

## 4. Very young Swedish children's exposure to English outside of school

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### Introduction

The spread of English as a lingua franca is rapid. In some countries, the use of English among many individuals in the younger generations is almost at a par with the use of the respective first language. Sweden, where the present study took place, is a case in point. For decades, English has been naturally occurring in Swedish society, not least through original soundtracks of TV-shows and movies originating in English-speaking countries with subtitles in Swedish rather than the soundtrack being dubbed. English words and phrases are very commonly used in advertisements of anything from perfumes to trucks. In Swedish school, English is the first foreign language (FL) to be introduced, normally in 1<sup>st</sup>–3<sup>rd</sup> grade, but often even earlier than that, already in kindergarten or preschool class. In addition, English is the only mandatory FL that has to be studied in the Swedish school system, and, at the same time, one of three core subjects (the other two being Swedish and mathematics). Other FLs are studied by approximately 87 percent of Swedish students from 6<sup>th</sup> grade and onward, but they are a voluntary choice (Skolverket, 2019a). The use of English as the medium of instruction in non-language subjects, such as history and biology, is increasingly popular. Approximately 20 percent of all upper secondary schools offer English medium instruction programs (Paulsrud, 2019). It is also found at lower levels

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(Berggren, 2019). In mandatory school (1<sup>st</sup>–9<sup>th</sup> grade), however, there is a limitation to the use of English as the medium of instruction set at 50 percent (Sveriges Riksdag, 2009). At tertiary level, English is omnipresent. Large amounts of literature in English are encountered at all levels, and at many universities, from master's level and upwards, English is used more or less exclusively as the language of communication in both writing and speaking (e.g., Salö, 2016). At the doctoral level, a vast majority of all theses are written in English, with an accompanying extensive summary in Swedish. Furthermore, English is commonly used as the *lingua franca* at companies with a global presence, such as Volvo Trucks, ABB, and Ericsson.

On an individual level, access to the Internet means that exposure to English is only a click away also for very young individuals. For instance, more than two thirds of all Swedish 2-year-olds spend time on the Internet a couple of times, or more often, per week. Further, 28 percent of 2–4 year-olds watch clips on sites such as YouTube every day, four out of ten of the four-year-olds and close to 70 percent of the eight-year-olds reported using the Internet daily (Medierådet, 2019). This is a rapid increase of both access to and use of the Internet; in 2010, the reported use of the Internet among children at the age of four and eight was 2 and 4 percent respectively.

The vast presence and use of English have sparked a debate as to whether English should rather be viewed as a second language (L2) than a FL in Sweden (Andersson, 2016; Hyltenstam, 2004; Josephson, 2004; Norén, 2006). Presently, it is still officially viewed as a FL, but many would argue that on an individual level, English can definitely be considered to be an L2 (Sundqvist & Sylvén, 2016). Even though there is no clear cut definition to distinguish an L2 from a FL, the general view seems to be that an L2 plays an important role in a country, for instance in education or government, without it necessarily being the first language of those who use it (Crystal, 2003; Fasold & Connor-Linton, 2006; Richards & Schmidt, 2002). Ringbom (1980, p. 2) offers the following distinction between acquiring an L2 and learning a FL:

In a second-language acquisition situation, the language is spoken in the immediate environment of the learner, who has good opportunities to use the language by participating in natural communication situations. In a foreign-language learning situation, the language is not spoken in the learner's immediate environment, although mass media may provide opportunities for practicing receptive skills. The learner has little or no opportunity to use the language in natural communication situations.

It appears safe to say that based on this, English is quickly moving from having been a pure FL to presently being very much of an L2 in many contexts, among them the Swedish one.

One day, I received a phone call from a woman who had read a newspaper column about the astonishing level of English proficiency in the writer's own 4 year-old son and many of his friends. The woman who called told me how this coincided perfectly with her own experience of her two granddaughters, five and seven years old at the time, and how she, a former English teacher, was at a total loss when trying to understand when, where, and how her grandchildren had come to know such a great amount of English. And with a perfectly idiomatic pronunciation on top of it all. The aim of her phone call was to inquire whether there is anybody investigating this from a scientific perspective.

That was the starting point for the study in focus in the present chapter. The study is part of a larger research project, *A Study of Young Learners of English*, STYLE, and is to be seen as a pilot study, as this is the first time exposure to, and proficiency in English among such young children, are investigated. The aim, therefore, is twofold: Firstly, to explore the amount of exposure to and proficiency in English among very young learners (VYLs), secondly, to consider various instruments to be used for assessing young children's knowledge of English. The study is guided by the following research questions:

1. How much English, and through which types of activities, are VYLs exposed to?
2. What is the level of English proficiency among VYLs in present-day Sweden?

RQ<sub>1</sub> will be answered by the administration of language diaries and interviews among 3 to 7 year-olds. RQ<sub>2</sub> will be answered by administering two types of test; first, the Peabody Picture Vocabulary Test, PPVT-4 (Dunn & Dunn, 2007), and second, a picture description task to these VYLs. In a larger perspective, this chapter will hopefully provide further fuel to the debate on the role of English in Sweden.

## **Theoretical perspectives and literature review**

Even though the field of second language acquisition (SLA) is wide and varied (Ellis, 2003), the need for input, output, and interaction is indisputable for L2 learning to take place (Gass & Mackey, 2006). L2 input was early seen as the (only) way to learn an L2. Later, the role of output on the part of the L2 learner was highlighted by, among others, Swain (1985). In connection with output being focused on, the significance of interaction was also highlighted as an integral part of the L2 learning process. As pointed out by Holmes and Myles (2019, p. 10), for learning to happen among young language learners “rich and plentiful input, as well as opportunities to use the language meaningfully, are necessary”. Engagement in extramural English, EE, (Sundqvist & Sylvén, 2016; Sylvén, 2006) does not necessarily entail the presence of all three components of SLA theory. However, the input component is always there, most often in the form of oral L2, as in YouTube videos, and song lyrics. Written input is also very common, for instance in the form of various commands in digital games. In some forms of EE, output in the form of speaking and writing is expected of participants, not least in digital games involving many players at the same time, so called Massively Multiplayer Online Roleplaying Games (MMORPGs).

Language learning happens in a social context, thus, sociocultural theory (Lantolf, 2001; Vygotskij, 1939/1978) is a relevant theoretical lens through which to try to understand what happens to these young learners when they engage in EE activities. Traditionally, sociocultural theory talks about learning from more able peers, for instance an apprentice learning practical skills from an expert through, among other things, the use of artifacts. The

concept of the Zone of Proximal Development, ZDP, is central in sociocultural theory, illustrating how novice learners, through the help of more able peers, can be pushed forward in their learning process. In the present context, there are few physical peers present. Rather, the various sources utilized during EE activities, such as YouTube, digital games, etc., seem to fulfill the role of a peer. By watching, listening, and often repeating words, phrases, and whole sentences, children become accustomed to and learn L2 English.

The importance of motivation, investment and identity for the L2 learning process in the present context cannot be underestimated (Dörnyei, 2005; Norton, 2013). As these factors have been investigated mainly among older learners than those in focus in the present study, an attempt is being made at adapting some of the underlying theories to the realities of these young individuals. Norton (2013, p. 50), for instance, argues that the notion of investment “conceives of the language learner as having a complex social history and multiple desires”. While the VYLs in the present study do not necessarily have complex social histories, some of them show evidence of desires in connection with the use of L2 English. It can thus be argued that their investment in English is “an investment in [their] own identity” as L2 English users, presently and in the future.

In what follows, some of the extant literature on L2 learning extramurally and among young individuals will be accounted for. However, as there exist very few studies on EE among such young learners, studies on effects of EE among slightly older learners will also be presented.

For some time now, it has been widely acknowledged that the learning of L2 English for many individuals happens to a large degree outside of the educational sphere. Already in the 1980's, Bialystok (1981, p. 24) argued that in language learning ‘[t]he most functional situation would likely occur outside the classroom, in a natural setting, where conveying the message is the only essential goal of the language occasion’. Her term for use of an L2 outside the classroom is *functional practice*. Ever since, there has been an abundance of studies looking into effects on L2/FL learning of various types of EE. For instance, watching TV and movies with

original soundtracks and subtitles vs. dubbed soundtracks, has attracted some scholarly interest. In their studies on Dutch adolescents learning L2 French, d'Ydewalle and Pavakanun found positive effects on vocabulary acquisition when the soundtrack was in the L2 and subtitles in the L1 (d'Ydewalle & Pavakanun, 1995; d'Ydewalle & Pavakanun, 1997; Pavakanun & d'Ydewalle, 1992). No effects were found on syntax and grammar. In the same vein, d'Ydewalle and van de Poel (1999) investigated 327 Dutch children aged between 8 and 12 who were studying Danish and French as L2s. They concluded that vocabulary gains occurred when the soundtrack was in the L2, and in particular when the L1 and L2 were fairly similar, which, in this case, was the fact for Danish and Dutch. Taking another perspective on TV as a possible source of L2 learning, Rodgers and Webb investigated effects of watching a TV-series on learners' vocabulary proficiency (Rodgers & Webb, 2011; Webb, 2007). The design with using a number of episodes from the same series entailed repetition of a large number of vocabulary items, and it was found that this indeed resulted in vocabulary gains among the informants.

Going into more detail regarding L2 input via TV, Lin (2014) concluded in a study of the occurrence of formulaic sequences in TV-genres such as drama and comedy, that it proportionally resembles such sequences found in everyday speech. Thus, watching such programs may help improve learners' proficiency in formulaic sequences that are typical of everyday oral interaction.

With the advent of the Internet, studies have looked into affordances offered online and their possible beneficial impact on L2/FL learning. The early "hole-in-the-wall" experiment carried out by Mitra et al. (2005) provided access to a computer to young people in urban slum and rural areas in India. Results showed how the availability of a connected computer gave rise to learner autonomy (Holec, 1981) among the young individuals in the village, and how they were able to learn, not only a great deal of L2 English, but also social and academic skills.

Focusing on effects of using L2 English as the medium of instruction in non-language subjects (so called content and language integrated learning, CLIL), the unexpected result emerged that exposure to English outside of school may have been more

beneficial to students' levels of receptive vocabulary than what was offered by CLIL *per se* (Sylvén, 2004). Also in later studies on CLIL, such exposure has been shown to be a major source for L2 progress, in particular as regards vocabulary and some aspect of writing proficiency (Sylvén, 2019). The most common types of activities conducted – fully or partly – in English were computer gaming (especially for the boys), listening to music, and browsing the Internet.

Gaming has always been an attractive activity for young individuals. With the development of digital technology, games in other languages than one own's L1 are omnipresent. The use of English as the *lingua franca* in online games is in many cases the default choice. Gee (2007) set up a total of 36 general learning principles in regard to what video games have to do with learning and literacy. The majority of these principles concern L2 learning (see Sylvén & Sundqvist, 2012b for a rich account of these principles and how they relate to L2 learning). Thus, the use of digital games as an effective source for language learning is highly recommended. Numerous studies confirm the L2 learning benefits of such games (for instance, Brevik, 2016; Chotipaktanasook & Reinders, 2018; Li, Peterson, & Wang, 2021; Peterson, 2012; Piirainen-Marsh & Tainio, 2009; Ranalli, 2008; Reinders, 2012; Sundqvist, 2009; Sundqvist & Wikström, 2015; Sykes, Reinhardt, Liskin-Gasparro, & Lacorte, 2012; Sylvén & Sundqvist, 2012a; Thorne, Black, & Sykes, 2009; Turgut & Irgin, 2009; Zheng, Bischoff, & Gilliland, 2015). While most studies concern vocabulary acquisition, there are also those who focus on interaction, and yet others target oral proficiency.

While the majority of studies indicating clear benefits of extramural exposure for L2 learning have focused on adolescents and young adults, few studies exist on younger learners, and possible L2 learning effects among this age-group while engaging in extramural L2 activities. Among the existing ones, several are set in the Nordic context, perhaps due to the fact that exposure to English in general is high in this area and that Nordic languages are linguistically close to English (Lindgren & Muñoz, 2013). Lefever (2010) showed how 8 year-old Icelandic children understand and can converse in basic English before formal instruction starts in school. The basic source for their learning of English

was said to be various media and digital gaming. Set in Denmark, Hannibal-Jensen (2017, 2018) investigated types and amount of extramural exposure and possible correlations with L2 English proficiency among 7–11 year-olds. The general conclusion of the findings was that the Internet offers an abundance of attractive affordances for L2 English learning for young individuals, and that a large number of these individuals indeed take advantage of them. In a number of publications from the Swedish context, benefits of exposure to English outside of school in general and digital gaming in particular have been shown among 4<sup>th</sup> to 6<sup>th</sup> graders (Sundqvist & Sylvén, 2012, 2014; Sylvén & Sundqvist, 2012a). The longitudinal study by Lindgren and Enever (2017) was also set in Sweden. Three young language learners were followed during their six years in primary school. The study started when the children were in grade 1, and empirical data consisted of interviews, questionnaires, oral and written production tasks, as well as reading and listening tasks. One of the main findings was that the variation in language competency between the three informants to a large extent could be explained by the amount of extramural exposure to English. In another context, namely Flanders, De Wilde and Eyckmans (2017) focused on L2 English proficiency among 11 year-olds. This is particularly interesting as formal English instruction in Flanders starts relatively late in comparison to other European countries (Enever, 2011). The findings showed that a majority of the participating children were able to perform at the A2 level (Council of Europe, 2001), despite not having had any previous formal instruction. Here too, the main sources of L2 English learning were gaming and computer use.

Thus, given the seemingly positive influence of activities carried out in English on L2 English acquisition among both adolescents and younger learners, the present study aims at investigating even younger individuals, so called very young learners (VYLs).

## The study

### *Participants*

The participants of interest in this chapter are children in two educational contexts: one in kindergarten and one in first grade



**Table 1.** Participants

	Girls	Boys	Total
Kindergarten	2	5	7
First grade	7	6	13
<b>Total</b>	<b>9</b>	<b>11</b>	<b>20</b>

of compulsory school. Both the kindergarten and the primary school are located in suburban areas, with fairly stable socio-economic conditions. For instance, the level of education among parents is in line with that reported for Sweden in general and the percentage of recently immigrated students is three, compared to six in Sweden as a whole (<https://www.skolverket.se/skolutveckling/statistik>). The kindergarten group consisted of 15 individuals, of whom seven were included in the study after consent had been obtained from their parents. In the first-grade group, 18 individuals make up the entire group, and consent to participate was obtained for 13 of them. In Table 1, the participants are accounted for.

### *Material*

The empirical data consist of group discussions with the two groups of children, administration of the Peabody Picture Vocabulary Test 4, PPVT-4, (Dunn & Dunn, 2007) among all participants, language diaries from several of the participants, and a picture description task performed by 13 individuals in the group of first graders.

The PPVT-4 was originally designed for testing receptive vocabulary proficiency among L1 users of English (Dunn & Dunn, 2007). However, as vocabulary tests targeting VYLs are few, it has been used in a number of L2 contexts (Hannibal Jensen, 2017). Given its original purpose, it has its flaws when used with another aim, but there are a number of advantages with it, too. The main advantages are that it is easily administered, and that the children really seem to enjoy doing the test. In their exploratory investigation of the usefulness of the PPTV-4 for L2 English learners, Goriot et al. (2018) concluded that the test

might not be trustworthy for learners completing no more than the first two sets of items. In the present study, only three of the participants did not go pass those two sets (two in kindergarten and one in first grade), whereas the majority went far beyond that point. For those who pass the two-set threshold, Goriot et al. (2018) argue that the PPTV-4 is a reliable tool for testing young learners' L2 English lexical proficiency.

The PPTV-4 consists of an easel with 228 pages, each with four colored illustrations. It is divided into 19 separate units of 12 items each, with increasing difficulty, going from high to low frequency words (Dunn & Dunn, 2007). A starting age for each unit is given, so the first set is expected to be known by children two and half to four years old, and set 12 by 14–16 year-olds. After having introduced the test and performed one or two practice items, the test administrator says the target item out loud and the child is then asked to point to the illustration depicting that word. The test should be ended when the child has pointed to an incorrect illustration four times in a row.

The language diary (see Figure 1) is an instrument that has been used in several studies in order to obtain data about learners' exposure to English outside of school. It was originally used among upper secondary school students (Sylvén, 2007), but has since been developed and used also among other age groups (Hannibal Jensen, 2017; Olsson & Sylvén, 2015; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012a).

As is illustrated in Figure 1, one page of the language diary lists a number of possible activities carried out in English, such as watching YouTube-videos, listening to music, and playing digital games. The second page asks whether the activities were performed by the child alone or in the company of parents, siblings, and/or friends, as well as whether English and/or Swedish were/was used while playing digital games and what skill/s was/were used (speaking, listening, writing, reading). There were identical two-page openings for each day of the week, and the diary was filled out during one week.

The picture illustration task was administered using three illustrations developed by the Swedish Agency for Education, for the purpose of establishing immigrant children's level of English upon



**MÅNDAG**

Skriv här vad du har gjort på engelska idag!

OBS! Skriv bara sådant du har gjort utanför skolan ☺

Aktivitet	Namn/titel	Tid
Tittat på YouTube-klipp		
Tittat på film		
Tittat på TV-program		
Lyssnat på musik		
Spelat datorspel		
Läst (bok, serie, på nätet)		
Pratat (skype, chat, eller med kompis/släktning)		
Annat		



Om du tittade på något TV-program, YouTube-klipp eller någon film, svara på de här frågorna!

Dessa aktiviteter gjorde jag:	Ensam	Med någon vuxen (förälder eller någon annan)	Med kompis
TV-program			
YouTube-klipp			
Film			

Om du spelade något spel, svara på de här frågorna!

Namn på spelet	Pratade på		Lyssnade på		Skrev på		Läste på	
	Eng	Sv	Eng	Sv	Eng	Sv	Eng	Sv

Figure 1. The language diary

their arrival to Sweden (Skolverket, 2019b). The material in its entirety consists of a number of tasks, the aim of which is to more accurately be able to place newly arrived children at an appropriate level in school. The illustrations used in the present study are the final step in this placement package. Each illustration is in full color, and depicts a room, a village, and a city, respectively. All three pictures are full of details (e.g., animals, people, vehicles) and various types of action (e.g., reading, listening to music, walking a dog).

Data collection

After having secured the interest of participation from two teachers, one in kindergarten and one in primary school, I visited the groups respectively to present myself and the study. During the first visit, the entire group in the respective setting was involved in discussions about languages, language learning, and language use. The children were invited to share their own views on these concepts, and they offered insights into their own linguistic landscapes.

In connection with the first visit, suitable times for subsequent visits were scheduled. The kindergarten group was visited three

times for the administration of the PPVT-4. The first-grade group was visited four times for the same purpose.

A copy of the language diary was handed out to each child (regardless of whether they had agreed to participate in the study or not in order not to exclude anybody). Information to the parents about how to fill it out was attached. The instructions to the children and their parents were to be as detailed as possible, and to fill in information about English activities for each day during one week. Every morning, the teacher reminded the children about the diary, and in the weekly e-mail to the parents, a reminder was also included. The diaries were then collected by the respective teacher, and I picked them up at the next visit.

The administration of the PPVT-4 was done on a one-to-one basis. One child at a time came into a separate room, where I had set up the equipment needed to perform the task. Before starting the actual test, we talked about everyday issues in a very informal manner, in order for the child to feel at ease in the situation. Each child was then informed that he or she could stop at any time, and that they should do so as soon as they felt tired or lost interest in the task. I asked each child repeatedly during the test if they wanted to continue, and made sure they did not feel pressured to continue beyond their own limits. In line with what Goriot et al. (2018) suggest, each session started at the very beginning of the PPTV-4, instead of the recommendation made in the handbook to start at an age-appropriate level (Dunn & Dunn, 2007).

The picture description task was administered in much the same way as the PPVT-4, with the exception of a recorder being placed on the table. Each child was made aware of the presence of the recorder, and was asked if they felt comfortable with being recorded (which all of them did). As explained above, there were three different illustrations they could choose from, and after having made their choice, they were asked to tell me, in English, as much as they could about what they saw in the picture. Afterwards, each recording was moved from the recording device to a computer, and transcribed.

The transcriptions are verbatim, but do not contain any other information (such as pauses, etc.). The transcripts were cleared of everything except the child's own utterances, and subsequently,

each picture description was run through LexTutor (<https://www.lextutor.ca/>) in order to analyze the total number of words, and the distribution of words into frequency groups. The specific VocabProfiler used was VP-Kids. VP Kids is based on various studies into children's oral production and matches children's texts against 10 modified 250-word lists generalized from several empirical studies of children's oral productions (Murphy, 1957; Johnson, 1971; Hopkins, 1979; Moe et al., 1982). This version of the VP is to be preferred when analyzing young children's lexical growth, as the Classic or BNC versions of VP are too weak for that purpose (Horst & Collins, 2006), especially in the crucial K-2 phase (<https://www.lextutor.ca/>).

The group discussions in both groups focused on languages and language use. Among the first graders, a number of children had other L1s than Swedish. Spanish, Bosnian, and Arabic were among the languages represented. The kindergarten group was more homogeneous as regards L1s, only one of the participants had another L1 than Swedish, namely Arabic. During the discussions, it was evident that many of the children encountered and used English in a variety of contexts, an observation that was subsequently reinforced in the language diaries. The children in both groups seemed very much to appreciate the opportunity to talk about their own languages and language use.

### *Ethical considerations*

Conducting research among such young individuals as was the case in the present study, entails careful ethical consideration (Larsson, Williams, & Zetterquist, 2019). Ethical guidelines were adhered to (e.g., Mackey & Gass, 2011; <https://codex.uu.se/>). Information about the study was sent out to all parents, outlining the aims and methods of the study. In addition, the respective teacher offered details at information meetings. Parental consent was obtained for all participating children. Each child was informed about the voluntary nature about participation and that he or she could withdraw from the study at any time. In addition, as explained above, during the administration of the PPTV-4, every participant was told that they should only continue as long as they thought it

was fun. Everybody, including those whose parents had not given their consent to participation was invited to take part in all the activities involved in the study in order to make sure no one felt left out. In subsequent analyses of the material, only those for whom consent had been obtained were taken into consideration.

In presentations and publications involving this study, all names have been anonymized, and the real name and exact locations of the school and preschool are not revealed.

### *Validity, reliability, and generalizability*

The validity of the present study is secured through the triangular methodology employed: talks with the respective group, L2 English proficiency tests, and interviews with both children and their teachers.

Face validity, defined as “the degree to which test respondents view the content of a test and its items as relevant to the context in which the test is being administered” (Holden, 2010), of the tests was ensured by using tests developed for this particular age group. All participants were informed about the purpose of the tests, both at group level in both groups and individually, and that their participation was voluntary. Those who decided to participate seemed to enjoy the tasks they were asked to do.

The broader concept of validity is defined by Messick (1989, p. 13) as “an integrated evaluative judgement of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment”. In the present study, validity is deemed as high as appropriate and relevant test instruments were used to investigate L2 English proficiency among VYLs. Inferences based on the results, however, need to be made with great caution due to the low number of participants.

The reliability of the results obtained in the study is likewise deemed as high. Great efforts were made to ensure reliability. First, by asking the children orally to give an account of their exposure to English, what was reported in the language diaries was controlled for. In the vast majority of cases, both sources coincided. Second, to make sure that an authentic depiction of

the level of proficiency was shown, each child was given every possibility to display their abilities in English in the two tests administered. And, third, measures were taken to ensure that parents and teachers were in agreement with the aims and methods of the study.

As the study only included two groups of children, one in kindergarten and one in first grade, the results are in no way generalizable to a larger population. However, the findings are an indication of the influence of L2 English on the young generation and how it can have effects on an individual as well as a societal level.

## Results

In this section, results from the language diary and the two tests of language proficiency are accounted for. First, the results of the language diary are presented, followed by those obtained on the PPVT-4 and the picture description task. Finally, figures illustrating the language diary in correlation with the results on the PPVT-4 and picture description task respectively are offered.

### *The language diary*

The language diary was filled out by a total of 15 individuals, five in the kindergarten group and ten in the group of first graders. In Table 2, the results obtained are illustrated, with time of exposure per activity, total time of exposure, gender and group.

As is evident from the numbers reported in Table 2, the most popular activity overall is watching YouTube, followed by computer gaming. Watching movies and listening to music show roughly the same figures and come in third place, while reading and speaking are activities that are fairly uncommon. The spread of engagement in various activities should be noted; while the average time for exposure to English was 430 minutes, the standard deviation was 361.

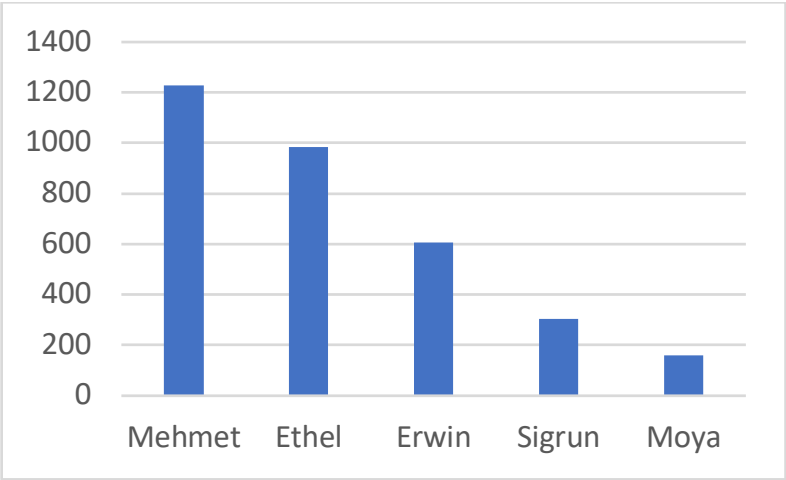
In Figure 2, the results are shown for the language diary among the kindergarten group.

Mehmet stands out in this group with his 1230 minutes of exposure to English during the week reported, compared to Moya

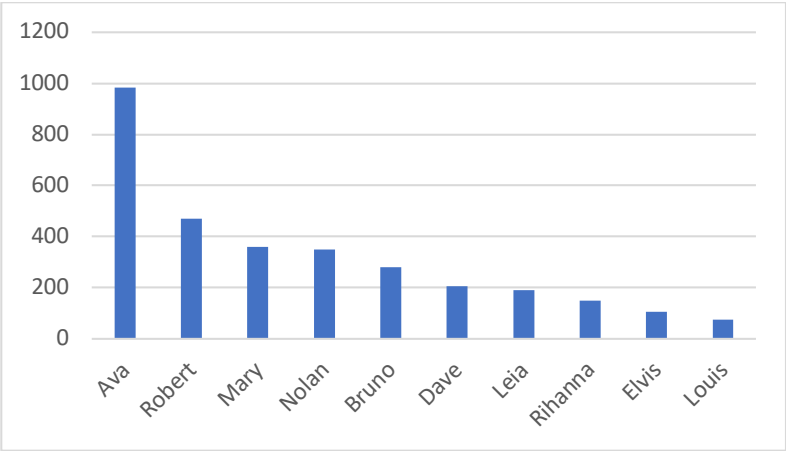
**Table 2.** Time and type of exposure to English

	All (N=15)		Boys (N=8)		Girls (N=7)		Kindergarten (N=5)		First grade (N=10)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TotalActivity	430	361	415	374	447	374	657	450	317	265
YouTube	168	209	155	205	184	230	312	243	97	158
Movies	57	138	81	188	30	42	150	221	11	28
TVshows	28	42	14	26	44	53	32	33	26	47
Music	55	57	51	55	60	63	53	65	56	56
CG	86	99	94	92	76	113	59	102	100	99
Reading	13	25	9	21	17	29	12	27	13	25
Speaking	13	27	0	0	27	36	23	34	8	24
Other	10	18	12	22	9	15	16	23	8	16





**Figure 2.** Total activity (in minutes during the week investigated), kindergarten

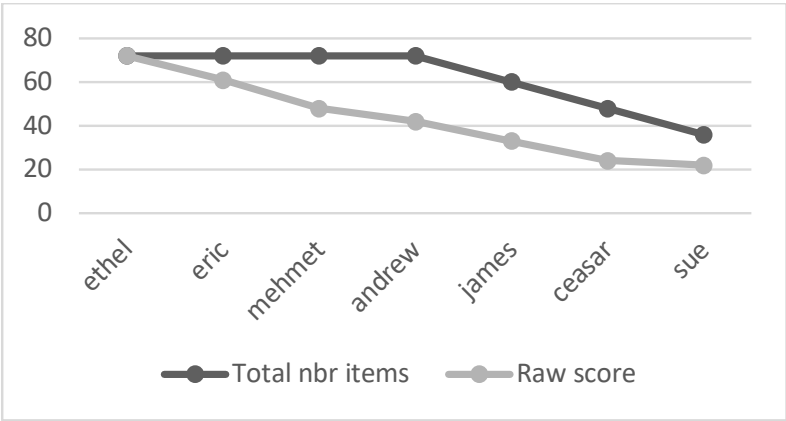


**Figure 3.** Total activity (in minutes during the week investigated), first-grade

who reported 160. The average for these children was 657, with a standard deviation of 450 minutes (max: 1230, min: 160).

Figure 3 illustrates the results for the first graders.

The mean for the first-graders is 317 minutes, with a standard deviation of 265 (max: 983, min: 75). As is illustrated in Figure 3,



**Figure 4.** Results on PPVT-4, kindergarten

the spread is vast between Ava, who was exposed to English for a total of 983 minutes during the week of the language diary, and Louis whose corresponding number of minutes was 75.

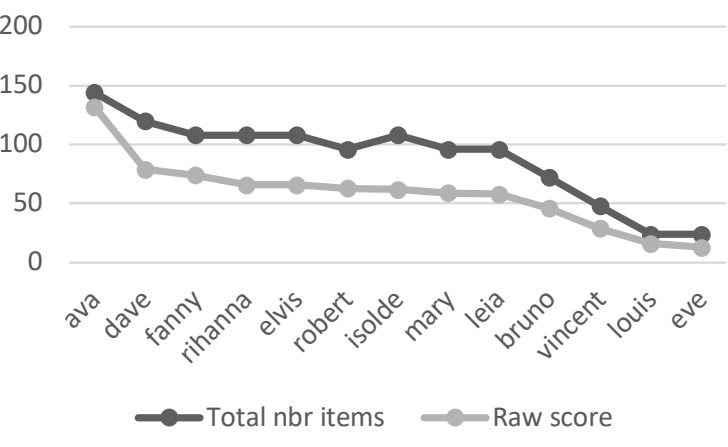
*The PPVT-4*

In the pre-school group, a total of seven children completed the PPTV-4 test. Figure 4 illustrates the results.

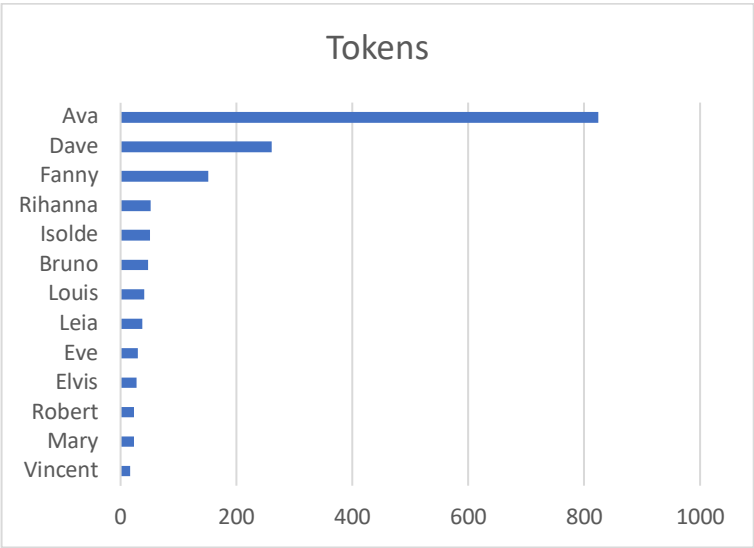
The black line in Figure 4 illustrates the total number of items completed, and the grey the number of correct items. On average, the preschoolers completed 62 items, with a standard deviation (SD) of 14.6. The average score of correct answers was 43 (SD = 18.7). The spread is seen between Sue at the low end of the continuum, who did 36 items, and got 22 out of them correct, and Ethel at the opposite end, who did 72 items with no errors.

In the group of first graders, a total of 13 children completed the PPVT-4, and in Figure 5, the results are illustrated.

In Figure 5, we see that the first graders, in general, aimed higher in the sense that they made attempts at a larger number of total items on average, namely 89 (SD = 36.5). Their average score of correct items was 59 (SD = 30.4). Here, the spread is between Eve, who aimed for 24 items, and scored 13 of them correct, and Ava whose corresponding figures were 144 and 132.



**Figure 5.** Results on the PPVT-4, first grade



**Figure 6.** Number of words produced, first grade

*The picture description task*

The results of the picture description task are presented in the form of total number of words produced by each child. As accounted for above, the picture description task was only administered among the first graders, as it was deemed too demanding for the children in kindergarten. Figure 6 illustrates the results.

As seen in Figure 6, the spread is enormous, from Ava's 824 words to Vincent's 17. The mean in this group is 121.92 words, with a standard deviation of 221.78. While all of the children use words from levels 1, 2, and 3, Ava and Dave are the only ones uttering words belonging to level 10 (examples from Ava: *age, search, zebra*; examples from Dave: *lamb, zebra*). Among the off-list words, that is words that are not included in any of the frequency levels, Ava uses the largest number with words such as *completely, definitely, normally, includes, otherwise, and toddler*.

### *Correlations between exposure and test results*

In order to check for possible correlations between amount of exposure to English and performance on the PPTV-4 test and the picture description task, correlation analyses were done. Among the first graders who completed the PPTV-4 test, only nine also filled out the language diary. Due to the low number of data points, it is questionable to carry out any statistical analyses and results should definitely be interpreted with great caution. However, a bivariate correlation analysis was run which showed that there is a statistically significant correlation between amount of exposure and results on the PPTV-4 test at the 0.01 level (see Table 3).

In Figure 7, the correlations between the exposure to English outside of school and the results on the PPTV-4 among the first graders are illustrated.

Among the participants who did the picture description task, only nine also filled out the language diary. Again, the results from the bivariate correlation analysis should therefore be interpreted with caution. The analysis showed that there is a statistically significant correlation between amount of exposure to L2 English and number of tokens produced in the picture description task at the 0.01 level (see further Table 4).

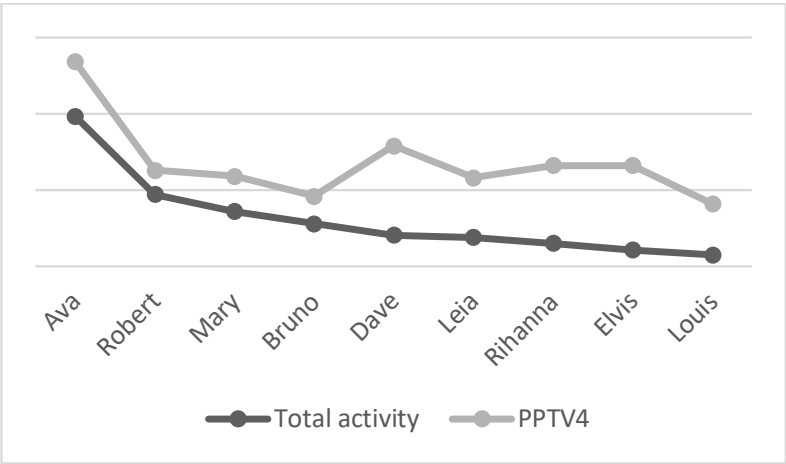
In Figure 8, these correlations are illustrated, showing how the two lines are fairly parallel, with some notable exceptions.

In the following section, these results will be discussed.

**Table 3.** Correlation between amount of English activities and results on the PPTV-4 test

Correlations			
		Total Activity	PPTV4
Total Activity	Pearson Correlation	1	.836**
	Sig. (2-tailed)		.005
	Sum of Squares and Cross-products	629701.556	50946.000
	Covariance	78712.694	6368.250
	N	9	9
PPTV4	Pearson Correlation	.836**	1
	Sig. (2-tailed)	.005	
	Sum of Squares and Cross-products	50946.000	5904.000
	Covariance	6368.250	738.000
	N	9	9

\*\* Correlation is significant at the 0.01 level (2-tailed)

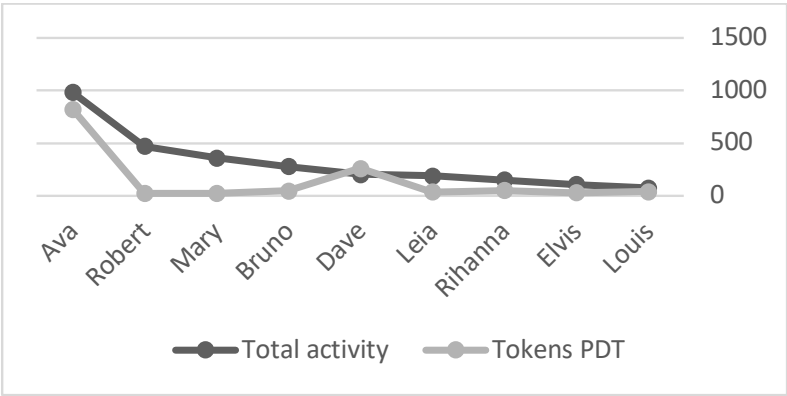


**Figure 7.** Correlation between amount of English exposure and results on the PPTV-4

**Table 4.** Correlation between amount of English activities and results on the picture description task

Correlations			
		Total Activity	Tokens
Total Activity	Pearson Correlation	1	.840**
	Sig. (2-tailed)		.005
	Sum of Squares and Cross-products	629701.556	498155.111
	Covariance	78712.694	62269.389
	N	9	9
Tokens	Pearson Correlation	.840**	1
	Sig. (2-tailed)	.005	
	Sum of Squares and Cross-products	498155.111	558580.222
	Covariance	62269.389	69822.528
	N	9	9

\*\* Correlation is significant at the 0.01 level (2-tailed)



**Figure 8.** Correlation between amount of English exposure and results on the picture description task

## Discussion

Before dwelling on the results themselves, some methodological issues merit attention. One of the aims of the present study was to test various instruments in order to investigate VYLs exposure to and proficiency in English. For this purpose, group discussions, language diaries, and the administration of language test were used. In the following, these instruments will be evaluated and discussed.

Group discussions were used in order for the children in both groups to become acquainted with me and the topic under investigation, as well as for me to get to know the children a little bit. These discussions served their purpose very well. The children were allowed to talk about their own language use, which one/s they used, when, where and with whom. This was an apparent topic of interest to the majority of children. In the end, we had to cut these sessions short, as they could have talked for much longer than was planned for. In future studies involving these age groups, therefore, more time and effort should be put into this kind of activity. One idea may be to arrange for smaller groups to discuss, and to tape-record such discussions.

The language diary (see Figure 1) was filled out by the children's parents. This in itself is problematic, as the parents cannot be aware of everything their child does, or in what language. Therefore, the results of the diaries should be viewed only as crude approximations of reality. However, in subsequent talks with the children, what had been reported in the diaries seemed to be in agreement with what the child him/herself told me verbally. Time is also an issue. It may be very difficult for parents to such young children to find the time and sit down to fill the diary out. A final consideration is the fact that only written instructions were offered to the parents. Ideally, a presentation of and introduction to the diary should have been done in a real-life meeting, where questions could be asked. Unfortunately, this was not possible in the present study but will definitely be part of any subsequent studies using the same instrument.

As regards the use of the PPVT-4, it has been pointed out above that it was originally intended to be used to establish vocabulary

knowledge among L1 speakers of English. Something similar targeting L2/FL users of English would, of course, have been preferred, but in the absence of such tests this served its purpose well in the present study (cf., Goriot et al., 2018). The fact that the children seemed to appreciate the format is the most important one, and gives face validity to the test.

The picture description task also served its purpose very well in the present study. The children liked the illustrations, and every child could at least say something in English about the chosen picture. When VYLs are in focus, the opportunity for them to really show what they know is important, and using this type of task gives everybody a chance to do so.

Moving on to the results themselves, three main points, based in the research questions outlined above, will now be discussed. First, the time and amount of extramural exposure to L2 English among VYLs; second the apparent influence of such exposure; and third, the differences in proficiency in L2 English. The pedagogical implications will be discussed in a separate section.

Exposure to L2 English among these VYLs, as evidenced in the language diaries, varies to a very large degree. While some children have virtually no such exposure at all, others are exposed to English more or less throughout the day. Ethel, five years old in kindergarten, is one example of the latter group. She uses English to communicate with her peer Mohammad, a recent immigrant to Sweden, to help him when he does not understand the spoken Swedish, and to play with him. When she goes home, she watches YouTube videos and plays digital games, such as the Sims and Minecraft, all in English. In addition, she and her older sister, Ava, use English when they play together. All of these situations exemplify what Bialystok (1981) refers to as functional practice and provide ample opportunities for some of the important building blocks of L2 acquisition; input, output and interaction (Gass & Mackey, 2006).

At the other extreme, there is Louis in first grade, who only comes in contact with English through singing some songs together with his mother and sister, and a little bit of playing the computer game NHL together with a friend, during a total time of 75 minutes during the week of the diary. In other words, there are vast



differences in type and amount of exposure to English among these children. This means that there are various types of individuals represented in the sample: those who are exposed several hours per day and those whose total exposure barely reaches one hour per week. Even though the spread is large in this sample, it correlates with previous findings among young individuals. Hannibal Jensen (2017, p. 10), for instance, found that 8 and 10 year-olds in Denmark on average were exposed to L2 English in their spare time for 366 minutes, with a standard deviation of 316. Likewise, the Swedish 11–12 year-olds in Sylvén and Sundqvist (2012a, p. 311) reported an average of 564 minutes of English exposure, with a standard deviation of 474. Thus, it may be concluded that the VYLs in the present study adhere to similar trends previously reported among slightly older individuals.

As regards the influence of exposure to English among VYLs, it seems as though there are some indications of correlations between type and amount of exposure on the one hand, and L2 English proficiency on the other. Ava in first grade is an outstanding example of someone with large amounts of exposure to English. Mainly, she watches YouTube videos and plays digital games of her own choice. Her level of proficiency is the highest measured in this study. The results on the PPVT-4 indicate a level of a native 14–16 year-old. In the picture description task, she produced the largest number of words, totaling 824. Further investigation into her unusually strong L2 English skills are warranted, but one explanation may be that all she does in English in her free time is at her own will. She decides what YouTube clips to watch and what digital games to play. Thus, the activities are driven by integrative, rather than instrumental, motivation, or what Dörnyei (2005, pp. 65–119) refers to as self-motivation. This, in turn, contributes to the large investment in these activities (Norton, 2013). Another explanation most likely is found in the fact that Ava and her little sister Ethel use English as their mode of communication while playing. The fact that they together, in a non-threatening environment, can play with the language, imitate what they have heard somebody say in, for instance, a YouTube clip, and practice on their own terms is key to the development of proficiency level (cf., Holmes & Myles, 2019). A positive spiral

is created between input, output and interaction, and language development takes place and progresses (Gass & Mackey, 2006). It should be pointed out that, according to her teacher and parents, Ava's proficiency in L1 Swedish is normal, and she does not excel in any other school subjects.

In contrast to Ava, there is Louis, who barely had any exposure to English. On the PPVT-4, he scored 46, which was the second lowest result among the first-graders. On the picture description task, he produced a total of 41 tokens. Ava and Louis are examples of the interrelatedness at both ends of the continuum of investment and language learning (Norton, 2013). Ava invests a great deal of her time and interests in activities involving English, contributing to high proficiency levels. She often talks about her knowledge of English, how she loves using English as much as possible, and how she counts on using it in the future, thus displaying clear signs of identifying herself with her high proficiency in English. In addition, many of her peers refer to Ava as the best one in the class as regards knowledge of English, thus contributing with an external identification of someone who knows English well. At the other end of the continuum we find Louis who prefers to engage in activities not involving English which most likely impacted on his low results on the current measures. Instead of engaging in, for instance, digital games or other computer related activities, Louis is intensely involved in sports and outdoor activities.

There are also those whose extramural exposure does not correlate with their results in a straight forward manner. One of them is Mary who was exposed for a total of 360 minutes, which places her slightly above the mean of her age group. Her result on the PPVT-4 of 59 matches the group mean of 61 fairly well, but on the picture-description task her scores were among the lowest measured with only 23 tokens. There are several plausible explanations to these findings. One is that there were signs of her not being perfectly at ease in performing the picture description task. For instance, she had to be probed and scaffolded to a larger extent than was the case for the other children in order to produce output. Another is that the picture description task involves language production, which is much more challenging than what is required in the PPVT-4 test, where a finger pointing to the

relevant image is all that is needed. It is also possible that the activities she engaged in were not conducive to L2 learning.

The causal link between exposure to and interest in L2 English, however, has yet to be established. In other words, we do not know if those who spend time on activities in English do so because of an initial interest in language in general, and English in particular, or if the availability of English through various activities leads to an interest in taking part in them. However, the fact that the children involved in the present study are as young as 3 to 8 years old, indicate that the mere existence of such a multitude of possibilities of engaging in activities involving English is what sparks the interest to increase the exposure. Needless to say, further studies involving this age group are decisive in order to test this hypothesis.

A vital issue in need of discussion is the enormous variation of L2 English proficiency seen in this study. First, it should be pointed out that the sample is very limited, and only receptive vocabulary knowledge and, to a limited extent, oral production have been tested. Nevertheless, the results indicate levels of proficiency ranging from those expected from 2–4 year-old natives as defined in the PPVT-4 test books (Dunn & Dunn, 2007), all the way up to the level of 14–16 year-old natives. It is intriguing that despite the fact that the study was conducted among children in preschool and in first grade, who had not yet started any formal education in English, none of the participants showed evidence of being complete novices to the language. It is an indication that the presence of English in everyday society, as exemplified above is the case in Sweden, indeed leads to some basic knowledge even without any formal education, and that in some cases it results in English becoming more like another L1. This, in turn, has some pedagogical implications which are discussed next.

## **Pedagogical implications**

The results of this study illustrate the vast heterogeneity in level of proficiency in English found among very young children in today's Sweden, and surely other countries with a similar context as regards availability of English (see, e.g., De Wilde, Brysbaert,

& Eyckmans, 2020; Hannibal Jensen, 2018). Such heterogeneity puts strains on the educational system, where, thus far, the teaching has been streamlined for students expected to be novices when they start school. The findings here rather suggest that some school-starters are more or less fluent in English, alongside others who only have a very basic knowledge. Further research needs to establish the generalizability of this study.

Should the findings be corroborated in larger studies, English as a school subject needs to be revised. In order for VYLs who already are well acquainted with the language not to lose interest in the subject of English in school, other types of teaching than those implemented presently are necessary. This, in turn, necessitates measures to be taken to collect information about each individual's previous exposure to English (see, e.g., Sundqvist & Sylvé, 2016) as well as to perform some kind of early placement test in order to identify the various levels of proficiency in English among VYLs. In many cases, it may be relevant to teach English as a second, rather than a foreign, language. And, as touched upon above, in some cases, it may even be relevant to teach it as another first language.

## **Future work**

As has repeatedly been pointed out, the study presented here is very limited in scope. Therefore, a natural continuation of this line of research would be to include larger numbers of informants representing all parts of the country. Are there, for instance, differences between children growing up in urban vs. rural environments as regards the use of English in connection with various activities and its effects? In addition, in-depth, qualitative case-studies of individuals exposed to large amounts and different types of English and their respective levels of English proficiency, are necessary for a better understanding of any causal relationships. Effects of extramural and pre-school exposure to English on the teaching of English as a subject in school also need to be investigated. The findings reported on in this chapter indicate that profound changes to the English subject are to be expected in the future.

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