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Implicit Acquisition of English Grammar

A study of Swedish secondary school pupils' exposure to extracurricular activities in English and mastery of contrastive grammar

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Abstract

This study aims to investigate whether Swedish pupils in secondary school who engage in regular extracurricular activities in English display an enhanced level of implicit grammatical knowledge. The study does not require the participants to show comprehension of the grammatical reasoning, since this is usually not possible when this type of knowledge has been acquired without formal instruction. Implicit versus explicit learning and knowledge is a well documented area of research in the field of language acquisition, however the majority of the research has been focused on vocabulary, rather than grammar. The method by which this study was conducted consists of two parts. Firstly, a grammatical test, testing the participants' mastery of grammatical aspects which Swedish students are likely to make mistakes with, due to their contrastive nature. The second part is a questionnaire, investigating the participants' habits regarding extracurricular activities in English, such as digital gaming and social media. It also inquires how much time they spend on these activities. All participants attend 7th grade at the time of the study, speak Swedish as their mother tongue and study English as their second language.

The results of the study are inconclusive as they are not able to confirm that high exposure in itself would increase grammatical accuracy. Participants with the lowest test scores, also claim high exposure, although not as high as the top achievers. The difference is not significant enough on its own, to confidently confirm the thesis in the affirmative. However, looking at the test results in combination with the number of different extracurricular activities the participants engage in, there is a correlation indicating that participants who are exposed to several different types of media have a higher proficiency in contrastive grammar than those who are only exposed to one or two different sources of the English language. The conclusion of the present study is that exposure to certain types of activities, or a large variety of different activities could have a positive impact. Further research is required to confirm this indicative conclusion.

Key words: second language acquisition, ESL, implicit & explicit learning, extracurricular activities, contrastive grammar, automatisisation, restructuring of information.

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1 Introduction

For many years, the English language has been well established in Sweden and the Nordic countries. It could be argued that its status is increasingly becoming that of a second language rather than a foreign language, i.e. that it is being used in ordinary life situations and not only to communicate with foreigners. At a young age, many Swedish children are introduced to the language through mediums such as the internet, music, computer games and television. English as a global language, in combination with the ease of connectivity with people from around the world through social media, etc., also has a considerable impact on exposure to the language from a young age. Working as an educator in the Swedish school system, it becomes apparent that many Swedish pupils have acquired a proficiency in the English language, exceeding the level at which they are being taught in the Swedish curriculum, especially in the spoken form, presumably because they are not as likely to come across English in the written form in their extracurricular activities. Nonetheless, this phenomenon is an indication that they are in fact learning the language implicitly through out-of-class exposure. However, not all children are exposed to these activities, or only to a limited degree. For example, lack of platforms such as Ipads and smartphones might have an impact. Another factor could be that not all pupils are introduced to English through parents, or siblings in the household. Being exposed to a new language implicitly and informally from a young age appears to be an advantage, and in many ways similar to how the mother tongue is acquired.

In the curriculum for the Compulsory school (the Swedish National Agency for Education, skolverket.se), the subject of English is heavily focused on communication skills, getting the message across, rather than grammatical accuracy. Since grammatical proficiency is not mentioned specifically as a knowledge requirement, there is a risk of it becoming an area of neglect by teachers who are already struggling to incorporate all other requirements into their teaching schedule. Grammar is a subarea which tends to invoke negative feelings from both students and educators in the classroom environment (Karlsson, 2020). This reasoning is another

indicator that students with a good mastery of grammatical structures have acquired these by other means than formal instruction. Previous studies on this matter, however, are often contradictory to this claim, often showing a correlation with implicit vocabulary acquisition, but not to a great extent with grammatical accuracy.

This study will investigate the grammatical proficiency of Swedish pupils in year 7 of the Swedish Compulsory school, with a focus on contrastive grammar, where Swedish learners are likely to make mistakes. The use of contrastive grammatical issues were also chosen because they are less likely to have been taught in a formal environment at this stage of the pupils' education. The results will be put in comparison with the participants' use, and exposure to, extracurricular activities of the English language. The aim of the study is to analyse whether there is a correlation between the pupils' mastery of contrastive grammar and informal exposure to their L2, in order to identify indications of implicit learning.

Second Language Acquisition (SLA) is a major field of research within Linguistics. Much of it concerns issues with how a new language is learnt and in which order grammatical, morphological and syntactic aspects are acquired. An abundance of research is also undertaken about the psychology of SLA, such as attitudes and motivation. The present study, which asks whether grammatical proficiency can be gained through implicit exposure, best adheres to cognitive theories in this field, which will be reviewed in the following section, along with implicit and explicit learning and other relevant theory.

2 Literary review

In the first part of this section, some theoretical background relevant to the study will be reviewed. These will also be discussed further in the following subsections, starting with implicit and explicit learning. Interlanguage theory and aforementioned cognitive theories will also be explored. The final part of this section some similar studies will be investigated.

2.1 Theoretical background

One of the earliest and most influential figures in second language theory is Stephen Krashen. His studies in the early 80's suggest that L2 learners could improve their language proficiency in formal as well as informal environments (Krashen, 1981), an aspect which is of importance to the present study. His *Monitor Theory* argues that learners have two separate systems; a 'Learned system' and an 'acquired system' (Ellis, 2008). The former is taught consciously, for example, in a classroom environment where it is necessary to understand and memorise grammatical rules. The latter refers to knowledge gained unconsciously, often through out-of-school exposure. The model is closely connected to another view of cognitive theory, namely that of implicit versus explicit learning and implicit versus explicit knowledge/memory. It has been studied by cognitive psychologists, as well as several SLA researchers (for example, Krashen, 1981, Ellis 1994, Ellis 2005).

Further fields which are central to this study include restructuring of information, automatization and fossilization, all of which can be said to be cognitive theorist views. Within SLA research, a distinction can be made between 'cognitive' and 'mentalistic' theories. The former sees language learning the same as learning any kind of knowledge, engaging the same cognitive systems - perception, memory, problem solving, information processing, etc. The latter, a mentalistic view, considers linguistic knowledge to be separate from other cognitive systems (Karlsson 2002). Although this study neither obeys nor disregards either of these views, the cognitive approach lends itself better to the thesis of this study, which asks whether skills are improved through exposure, in a similar way to learning other skills, such as improving the balance by riding a bike.

2.2 Implicit and explicit learning

There is a wide agreement in SLA research that a dual learning system exists in the form of explicit and implicit learning, as well as explicit/implicit knowledge. These distinctions are

significant in second language acquisition research, but also in cognitive psychology, as it deals with the conscious and the unconscious mind. Schmidt (1994) differentiates between the two concepts as being related but distinct concepts. Learning refers to the *processes* involved in learning, whereas knowledge refers to the *products* of learning. Ellis (2009) has established that the definitions of these terms vary slightly by some of the most influential theorists in the field. A summary of these definitions will now be given.

When it comes to implicit learning and knowledge there are varying definitions of what qualifies as implicit. The most strict definitions state that for implicit learning to take place, the learner must be completely unaware that any learning is taking place and that this type of learning is only possible before reaching a critical age. Other theorists hold a more flexible definition of the term implicit, believing that learners may have some degree of awareness that they are learning something, but they would not be able to verbalise their newly acquired skills. The latter definition of the term will be applied in this study. Knowledge that is acquired implicitly holds the benefit that it is accessed by automatic recollection, as opposed to a conscious one which would require more time and effort by the learner. This view is supported by Eysenk (2001) who has defined implicit memory, which is closely related to knowledge, as '*memory that does not depend on conscious recollection*' (p. 334).

Explicit learning and knowledge, on the other hand, is conscious and the learner can, to a degree, verbalise this knowledge of grammatical rules. An example of explicit learning is what takes place in a formal classroom environment where the teacher instructs the L2 students what and how they will be learning, such as when to apply the *+ing* form to verbs. Although this knowledge can also become automatized, it will be used explicitly, or consciously, by the learner until it reaches the stage of being automatized.

2.3 Interlanguage theory

The term *Interlanguage*, coined by Selinker (1972), refers to two systems. The first of these two defines 'an interlanguage' as the internal linguistic system constructed by a learner at a single

point in time. The second definition involves the series of interconnected systems that characterise the learners progress over time, referred to as 'interlanguage' or 'the interlanguage continuum'. For example, when a Swedish elementary school student is learning English as their second language, the interlanguage would consist of their more complex system of L1 grammar on the one hand, and their more basic system of L2 grammar on the other. The development and progress of these interconnected systems amounts to the student's interlanguage continuum. Another theorist in this field, Corder (1977b), hypothesised that the L2 learner starts off with a 'basic' learning system consisting of lexical items and a few simple rules for sequencing them. That is, the starting system is not the full L1, which is gradually replaced, but a reduced system which is gradually complexified (Ellis, 2008).

2.4 Cognitive theories

As mentioned above there are three additional cognitive concepts which are important to this study and will be reviewed further in this section. Firstly, *automatisation*, which is also referred to as the routinisation of skills. As the name suggests, this theory suggests that different mental tasks require various levels of processing and may, through practice, become more or less automatic. Producing casual speech in our L1, for example, requires little to no processing whatsoever. This cognitive concept states that the same can be achieved with a second language. Secondly, and closely connected to the first, is *restructuring of information*. When learners at the beginner stage of a second language continuously develop their interlanguage, the basic knowledge is restructured and becomes more complex, however not necessarily more difficult to access. Thirdly, the concept of *fossilisation* refers to when the learner, for various reasons, stops developing or restructuring their interlanguage, and any errors that may exist will remain, regardless of any new input.

Mclaughlin (1987), who is a leading theorist in the field of *automatisation*, states that by reason of humans being limited-capacity processors, without the ability to routinise skills, mastering a

second language would become an impossible task. '*When a component of the task becomes automatised, attention can be devoted to other components of the task and a previously difficult or impossible task becomes possible*' (McLaughlin 1987). To connect this with implicit learning and memory, knowledge that is acquired implicitly could have the benefit of requiring less of this limited processing capacity in order to become routine.

The concept of automatisisation is closely connected to that of *restructuring of information*, but the latter is a more complex system of organising learners' increasingly advanced L2 knowledge. Slightly varying approaches to how this restructuring really occurs have been given by a number of theorists, such as McLaughlin (1987), Karmiloff-Smith (1986) and Rumelhart Norman (1978). Ellis offers the following general definition (2008:977-8): 'This is a term used in information-processing theories of L2 acquisition to refer to the qualitative changes that take place in learners' interlanguage at certain stages of development'. For example, at an early stage, a Swedish L2 learner of English may be treating past-tense forms as separate items, but after the qualitative changes have taken place, the learner will instead refer to a general rule for past-tense formation.

Many learners fail to ever achieve full native-speaker competence, continuing to demonstrate the same grammatical and lexical errors in their L2 production. They may also stop short of achieving a native-like pronunciation (Ellis: 2008:28). This phenomenon, called fossilisation, was termed by Selinker (1972) and Selinker and Lamella (1978) define *fossilisation* as:

... a permanent cessation in learning before the learner has attained target language norms at all levels of linguistic structure and in all discourse domains in spite of the learner's positive ability, opportunity, and motivation to learn and acculturate into target society. (p. 187)

Another theorist, Han (2004), distinguishes between fossilisation on a *cognitive level* and an *empirical level*. He clarifies the difference between these two by stating that fossilisation on a

cognitive level involves the cognitive processes or underlying mechanisms producing permanently stabilised IL forms, whereas fossilisation on an empirical level incorporates the stabilised interlanguage forms that remain learner speech or writing, regardless of new input. Thus, if a learner keeps repeating the same grammatical error, despite regular formal and informal exposure, the reason could be that some form of fossilisation for that particular rule has been established.

In order to further investigate the effects of extracurricular activities when learning a second language, the following section will review the findings of similar studies.

2.5 Similar studies

In this section a review of previous studies similar to the present study will be presented. There are numerous studies looking into incidental language acquisition. The majority of these studies have historically focused on vocabulary rather than grammatical accuracy and thus the findings are not suitable for comparison. Comparisons could be made on a broader level, examining the general effects of language learning through out-of-class-exposure. The research question in the present study, however, is specifically aimed at acquisition of grammatical knowledge. The fact that research on improved grammatical proficiency through extra curricular activities has been a neglected area of study could be considered slightly strange, since the connection between improved vocabulary through reading and exposure to various forms of media is already well established.

An experimental study by d'Ydewalle and Pavakanun (1997), of Dutch-Belgian native speaking high school students in Leuven, Belgium, examining whether watching a movie could lead to language acquisition, found only mild effects on grammar and strong effects on vocabulary acquisition. A more recent study by Schurz (2018), examines implicit knowledge of English in Swedish high school students. The study included an untimed grammaticality judgement test. The participants performed significantly better on the implicit knowledge test than on its explicit counterparts. Scores for implicit knowledge had a high correlation with the

total amount of out-of-class exposure to English. The findings of the study indicate that high levels of out-of-class exposure, in combination with a largely fluency-based instruction, favour the development of implicit rather than explicit knowledge. These findings are indicative in nature and should not be generalised, but the results point to the same conclusion as the present study, which is that regular exposure to English, through various forms of media, does lead to some degree of improved grammatical accuracy. A study by Thomesen (2020), investigating how a group of Norwegian ninth graders' English language proficiency was affected by extracurricular English language practices, found online gaming to be the only activity to significantly correlate with the participants' English vocabulary proficiency. However, there were no significant correlations between any activity, single or combined, and the participants' grammatical proficiency. Worth mentioning is that the results in Thomesen's study show that all participants scored considerably higher in the grammar test than in the vocabulary test. If the students were already proficient in the grammatical issues presented in the test, it could explain why there was no strong correlation. In the present study, the grammatical questions are selected specifically because they are known to be difficult for Swedish secondary school students. Finally, research conducted by Kuppens, A. H. (2010), studies to what extent consumption of English-subtitled television programs and movies, video games, and music influence the English-to-Dutch translation skills of Flemish pupils in the final year of primary school. The pupils were tested on vocabulary and translation skills, as well as grammatical proficiency. The findings showed a positive correlation between consumption of the above stated media, between 3-7 times a week, and incidental acquisition of the English language.

To summarise, these studies show that there are indications that grammatical proficiency could be improved through various forms of implicit exposure to the English language. However, the studies conducted are not significant enough in scale or time, to provide evidence, and research on a larger scale should be done in the area, especially in regions and countries like Sweden and the Nordic countries where English can be considered a second language, as opposed to a foreign language.

3 The present study

In the following subsections, a thorough account will be provided of the chosen population for the present study, the material used to collect the data required to address the research question, as well as a description of the method chosen to analyse the collected material.

3.1 Research question addressed

In the present investigation, one main research question will be addressed.

1. Do students who regularly engage in extracurricular activities in English display enhanced levels of grammatical accuracy, compared to students who do so to a considerably lower degree?

3.2 The informants

A total number of 79 pupils participated in this study, all of whom are studying year 7 (2020) at Galären school, in Karlskrona, Sweden. Galären is a public school which follows the same curriculum as other municipal schools. The pupils' ages range between 13-14 at the time of the study, all born 2006. All subjects speak Swedish as their mother-tongue and English is their second language. They are divided into four separate classes, 7A-D, with an even spread between girls and boys in each class. There are two teachers following two classes each, with a shared teaching program, i.e. all students are exposed to the same projects and content throughout the academic year. All pupils have studied English as a subject in school since the year they turned 7 and started 1st grade, in accordance with the Swedish school system. English as a subject is taught twice a week in 60-minute sessions. The curriculum consists of a mixture of reading, composition, listening and speaking, with a focus on communicative skills. Although grammar is part of the national curriculum plan, it is not an aspect in which the pupils receive a specific grade, the focus instead being on getting the message across. Since grammatical

proficiency is not mentioned specifically as a knowledge requirement, there is a risk of it becoming an area of neglect by teachers who are already struggling to incorporate all other requirements into their teaching schedule. In addition, as mentioned in the introduction, grammar is a subarea which tends to invoke negative feelings from both students and educators in the classroom environment (Karlsson, 2020). Further, before starting secondary school at Galären, the pupils attended a number of other schools in the municipality, hence the quality and content of their previous English education might vary.

The other learning environment where the pupils are able to improve their English grammar proficiency is during extracurricular activities, where the pupils, depending on what tools do they have available to them, acquire English in a more implicit, non-instructive manner. Living in this part of the world, and being part of their specific generation, these informants have had more or less unlimited access to the internet since they were toddlers. Most of the pupils have access to the internet in their homes, via mobile phones, tablets, smart-TVs, computers and digital games. There are, however, a few pupils who do not have access to these tools and who have far fewer opportunities to acquire the English language implicitly. All but one of the participants in this study have internet access in their home, but there might be more of them who lack their own tablets and smartphones. There are of course also analogue means of being exposed to English, such as through literature, music and speaking with foreign national friends and family.

3.3 Method

A description will now be given of the method chosen to investigate the collected material. The result of the test will be given as a percentage, thus a definition and an explanation of this system is given. Further, each of the 15 questions of the grammatical test will be presented from a contrastive point of view. The final part of this section will explain how the questionnaire, dealing with the subjects' extracurricular activities, was analysed and investigated in relation to the test results. The total number of participants in the present study were 79 pupils. This excludes two participants whose results were not used due to the fact that they answered 'No' on

question 1 and 2 in the questionnaire, i.e. Swedish is not their mother tongue and English is not their second language.

3.4 The grammatical test

In order to evaluate each pupil's proficiency in English grammar, they were asked to complete a grammatical test in the form of a gap filling exercise. The test consists of 15 sentences addressing various contrasting issues Swedish L2 learners of English commonly experience. The grammatical aspects which were tested were chosen mainly because they are contrastive in character, i.e. where Swedish learners are likely to make mistakes. In each of the 15 questions, the students were given two alternatives to choose between.

The following part of this section will present each question from this perspective, explaining which aspect causes difficulty for a Swedish L2 learner. Firstly, an explanation will be given as to the method chosen for compiling the results. For each pupil's grammatical test a score was given showing the percentage of correct answers. In this test all questions were evaluated equally, i.e. 1 points deduction per error. Thus, the potential scores range between $0 \div 15 \times 100 = 0\%$ and $15 \div 15 \times 100 = 100\%$.

Percentage is in this case used as a tool to get a picture of the pupils' proficiency regarding contrastive issues of learning the English language. The main purpose of the scores is to get a variable of comparison with the data from the questionnaire in order to answer the thesis question.

Initially, the scores were analysed on a general level to see which grammatical aspects caused the fewest and the most errors among the pupils. The tests were then divided into three groups based on their results. The top tier consists of pupils who scored between 0 and 3 errors. The middle tier consists of pupils who scored between 4 and 6 errors. The final tier consists of students who had 7 or more errors. The number of students in each tier varies somewhat in size, but this is not an issue since each group is sizable enough to discern potential patterns. Two criteria were used

to create the three groups, namely test score and size. Test scores in group 1 range from 86%-100% (0-2 errors) and the size of the group is 21 pupils. It can be stated that all pupils in this group have a high level of proficiency in the types of grammatical issues tested in this study. The reason why this particular number test was chosen for group one was to ensure that it includes only the pupils with the highest level of proficiency, but at the same time being sizable enough to be able to compare and analyse the specific data within the group. The results in group two range from 66%-80% correct answers (3-5 errors), thus it could be said that these pupils have a decent to good proficiency in these grammatical issues. Consisting of 40 participants, this is the biggest group, as could be expected of the middle section. The third and final group consists of 18 pupils with scores ranging between 33%-60% (6-10 errors). These pupils have a low to average proficiency in contrastive grammar. It might be argued that the middle group could have been made smaller to create a more even spread in size. This was tested, however when the top and bottom groups were increased in size, the analysis became more vague, it became more difficult to differentiate between the different groups in relation to the results of the questionnaire. Therefore it was decided to keep them in their current state.

Each group has been analysed from two perspectives; their score and their extracurricular activities. The larger part of the discussion section is focused on a comparison between the top and bottom tiers due to the fact that this is where the main differences can be seen.

Each of the fifteen questions will now be given a brief explanation regarding why they were chosen to be in the test.

1. Please be quiet. I _____ to your father right now. (am talking/talk)

The Progressive poses a difficulty for Swedish learners since there is no equivalent in the Swedish language. Therefore language transfer might cause the student to choose the simple form instead.

2. I explained it _____ her many times. (for/to)

The preposition ‘to’ is combined with the verb ‘explained’, in what is called an ‘idiomatic’ use of prepositions. The preposition is bound to the specific verb and cannot be exchanged to any other word. There are no tricks or rules regarding idiomatic uses of prepositions and may therefore prove difficult for the students.

3. She _____ here since 1990. (works/has worked)

In English, the perfect tense is used together with the preposition ‘since’, if the action is still continuous. In Swedish on the other hand, the present tense is often used. (Svartvik Sager; 110) However, both forms exist in the Swedish language; “Hon jobbar (har jobbat) här sedan 1990.”

4. Did you take all my money!? Where do you keep _____ (it/them).

‘Money’ is a noncount noun in English and a count plural in Swedish (‘pengar’).

5. The little girl usually _____ to her mother on the phone every day. (talk/talks)

This sentence poses a subject-verb construction testing the pupils mastery of concord. The distance between the subject (The little girl) and the verb (talks) has a tendency to increase the rate of error (Karlsson, 2002). The obstructive element in this case being the adverb *usually*. Further, the Swedish language has the same form, whereas English does not; *Jag pratar, du pratar, hon pratar*.

6. He works as _____ electrical engineer. (a/an)

In the English language the indefinite article is determined by whether the following word begins with a vowel sound or a consonant sound, whereas the equivalents in the Swedish language, '*en, ett*', are not governed by any grammatical rules.

7. I can't find the scissors? Have you seen _____ (it/them)?

The names of many tools that consist of two moving parts, which are singular in Swedish, are plural in English, e.g. pliers, scissors, tongs and tweezers. (Svartvik Sager, 260A)

8. If you can't sleep, try counting _____ (sheep/sheeps).

Zero plural exists in both languages, but might cause trouble if the learner is strictly following the more general rules of plural in the English language. Plural-endings is something a year 7 student is highly likely to have been practising in the classroom. *Mon-ies, fish-es, sheep-s*, are examples of errors that might occur, as they would have done correctly with the words bunny(-ies), beach(-es) and dog(-s). (Svartvik Sager, 156A)

9. _____ horses are beautiful animals. (-/the)

In the English language, where non-count nouns and plural nouns are used generically, they are used without the definite article. The Swedish language on the other hand, often has the definite article, but may sometimes also exclude the article. E.g. *Coffee* (kaffe[t]) is getting too expensive (Svartvik Sager, 175).

10. He was scratching _____ head. (his/the)

Possessive pronouns are used more extensively in English than in Swedish, especially in front of nouns representing body parts, the senses, items of clothing and other personal

belongings (Svartvik Sager, 226); ‘He was scratching *his* head.’ Whereas in Swedish the definite form of the noun is used; ‘Han kliade sig i huvudet’.

11. He drives _____ (slow/slowly).

Most English adverbials end in -ly. In the Swedish language adverbs are formed by adding -t to the adjective, eg. långsam, långsam-t. However, there is no adjective form of the Swedish adverb sakta (slowly).

12. I bought my car _____ 2017. (-/in)

Rule-governed or ‘systematic’ uses of prepositions are difficult for second language learners of English to predict. When referring to periods longer or shorter than a day, the preposition *in* should be used (Karlsson, 2002). In Swedish on the other hand, no preposition would be used in this case (Jag köpte min bil 2017). Unless the students have learnt this rule they could be expected to transfer their L1 knowledge into the English translation.

13. The elephant is larger than _____ other animal living on land. (any/some)

Any-words are used in all types of phrases with a negative meaning. There are numerous rules regarding when to use *some*- and when to use *any*-words and this will cause a problem for pupils who haven’t automatized or studied these different uses of the Swedish words någon/något.

14. This book, _____ won the Pulitzer prize last week, has already sold out in all the bookstores. (which/who)

The pupils need to consider that the English language has several equivalents to the word 'som'. 'Who' is only used when the antecedent is a person. It can also be used for countries and animals, if a personal relationship is considered, such as with horses or dogs. (Svartvik Sager, 246)

15. _____ is so much dirt on your shoes! We really need to clean them. (It/There)

It/there is another aspect where a learner might struggle as the grammatical rules are quite complicated and contrastive to the Swedish equivalent *det*. There are two words for *det* in English: *it* and *there*. *There* is used when referring to where or when something is, a number or amount, or when something is existing or happening. *It* is often used with the verb *be* and when referring to times, dates, distance and the weather. (Svartvik Sager, 206)

3.5 The Questionnaire

The second source of primary data was collected from a questionnaire consisting of five questions. The first two questions established that each student's mother tongue is indeed Swedish and that English is their second language. If the answer to these initial questions were negative, their data were discarded. The third question explores how much time the students spend on extracurricular activities in English. The fourth question establishes which specific extracurricular activities in English the students are exposed to or expose themselves to, such as through various forms of digital media; tv-shows, movies, music, social media, blogs, pods, talking through headsets and writing, playing digital games, etc. Further, there might be analogue exposure through reading literature, poetry, english-speaking friends or family. In the final question of the questionnaire the students were asked to specify what motivates them to improve their English.

4 Analysis and discussion of the results

In the following section the results of the grammatical test will be presented and analysed against the questionnaire, in order to see what patterns there are between the pupils' proficiency in contrastive grammar and their use of extracurricular activities in English. The first part will review the results on a general level, after which the results will be broken down into three groups and evaluated based on their percentages, as described in the method section.

As can be seen in *Table 1*, the total number of possible errors (of all participants) accumulates to 1185. The total number of actual errors is 302, giving an average of 4 errors, which also equates to a rate of 74.5% correct answers. The lowest number of errors, which was achieved by four participants, was 0 errors. The highest number of errors was 10, which was achieved by one participant. On a general level the results show that the pupils have a fairly good mastery of contrastive grammar.

Table 1

Total number of participants	Total number of possible errors	Total number of errors	Total number of correct answers %	Average number of errors	Range of errors
79	1185	302	74.51	4	0-10

In *Table 2*, below, the number of errors and correct scores for each question is presented on a total level.

Table 2

Question	Number of errors	Number of correct answers	Score %
-----------------	-------------------------	----------------------------------	----------------

12	3	76	96.2
10	6	73	92.4
3	9	70	88.6
13	9	70	88.6
11	10	69	87.3
1	12	67	84.8
6	18	61	77.2
7	19	60	75.9
2	21	58	73.4
15	24	55	69.6
5	28	51	64.6
9	32	47	59.5
4	35	44	55.7
14	37	42	53.2
8	55	24	30.4

As can be seen in *Table 2*, there are a number of sentences which the informants did particularly well with. Looking at the top 5 sentences where the pupils performed the best (3, 10, 11, 12, 13), the total number of errors on these questions range between 3-10, and the percentage of correct answers for each sentence range from 87% to 96%. In 14 out of the 15 sentences, over half of the informants have answered correctly. The one that stands out from the rest is number 8 which has the lowest score at 30.4%. Not only is it the question with the lowest number of correct scores, but the gap up to question 14, with the second lowest number of correct scores, at 53.2%, is 21.8 percentage points. As mentioned, all of the questions included in this report deal with various contrastive grammatical aspects which the students may or may not have come across in their English classes. Another factor is that the sentences chosen are commonly used in the English

language, so students who take part in extracurricular activities are likely to get some level of implicit or explicit input of these types of sentences. Sentence 8 however, could be argued to be the exception to this, “If you can’t sleep, try counting sheep”. Non-plural nouns are an exception from the rule and thus less likely to be found in extracurricular activities, like tv-series and games. It can be compared with the three sentences with the best results: 12) I bought my car in 2017. 10) He was scratching his head. 3) She has worked here since 1990. These sentences deal with grammatical aspects that are more commonly used in everyday English language. This reasoning would suggest that the informants might be improving their contrastive grammar knowledge through extracurricular English activities. The following paragraph will look more closely at the results in comparison with the questionnaire.

The results of the questionnaire show that 62 out of the 79 participants, nearly 80%, state that they engage in extracurricular English activities every day or nearly every day (Q.3, F). However, the type of activity and time spent each day varies a great deal. This will be discussed further in the following part of this section, where the participants are divided into groups based on their performance. Most of the participants also seem to have found it difficult to specify how much time they spend on English activities each day. It can be assumed that the quality of what they consider to be extracurricular English activities varies. Language aptitude will also have an influence on how much they are picking up during the various activities. One factor that stands out in the results is that the number of different activities they engage in correlates with their test scores, which will be reviewed in the next paragraph when the participants are divided into groups.

Table 3

Group	Size	Error rate	Total possible score	Total score	Total score %	Number of activities	Rate of exposure
1	21	0-2	315	288	91.4	5.3	Daily

2	40	3-5	600	440	73.3	3.7	Daily
3	18	6-10	270	139	51.5	2.1	Never - Daily
	79		1185	867			

Table 4

Group 1	Errors	Group 2	Errors	Group 3	Errors
1	-	1	2	1	10
2	2	2	10	2	9
3	-	3	2	3	7
4	2	4	20	4	13
5	4	5	13	5	11
6	1	6	6	6	11
7	-	7	10	7	9
8	6	8	36	8	13
9	3	9	15	9	14
10	-	10	3	10	3
11	2	11	7	11	1
12	-	12	-	12	3
13	1	13	5	13	3
14	5	14	20	14	12
15	1	15	11	15	12

The results of all participants have now been split into three groups based on their total score, as can be seen in *table 3*. The group setup is explained in the method section.

Group 1 consists of the top 21 pupils, who scored 2 or less errors in total. The group has a total number of 288/314 correct answers, 91.4%. All but one of the pupils in this group state that they spend at least one hour per day on extracurricular activities and the number of different activities they engage in is high, at an average of 5.29. The various activities range from all the options in the questionnaire, e.g. reading English News, literature, watching vlogs, tv-series, digital games and listening to music. Looking at *Table 4*, the sentences these pupils struggled with the most corresponds fairly well with the *total* analysis, question 8 and question 14. 5/21 of the participants also failed on question number 5, testing their mastery of concord. The obstructive element between the subject and verb has a tendency to increase the rate of error with L2 learners, as discussed above.

Group 2 consists of 40 participants, scoring between 3-5 errors in the test. The group scored 160/600 possible errors, with an error score of 0.27. Seven participants have stated that they spend at least 1 hour on extracurricular English activities, up to 2-3 days a week. The rest have stated 6-7 days a week. The number of activities they engage in are notably lower than group one, averaging on 3.7. The type of questions they struggled with are similar to group one, but additionally there is also a higher rate of errors on questions 2, 4, 7, 9, 11 and 15.

Group 3 consists of the 18 participants who had the highest number of errors, between 6 - 10, in the test. 131/270 possible errors gives an average error score of 0.49. 2/18 pupils in the group state that they never engage in extracurricular activities in English. 5/18 pupils state that they only do so 2-3 days a week. The number of hours they have estimated is also considerably lower than the other groups. Another significant point in this group is that they engage in an average of two different activities, which is less than half of that of the first group.

5. Conclusions, limitations and further research

5.1 Conclusions

The research question addressed in this study posed the question whether students who regularly engage in extracurricular activities in English display enhanced levels of grammatical accuracy, compared to students who do so to a considerably lower degree. High exposure to any kind of activity should reasonably result in some degree of acquired knowledge or ability, be it implicit or explicit. The results do not confirm that high exposure in itself would increase grammatical accuracy. Participants in group 3, with the lowest test scores, also have daily exposure to extracurricular activities in English. Although the levels of exposure are not as high as in the top achievers in group 1, the difference is not significant enough on its own, to confidently confirm the thesis in the affirmative. However, looking at the test results in combination with the number of different extracurricular activities the participants engage in, there is a correlation indicating that participants who are exposed to several different types of media have a higher proficiency in contrastive grammar than those who are only exposed to one or two different sources of the English language. This would indicate that there is a possibility that they are actually acquiring grammatical knowledge implicitly. This could be related to the quality of the material they are consuming. For example, listening to and communicating with native English speakers whilst playing a computer game, might lead to a higher degree of explicit acquisition than watching an action movie with subtitles. This correlation would be an interesting point of further research.

Another important factor which has been identified is that the participants showed greater proficiency with sentences dealing with grammatical aspects that are more commonly used in everyday English language, than they did with sentences they are less likely to have come across during their extracurricular activities. This reasoning also suggests that the informants could be acquiring grammatical knowledge implicitly. This study does not provide evidence that this is the case, however, it could serve as incentive for further research in the matter.

5.2 Limitations and further research

As stated above, the results of this study should be reviewed as indicative. The limited size of the population in the study, in comparison to the whole population of Swedish students in the tested age range, renders the findings insufficient and thus not reliable or representative for the whole population. Further, there are a number of external factors, such as chance, language aptitude, attitude and motivation of the participants, which need to be considered when analysing the results of a test and questionnaire on such a small scale. A number of interesting conclusions from the study provide incitement and focus for future research, which should be conducted on a larger scale. Identifying quality in various extracurricular activities in English, establishing which are most suitable for implicit language acquisition, and measuring Swedish students' proficiency of contrastive grammar in these groups, would be a good area to focus on in large scale studies. Sweden and the Nordic countries provide an important focus group for future research, since English is well established as a second language, rather than a foreign one, on a level which can be compared with few other countries in Europe. Comparing results with countries like the Netherlands, Germany and Spain, is more or less irrelevant.

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Appendix 1 The grammatical test

Grammatiskt test

Välj ett av alternativen inom parentes.

1. Please be quiet. I _____ to your father right now. (am talking/talk)
2. I explained it _____ her many times. (for/to)
3. She _____ here since 1990. (works/has worked)
4. Did you take all my money!? Where do you keep _____ (it/them).
5. The little girl usually _____ to her mother on the phone every day. (talk/talks)
6. He works as _____ electrical engineer. (a/an)
7. I can't find the scissors? Have you seen _____ (it/them)?
8. If you can't sleep, try counting _____ (sheep/sheeps).
9. _____ horses are beautiful animals. (-/the)
10. He was scratching _____ head. (his/the)
11. He drives _____ (slow/slowly).
12. I bought my car _____ 2017. (-/in)
13. The elephant is larger than _____ other animal living on land. (any/some)
14. This book, _____ won the Pulitzer prize last week, has already sold out in all the bookstores. (which/who)
15. _____ is so much dirt on your shoes! We really need to clean them. (It/There)

Appendix 2 The questionnaire

Frågeformulär

1. Är svenska ditt modersmål? Ja / Nej
2. Är engelska ditt andra språk? Ja / Nej
3. Hur ofta ägnar du dig i genomsnitt åt någon form av engelskspråkig aktivitet utanför skolan? Stryk under det alternativ som passar bäst.
 - A. Aldrig eller nästan aldrig
 - B. Mindre än en dag i veckan
 - C. En dag i veckan
 - D. Två - tre dagar i veckan
 - E. Fyra - fem dagar i veckan
 - F. Varje dag eller nästan varje dag
 - G. Annat: _____

4. Vilken typ av engelskspråkiga aktiviteter ägnar du dig åt på fritiden? Kryssa för alla alternativ som stämmer för dig och hur många timmar (ungefär) du ägnar dig åt sysslan per vecka.

- | | |
|---|------------------------|
| <input type="checkbox"/> Läser skönlitterära texter (böcker). | _____ timmar i veckan. |
| <input type="checkbox"/> Läser nyheter, bloggar, mm. På internet. | _____ timmar i veckan. |
| <input type="checkbox"/> Lyssnar på ljudbok. | _____ timmar i veckan. |
| <input type="checkbox"/> Lyssnar på poddar, bloggar och liknande, tex. Tik Tok/youtube. | _____ timmar i veckan. |
| <input type="checkbox"/> Kollar på engelskspråkig film eller serie. | _____ timmar i veckan. |
| <input type="checkbox"/> Chattar med andra (skriver) på engelska. (tex via datorspel) | _____ timmar i veckan. |
| <input type="checkbox"/> Chattar med andra (pratar) på engelska. (tex via datorspel) | _____ timmar i veckan. |
| <input type="checkbox"/> Spelar engelskspråkiga dator/tv-spel | _____ timmar i veckan. |
| <input type="checkbox"/> Pratar engelska med kompisar eller familjemedlemmar | _____ timmar i veckan. |
| <input type="checkbox"/> Annan aktivitet _____ | _____ timmar i veckan. |

5. Varför ägnar du dig åt dina engelskspråkiga aktiviteter?

Ringa in en av siffrorna på skalan 1-5, där 1 är oviktigt och 5 är mycket viktigt för dig.

Att förbättra mina engelskakunskaper	1	2	3	4	5
Eftersom det roligt/intressant	1	2	3	4	5
Annat: _____	1	2	3	4	5

