamins Publishing Company.
<http://dx.doi.org/10.1075/lald.5.04cor>
- Croft, W. (1990). *Typology and universals*. Cambridge University Press.
- Croft, W. (2002). *Typology and universals*. Cambridge University Press.
- Dagut, M., & Laufer, B. (1985). Avoidance of phrasal verbs—a case for contrastive analysis. *Studies in Second Language Acquisition*, 7(1), 73–79.
<https://doi.org/10.1017/s0272263100005167>
- Dhoaj Basnet, L. (2017). *Acquisition of subject-verb agreement and word order by Nepali learners of English: The Bottleneck Hypothesis in L2 acquisition* [M. A Thesis].
Munin: UiT, The Arctic University of Norway.
- Dulay, H. C., & Burt, M. K. (1974). NATURAL SEQUENCES IN CHILD SECOND LANGUAGE ACQUISITION1. *Language Learning*, 24(1), 37–53.
<https://doi.org/10.1111/j.1467-1770.1974.tb00234.x>
- Eckman, F. R. (1977). MARKEDNESS AND THE CONTRASTIVE ANALYSIS HYPOTHESIS. *Language Learning*, 27(2), 315–330. <https://doi.org/10.1111/j.1467-1770.1977.tb00124.x>
- Ellis, R., Ellis, P. R., & (taalkunde), R. R. E. (1994). *The Study of Second language acquisition*. Oxford University.
- Ellis, R., (taalkunde), R. R. E., & Ellis, P. R. (1985). *Understanding second language acquisition*. Oxford University Press.

- Eubank, L. (1994). Optionality and the initial state in L2 development. In *Language Acquisition Studies in Generative Grammar* (p. 369). John Benjamins Publishing Company. <http://dx.doi.org/10.1075/lald.8.15eub>
- Fan, X. (2002). On the Word Order of Chinese. *Chinese Language Learning*, 6, 2–3.
- Fang, H. (2013). A Preliminary Study of Chinese English Learners' Acquisition of Subject-Verb Consistency from the Perspective of Teaching Grammar. *JiLing Education Press*, 7, 111–113.
- Fries, C. C. (1945). Teaching and Learning English as a Foreign Language. *Ann Arbor: University of Michigan Press*.
- Garshol, L. (2019, January 1). *I just doesn't know : Agreement Errors in English Texts by Norwegian L2 Learners: Causes and Remedies*. <http://hdl.handle.net/11250/2589044>
- Gas, S. (1979). LANGUAGE TRANSFER AND UNIVERSAL GRAMMATICAL RELATIONS. *Language Learning*, 29(2), 327–344. <https://doi.org/10.1111/j.1467-1770.1979.tb01073.x>
- Gass, S. (1984). A REVIEW OF INTERLANGUAGE SYNTAX: LANGUAGE TRANSFER AND LANGUAGE UNIVERSALS. *Language Learning*, 34(2), 115–132. <https://doi.org/10.1111/j.1467-1770.1984.tb01007.x>
- Givón, T. (1995). *Functionalism and grammar*. John Benjamins Publishing.
- Greenberg, J. H. (1966). Language Universals: with Special Reference to Feature Hierarchies. *The Hague: Mouton*.
- Han, S. (2010). A Brief Analysis of the Contrastive Analysis of Modifier Word Order in English and Chinese. *Journal of Shanxi Normal University*, 2, 66–67.
- Hartmann, R. R. K., & Stork, F. C. (1972). *Dictionary of Language and Linguistics*. Applied Science Publishers.

- Haznedar, B. (2001). THE ACQUISITION OF THE IP SYSTEM IN CHILD L2 ENGLISH. *Studies in Second Language Acquisition*, 23(1), 1–39.
<https://doi.org/10.1017/s0272263101001012>
- Hyltenstam, K. (1984). The use of typological markedness conditions as predictors in second language acquisition: The case of pronominal copies in relative clauses. *Second Languages: A Cross-Linguistic Perspective*, 39.
- Ionin, T., & Wexler, K. (2002). Why is ‘is’ easier than ‘-s’?: acquisition of tense/agreement morphology by child second language learners of English. *Second Language Research*, 18(2), 95–136. <https://doi.org/10.1191/0267658302sr195oa>
- James, C. (1980). *Contrastive analysis*. Routledge.
- James, C. (2013). *Errors in language learning and use: Exploring error analysis*. Routledge.
- Jensen, I. N. (2016). *The Bottleneck Hypothesis in L2 acquisition*. [MA Thesis. UiT Munin; UiT The Arctic University of Norway.].
<https://munin.uit.no/bitstream/handle/10037/9727/thesis.pdf?sequence=2>
- Jensen, I. N. (2017). The bottleneck hypothesis in L2 acquisition: A study of L1 Norwegian speakers’ knowledge of syntax and morphology in L2 English. *Boston University Conference on Language Development © 2017 Cascadilla Press*, 2.
- Jensen, I. N., Slabakova, R., Westergaard, M., & Lundquist, B. (2019). The Bottleneck Hypothesis in L2 acquisition: L1 Norwegian learners’ knowledge of syntax and morphology in L2 English. *Second Language Research*, 36(1), 3–29.
<https://doi.org/10.1177/0267658318825067>
- Johnson, K. (2008). *Quantitative methods in linguistics*. Wiley-Blackwell.
- Karlsen Lajord, K. (2019). *Explicit grammar instruction in the L2 classroom: Issues in teaching and learning English word order* [M. A Thesis]. Munin: UiT, The Arctic University of Norway.

- Kellerman, E., & Smith, M. S. (1986). *Crosslinguistic influence in second language acquisition*. Elsevier Science Limited.
- Killie, K. (2019a). *Omission or overgeneralization? Subject-verb agreement among Norwegian (teenage) learners of English*.
- Killie, K. (2019b). The Acquisition of Subject-Verb Agreement Among Norwegian (Teenage) Learners of English: Focus on the Subject. *Journal of Linguistics and Language Teaching, 10*(2).
- Kleinmann, H. H. (1977). AVOIDANCE BEHAVIOR IN ADULT SECOND LANGUAGE ACQUISITION1. *Language Learning, 27*(1), 93–107. <https://doi.org/10.1111/j.1467-1770.1977.tb00294.x>
- Koktova, E. (1999). *Word-Order based grammar*. Walter de Gruyter.
- Krashen, S. D. (1981). *Second language acquisition and second language learning*. Oxford ; New York : Oxford University Press.
- Krashen, S. D. (1983). Newmark's 'Ignorance Hypothesis' and current SLA theory. In *Language transfer in language learning* (pp. 135–154). Newbury House.
- Lado, R. (1957). *Linguistics across cultures: Applied linguistics for language teachers*. University of Michigan.
- Lange, K., Kühn, S., & Filevich, E. (2015). "Just another tool for online studies" (JATOS): An easy solution for setup and management of web servers supporting online studies. *PLOS ONE, 10*(6), e0130834. <https://doi.org/10.1371/journal.pone.0130834>
- Lardiere, D. (1998a). Case and Tense in the 'fossilized' steady state. *Second Language Research, 14*(1), 1–26. <https://doi.org/10.1191/026765898674105303>
- Lardiere, D. (1998b). Case and Tense in the 'fossilized' steady state. *Second Language Research, 14*(1), 1–26. <https://doi.org/10.1191/026765898674105303>
- Lardiere, D. (1998c). Dissociating syntax from morphology in a divergent L2 end-state grammar. *Second Language Research, 14*(4), 359–375.

<https://doi.org/10.1191/026765898672500216>

Lardiere, D. (1998d). Dissociating syntax from morphology in a divergent L2 end-state grammar. *Second Language Research*, 14(4), 359–375.

<https://doi.org/10.1191/026765898672500216>

Lardiere, D. (2000). Mapping features to forms in second language acquisition. In *Second language acquisition and linguistic theory*. Malden, MA: Blackwell.

Lardiere, D. (2005). On morphological competence [A]. In L. Dekydtspotter, R. Sprouse & A. Liljestrang (Eds.). *Proceedings of the 7th Generative Approaches to Second Language Acquisition Conference (GASLA2004)[C]*, 178–192.

Lardiere, D. (2008). Feature Assembly in second language acquisition. In *The Role of Formal Features in Second Language Acquisition*. Routledge.

Lardiere, D. (2009). Some thoughts on the contrastive analysis of features in second language acquisition. *Second Language Research*, 25(2), 173–227.

<https://doi.org/10.1177/0267658308100283>

Larsen-Freeman, D., & Long, M. H. (2014). *An introduction to second language acquisition research*. Routledge.

Laufer, B., & Eliasson, S. (1993a). What causes avoidance in L2 learning. *Studies in Second Language Acquisition*, 15(1), 35–48. <https://doi.org/10.1017/s0272263100011657>

Laufer, B., & Eliasson, S. (1993b). What causes avoidance in L2 learning. *Studies in Second Language Acquisition*, 15(1), 35–48. <https://doi.org/10.1017/s0272263100011657>

Levshina, N. (2015). *How to do linguistics with R: Data exploration and statistical analysis*.

Li, C. N., & Thompson, S. A. (1985). On the issue of word order in synchronic grammar: a case against movement transformations. . In *Reading in Chinese transformational syntax* (pp. 508–520). The Crane Publishing Co., Ltd.

Li, D. (2008). *Practical Chinese grammar for foreigners, revised edition*. China Books & Periodicals.

- Li, J. (1930). *New Chinese Grammar*. Commercial Press.
- Long, M. H. (2003). Stabilization and fossilization in interlanguage development. In *The Handbook of Second Language Acquisition* (pp. 487–535). Blackwell Publishing Ltd.
<http://dx.doi.org/10.1002/9780470756492.ch16>
- Lyons, J. (1977a). *Semantics: Volume 1*. Cambridge University Press.
- Lyons, J. (1977b). *Semantics: Volume 2*. Cambridge University Press.
- Lyons, J. (1977c). *Semantics: Volume 2*. Cambridge University Press.
- Mao, H. (2003). Cognitive Differences in Preface between English and Chinese. *Academic Exchanges*, 11.
- Mao, L., & Wang, L. (2006). The Influence of English and Chinese Thinking Differences on the Position of Modifiers in English and Chinese Sentences. *Social Science Magazine*, 21(9).
- Murphy, S. (2003, January 1). *Second language transfer during third language acquisition*.
 Academic Commons.
<https://academiccommons.columbia.edu/doi/10.7916/D8SF2VN8>
- Odlin, T. (1989). *Language Transfer Cross-Linguistic Influence in Language Learning*.
 Cambridge University Press.
- Oller, J. W., Jr., & Ziahosseiny, S. M. (1970). THE CONTRASTIVE ANALYSIS HYPOTHESIS AND SPELLING ERRORS. *Language Learning*, 20(2), 183–189.
<https://doi.org/10.1111/j.1467-1770.1970.tb00475.x>
- Quirk, R., Greenbaum, S., Greenbaum, D. S. of E. U. S., Leech, G., Leech, E. P. of E. L. G., & Svartvik, J. (1985). *A comprehensive grammar of the English language*. London ; New York : Longman.
- Radford, A. (1991). *Syntactic theory and the acquisition of English syntax: The nature of early child grammars of English*. Wiley-Blackwell.

- Schachter, J. (1974). AN ERROR IN ERROR ANALYSIS1. *Language Learning*, 24(2), 205–214. <https://doi.org/10.1111/j.1467-1770.1974.tb00502.x>
- Schachter, J. (1983). A new account of language transfer. In *Language transfer in language learning* (pp. 98–111). Newbury House.
- Selinker, L. (1992). Language transfer. In *Language Transfer in Language Learning* (pp. 33–68). John Benjamins Publishing.
- Sjöholm, K. (1976). A comparison of the test results in grammar and vocabulary between Finnish- and Swedish-speaking applicants for English 1974. In Ringbom, H. & Palmberg, R. (Eds.), *Errors Made by Finns in the Learning of English, Åbo: Åbo Akademi, Publications of the Department of English., 5*, 54–137.
- Slabakova, R. (2014, July 1). *The bottleneck of second language acquisition*. EPrints Soton. <http://eprints.soton.ac.uk/id/eprint/367089>
- Slabakova, R. (2006). Is there a critical period for semantics? *Second Language Research*, 22(3), 302–338. <https://doi.org/10.1191/0267658306sr270oa>
- Slabakova, R. (2008). *Meaning in the Second language*. Mouton de Gruyter. <http://dx.doi.org/10.1515/9783110211511>
- Slabakova, R. (2009). Features or parameters: Which one makes second language acquisition easier, and more interesting to study? *Second Language Research*, 25(2), 313–324. <https://doi.org/10.1177/0267658308100291>
- Slabakova, R. (2010). Scalar implicatures in second language acquisition. *Lingua*, 120(10), 2444–2462. <https://doi.org/10.1016/j.lingua.2009.06.005>
- Slabakova, R. (2013). Chapter 1. What is easy and what is hard to acquire in a second language. In *Contemporary Approaches to Second Language Acquisition* (pp. 5–28). John Benjamins Publishing Company. <http://dx.doi.org/10.1075/aals.9.04ch1>
- Slabakova, R. (2015). Acquiring temporal meanings without tense morphology: The case of L2 Mandarin Chinese. *The Modern Language Journal*, 99(2), 283–307.

<https://doi.org/10.1111/modl.12216>

- Song, M. (2020). *Subject-verb agreement in written English by L1 Norwegian university students* [M.A Thesis]. Department of Language and Linguistics, University of Tromsø.
- Tan. (2015, January 1). *Grammaticality judgment test: Do item formats affect test performance?* <http://psasir.upm.edu.my/id/eprint/32880>
- Tang, C. X. (2005). The application of marker theory in the study of second language acquisition. . *Language and Translation*, 2, 61–65.
- Thompson, S. A. (1978). Modern English from a Typological Point of View: Some Implications of the Function of Word Order. *Linguistische Berichte*, 54, 19–35.
- Ullman, M. T. (2001). A neurocognitive perspective on language: The declarative/procedural model. *Nature Reviews Neuroscience*, 2(10), 717–726.
<https://doi.org/10.1038/35094573>
- Vainikka, A., & Young-Scholten, M. (1994). Direct access to x'-theory. In *Language Acquisition Studies in Generative Grammar* (p. 265). John Benjamins Publishing Company. <http://dx.doi.org/10.1075/lald.8.13vai>
- Walsh, D. D., & Lado, R. (1957). Linguistics across cultures. Applied linguistics for language teachers. *Hispania*, 40(3), 390. <https://doi.org/10.2307/335383>
- Westergaard, M. (2003). Unlearning V2. *EUROSLA Yearbook*, 3, 77–101.
<https://doi.org/10.1075/eurosla.3.07wes>
- Westergaard, M. (2010). Cue-based acquisition and information structure drift in diachronic language development. In *Language, Context, and Cognition*. DE GRUYTER.
<http://dx.doi.org/10.1515/9783110227475.87>
- White, L. (1987). Markedness and second language acquisition. *Studies in Second Language Acquisition*, 9(3), 261–285. <https://doi.org/10.1017/s0272263100006689>

White, L. (2003a). *Second Language Acquisition and Universal Grammar*. Cambridge University Press.

White, L. (2003b). Fossilization in steady state L2 grammars: Persistent problems with inflectional morphology. *Bilingualism: Language and Cognition*, 6(2), 129–141. <https://doi.org/10.1017/s1366728903001081>

Zandvoort, R. W. (1961). *Varia syntactica*. Language and society: Essays presented to Arthur M. Jensen on his seventieth birthday. *Copenhagen: Det Berlingske Bogtrykkeri*.

Zobl, H. (1982). A direction for contrastive analysis: The comparative study of developmental sequences. *TESOL Quarterly*, 16(2), 169. <https://doi.org/10.2307/3586790>

Zobl, H. (1983). MARKEDNESS AND THE PROJECTION PROBLEM. *Language Learning*, 33(3), 293–313. <https://doi.org/10.1111/j.1467-1770.1983.tb00543.x>

Appendix:

JATOS Survey Link:

<https://uit-jatos-test.azurewebsites.net/publix/198/start?batchId=268&generalMultiple>

Part 1 Background Information

1. Native language:

Item 1: Norwegian Item 2: Chinese

2. Other languages you know:

3. Age:

Item 1 Young: 18-35 Item 2 Middle: 36-55 Item 3 Old: More than 55 years old

4. Gender:

Item 1: Female Item 2: Male

5. When did you start learning English?

6. How long have you been learning English?

Item 1 Year 1-5 Item 2 Year 6-9 Item 3 Year 10-15 Item 4 Year 16-18

Item 5 More than 19 years

7. Self-assessment of English level

Item 1: Basic Item 2: Intermediate Item 3: Advanced

Part 2: Grammaticality Judgment Test

No.	Sentences	List 1	List 2
1.	Subject-verb Agreement	The teacher goes to school every day.	*The teacher go to school every day.
2.		*The doctor visit the patient every Friday.	*The doctors visits the patient every Friday.
3.		* The dogs doesn't sleep at night.	The dogs don't sleep at night.
4.		These Pandas have many black spots.	This panda has many black spots.
5.		The student studies very hard.	*The student study very hard.
6.		*The cat usually sit under the table licking his claws.	*The cats usually sits under the table licking his claws.
7.		*The engineers works seven days a week.	The engineers work seven days a week.
8.		Her daughters watch a lot of American TV series.	Her daughter watches a lot of American TV series.
9.		The goose chases the girl fiercely.	*The goose chase the girl fiercely.
10.		*The mouse like to eat all the cheese.	* The mice likes to eat all the cheese.
11.		*These Sheep usually grazes in the field.	These Sheep usually graze in the field.
12.		These Women shops clothes on monthly basis.	This Woman shops clothes on monthly basis.

13.		Her Child grows up so fast.	*Her Child grow up so fast.
14.		*This fish swim slowly under the water.	*These fish swims slowly under the water.
15.		*The people walks in the park slowly and happily.	The people walk in the park slowly and happily.
16.		These Deer run very fast.	This deer runs very fast.
17.	Word Order	I always play basketball with my friends on weekends.	*I play always basketball with my friends on weekends.
18.		*Tom goes always home by bike.	Always Tom goes home by bike.
19.		Often the teachers ask students to study well and do more practice.	*Often ask the teachers students to study well and do more practice.
20.		*Often watch I news in the afternoon.	I often watch news in the afternoon.
21.		I never cross the street on red light.	*I cross never the street on red light.
22.		*I have tasted never this yummy food.	Never have I tasted this yummy food.
23.		Rarely we see each other.	*Rarely see we each other.
24.		*Rarely eats he pork.	He rarely eats pork.
25.		Susan went shopping yesterday.	*Susan yesterday went shopping.
26.		*I yesterday met Jack in the city center.	*Yesterday met I Jack in the city center.
27.		*Today gave My friend me a gift.	Today my friend gave me a gift.

28.		Today I finished my homework.	I finished my homework today.
29.		I flew to Oslo last month.	*I last month flew to Oslo.
30.		*He last month joined the army.	*Last month joined he the army.
31.		* Next week I pay you a visit.	Next week I pay you a visit.
32.		Next week I have three days off.	I have three days off next week.

No.	Senten ces	List 3	List 4
1.	Subject-verb Agreement	*The teachers goes to school every day.	The teachers go to school every day.
2.		The doctors visit the patient every Friday.	The doctor visits the patient every Friday.
3.		The dog doesn't sleep at night.	*The dog don't sleep at night.
4.		*This panda have many black spots.	*These Pandas has many black spots.
5.		*The students studies very hard.	The students study very hard.
6.		The cats usually sit under the table licking his claws.	The cat usually sits under the table licking his claws.
7.		The engineer works seven days a week.	*The engineer work seven days a week.
8.		*Her daughter watch a lot of American TV series.	*Her daughters watches a lot of American TV series.

9.		* The geese chases the girl fiercely.	The geese chase the girl fiercely.
10.		The mice like to eat all the cheese.	The mouse likes to eat all the cheese.
11.		This sheep usually grazes in the field.	*This sheep usually graze in the field.
12.		*This Woman shop clothes on monthly basis.	*These Women shops clothes on monthly basis.
13.		*Her Children grows up so fast.	Her Children grow up so fast.
14.		These Fish swim slowly under the water.	This fish swims slowly under the water.
15.		The person walks in the park slowly and happily.	*The person walk in the park slowly and happily.
16.		*This deer run very fast.	*These Deer runs very fast.
17.	Word Order	Always I play basketball with my friends on weekends.	*Always play I basketball with my friends on weekends.
18.		*Always goes Tom home by bike.	Tom always goes home by bike.
19.		The teachers often ask students to study well and do more practice.	*The teachers ask often students to study well and do more practice.
20.		*I watch often news in the afternoon.	Often I watch news in the afternoon.
21.		Never I cross the street on red light.	*Never cross the street I on red light.

22.	*Never have tasted I this yummy food.	I have never tasted this yummy food.
23.	We rarely see each other.	*we see rarely each other.
24.	*He eats rarely pork.	Rarely he eats pork.
25.	*Yesterday went Susan shopping.	Yesterday Susan went shopping.
26.	Yesterday I met Jack in the city center.	I met Jack in the city center yesterday.
27.	My friend gave me a gift today.	*My friend today gave me a gift.
28.	*I today finished my homework.	* Today finished I my homework.
29.	*Last month flew I to Oslo.	Last month I flew to Oslo.
30.	Last month he joined the army.	He joined the army last month.
31.	I pay you a visit next week.	*I next week pay you a visit.
32.	*I next week have three days off.	* Next week I have three days off.

Part 3: English Proficiency Test

Instructions: Please complete the sentences by selecting the best answer from the available answers below. You can select by underlining or making a X next to your choice.

1) Water _____ at a temperature of 100° C.

is to boil is boiling boils

2) In some countries _____ very hot all the time.

there is is it is

3) In cold countries people wear thick clothes _____ warm.

for keeping to keep for to keep

4) In England people are always talking about _____.

a weather the weather weather

5) In some places _____ almost every day.

it rains there rains it raining

6) In deserts there isn't _____ grass.

the some any

7) Places near the Equator have _____ weather even in the cold season.

a warm the warm warm

8) In England _____ time of year is usually from December to February.

coldest the coldest colder

9) _____ people don't know what it's like in other countries.

The most Most of Most

10) Very _____ people can travel abroad.

less little few

11) Mohammed Ali _____ his first world title fight in 1960.

has won won is winning

12) After he _____ an Olympic gold medal, he became a professional boxer.

had won have won was winning

13) His religious beliefs _____ change his name when he became a champion.

have made him made him to made him

14) If he _____ lost his first fight with Sonny Liston, no one would have been surprised.

has would have had

15) He has traveled a lot _____ as a boxer and as a world-famous personality.

both and or

16) He is very well known _____ the world.

all in all over in all

17) Many people _____ he was the greatest boxer of all time.

is believing are believing believe

18) To be the best _____ the world is not easy.

from in of

19) Like any top sportsman, Ali _____ train very hard.

had to must should

20) Even though he has now lost his title, people _____ always remember him as a champion.

would will did

Read the following passage about the history of aviation and choose the best answer for each blank. Note that it is a continuous story.

21) The history of _____ is

airplane the airplane an airplane

22) _____ short one. For many centuries men

quite a a quite quite

23) _____ to fly, but with

are trying try had tried

- 24) _____ success. In the 19th century a few people
 little few a little
- 25) succeeded _____ in balloons. But it wasn't until
 to fly in flying into flying
- 26) the beginning of _____ century that anybody
 last next that
- 27) _____ able to fly in a machine
 were is was
- 28) _____ was heavier than air, in other words, in
 who which what
- 29) _____ we now call a 'plane'. The first people to achieve
 who which what
- 30) 'powered flight' were the Wright brothers. _____ was the machine
 His Their Theirs
- 31) which was the forerunner of the Jumbo jets and supersonic airliners that are
 _____ common
 such such a some
- 32) sight today. They _____ hardly have imagined that in 1969,
 could should couldn't
- 33) _____ more than half a century later,
 not much not many no much
- 34) a man _____ landed on the moon.
 will be had been would have
- 35) Already _____ is taking the first steps towards the stars.
 a man man the man

36) Although space satellites have existed _____ less

since during for

37) than forty years, we are now dependent _____ them for all

from of on

38) kinds of _____ . Not only

informations information an information

39) _____ being used for scientific research in

are they they are there are

40) space, but also to see what kind of weather _____ .

is coming comes coming

