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# A Corpus Based Study in Morpheme Acquisition Order of Young Learners of English

A comparison of Swedish students in grade 6

Su Yin Khor

Supervisor: Christine Johansson, Ph.D., Department of English.

Examiner: David Kronlid, Ph.D., Department of Education.

## ABSTRACT

This study investigated the morpheme acquisition order of Swedish students in grades 6 and 7, utilizing corpus texts drawn from the Uppsala Learner English Corpus (ULEC). It is an extension of Khor (2012) that focused on students in grades 9 and 12. Previous studies on morpheme acquisition order suggested that there was a natural sequence in acquiring morphemes, regardless of first language (L1). First language influence was said to be minimal or non-existing. Recently, studies have found evidence that L1 transfer is greater than first thought.

This study examined three morphemes; articles, the preposition *in*, and plural form. The results showed that the errors that both groups made were consistent with the errors that were found in Khor (2012). The errors were of the same nature in all age groups, mainly in differences in (1) generic and specific usage of articles in Swedish and English, (2) the generic sense of regular plural nouns, (3) plural form of irregular nouns and nouns of Latin or Greek origin, (4) plural forms of countable and misuse of uncountable nouns, and (5) the usage of prepositions in Swedish and English.

Current studies have also generated these results, which points towards strong L1 influence. The different usage and the errors suggest that the first language influence is stronger than first described, and consequently, that it influences the acquisition of morphemes. Therefore, the L1 seems to shape the order in which grammatical morphemes are acquired. Learners in one language group seem to learn the morphemes in a specific order, rather than a fixed universal order.

*Key words: morpheme acquisition order, natural order hypothesis, second language acquisition, Swedish learners, first language influence and transfer, corpus, morphological congruency*

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## 1 Introduction

The role of English in Sweden is different from many other countries because of its higher proximity to us through various media like TV, music, the Internet and video games. American and British television shows are not dubbed into Swedish, English is used in Swedish media, and the usage of English at universities is very common. This shows that English is found in many shapes in Sweden on a daily basis, and that is why studying how Swedish students learn English becomes interesting. *Does the presence of the target language affect the student's learning process? How does the student build the mental grammar of the second language? Is classroom based learning more effective than informal learning or not?* There are many questions of this type that linguists within the field of *second language acquisition* (SLA) attempt to answer in their research, but also questions that English teachers deal with in the classroom.

As a future English teacher, it is important to understand the errors that students make and identify the areas that are challenging to Swedish students. Teachers cannot see students' learning process as only a classroom based situation; students are inspired by English media as well. Students receive input inside and outside the classroom, and both shape their language development. If their errors and language development are studied, the information found in their errors can provide a better image of aspects that the students find difficult, to fully understand the students' development. Eventually, it will give me a better understanding of what I do in the classroom and how to use different types of material that students can benefit from.

My interest in first and second language acquisition comes from my curiosity in how languages are acquired. I was brought up in a multilingual home, and I have studied multiple languages at university level. These experiences lead to more questions about the cognitive process, or processes, of language learning, and I wanted to find the answers for my questions. Our ability to learn languages is incredibly fascinating, and it is a skill that we depend on every day, which only makes it more important to study.

## 2 Background: Research questions, method and material

This study is mainly concerned with the *natural order hypothesis* and the *acquisition of grammatical morphemes*. The notion of a natural acquisition order of morphemes received much attention during the early 1970s and sparked a great interest among linguists, moving from the behaviorist influenced theories from the 1950s (Gass and Selinker 2008: 121). It was claimed that morphemes were acquired in a predictable order, regardless of the learners' first language.

Morphemes are the smallest meaningful units of a word and they do not only have a grammatical function:

- (a) Jim speaks six languages fluently.
- (b) Jim speak-*s* six language-*s* fluent-*ly*

Morphemes are either *lexical morphemes* or *grammatical morphemes*. Lexical morphemes in (a) and (b) are *Jim, speak, six, language, fluent*, while the *-s* for agreement/tense, *-s* plural, and *-ly* belong to the group of grammatical morphemes (Hawkins 2001: 36). A lexical morpheme, such as *language*, is the stem and can function alone, but it can also be attached to another word or take a suffix. Grammatical morphemes do not carry a meaning but change the meaning of other words that they are attached too, *fluent-ly*, and they can also stand alone, such as *of* and *will* (Gass and Selinker 2001: 11).

Linguists were more interested in grammatical morphemes, and how they were acquired by learners with different linguistic backgrounds. Studies used data that came from native English speakers, non-native speakers who were learning English, and child and adult learners. Both native speakers and non-native speakers lived in and outside English speaking countries. Results of the studies more or less supported the idea that a natural order existed.

Reasons for studying how morphemes are acquired, and other aspects of language acquisition, are because the cognitive process of how languages are learned can be explained, i.e. how the part of the brain that is responsible for language learning works, essentially, how the brain works (DeKeyser 2005: 1).

I investigated the natural order and morpheme acquisition order in my C-level paper Khor (2012). I used computer written texts by Swedish students in year 9 (junior high school) and year 12 (senior high school). Not all morphemes were examined due to the low occurrence of certain morphemes. The texts were manually processed and the *accuracy scores (morpheme scores)* were calculated by counting the number of *obligatory contexts* (instances where a certain morpheme is required to form a grammatically correct sentence) and dividing them by the number of correct usage of each morpheme (Lightbown and Spada 2006: 83). For example, the number of obligatory contexts for articles could be 279, and if the correct number of usage of 243, the accuracy score is 87.1 percent.

The 9<sup>th</sup> graders' texts showed that many errors are made in other aspects of English as well, such as syntax, and they used spoken language instead of written language. Morphemes that were investigated were: (1) the preposition *in*, (2) articles, (3) the irregular past tense, (4) the regular past tense, (5) plural form, and (6) the preposition *on*. First, the errors in using prepositions

suggest that the students lack knowledge of English prepositions. In many instances, the Swedish preposition was used instead of the English preposition *in*, like *\*days in the week* instead of *days of the week* (Khor 2012: 15).

Second, since both languages have an article system, it is possible that the students assumed that they would be used the same way: *\*it would be strange if the life just ends* instead of *it would be strange if life just ends* (Khor 2012: 16). There are differences in how the articles are used in the generic sense (e.g. *I like cars*) and specific sense (*I like the car*, when referring to a specific car that the speaker likes) between English and Swedish. In the example from Khor (2012), the student used the Swedish rules instead and translated *livet* into *\*the life*. When the students used articles incorrectly, they were mainly used incorrectly in generic and specific sense.

When it comes to verbs in the past tense, students would apply the rules of regular verbs to irregular verbs: *\*woked*, *\*shuted*, *\*flyed* (Khor 2012: 17). These errors are different from the prepositions and the articles because they show signs of overgeneralizations, rather than transfer. It might be that the students were not used to certain irregular forms.

If we look at the plural *-s*, the majority of the 9<sup>th</sup> graders seemed to understand how to create the plural form, but there were also overgeneralizations. Uncountable nouns (such as *people*, *money*, *news*) seemed to be a challenge since the *-s* was added to create plural forms. However, Swedish has uncountable nouns that were translated into the singular form in English *\*there were many more team* instead of *more teams* (Khor 2012: 18). Students also used the plural form in the generic sense incorrectly. It was mainly the students who wrote about ghosts; when they referred to ghosts in the generic sense by using the plural form, they omitted the plural marker *-s*, e.g. *\*I don't believe in ghost* instead of *I don't believe in ghosts* (Khor 2012: 18).

Lastly, the usage of the preposition *on* was ranked last. It did not occur as frequently as *in*, and was probably translated from the Swedish *på*. It is possible that they are not as familiar with the usage of other English prepositions, such as *during*, *at*, and *of* (Khor 2012: 19). Their usage of the preposition *in* strongly suggested that they knew very little about English prepositions because of the fact that the errors were similar, and not only because of the low accuracy score.

The students in year 12 had come further in their development as the texts were different from the 9<sup>th</sup> graders', characterized by longer sentences, and a more complex word order. Only four morphemes were investigated: (1) articles, (2) the preposition *in*, (3) plural, and (4) past irregular. When the 12<sup>th</sup> graders made errors, the errors were of the same nature as the 9<sup>th</sup> graders' errors, such as *\*the society* instead of *society* where there is a difference in the usage of the definite article (Khor 2012: 21). In Swedish, it would take the definite form, *sambället*.

After completing my C-level paper, I wanted to further examine the language learning process of younger students. Based on the earlier studies of morphemes and Khor (2012), this paper investigates the natural order hypothesis and the morpheme acquisition order of Swedish students. The research questions for this study are as follows:

1. How does the first language affect the usage of grammatical morphemes?
2. To what extent is the theory of the natural acquisition order of morphemes applicable?

I will compare the language development of 6<sup>th</sup> graders with 7<sup>th</sup> graders to investigate the language learning process. Due to the scope of this study, it is not possible to explain the language learning process of *all* Swedish students, so there are limitations of this study. Individual variation is not the focus; this paper is concerned with general tendencies, but individual variations are brought up when they deviate from other students' performances. It is possible to outline the nature of the students' interlanguage and provide us with useful knowledge of what the learning process looks like. Still, it must be noted that the intention is not to map out a general rule and description of all Swedish students' learning process. The purpose of this study is to examine the validity of the natural order hypothesis and investigate the first language influence. The aim of this study is to extend the field of morpheme research, and the knowledge of Swedish students' language learning process in English. Early studies claimed that there was little or no first language transfer, while more recent research has questioned and disproved that argument.

## 2.1 Essential terms

Key words that are used in within SLA have slightly different definitions and usage depending on the author. My definitions come from Saville-Troike (2006: 186–193), to avoid confusion.

*Target language (TL)*: The language that the student is learning.

*Native/first language (NL/L1)*: Naturally acquired in childhood, usually because it is the language that the family speaks. It is possible to have multiple L1s if a child grows up in a multilingual society.

*Second language (L2)*: Refers to (1) any language that is learned after the L1 has been acquired, and (2) a language that is acquired for school, higher education and work. Speakers know the L2

better than a foreign language, but generally not better than the L1. L2 is used interchangeably with TL in this paper.

*Foreign language/language for specific purposes:* This language is not used as frequently as the first or second language, and is used for other purposes like traveling. It can be elective in schools, like modern languages. For example, a historian might only be able to *read* Latin, but not speak it, so not all skills are developed. Tourists in France might be able to ask for directions, but might not be able to understand French that is used by native speakers on a daily basis. This is contrasted to L2 knowledge that is used in multiple areas and the more extensive knowledge that the learner has.

*Interlanguage:* Refers to the interim stage where the student is moving towards the target language. It is characterized by a unique language and usage of the rules of that TL.

*Negative transfer:* The student's mental grammar of the first language affects the acquisition of the second language by "interfering". Word order and usage of grammatical structures in the L1 are applied to the L2, so errors occur.

*Positive transfer:* L1 rules are applied to L2 usage but there are no errors because the grammatical structure is found in both languages and have the same usage.

## 2.2 Material and collection of data

At the Department of English at Uppsala University a corpus is compiled by two professors, called the Uppsala Learner English Corpus (ULEC). At the moment, it consists of computer written texts by students from grades 6 to 12, and the texts usually contain between 200-300 words. Spell check, dictionaries or similar aid are not allowed when writing the texts (Geisler and Johansson 2009). ULEC currently contains about 276 000 words and the data is usually collected by student teachers or English majors from the department.

I used a total of 42 texts, divided evenly between the two age groups, to make sure that there was enough data for my analysis. Since there was no material from students in year 6, I had to collect it myself. I decided that the topic would be "Do you believe in ghosts?" so the students could write freely. There are no significant differences between female and male learners, so the gender aspect was excluded (Geisler and Johansson 2009: 153).

Since I had to collect my material, I contacted a school in Uppsala after a recommendation from my supervisor. I met with an English teacher who taught 6<sup>th</sup> graders, and provided more

information and details about my research. I needed at least fifty students who wanted to participate, and we looked at the availability of computers, and teachers who would be affected by this. Teachers and students who were part of this received information a few days earlier, to prepare them so there would be no surprises.

During the day when the collection took place, the teachers who were involved in this were in charge of the students, but the students mainly worked on their own. Fifty students participated, and they were asked to write 200-300 words about ghosts or other supernatural phenomenon. My role was very limited. I only observed and sometimes helped the students if they had any questions. It took about 45 minutes for the students to complete the task. While some students produced very long and informative texts, about half of them were not able to do so. I had set a minimum of 150 words for each text to make sure that each sample would contain enough information. Half the texts did not meet this criterion, but the majority of the texts I chose contain about 200 words or more. Due to the limited time, I was unable to collect additional texts, which is why existing material by 7<sup>th</sup> graders from ULEC was used.

### **2.2.1 Ethical issues**

Research is a sensitive matter, so I followed the guidelines and rules used by the Department of English regarding the material collecting process. Maintaining the participants' anonymity is fundamental, as well as stressing that participating is optional. Working by these rules means that readers of this paper will not be able to identify the students and their work, because full texts are not used. Sentences or parts of a sentence are used as examples. Only information about gender, age, and high school program is allowed to be collected. No names, social security numbers and the students' personal information about their background can be collected, so participants are always anonymous. The name of the school is also not collected. I do not have a personal relationship with the students who participated, so they were anonymous to me. The parents' consent was also not necessary as it was not a longitudinal study where personal relationships develop. Instead, teachers who were involved approved of my visit, the students' participation, and the method for collecting the corpus texts.

Before collecting the data, the students were told about the purpose of their participation and the task, and that their samples would not be evaluated by their teachers. They were informed that they would be anonymous and their texts would only be used for a scientific purpose, and that my study is about Swedish students' language learning process.

Students were informed that they did not have to participate if they did not want to. The teachers approved my data collecting method and were informed about the students being anonymous. They were told that no names of students, teachers, or the school, would be stored and used. I did not personally inform the students; their teachers did, due to the teachers' tight schedule, but also because I did not want my presence to affect the students in any way.

### 2.3 Methodology

The samples were processed manually at least twice, using paper and pen, to check that there were no mistakes and to make sure that I had used the same method to judge and analyze each morpheme. The morphemes from each text were documented in a matrix to measure frequency and other findings that could be interesting and noteworthy. I make a distinction of the difference between error and mistake (Saville-Troike, 2006: 39). The former refers to the learner's grammar that is not "programmed" correctly yet, so students use incorrect forms often. The latter refers to the student's inability to utilize certain structures because the student is unable to use certain forms automatically without thinking, although they know the rules theoretically. This means that students occasionally use the incorrect form, but mainly apply the rules of, for example, irregular verbs in the past tense correctly.

A morpheme score was calculated for each morpheme and the calculation method was used in earlier studies, with some variation depending on the researcher. I used the method for calculating speech samples that is found in Lightbown and Spada (2006). When using this method, each error and correct usage is documented, and after the processing of the material is completed, a morpheme score is calculated. *Obligatory contexts* are identified to determine whether a morpheme is used incorrectly or correctly, e.g. missing morphemes, or incorrectly conjugated verbs. The next step is to divide the number of correct usage with the number of obligatory contexts. This generates a percentage of correct usage (Lightbown and Spada 2006: 83).

Written samples can be a challenge at times because students can accidentally hit another key instead of the intended one. This can change the meaning or the spelling in a way that the researcher will not be able to determine if it is an error or not. If there was an uncertainty or any ambiguity, I excluded the affected morphemes in my calculations.

I analyzed and identified the errors by using the method found in *error analysis* (EA) that focuses on errors in speech and writing, and not the learner's errors in comprehension (Ellis and Barkhuizen 2005: 51). Ellis and Barkhuizen (2005: 61) describe four types of errors that are used

to explain how learners modify structures of the target language to describe the errors that occur in the corpus texts, also known as *interlingual errors*:

1. Omission (for example, omission of copula *be*, *my sister very pretty*).
2. Addition (for example, regularization *eated* instead of *ate*; double-marking, *he didn't came*).
3. Misinformation (for example, *do they be happy?*).
4. Misordering (for example, *she fights all the time her brother*).

After the errors have been identified and described, they must be explained. *Intralingual errors* are evident in all learners regardless of their L1, and indicate the usage of learner strategies (Ellis and Barkhuizen 2005: 65–66). Different from the interlingual errors, the intralingual errors are not caused by interference from the first language. Other factors are influential in these cases, such as insufficient knowledge of the L2 rules, or overgeneralization of acquired rules (Saville-Troike 2006: 190):

1. False analogy (for example, *boy-boys* → *\*child-childs*).
2. Misanalysis (for example, mistaking *its* for plural because of the *-s*).
3. Incomplete rule application (for example, *nobody knew where was Barbie*).
4. Omitting grammatical features that do not contribute to the meaning of an utterance (e.g. *Martin like tennis*).
5. Overlooking co-occurrence restriction (e.g. *fast food – quick food*).
6. System-simplification (such as simplifying by using one word, instead of two or more).

According to Ellis and Barkhuizen (2005), EA is not the preferred method for analyzing learner language, but studying errors is still an important aspect of teaching and learning a language as they reveal what students find challenging. This is important if we want to understand the various our students' language learning process and development. Therefore, my analysis of the students' errors is based on *error analysis*.

### 2.3.1 Methodological concerns regarding text based research

Using computers as a tool comes with certain issues that can affect written material and its function as a primary source. Spelling errors are common, caused by the usage of a keyboard, but mainly the students' own abilities and lack of knowledge of English spelling. If a student uses the plural *-s* correctly, but spells the word incorrectly by adding or omitting a letter, it will still be included as a correctly used morpheme, as the meaning is not affected by the spelling error. For

example, *notebooks* will be counted as correct since the plural marker is present and used correctly. In this example, *my notebook are very pretty and cheap, I bought it at Akademibokhandeln*, it is not clear if the student bought one or two notebooks and the agreement error does not provide any clues either. In these situations, *notebook* is excluded since it is not possible to tell if *notebook* is supposed to be in the plural form or not. Misplaced morphemes are counted as incorrect because they are used incorrectly.

Second, cases that are unclear and ambiguous are excluded from my calculations. Sentences or words that I do not understand are also excluded. The analysis adheres to the rules of *absolute errors* and not *dispreferred forms*, meaning that the corpus texts are processed objectively (Ellis and Barkhuizen 2005). It is not possible to accurately determine the source of a given error, because there are gaps in the theories regarding second language acquisition. Research has not been able to fully determine the SLA process and the factors that are involved. Nevertheless, it is feasible to discuss the possible causes but it might be difficult to identify each factor that is involved.

A third important aspect is the fact that the corpus texts represent written language, and not the students' overall performance and proficiency in speaking and listening. Although this is true, L1 transfer exists in spoken and written samples, and since this study is focused on the students' production, written data is easier to work with given the time frame. Learning a language is a long and complex process and it is also highly individual. For that reason, corpus texts can be used to identify aspects of a student's interlanguage.

A key factor in analyzing interlanguage is knowledge of the student's first language. Unfortunately, personal information on linguistic background, nationality or ethnic group is not allowed to be collected and stored in ULEC. This leaves users with no other option than assuming that every student knows Swedish well enough to attend regular English classes. The only information that is allowed to be collected is gender, age, and grade, and which high school program that the students are in, e.g. science, economics and business.

Lastly, there is an issue regarding the frequency of each morpheme. Not all morphemes are used with a high frequency, and this varies greatly depending on the topic of each text. In Khor (2012), the corpus texts were processed before I was able to determine which morphemes I could analyze. As long as there is enough data, research and progress can be made. The primary data should come from the L2 learner because the written and oral samples that the learners produce contain information of what they know and what they do not know (Ellis and Barkhuizen 2005: 21).

### 3 Theoretical framework: review of previous research

In this section, previous work is presented in a thematic structure instead of an author governed organization. This will easier emphasize what previous research dealt with, and also highlight potential gaps and issues within each theme. The theoretical framework will place this study in a relevant context in order to motivate why this specific study is of scientific interest.

#### 3.1 Historical review of research in morpheme order acquisition

Second language acquisition theories developed from studies in child language acquisition. The starting point is typically set pre-1950s when behaviorist influenced language acquisition theories (Gass and Selinker 2008: 121). Language acquisition was seen as habit formation; the sole method of acquiring the target language was through imitation, i.e. *stimulus-response-reinforcement* (Saville-Troike 2006: 34–35). Later on, *contrastive analysis* became the main method of teaching. Learner errors were predicted by comparing the L1 with the L2 to find areas where grammar differed, to identify what kind of errors the students would make (Saville-Troike 2006: 37).

In the 1960s, the behaviorist theories became the subject of criticism. There was a shift from the behaviorist view of language learning to the idea that an innate ability existed; constant exposure to the target language would help students learn the target language, and not through repetition. Instead of a teacher-based approach, methods and theories focused on the learner and an active role (Gass and Selinker 2008: 121). Behaviorist theories became inadequate and unable to explain child language acquisition. Linguists began to explore other areas that could explain aspects of language learning that previous theories were unable to (Gass and Selinker 2008: 122).

The acquisition of grammatical morphemes became the primary object of study within the field of linguistics during the 1970s that became known as the *morpheme order studies*. SLA found inspiration in child language acquisition and applied and modified theories to research L2 learners. Morphemes became the main area of interest and they were said to contain clues regarding the language acquisition process. The studies utilized various types of data, ranging from children to adults, native speakers, and L2 speakers who lived in and outside English speaking countries (Saville-Troike 2006).

One of the first studies of morpheme order acquisition was carried out by Brown (1973). Brown and his colleagues followed three American children who were learning English as their native language for a longitudinal study. Data was collected through interaction with the children from spontaneous speech, using a tape recorder and written notes during each meeting. The

youngest child, Eve, was 18 months old, while the two other children, Adam and Sarah, were 27 months old at the beginning of the study (Brown 1973: 53). The morphemes that were investigated are seen in Table 1.

Table 1. Order of morpheme acquisition (Brown 1973: 274)

Morphemes
1. Present progressive <i>-ing</i>
2-3. <i>in, on</i>
4. Plural <i>-s</i>
5. Past irregular
6. Possessive <i>'s</i>
7. Uncontractible copula
8. Articles <i>a, the</i>
9. Past regular <i>-ed</i>
10. Third person regular
11. Third person irregular
12. Uncontractible auxiliary
13. Contractible copula
14. Contractible auxiliary

To measure the language development of the children, Brown (1973: 55) used the *mean length of utterance* (MLU), as newly acquired knowledge would increase the length of a sentence. In addition, the children's increased knowledge would alter grammatical structures, such as increased usage of auxiliary and negative forms. When using this method, typically 100 utterances are collected and the total number of morphemes (no distinction between lexical and grammatical morphemes) is divided by the number of utterances (Gass and Selinker 2008: 35). Brown (1973: 255) used the *obligatory occasion analysis* to examine grammatical morphemes that the children produced, or did not produce, as a test to see if they supplied the necessary morphemes to form a grammatically correct sentence. The morphemes that were chosen were easier to identify as obligatory, and turned out to be monosyllables and received less stress (Brown 1973: 12). The order in which the children acquired morphemes was similar, though not simultaneously.

When the data collecting stage began, two of the children were of the same age, while the third child was younger by a few months. Her learning rate was much faster but the order of acquisition was still similar to the other children (Brown 1973: 271). de Villiers and de Villiers (1973) also investigated morpheme acquisition, and based their study on Brown's work (1973). 21 English speaking children between 16–40 months participated in the study. Speech samples were collected from play time with the children, and the 14 morphemes Brown presented were investigated. Two methods were used to calculate the acquisition order that turned out to be very similar to Brown's. This further supported the natural order hypothesis.

The natural order of morpheme acquisition of L1 children was later applied to children who were learning English as their L2, most notably Dulay and Burt's study of Spanish speaking children (Hawkins 2001).

Table 2. Dulay and Burt's morpheme order for L2 students (Hawkins 2001: 41)

Morphemes
1. Articles
2. Progressive <i>-ing</i>
3. Contractible copula
4. Plural <i>-s</i>
5. Contractible auxiliary
6. Past regular <i>-ed</i>
7. Past irregular
8. Possessive <i>'s</i>
9. Third person regular

As seen in Table 2, Dulay and Burt's findings supported Brown's theory. They used the *bilingual syntax measure* (BSM) to collect speech samples. Using this method, the researchers present different pictures to the participants. To check if they know how to use the investigated morphemes, they ask questions such as "what are these?" and then "and these?" and the expected answers would, in this case, be in the plural form (Gass and Selinker 2008: 128).

In the first study by Dulay and Burt from 1973, the Spanish learners were 5-8 years old, and consisted of three groups from New York City (30 children), Sacramento (95 children), and Tijuana, Mexico (26 children). The children from New York City did not receive any formal instruction in English, but were taught in Spanish and English. They had moved from Puerto Rico and did not grow up speaking English. The Sacramento children were born and raised in the US and were taught in English and attended ESL classes (English as a second language). The Mexican children attended school in Southern California, and the medium of instruction was English. They returned home after school (Hawkins 2001: 38).

A second study of Spanish speaking students was conducted but a second group of students was included, consisting of Chinese speaking children who were 6-8 years old. The students' L1 were typologically different but the order of acquisition of both groups was still similar. Their results also show that the Chinese students' accuracy scores were lower than that of the Spanish students (Dulay and Burt 1974). These students lived in the US and received natural input as well as formal instruction. Several studies have examined the relationship between access of natural input (informal training) and classroom based learning (formal training), and how the combination of both formal and informal instruction affect the acquisition of the L2. Some grammatical morphemes were more difficult to acquire, but there was no significant relationship

between degree of exposure and accuracy profile among the three Spanish speaking groups that Dulay and Burt studied. The results from Dulay and Burt (1974) suggest that typological differences between the L1 and the L2 may affect the acquisition of certain morphemes. The differences decide which morphemes will be easier to acquire, and which will be more difficult.

Moving to adult learners of English, Bailey et al. (1974) investigated adult ESL learners who were enrolled in university preparation programs or continuing ESL programs. Participants were between 17 and 55 years old. In the first group, 33 students were L1 Spanish speakers, and in the second group 40 students spoke several typologically different L1s. They tested two hypotheses with their study; (1) adult ESL students would find the same morphemes difficult and (2) the rankings would be similar to children learning English as an L2, and not like a first language (Bailey et al. 1974: 237). The accuracy scores were similar to that of previous research which provided more evidence that supported the natural order hypothesis. The order was not exactly like Dulay and Burt's (1974), but it was similar (Bailey et al. 1974). The order of acquisition is found in Table 3.

Table 3. Morpheme acquisition order of adult learners in Bailey et al. (1974: 239)

Spanish L1 Group	Non-Spanish L1 Group
1. Articles <i>a, the</i>	1. Present progressive <i>-ing</i>
2. Present progressive <i>-ing</i>	2. Contractile copula
3. Plural <i>-s</i>	3. Past irregular
4. Contractile copula	4. Plural <i>-s</i>
5. Contractile aux	5. Contractile aux
6. Past irregular	6. Articles <i>a, the</i>
7. 3 <sup>rd</sup> person singular	7. 3 <sup>rd</sup> person singular
8. Possessive <i>'s</i>	8. Possessive <i>'s</i>

Larsen-Freeman (1975) conducted a similar study of 24 adult ESL students from four different language backgrounds: Arabic, Japanese, Persian, and Spanish. Larsen-Freeman (1975: 411) used the BSM method in addition to four other ways of extracting data to verify the results, which showed that the learners' L1 appeared to have a minor role, but there was a slight difference compared to the natural order.

In the late 1980s, morpheme studies lost their significance and only a small number of linguists researched morphemes. The idea of a natural order was still present and linguists began to study what caused the natural order, rather than finding evidence that supported the theory (Ellis and Barkhuizen 2005: 76). In about 60 years, second language acquisition theories have shifted focus from behaviorist inspired theories and given the learner a more active role in learning the target language. The current movement in SLA focuses on the cognitive process, and

the native language plays a bigger part in language learning (Gass and Selinker 2008: 135).

### 3.2 The idea of a natural order

Chomsky's work from the 1960s set the framework in which morpheme studies were carried out, operating under the idea that humans possessed an innate ability that enabled language learning, centered on first language acquisition. The *language acquisition device* (LAD) suggests that our ability to learn a language is governed by an innate mechanism that enables us to learn structures that are not found in the input that children are exposed to. Children have produced sentences above their level, which they technically should not be able to do if language learning is about input and what the child is exposed to (Krashen 1985: 40). If the output is of higher level compared to the input; how is it possible for children to produce sentences that are more complex than the input?

The LAD suggests that this is because the brain does not only control language learning, it has another function as well; it *adds* something to the output that did not come from the input. This is known as *the poverty of the stimulus argument* (Cook 1996: 81–82). It is also known as *the logical problem of language learning* (Saville-Troike 2006: 37). The key argument is that the input basically does not contain a sufficient amount of information of every aspect the language, yet, children and native speakers know more than what they have been taught/heard. How is a native speaker able to decide if new sentences that they encounter follow the English rules of syntax or not? Chomsky argues that humans have knowledge of syntax built-in (Cook 1996: 83–84). This enables native speakers to tell grammatically correct sentences (that also includes those that are semantically void) from those that are not.

Krashen (1982; 1985) applied Chomsky's theory to second language acquisition. Elements of Chomsky's LAD were used to form a theory called the *input hypothesis*. There are five sub-theories that make up the input hypothesis, all concerned with aspects of second language acquisition. The first theory, the *acquisition-learning hypothesis*, makes a distinction between the student's acquired language, and the language that is learned. In other words, *subconscious acquisition* vs. *conscious learning* refers to the knowledge of one's first language, which is different from the knowledge of the second language that is usually classroom-based learning (Krashen 1982: 10).

Related to conscious learning is *the monitor hypothesis*, which refers to the learner's awareness of the learning process. If a learner is able to monitor the learning process, the learner's skills will develop and progress (Krashen 1982: 15–20). Together with the concept of *i+1*, the student will learn more by being exposed to input that is slightly above the level that the student is on (Krashen 1982: 21). The *affective filter hypothesis* involves the student's mental strength, which

means that learners must be receptive and accept the difficult aspects of learning and studying a language to lower the mental barrier, a type of blocking mechanism. If it is high, the input will not reach the student and there will be little no development (Krashen 1982: 31).

Lastly, the most important hypothesis for this study is *the natural order hypothesis*. According to this theory, the rules of a language are acquired in a predictable sequence, and they are not dependent on the order that the grammatical structures are introduced in the classroom (Hawkins 2001: 42–43; Krashen 1982: 12–13). Students have produced sentences that contain structures that are beyond their teaching level, an argument that Krashen (1985: 40) uses to support his theory of humans' innate ability to learn languages.

### 3.3 The role of the first language in learning the target language

Language transfer refers to the learner's usage of inner grammar, consciously or subconsciously when learning the target language (Saville-Troike 2006: 19). Transfer can be negative and positive, depending on how it affects the output and production. Gass and Selinker (2008: 150) discuss three factors that contribute to transfer: (1) psychotypology; (2) the student's perception of NL-TL distance; and (3) actual knowledge of the target language. In psychotypology, the focus point is the learner's view on items of the L1. Language-specific items are specific to one language, and language-neutral items are found in at least the first language and the target language, such as vocabulary (Gass and Selinker 2008: 147). How the native language and its grammatical structures and features are perceived by the learner affects how the target language is perceived as well. A speaker of Swedish may believe that other languages use commas and periods, and that all adjectives in Swedish are adjectives in other languages, and so on (Gass and Selinker 2008: 147). For example, not all colors in Japanese are adjectives; green is used as a noun.

Language distance is not only concerned with physical, actual distance, but also how far the NL and the TL are linguistically. They can have similar phonology, lexical similarities (origin), and other grammatical features. Strong similarities between the languages increase the chances of language transfer because students are likely to assume that the grammatical structures are the same (Gass and Selinker 2008: 149).

Lastly, Gass and Selinker (2008) stress the importance of the students' knowledge. What students do when they do not possess knowledge of certain areas of the target language leads to errors since they must solve the language problem on their own.

Recent studies in morpheme order acquisition have stressed the greater role of the first language. Izumi and Isahara (2004) studied a group of Japanese students learning English with

the purpose to re-examine two contradictory hypotheses regarding Japanese learners. While the 1970's theory claimed that the natural order applied to all learners regardless of the first language, studies showed that Japanese learners deviated from the natural order hypothesis. Izumi and Isahara used transcripts of oral samples by Japanese learners that were drawn from a corpus.

Table 4. *Izumi and Isahara (2004) morpheme acquisition order*

<b>Morphemes</b>
1. Possessive <i>-s'</i>
2. Progressive <i>-ing</i>
3. Copula <i>be</i>
4. 3rd person singular present tense <i>-s</i>
5. Plural <i>-s</i>
6. Auxiliary <i>be</i>
7. Irregular past tense
8. Articles <i>a, the</i>

The results indicate that the first language affects morpheme acquisition as the differences between Japanese and English can explain the low accuracy scores for certain morphemes, and a higher score for other structures. Japanese lacks a system for plural marking which could explain the lower scores for plural *-s*. The existence of the possessive marker *no* that works in a similar fashion as the English possessive *'s* could explain the higher ranking of the possessive (Izumi and Isahara 2004).

Murakami (2011) is currently investigating morpheme acquisition using the Cambridge Learner Corpus (CLC) and EF-Cambridge Learner Corpus. The material comes from students of different L1s from seven typologically different languages; Japanese, Korean, Spanish, Russian, Turkish, German, and French. Proficiency level varied so the students were put in groups that were roughly based on the Common European Framework of Reference for Languages. Targeted morphemes are articles, past tense *-ed*, plural *-s*, possessive *'s*, progressive *-ing*, and third person *-s*. To identify the possible existence of transfer, three requirements must to be fulfilled; different orders between the L1 groups, similar orders within each L1 group, and differences motivated by the L1.

Besides the natural order, Murakami (2011) is investigating the strength of the first language in learning the grammatical morphemes. Preliminary results show that the first language affects the acquisition on morphemes differently for each language group, which means that the accuracy scores are different for each group. Murakami's (2011) results do not indicate that there is a fixed order as previous findings have suggested.

Jiang et al. (2011) investigated the first language influence by focusing on morphemes that had a counterpart in the target language. The study operated under the idea that if there is a

*morphological congruency* between the languages, learners will acquire that particular morpheme easier than other morphemes that do not have a counterpart in the L1. Material came from learners with Russian and Japanese as the L1, where plural marking exists in Russian while it is very rare, and virtually absent in Japanese. Jiang et al. (2011) argue that morphological congruency is the key to reach native like competence in the second language, which in this case, means that the Russian speakers would become more proficient in using the plural forms compared to the Japanese students.

Hawkins (2001: 42) called the similar notion *selective influence* as the Japanese students in Makino's study were more accurate in using the possessive 's, than using the copula *be*, which the Spanish students did in Dulay and Burt's study. The Japanese structure is similar to the English one; *John no hon desu* (John-possessive marker-book-is) vs. *John's book*. The particle *no* is preceded by the possessor, while in Spanish, the correct possessive construction would be based on gender, singular or plural, first/second/third person, e.g. *el libro de John*. These are only theories, and further research must be done to gain a better understanding of what affects the acquisition of grammatical morphemes.

Lastly, one can discuss how to define *difficult* and *challenge*. What does it really mean when linguists say that students find it difficult to learn and use certain grammatical structures? Linguists have different interpretations and definitions of what constitutes as difficult, and linguists have not agreed on one definition either (DeKeyser 2005). Instead of pointing out specific morphemes that could be described as difficult, the perception of difficult would depend on the learner's linguistic background, such as L1(s) and experience in language learning. DeKeyser (2005: 3) identified three factors that would make a grammatical morpheme difficult: (1) complexity of form, (2) complexity of meaning, and (3) the complexity of the form-meaning relationship. A fourth aspect is highlighted; the ability of understanding the form-meaning relationship while processing sentences in the target language. The key issue is how certain morphemes are *opaque* and *transparent*, meaning, opaque structures do not give the reader enough, or any, clues about the meaning, while transparent structures do. Only certain morphemes have transparent features as some are redundant and only mark grammatical agreement that does not provide hints for meaning and interpretation. (DeKeyser 2005: 3–4).

What DeKeyser (2005: 5–6) means is that (1) the form of a structure can make it a challenge for the learner. Languages that are rich in inflections require more effort from the learner as there are a greater number of options, and because of abstractness, novelty or a combination of both. If a morphological structure does not have a counterpart in the learner's first language, such as articles or gender, it will take much effort to learn, e.g. Chinese speakers

learning English articles. In addition to form and meaning, the issue of (3) the form-meaning relationship is another aspect of difficulty as the meaning is not always transparent. One example is the suffix *-s* in English that can mark both plural and the third person singular form (DeKeyser 2005: 7–9).

In sum, there is first language transfer that depends on multiple factors that contribute to the complexity in mapping out the language learning process. Differences between the L1 and the L2 affect the student, as well as the similarities of both languages. I will discuss the how the first language influence is emphasized by current work in linguistics.

### 3.4 Ideas and arguments opposing the natural order hypothesis

Obligatory occasion analysis (morpheme order studies) was criticized for being uncertain in the way that *accuracy order* was translated into *acquisition order*, which opponents regarded as a flaw (Gass and Selinker 2008: 133–134). Linguists who did not support the natural order hypothesis argued that the acquisition process is *U-shaped*. It would appear as students have acquired the morpheme, while later on use overgeneralizations of regular forms, e.g. using the past irregular of verbs correctly before switching to regular *-ed* by applying it to irregular verbs (Ellis and Barkhuizen 2005: 77). The main issue is that this type of study does not explain if learners have understood how each morpheme is used, like the multiple uses of the progressive *-ing* (Ellis and Barkhuizen 2005: 79). Recent morpheme order studies were not carried out to disprove the natural order hypothesis, but a recent review of previous morpheme order studies was written to change that perspective.

Luk and Shirai (2009) are more skeptical of idea that a natural order exists and that the role of the first language is minimal in acquiring grammatical morphemes. A more systematic investigation must be carried out to examine the first language influence as previous studies did not put much emphasize on L1 influence. Luk and Shirai (2009) reviewed previous studies on morpheme acquisition and the natural order, focusing on studies that used data from Spanish, Japanese, Chinese and Korean native speakers. A total of 12 studies were reviewed and morphemes that were assessed were plural *-s*, articles, and possessive *'s*.

First, the Japanese learners' results show that articles and plural *-s* are generally ranked lower than the original natural order of morphemes. The possessive ranked much higher so these findings would support the first language transfer hypothesis, with a couple of exceptions. Japanese does not have a system of plural markings, which might explain the lower ranking of the English plural. There is an equivalent system of the possessive, which could explain the higher

ranking this structure (Luk and Shirai 2009: 730–732). Articles are acquired later in the reviewed studies, and Luk and Shirai (2009: 730) argue that the difficulty in using articles is due to the difference between generic vs. specific sense. If there is no equivalent usage of articles in the first language, learning this concept will most likely be challenging. Students do not have a difficulty in providing the articles, rather, they are unable to tell which article to use and when. It will be difficult for researchers to determine whether the student has acquired the morpheme or not. This gives us a false impression of which morphemes the students have learned.

Korean learners were assumed to develop their language in a fashion akin to Japanese students, as Korean and Japanese share similar structures. Korean does not have articles, just like Japanese. It does have an optional plural marker and can only be used with a limited set of words, such as quantifiers, and not with numerals. The genitive marker, *-uy*, functions like the Japanese *no*, similar to the English possessive 's. *John's car* would be *John-uy cha*, and *John no kuruma*.

Like Japanese and Korean, Chinese does not have systems for plural and articles. There is a similar system to express the possessive, *de*. It is followed by the subject to show ownership, like the Japanese *no* (Luk and Shirai 2009: 733). Information of Chinese learners' morpheme acquisition order is very sparse, and research that exists shows that the plural is acquired later, confirming Luk and Shirai's hypothesis. Since linguists did not distinguish generic and specific usage of articles, Luk and Shirai argue that there is a possibility that learners only supply them, but did not understand when to use them (some methods counted points for morphemes that were incorrectly provided, as well as the correct ones). The possessive is acquired earlier in one study, and later in another study than the natural order predicts. Luk and Shirai (2009) are unable to explain this as only two studies are available. They speculate that the different acquisition orders could be caused by the usage of different methods to collect data, and individual differences (Luk and Shirai 2009: 735).

Lastly, the acquisition orders of the Spanish learners are generally consistent with the natural order, to which Luk and Shirai (2009: 735–737) suggest that first language transfer exists. The possessive 's is acquired later than predicted by the natural order hypothesis, which could be accounted by the different structure to express the possessive in Spanish, *el libro de James* lit. *book of James*. This was not the case of the Chinese, Japanese, and Korean learners. The rankings of the articles and the plural are higher than the natural order, which Luk and Shirai are unable to explain.

Applying Luk and Shirai's arguments to Swedish learners shows that there is a strong possibility that students have not acquired a morpheme despite the fact that it appears to be that way if a morpheme is supplied both correctly and incorrectly. Ellis and Barkhuizen (2005)

discussed the U-shaped learning, which could be seen in the Swedish learners' language learning process. Swedish and English belong to the same language family and share common grammatical features which play a role in transfer. As Gass and Selinker (2008) discussed, many shared features of the L1 and L2 are factors that cause transfer.

#### **4 Results and analysis: the L1 influence in morpheme acquisition**

Before I analyze and describe the investigated morphemes in more detail in this section, I will begin with describing general characteristics of the language in the corpus texts.

After processing the texts, I noticed that there were four areas that I found interesting; syntax, verb tense, agreement, and spoken/informal versus written/formal language. These may or may not affect the production of morphemes, but they are signs of interlanguage, that is, the students' language learning process and development.

First, the 6<sup>th</sup> graders' sentences were shorter in comparison and the word order did not follow English grammar. It took more effort to read their texts because they also could not spell correctly. At times, it was confusing to read their texts because they wrote run-on sentences often. They did not use commas or periods as much as the older students, though there is a general lack of commas and periods in all texts. They did not seem to follow any rules of punctuation. There is a high possibility that they have not acquired the English rules of syntax, and in a way, rely on the Swedish word order, use it as a strategy, consciously or subconsciously. It could be because they have not reached that stage yet as their sentences were shorter than the sentences that were written by the older students. However, the students in 7<sup>th</sup> grade clearly have learned more about English rules of syntax, but the language is still not as developed as the students that were examined in Khor (2012); their sentences were longer and more complex. The students in years 9 and 12 do show that the students' language does develop significantly over time when it comes to syntax and spelling. As Brown (1973) stated, the sentences expand in length as the students become more proficient.

Second, the use of multiple verb tenses in one text caused confusion when reading the texts. Often, they alternated between present tense and past tense. They would start off by using the past tense, and then switch back to present tense if they were writing about a past incident. This was mainly found in the texts by the 6<sup>th</sup> graders. The 7<sup>th</sup> graders did not change tenses as often and were better at maintaining the use of one tense, but changes were present.

Closely related to tenses is agreement. Agreement errors appeared frequently, and it is most likely because Swedish does not have a similar system. I do not know how much focus teachers

put on subject-verb agreement during the first years of English, but this error was very common. I also do not know if the students are aware of the difference either. The students also had this habit of changing verb tenses that lead to agreement errors; if the subject was *people*, they could start by conjugating the verb correctly, *people are*, but later on, they could use the incorrect conjugation, *\*people is*.

Lastly, the students used spoken and informal language. Their written language seems to reflect their spoken language. This applies to all learners that have been investigated, including Khor (2012). This might explain the lack of commas and periods in the texts, because the students are not familiar with the rules of written language.

I found these four areas, syntax, tense and concord, and spoken language, interesting because they reflect other aspects of language learning, and not only morphemes. They can be used to measure how far the students have come in their English language development. I do not know if or how they affect morpheme acquisition, but they are still important if we want to understand how the students are learning English, what they know and do not know.

Moving on to the discussion of the morphemes, I will present the results of both groups by using tables and figures to illustrate their learning process. The analysis is not in a separate section. The results of the 6<sup>th</sup> graders are presented in section first, and then followed by the results of 7<sup>th</sup> graders to avoid any misunderstanding and confusion. After that, there is a comparison between year 6 and year 7, and final comparison between years 6, 7, 9 and 12 to provide a better image of Swedish students' learning process. In my analysis, I will compare the results with Khor (2012), but the reason I will conclude the results-section with a comparison is because it will sum up the results of both studies. Finally, the examples in this paper are exactly as they appear in the corpus texts, so no changes have been made unless stated.

#### **4.1 Morpheme acquisition order of students in grade 6**

I processed 21 corpus texts written by the 6<sup>th</sup> graders, and as seen in Table 5 and Figure 1, I was only able to examine articles, the preposition *in*, and plural form. I did not have any expectations about the results, but I hypothesized that the students' language would be very different from that of the students in years 9 and 12, mainly because they have only had two years of English in school. Since I know very little about children learning English as a second language, I did not form any theories concerning their morphological development, as in, how accurate their usage would be, not the number of morphemes they would use. I only knew that their MLU would be shorter compared to older students as the MLU increases as learners develop their knowledge

(Brown 1973: 55). As mentioned earlier, the MLU measures the average length of a sentence, by dividing the number of morphemes with the number of utterances (Gass and Selinker 2008: 35). For example, the MLU of 12 sentences that have a total number of 96 morphemes would be 8.

In Table 5, the number of correctly supplied morphemes is listed, followed by the total number of obligatory contexts for each morpheme. Lastly, the accuracy scores are found in the column to the far right. I have not included morphemes that were excluded due to ambiguity, a very small number, which would not have affected the results significantly.

Table 5. Frequency of usage and scores of investigated morphemes grade 6

Morphemes	Total number of correct usage	Total number of errors (missing and supplied morphemes)	Total number of obligatory contexts	Accuracy score in percentage
Articles	290	16	306	94.8
The preposition <i>in</i>	98	19	117	83.8
Plural <i>-s</i>	220	45	265	83.0

Indicated in Table 5, articles are ranked first, followed by the preposition *in* and plural *-s*. Articles, 94.8 percent, are ranked as the most frequently used and also the most accurately used morpheme. They are followed by the preposition *in* that is ranked as the second most accurate morpheme, 83.3 percent, while it was not used as often as the articles or the plural form. Finally, the plural form is one of the most frequently used morphemes, and is slightly behind the preposition *in*, in terms of accuracy with a score of 83.0 percent. Placing the scores in a figure will generate a different view of how accurate the students were, which better illustrates the accuracy scores and order, seen in Figure 1. The students do not make many errors per se, in fact, the errors are few when divided by the number of corpus texts.

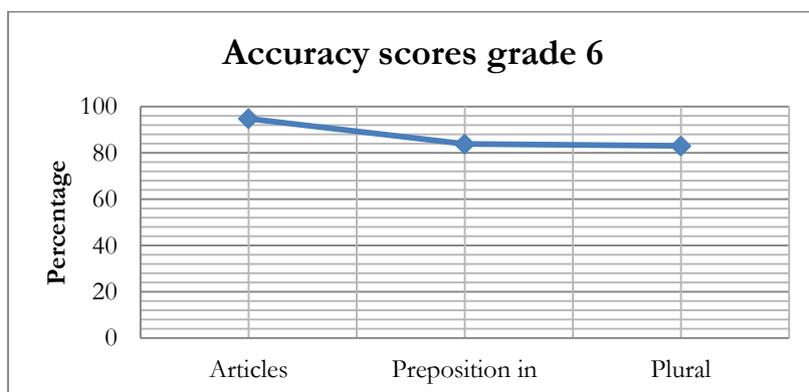


Figure 1. 6<sup>th</sup> graders' accuracy scores.

From now on, I will begin my discussion of the results, in the order that the morphemes are presented in Table 5 and Figure 1.

#### 4.1.1 Articles *a, the*

While articles are the highest ranked, with a score of 94.8 percent, the errors indicate that they are caused by first language transfer. However, the fact that it was ranked high can also be due to the existence of an article system in Swedish. Swedish articles generally follow the same rules as English articles, such as *a car* and *en bil* when using the indefinite articles, and *I went to the bank* and *jag gick till banken* when using the definite article in unique reference (aspects of society that are naturally there or necessary) (Svartvik and Sager 1996: 159, 161).

There are also differences in the usage of articles in generic and specific sense. For example, *the whale* does not only refer to a specific whale, it can also refer to whales in general, one area that Swedish students should pay more attention to because of the differences in the article usage (Svartvik and Sager 1996: 160). The examples (1)–(4) show that errors were mainly found in the usage of articles in generic and specific sense.

- (1) i have hard at sleep at the night i am verry afreid for ghost.

*Year 6, female student, age 12*

- (2) I went down to the downstairs and said " hi " to him, but he not say anything back.

*Year 6, female student, age 12*

- (3) But when I read books and see at TV about ghosts I can heard ghosts in the home but i don` t no why I can heard ghosts just that time.

*Year 6, male student, age 12*

- (4) She walked in the forest a day a long time ago to find mushrooms but after she tings she was finish she don't know where she was but was not scared.

*Year 6, female student, age 12*

The examples show that the errors mainly concern indefinite and definite use of articles. There are exceptions and differences in their usage, albeit their similar systems. Therefore, the errors are signs of transfer from Swedish. Some nouns require a definite or indefinite article, whereas some nouns take no article. Example (1) could be translated into *jag har svårt att sova på nätterna*. We can see that there is possible transfer from Swedish since it should be *at night* and not *\*at the night* in English: *I have a hard time sleeping at night*, and other variations would contain *at night*. This is seen in (2) where *\*the downstairs* could possibly be a direct translation of *bottenvåningen*, which does not take an article in English. As we are able to see in example (3), it is not clear what the causes are.

It would not be *in the home*, rather, it would be *at home*, but in Swedish, it would not even take an article, *jag kan höra spöken hemma*. It is a sign of the student's interlanguage as this student generally made more errors than other students. It is possible that this student is bilingual, but unfortunately, I have no additional evidence that could confirm that. In (4), *en dag* in Swedish would be *one day* in English, and not *a day*. Like examples (1) and (2), the error could be caused by transfer.

I speculate that the reason why articles were the most accurate is because of Luk and Shirai's (2009) argument of positive transfer; because the article systems are similar, it appears that students have acquired the use of English articles, while in fact, they have not due to positive transfer. Students often used the expression *the unknown*, and in Swedish, it also takes the definite form *det okända*. Students did not use the indefinite article together with *unknown*, so it is possible that this is caused by positive transfer. Gass and Selinker (2008) argued that languages that are typologically similar, or at least share common grammatical structures, will increase the likelihood of positive transfer.

Students used articles in anaphoric and cataphoric sense correctly, which can be explained by language transfer. Since I do not have any knowledge of how the students were taught articles, I only assume that they were not taught the anaphoric and cataphoric uses. The students could have been influenced by the Swedish rules as well.

(5) Then i was 1 year old a hand tryad to kill me with an appel iphone.the ghost throws the iphone on me and screams \*\*\*\*\*.

*Year 6, male student, age 12*

In example (5), the student refers to the iPhone as *an Apple iPhone* when it is introduced, and *the iPhone* to refer to it again, correctly.

It should be noted that the Swedish articles take different forms. They are either a suffix or a morpheme that can stand alone, and Swedish plural markers have multiple forms. In comparison, English articles stand alone, and there are two options for indefinite reference and one for definite reference. The existence of an article system in the L1 that is similar to that of the target language does increase the possibility of positive transfer, because the investigated texts strongly indicate that there is both positive and negative transfer. Unfortunately, it is not possible to investigate the consequences of transfer in this study and how it affects the students' L2 acquisition.

Based on DeKeyser's (2005) definition of difficult, English articles should be easier for Swedish students because the concept is not unfamiliar to them. It is not abstract and unfamiliar, which it would be for speakers with L1s that do not have an article system, such as Japanese.

Compared to Khor (2012), there are similarities regarding their usage. The students appeared to know how to use articles, but there were some exceptions, e.g. *\*the society* or *\*the most unemployed* that can be traced to first language transfer. It would not support the argument that articles are difficult for Swedish students, more data is necessary in order to make that statement.

#### 4.1.2 The preposition *in*

As for prepositions, *in* was used more often than *on*. This also occurred in Khor (2012). The preposition *in* is far behind articles, scoring 83.8 percent. Unlike articles, there are no specific rules students are able to follow and memorize, rather, prepositions are attached to certain words and meaning may vary depending on which preposition a verb is followed by. These must be learned as entities instead of memorizing every preposition in isolation:

(6) Michael Jackson are a ghost because he died 2009 he got a heart attack.

*Year 6, male student, age 12*

(7) in my home it lives a ghost man he is so scary he look at me he follow me brruu he look at we do everithing right wen we repara the house.

*Year 6, female student, age 12*

(8) Michael Jackson is a ghost because he died 2009 in a heart attack.

*Year 6, male student, age 12*

(9) I have decided me now; I belive in ghost when I m afraid but when I'm not I don't belive them.

*Year 6, female student, age 12*

In (6), English requires *in*, *he died in 2009*, which is not required in Swedish, *han dog 2009*. This is not the first student who omitted the preposition, which is seen in (8) as well. If we look at example (7), *\*in my home* could be translated into *i mitt hem*. Example (9) can be translated into *men när jag inte är rädd tror jag inte på dem*, and we can see that there is a preposition in the Swedish sentence. In (9), the student uses *in* in the first part, but the second time, it is omitted. I saw this in other texts as well where students alternate between providing a morpheme correctly and then leave it out. It could be that the students are not used to using certain grammatical structures; they do not automatically produce or utter certain structures. Instead of providing the correct preposition automatically, they have to think about which one to use.

The accuracy score is not as high as the one for articles, and this could be explained by other factors that could cause negative and positive transfer. The evidence suggests that the high score for articles was because of positive transfer. When it comes to the prepositions and the lower score, I would argue that it is negative transfer that caused the students to make more

errors. The English translations were often directly translated from Swedish, word by word, which are indicators of negative transfer.

Applied to this situation, the morphological congruency that Jiang et al. (2011) investigated shows that there is less congruency between the usage of the preposition *in* in Swedish and English, compared to how the articles are used. The use of prepositions exists in both the first language and the target language, but compared to articles, the differences in how they are used are greater. The lower score and large amount of errors are evidence of this. This means that transfer was caused by the different uses of a particular morpheme, and that the uses vary more than the use of articles. Compared to Khor (2012) the time span and the number of errors show that students still make errors when using *in*. Those errors indicate first language transfer, and gaps in their knowledge of English prepositions. Students would use *in* and *on*, instead of *during*, *for* or missed the *of-construction*, seen in examples (10), (11), and (12) below.

(10) In the last week of the summervcation I visited my summerplace in Jämtland with a friend.

*Year 12, male student, age 17*

(11) We walked in a couple minutes and then we were in the “city”.

*Year 9, female student, age 16*

(12) Well I do actually work all the summerbreak but I going to have some days in the week i don't work.

*Year 9, female student, age 15*

As seen in examples (10)–(12) from Khor (2012), even the older students translated the Swedish *på* like it is equivalent to *in*. Prepositions might be seen as a difficult area for L2 learners as there are no rules that explain how each preposition is used. Because the 6<sup>th</sup> graders make the same type of errors as the students in Khor (2012), this can prove to be one of the difficult areas that DeKeyser (2005) described. Many options would dramatically increase the level of difficulty as DeKeyser (2005) explained, which could explain how the students often use *in* instead. There are many options, and rules are virtually non-existing.

Izumi and Isahara (2004) and Luk and Shirai (2009) hypothesize that language transfer is greater than first recognized by the early morpheme order studies, because the learners with Chinese, Korean, and Japanese L1s were not as accurate in their usage of articles and plural. This shows that morphemes that are found challenging are used differently in the target language, and they could also be absent in the L1. In this case, Swedish learners will not necessarily find it difficult to learn English prepositions; the difficulty lies in learning where they differ in their usage in both languages. Differences will be difficult, and also when certain grammatical structures do not exist in the target language or the first language.

### 4.1.3 Plural –s

Lastly, the least accurate was the plural –s, with a score of 83.0 percent, not far from the preposition *in*. The most frequent error was using the singular form of ghost in generic statements, e.g. *\*I don't believe in ghost* instead of *I don't believe in ghosts*. The other errors did not occur as often. They are found in examples (13)–(16) to illustrate what kind of errors that the students made.

(13) Many people belive in ghosts when they are young but when they get older they stop belive in ghost and monster.

*Year 6, female student, age 12*

(14) i dont belive ghost butt one time when i was going to sleep my lamp turned off and a book fallled down from my table.

*Year 6, male student, age 12*

(15) No one had seen the family seens then. Maybe they are all dead or wolfs.

*Year 6, female student, age 12*

(16) Slender is very scary becuse he is in the forrest on the nihgt and kill childrens.

*Year 6, male student, age 12*

The errors that the 6<sup>th</sup> graders made were somewhat different from the errors made by the students in year 9. The 6<sup>th</sup> graders used incorrect plural forms for different nouns like the 12<sup>th</sup> graders, while the students in year 9 added the plural –s to uncountable nouns, e.g. *\*peoples* and *\*stuffs* (Khor 2012: 18). What the three groups have in common is that the regular plural form –s was added, and not other plural markers.

When I examined the texts by the students in grades 9 and 12, I noticed that many students switched between *ghosts* and *ghost* in Khor (2012), also seen in examples (13) and (14). I have been unable to identify the cause, because in (13), the student moves from the plural form to the singular form. When talking about ghosts in general, it takes the plural form in Swedish, *jag tror på spöken*. If it was transfer, it would not take the singular form *ghost*, which we can see in (13) and (14). Some students would combine both the singular form and the plural form of *ghost* in one text, but some did not, so it varied greatly. It is possible that the concept of using plural in the generic sense has not been developed yet, or at least some of the students are mixing both because they are not sure about which form to use. One explanation could be due to the low degree of exposure. They did use the plural form of *animals*, *friends*, *movies* and *books* correctly, and the *a/an* form if they were talking about one friend, or one animal.

In example (15), *wolf* is a noun that follows another pattern for creating the plural form,

–ves, such as *leaf-leaves*. It belongs to the category of *irregular nouns*. Other irregular nouns are *mouse-mice* and *child-children* (Svartvik and Sager 1996: 135–136). Another category of nouns originate from other languages, mainly Latin and Greek, and those nouns take other plural forms: *alumnus-alumni*, *phenomenon-phenomena*, and *hypothesis-hypotheses* (Svartvik and Sager 1996: 137–138).

If we look at (16), there is another type of noun in English that keeps the same form when plural is expressed. It could be an overgeneralization of the –s that is attached to irregular nouns, as seen in the examples. This is not uncommon and is only one stage in the language learning process. I have experienced this in conversations with students during student teaching. It is not possible to say if the students themselves are aware of how Swedish nouns work, although I doubt it since it is their first language and it was not acquired in the same manner as an L2.

If we return to DeKeyser’s (2005) discussion about difficult elements of the second language, the plural form and articles were used as examples of challenging areas. Except for *ghost*, I did not find anything that would indicate that the students would not know how to form the plural form per se, when looking at the errors that affected irregular nouns. The reason that the accuracy score is low is because of the usage of *ghost* instead of *ghosts*. So the plural –s does not seem to be an actual issue for Swedish. In fact, it should be easier considering the fact that adding –s creates a plural form, while in Swedish, there are multiple suffixes to choose from. On the other hand, the students do not seem to understand English prepositions and how they are used. This part of the language might be more challenging because they have multiple uses and there is no clear rule that describes their usage.

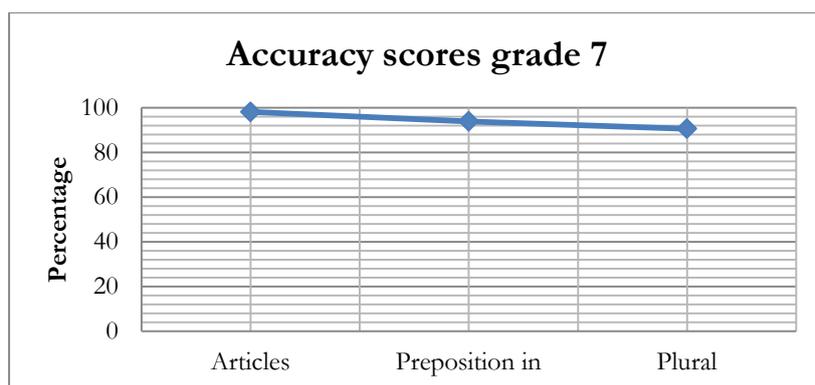
## 4.2 Morpheme acquisition order of students in grade 7

I expected to find changes in the language of the 7<sup>th</sup> graders and my theory was confirmed. The 7<sup>th</sup> graders’ language consisted of fewer grammatical errors of the investigated morphemes as the accuracy scores span between 90.6 percent to 98.1 percent. Interestingly, when the students made errors, they were generally of the same nature as the errors by the 6<sup>th</sup> graders and in Khor (2012). This implies that there is a first language transfer and that it does affect L2 acquisition to a great extent. Below is Table 6 that shows the distribution between correct usage, errors and morpheme score.

Table 6. Frequency and scores of investigated morphemes grade 7

Morphemes	Total number of correct usage	Total number of errors ( <i>missing and supplied morphemes</i> )	Total number of obligatory contexts	Accuracy score in percentage
Articles	206	4	210	98.1
The preposition <i>in</i>	92	6	98	93.9
Plural <i>-s</i>	184	19	203	90.6

Overall, the number of correct usage and obligatory contexts occurred less frequently compared to the 6<sup>th</sup> graders' texts. The order is the same, but the accuracy scores are higher. The highest accuracy score is 98.1 percent for articles, while it was 94.8 percent for the 6<sup>th</sup> graders, followed by 93.9 percent for the preposition *in*, compared to 83.8 percent for the 6<sup>th</sup> graders. The plural form received the lowest accuracy score of 90.6 percent, and which is higher than the 6<sup>th</sup> graders' score of 83.0 percent. Figure 2 shows a slightly different picture of the accuracy scores compared to the 6<sup>th</sup> graders.

Figure 2. 7<sup>th</sup> graders' accuracy scores.

The 7<sup>th</sup> graders performed better than the 6<sup>th</sup> graders did, as expected. Seen in Figure 2, the accuracy scores are closer to each other and they are also closer to 100 percent as well.

#### 4.2.1 Articles a, the

The most accurate morpheme received the highest score, 98.1 percent, which is also higher than the 6<sup>th</sup> graders' score, 94.8 percent. The examples contain errors in other aspects of grammar and this illustrates how the errors can vary between learners from different language groups, and also within the learner. This is relevant because the first language transfer was evident in the corpus texts by the 6<sup>th</sup> graders who used articles incorrectly when the usage differed between Swedish and English. For the Japanese, Korean, and Chinese learners, articles were ranked lower, and

their accuracy scores were not as high, which Luk and Shirai argue is caused by L1 transfer; article systems do not exist in those languages. Therefore, using them correctly became a challenge because the students were unfamiliar with that aspect of grammar. This further strengthens the idea that learners will find certain morphemes difficult depending on what the L1 and the L2 have in common, but the differences in the usage of those structures will lead to errors caused by negative transfer. The examples below show that the 7<sup>th</sup> graders' errors are similar, or of the same type as the 6<sup>th</sup> graders made.

(17) I think that its not natural that a spirit of a dead person becomes a ghost.

*Year 7, female student, age 13*

(18) A thing that I was really afraid of when I was younger is that whenever you open the front door downstairs my closetdoor like opens a little bit.

*Year 7, female student, age 14*

(19) But if someone have a proof about ghosts, i think they are gonna be famous.

*Year 7, female student, age 13*

(20) Yes I belive in ghosts because I saw a tv-show whit my mom and grandmom, and it's happening in the real life.

*Year 7, female student, age 13*

The errors that are found in examples (17)–(20) are of the same nature as the ones that the 6<sup>th</sup> graders made. In (17), it should be *the spirit* instead of *a spirit*. It takes the same form in Swedish and why an error occurred could be due to the fact that the sentence itself is complex. This is likely to be a sign of her interlanguage, because it does not reflect the Swedish grammar rules, nor does it follow the standard rules of English. In the next example, (18), *en sak* has been translated into *\*a thing* instead of *one thing*. In Swedish, the number one and the indefinite article have the same form, unlike English. It could also be that the student was not sure about how the indefinite article is used.

The confusion in (17) and (18) could be a result of the existence of an article system in both languages, in combination with the students developing a mental grammar for English. Speakers with different levels of proficiency will not be confused by the misuse of *a* because the error will not cause any confusion regarding the meaning.

We can observe this in example (19) too. Native speakers or advanced speakers might find these constructions to be odd, but they will still understand. *Proof* is uncountable in this context and does not require an indefinite article, unlike Swedish *ett bevis, flera bevis* (Svartvik and Sager 1996: 144). This strongly indicated transfer from Swedish, just like in example (20). The student

has written *\*in the real life* instead of *in real life*. In Khor (2012), there were similar errors made by students in years 9 and 12, e.g. *\*the society*.

As we can see in the examples, they show signs of a developing interlanguage in (17) and (18), and signs of transfer in (19) and (20). The students in years 6, 9, and 12 share this development, and further suggest that a language learning process is taking place. Changes in each grade can be seen, although they still make errors in certain areas, which I believe is caused by the first language. It fulfills the criteria that Murakami (2011) is using in his research to determine whether the errors are caused by the L1 or not. The type of errors does not vary as much within the groups (Swedish), but they are different compared to other groups (Japanese, Korean, and Chinese). Luk and Shirai (2009) argued that the reason why the Spanish learners were more accurate in using English articles was because Spanish also has an article system, while Japanese, Korean and Chinese do not.

#### 4.2.2 The preposition *in*

Although the accuracy order is the same, the accuracy score for the preposition *in*, 93.9 percent, is higher than the 6<sup>th</sup> graders' score, 83.8 percent. This is a big gap, but the errors are still of the same nature.

(21) I also think sometimes that if you die in a sickness youd be a good ghost.

*Year 7, female student, age 14*

(22) In TV can we see in program about ghosts, i think it's kind of interesting.

*Year 7, female student, age 13*

(23) I believe that we're interested of the unknown and the supernatural because we don't know what it is and we want to have the knowledge of everything that happens.

*Year 7, male student, age 13*

(24) I'm not so much for candy as many teenagers in my age.

*Year 7, male student, age 13*

We can see in example (21) that the student has not used a preposition that would translate into *om du dör i en sjukdom*. It has been translated into *in*, which is incorrect, as English would use *die from/of*. Example (22) the student has written *\*in TV* instead of *on TV*, indicating that there is some transfer involved. Example (23) would be *interested in the unknown* and not *\*interested of the unknown*. In the last example, (24), the student seems to have directly translated *\*teenagers in my age* from *tonåringar i min ålder*. The preposition is dropped in English, which is why it probably is transfer. As I discussed earlier, these types of errors are not different from those by the 6<sup>th</sup>

graders and Khor (2012). Examples of errors found in Khor (2012) are *\*stuffs* and *\*phenomenas*. The error in (22) does not entirely suggest transfer because the Swedish translations do not match the English preposition, but we can claim that when it comes to examples (21), (23), and (24).

The errors indicate that the 7<sup>th</sup> graders do not have sufficient knowledge of English prepositions, just like the 6<sup>th</sup> graders. There is not always an obvious choice and a counterpart, even if the first language and the second language share that particular feature. There are no universal rules that explain how they are used, rather, students will have to learn them without that aid. This is what DeKeyser (2005) argued would make a grammatical structure difficult. Prepositions are abstract and occur in different types of clauses that mark location, time, or direction that do not always have a clear relationship with form and meaning. I believe this might be the main reason why the students seem to have understood how it is used, but still make errors. So there is evidence for both positive and negative transfer. In addition, Izumi and Isahara (2009), and Jiang et al. (2011) argues that structures of the target language that are not present in the L1 will become difficult to learn. In this case, Swedish and English have common grammatical structures, but it is the differences between their usage that lead to errors. The errors that the 6<sup>th</sup> graders have made are so far are of the same types that are made by the 7<sup>th</sup> graders. The errors are of the same nature within one language group (Swedish) and this strongly suggest negative L1 transfer.

### 4.2.3 Plural -s

Lastly, plural received the lowest morpheme score, 90.1 percent, compared to the 6<sup>th</sup> graders' score, 83.0 percent.

(25) I don't belive in ghosts, spookis, or aliens and that stuffs.

*Year 7, female student, age 13*

(26) I say that I don't belive in ghosts, and I think that if supernatural phenomenons whuld exist, we wuld have found out about them.

*Year 7, female student, age 13*

(27) If they believe in ghost which i am sure they did more back in the days.

*Year 7, male student, age 13*

(28) But now when i am thinking.. yes , i believe in ghost.

*Year 7, female student, age 13*

In example (25), the plural marker is added to a collective noun, *stuff*. A similar error is found in (26) where the singular form *phenomenon* of Greek origin has a regular plural marker *-s*. These irregular nouns take different forms, and it is difficult to say if the students learned these in school or not, and how they were taught. It is possible that the students were taught the correct plural forms, but then resorted to overgeneralizations of the regular form instead, just like the U-shaped pattern would describe it. The U-shaped pattern describes how students first learn the correct usage of one form, but then begin using overgeneralizations of one form, before finally using the correct one again (Ellis and Barkhuizen 2005: 77). This is another piece of evidence that would suggest that Swedish students have a distinctive development and stages that they go through, i.e. that students from different language groups have their own learning process unique to them. Murakami (2011) also found this in his preliminary results, that students from one group expressed the same difficulty in using certain morphemes, compared to students of other L1s.

If we look at example (29), *back in the day* is a set phrase in English and could also be used in the plural form *back in those days* when talking about a specific time period. This phrase is equivalent to the Swedish *förr i tiden*, which is not reflected in the students usage, *\*back in the days*. It could be that the student lacks an understanding of set phrases in English and Swedish. Another possibility is that the student is talking about a specific time period, but that is not indicated in the corpus text, so there might be a clear explanation as to why the plural was used.

In the last example, (28), the student used the singular form, *ghost*, instead of the plural form, just like the 6<sup>th</sup> graders did, as well as the 9<sup>th</sup> graders and 12<sup>th</sup> graders in Khor (2012). We can see that this error exists in grades 6, 7, 9, and 12. It would be interesting to investigate if students in the early stages of the learning process would use *ghost* instead of *ghosts*, but the corpus texts that I have examined clearly show that they use the singular form and the plural form interchangeably regardless if they are in grade 6 or grade 12. This phenomenon deviates greatly from the uses of other nouns because there is no clear indication of whether they understand if the plural form of nouns is used in generic reference. While they do use the plural *-s* incorrectly in other areas, (irregular nouns and uncountable nouns), those errors are more understandable because there are differences between Swedish and English. One example is the countable nouns *peng-pengar* and *nyhet-nyheter* in Swedish, and the singular *money* and *news* in English (Svartvik and Sager 1996: 145). It could be as DeKeyser (2005) argued, that the relationship between form and meaning, and the last *-s* of *ghosts* might be problematic since it is easier to say *ghost* compared to *ghosts*.

### 4.3 Comparison of morpheme acquisition between grade 6 and grade 7

To summarize the results and analysis, the results from both school years have been compiled in a table for a comparison. The morphemes that I have analyzed present an assortment of errors that are found in the corpus texts. The errors indicate strong first language influence that is manifested in various ways, such as omission or addition of morphemes that are found in Swedish. There is also alternation between two forms (correct and incorrect) such as the use of \**ghost* and *ghosts*, and overgeneralization of rules such as the plural *-s*. These errors were not unique to one age group; they were found in both groups, including the students from Khor (2012). In Table 7, the accuracy scores of year 6 and year 7 are compared.

Table 7. Comparison of frequency and scores of students in grade 6 and grade 7

Morphemes	Total number of correct usage		Total number of errors ( <i>missing and supplied morphemes</i> )		Total number of obligatory contexts		Accuracy score in percentage	
	Year 6	Year 7	Year 6	Year 7	Year 6	Year 7	Year 6	Year 7
Articles	290	206	16	4	306	210	94.8	98.1
The preposition <i>in</i>	98	92	19	6	117	98	83.8	93.9
Plural <i>-s</i>	220	184	45	19	265	203	83.0	90.6

We can see that the accuracy scores are different, but the *type* of errors was still the same, regardless of the ranking. For example, both groups used \**ghost* instead of *ghosts*, and used definite articles when it was not required in English, such as \**the life*. This is strong evidence for L1 transfer and the role it plays in second language acquisition. We can also see that the students do not make *many* errors per se, but the errors are of the same type and mainly concern the differences between Swedish and English.

For Swedish learners, the use of articles, prepositions and plural forms are not new. DeKeyser (2005) argued that target language structures that do not have a counterpart in the first language will be difficult to master, however, for Swedish students, the situation is different. The students are familiar with the grammar structures, but they are not familiar with all the exceptions, seeing as they make errors when a morpheme is used differently in some aspects. The difference between *how* grammatical morphemes are used is the issue for Swedish students, as seen in the corpus texts. Previous research suggests that morphological congruency between the first language and the target language decreases negative transfer, which means fewer errors. Since the students in grades 6 and 7 make similar errors, this suggests that there is a similar order in which students learn morphemes. So the issue is not about learning different morphemes, it is about learning the *differences* between their usage in the target language and the first language.

#### 4.4 A comparison with grade 9 and grade 12 from Khor (2012)

I drew the conclusion that the results from this study and the results from my previous study, Khor (2012) shared many similarities. In Table 8, the results of the articles, the preposition *in*, and plural *-s* are listed.

Table 8. Results from Khor (2012)

Morphemes	Total number of correct usage		Total number of errors ( <i>missing and supplied morphemes</i> )		Total number of obligatory contexts		Accuracy scores in percentage	
	Year 9	Year 12	Year 9	Year 12	Year 9	Year 12	Year 9	Year 12
Articles	300	263	34	27	334	290	89.8	90.7
The preposition <i>in</i>	99	73	10	9	109	82	90.8	89.0
Plural <i>-s</i>	174	132	39	19	213	151	81.7	87.4

We can see that the number of errors has increased, but when divided by the number of students, the errors are not many. In comparison, the accuracy scores for articles, the preposition *in*, and plural *-s* from Khor (2012) are lower than the scores of the 6<sup>th</sup> graders and the 7<sup>th</sup> graders, seen in Table 9. Articles were the most frequently used, while the two remaining morphemes were more similar to the 6<sup>th</sup> graders' and the 7<sup>th</sup> graders' usage. The corpus texts were not only about ghosts in Khor (2012); the texts were drawn from ULEC and dealt with four different topics, including ghosts. This variation could have affected the choice of morphemes. In addition, their texts were longer.

Table 9. Accuracy score comparison of grades 6, 7, 9, and 12

Year 6	Year 7	Year 9	Year 12
Articles <i>a, the</i> : 94.8% The preposition <i>in</i> : 83.8% Plural <i>-s</i> : 83.0%	Articles <i>a, the</i> : 98.1% The preposition <i>in</i> : 93.9% Plural <i>-s</i> : 91.6%	The preposition <i>in</i> : 90.8% Articles <i>a, the</i> : 89.8% Plural <i>-s</i> : 81.7%	Articles <i>a, the</i> : 90.7% The preposition <i>in</i> : 89.0% Plural <i>-s</i> : 87.4%

In comparison, the 6<sup>th</sup> graders' accuracy scores are lower than the 7<sup>th</sup> graders'. In Khor (2012), the 9<sup>th</sup> graders' are lower than the 12<sup>th</sup> graders' but overall, the students in year 7 scored higher than the other students. This is interesting because it might suggest some kind of U-shaped learning; the accuracy scores for lowest ranked morpheme begin at 83 percent in year 6, while it starts at 91 percent in year 7. If we look at year 9, it starts at 81.7 percent and at 87.4 percent for students in year 12. However, this could be misleading, because if we look at the mean score for each year, the image changes; year 6: 87.2 percent; year 7: 94.5 percent; year 9: 87.4 percent; and year 12: 89.0 percent. This pattern is not linear, and it indicates that the learning process consists

of many stages that do not always follow a set pattern. The peak is found in year 7, while it goes down in year 9, and then slightly moves up in the last year. The collected data is insufficient, and I am only speculating, but the development does raise questions that must be investigated.

It could also show how the language learning process slows down as the students get older. Many factors could be involved, such as lack of interest and more focus on other subjects in schools. The students still made the same kind of errors regardless of their age and school year. Students who wrote about ghosts in junior and senior high used *\*ghost* and *ghosts* interchangeably in generic sense, and attached *-s* to irregular and uncountable nouns, which is strong evidence for L1 transfer. They also used definite articles in English when it was not required, and used other prepositions instead of *in* when necessary. This pattern is the key here, because finding errors that are the same *within* a group across ages and years of schooling signifies strong first language interference (Murakami 2011).

The second piece of evidence is the fact that the errors are not shared with students of other groups. The best example would be the students with Japanese L1. Their errors were different compared to the Swedish students; the lack of plural markings and articles in Japanese conflicted with English grammar. This is in line with Murakami's (2011) research and his findings. It appears that the orders vary within groups, and this signifies L1 influence.

## 5 Concluding discussion

This corpus based study investigated the *morpheme acquisition order* as part of *second language acquisition*. Students who participated in this study were in grades 6 and 7. The students wrote texts of 200-300 words that are stored in the Uppsala Learner English Corpus (ULEC). I processed and calculated the accuracy scores for articles, the preposition *in*, and plural *-s*. The theoretical framework exploited theories that were formed during the 1970s and 1980s regarding the so called *natural order hypothesis*. It suggested that certain morphemes were acquired in a predictable sequence by native English speakers (Brown 1973), but also by learners of English as an L2 by both children and adults (Bailey et al. 1974; Dulay and Burt 1974; Krashen 1982; 1985). There was little influence from the first language. The theories implied that there was an innate ability for learners to acquire grammatical structures because the utterances they produced were of higher level than the input that they were exposed to (Cook 1996; Krashen 1985). More current research disproves the notion of a natural order and argues that the first language affects the acquisition of morphemes to a much greater extent than previously stated (Izumi and Isahara

2004; Jiang et al. 2011; Luk and Shirai 2009; Murakami 2011). Based on previous work, two research questions were formulated:

1. How does the first language affect the usage of grammatical morphemes?
2. To what extent is the theory of the natural acquisition order of morphemes applicable?

First, the results showed that the students made the same type of errors in all investigated grades. Swedish and English have morphological structures in common, such as prepositions, articles, and plural forms. Students did not appear to have a problem in providing these structures, but when they made errors, it was because they were used differently in Swedish and English. Students in grade 6 mainly made errors when using articles (accuracy score 94.8 percent) in the generic and specific sense, e.g. *\*i have hard at sleep at the night*, and *\*I went down to the downstairs*. Errors that occurred when using the preposition *in* (accuracy score 93.8 percent) could often be translated into the Swedish *in* or the lack of a preposition: *\*he died 2009*, and *\*in my home*. The use of plural *-s* (accuracy score 83.0 percent) was also incorrect in generic sense, mainly *\*ghost* instead of *ghosts*, but also *\*wolfs*, and *\*childrens*.

Students in grade 7 also made similar errors, but their accuracy scores were higher compared to the 6<sup>th</sup> graders' scores; articles; 98.1 percent; the preposition *in*; 93.9 percent; and plural *-s*; 90.6 percent. Examples of their errors are incorrect use of articles in the generic and specific sense, such as *\*a spirit of a dead person*, and also misuse of indefinite articles with uncountable nouns, *\*a proof*. The preposition *in* could also be translated word for word in to Swedish, *\*interested of the unknown*. The plural *-s* was used correctly most of the time, but the errors showed signs of overgeneralizations, such as *\*stuffs*, *\*phenomenons*, or lack of the plural marker, *\*I believe in ghost*.

If we compare the results with the students in grade 9 (Khor 2012), the 9<sup>th</sup> graders' accuracy scores were lower; the preposition *in*; 90.8 percent; articles; 89.8 percent; and plural *-s*; 81.7 percent. They also made similar errors when using the preposition *in* such as *\*we walked in a couple of minutes*, *\*I going to have some days in the week i don't work*. Articles that were used incorrectly were consistent with the errors found in the lower grades, e.g. *\*It would be strange if the life just ends*, and *\*I wont offer any minute to think about the school*. The plural form of nouns was the least accurate, but the errors were made in the same areas, *\*peoples*, and *\*ghost* instead of *ghosts*.

Lastly, students in grade 12 (Khor 2012) were also consistent with the errors made by the students in grades 6, 7, and 9. The 12<sup>th</sup> graders' accuracy scores are as follows; articles; 90.7 percent; the preposition *in*; 89 percent; and plural *-s*; 87.4 percent. Their errors when using articles were of the same type, e.g. *\*the most unemployed* and *\*the society*, where an article is not

required in English. The preposition *in* also indicated that the students translated Swedish prepositions into the English *in*, instead of using the correct ones, such as *\*in the last week* instead of *during the last week*, or *\*interested about the unknown* instead of *interested in*. Regular plural forms were attached to other nouns, such as *\*phenomenas*, and *\*ghost* instead of *ghosts*. This only strengthens the idea that the first language hinders the acquisition of morphemes that are (1) not present in the first language, and (2) are present in the first language but have some differences in their usage. To summarize, I have identified five areas where they are the most common: (1) generic v. specific use of articles in Swedish and English, (2) the generic sense of plural nouns, (3) irregular nouns and nouns of Latin or Greek origin, (4) uncountable nouns, and (5) prepositions in Swedish and English.

The strongest evidence is the fact that the same errors are found in all levels that were investigated in this study. However, the errors are different compared to other studies of students with other L1s, so this does not support the natural order hypothesis and the argument that the L1 has a limited role in SLA. In this case, negative transfer causes the errors most of the time, or insufficient knowledge of grammar. It also suggests that the reason why the students used the morphemes correctly is due to positive transfer, and errors were caused by negative transfer. The errors were similar within the group, but deviated from learners of other L1s that were typologically different, such as Japanese, which does not have an article system or plural marking (Luk and Shirai 2009; Murakami 2011).

Izumi and Isahara (2004), Luk and Shirai (2009), Murakami (2011), and Jiang et al. (2011) propose that transfer essentially occurs in areas that (1) the L1 and L2 have in common, and (2) incorrect and deviant structures are formed when a grammar form is absent in either the L1 or L2, making it abstract and difficult to grasp. For Japanese learners, it was clear that they were not as accurate in their use of articles because they are absent in Japanese in Izumi and Isahara (2004) and Luk and Shirai (2009). As for the Swedish students, this could be seen in their use of articles and plural forms in the generic sense. Errors occurred when the usage differed between Swedish and English, yet, both languages have an article system to mark numbers. Because of the fact that the errors are unique to one language group, this suggests that both negative and positive first language transfer is strong.

Second, after investigating the texts, I am not sure if it is possible to claim that the accuracy scores are equivalent to an acquisition order. Is it possible to claim that the students have acquired a morpheme according to the natural order hypothesis, if the findings suggest that L1 transfer is evident through their entire schooling? Ellis and Barkhuizen (2005) and Gass and Selinker (2008) argued that language learning usually goes through a number of stages, the U-

shaped learning, but also that interpreting accuracy scores as a natural order is not a valid claim today. Luk and Shirai (2009) and Murakami (2011) argue that the L1 influence and transfer are stronger than first credited. Their studies propose that instead of referring to a universal order that all learners go by, the variation between students from different language groups points toward a natural order within one language group. The results suggest that there is an order within one language group, rather than a universal and fixed order.

Recent studies have stressed the greater role of the first language when learning a second language, and the results of this study are unable to support the (universal) natural order hypothesis as well. Although the dimensions of this paper are smaller than desired, the errors that were found strongly indicate first language transfer when acquiring grammatical morphemes. Still, the theory might not be applicable to Swedish learners as the corpus texts contain errors in areas where Swedish and English differ. Maybe there is no *fixed universal order* in which morphemes are acquired, but the studies that have found different orders might contain clues that could explain why and how the morphemes are acquired. In fact, this could explain how languages are learned and what the learning process looks like from a cognitive perspective. The theory of a natural order might not be applicable, but we can lift elements from the theory and focus on how or if there is an order *within* language groups rather than looking at it from a universal aspect. This way, we can develop our understanding of the mechanisms behind second language acquisition.

Additional studies in first language influence must be carried out in order to gain a better understanding of the mechanism behind second language acquisition. Studies that examine Swedish students are incredibly meager since many linguists have focused on Asian languages and other European languages. Research should not only focus on English as the target language. Collaborating with linguists who concentrate their work on other target languages might assist in finding the key, or keys, to solving this riddle.

## 6 Reference list

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