Computer-Assisted L2 English Language-Related Activities Among Swedish 10-Year-Olds

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Abstract. This paper presents findings from a study investigating young Swedish learners' extramural (out-of-school) contact with English. In contemporary Sweden, the influx of English is great and research has shown that extramural contact with English correlates positively with students' proficiency in English (Olsson, 2011; Sundqvist, 2009; Sylvén, 2004). While Sylvén (2004) investigates type and amount of involvement in extramural English activities among upper secondary students and Sundqvist (2009) as well as Olsson (2011) among 9th graders, little on the same topic is known about younger learners. However, in a nationwide survey, more than half of Swedish 5th-graders indicate that they have learned English as much or more outside of school than in school (Skolverket, 2004), but empirical studies on the topic remain scarce. Based on data collected from young learners ($N = 112$; grade 4; age 10), this paper presents results regarding their type and amount of extramural language activities in English as well as in Swedish and other languages. Previous research has shown that digital gaming may contribute to L2 English learning, in particular with regard to vocabulary (Cobb & Horst, 2011; Miller & Hegelheimer, 2006; Ranalli, 2008; Sundqvist & Sylvén, 2012). Therefore, the first focus of our presentation is on these young learners' L2 English language-related use of computers, for instance in playing digital games. A comparison is made between digital gaming habits in English and Swedish. The second focus is on analyses of playing digital games from the perspectives of gender and the learners' first languages. The final focus is on learner motivation and self-assessed L2 English proficiency.

Keywords: young learners, computer-assisted language learning, digital games, motivation, extramural English, informal learning, second language acquisition.

1. Introduction

In contemporary Sweden, the influx of English is great. Unlike many other European countries, Sweden broadcasts English-speaking films and TV-productions in the

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In L. Bradley & S. Thouësny (Eds.), *CALL: Using, Learning, Knowing, EUROCALL Conference, Gothenburg, Sweden, 22-25 August 2012, Proceedings* (pp. 280-285).

original language with Swedish subtitles. In France and Germany, for instance, English-speaking productions are instead dubbed. Other sources of English are music, the Internet, and digital games. Thus, it is possible for people of all ages to come into contact with authentic English on a daily basis. Furthermore, English is the first foreign language (FL) encountered in school, where it is an obligatory subject introduced at the latest in grade 4 (Malmberg, 2000). It is fair to say, then, that English has a particular status in Swedish society and in recent years there has even been a debate on whether English should be regarded as a second language (L2) rather than as a FL (see, e.g., Hyltenstam, 2002; Viberg, 2000). Empirical studies among secondary and upper secondary learners have shown that extramural English (EE) correlates positively with proficiency (Olsson, 2011; Sundqvist, 2009; Sylvén, 2004), but studies on primary school learners remain scarce. However, in a nationwide survey, more than half of Swedish 5th-graders indicate that they have learned English as much or more outside of school than in school (Skolverket, 2004). In sum, L2 English among young learners and out-of-school factors that might affect learning is a topic that calls for more research, not only nationally, but also internationally.

2. Method

2.1. Participants and data

The present study is based on data collected from young Swedish learners (N = 112; grade 4; age 10). A questionnaire that mapped their EE activities as well as provided information about other variables (e.g., experiences of traveling abroad, L1, motivation, and self-assessed English ability) were filled out at school. Then, a language diary was introduced which was to be filled in at home during one week with the purpose of yielding information about both type and amount of extramural activities (reading, watching TV or films, playing digital games, etc.). Similar information was filled in for Swedish and any other language(s) that the learners might come into contact with. The teachers used this diary as "English homework" that particular week. For the learners who forgot to fill it in, the teachers arranged time daily to do so in school.

2.2. Results: extramural activities in English, Swedish, and other languages

Based on data from the language diary, Table 1 shows the order of popularity of the extramural activities in English and Swedish. Watching TV is the most popular activity both for English and Swedish, whereas least time is spent on reading newspapers and/or magazines and 'other'. As for EE, digital game play is popular, and more time is spent on gaming in English as compared to doing so in Swedish. Independent samples t-test for gender revealed statistically significant differences for the total time spent on extramural English (boys: 11.5 hrs/w; girls: 5.1 hrs/w; $p < .01$), for playing digital games (boys: 3.4 hrs/w; girls: .4 hrs/w; $p < .01$), and for watching films (boys: 1.8 hrs/w; girls: .6 hrs/w; $p < .01$). With regard to extramural Swedish, there were statistically

significant differences between the boys and the girls for the total time (boys: 8.0 hrs/w; girls: 11.5 hrs/w; $p < .05$) and for using the Internet (boys: .5 hrs/w; girls: 2.4 hrs/w; $p < .05$). As for extramural activities in other languages, the reports were so few that they come across as negligible.

Table 1. Extramural English and Swedish activities in order of popularity and in total

Order	Extramural English		Extramural Swedish	
	Activity	Hours/week	Activity	Hours/week
1	TV	2.3	TV	4.3
2	Digital games**	1.4	Internet*	1.8
3	Music	1.4	Books	1.1
4	Films**	1.0	Films	1.0
5	Internet	1.0	Digital games	.8
6	Books	.1	Music	.7
7	Newspapers/magazines	.1	Newspapers/magazines	.4
8	Other	.1	Other	.2
	Total**	7.2	Total*	10.3
*Significant gender-related difference at the .05 level.				
**Significant gender-related difference at the .01 level.				

2.3. Three digital game groups

Since previous research has shown that digital gaming may influence L2 English proficiency (see, e.g., Cobb & Horst, 2011; Kuppens, 2010; Sundqvist, 2011; Sylvén & Sundqvist, 2012), we divided our sample into three digital game groups based on how much time the learners had recorded for game play in their language diaries, see Table 2. Digital game group 1 (non-gamers) did not report any time at all for playing digital games. Digital game group 2 (moderate gamers) played some but less than four hours per week. Finally, in digital game group 3 we find the frequent gamers, here defined as those who reported playing digital games in English for four hours or more.

The distribution of boys and girls in the groups is shown in Table 3. We will discuss gender further in the section that follows, where we also address L1, motivation, and the learners' self-assessed level of English proficiency.

Table 2. Three digital game groups

Digital game group	N	Time interval (hours/week)		Mean (hours/week)	SD
		From	To		
1 (non-gamers)	31	0	0	0	0
2 (moderate gamers)	27	> 0	< 4	1.5	1.1
3 (frequent gamers)	8	≥ 4	≤ 14	6.6	3.2
Total	66	≥ 0	≤ 14	1.4	2.4

Table 3. Gender distribution in the digital game groups

Digital game group	Total		Boys		Girls	
	N	%	N	%	N	%
1 (non-gamers)	31	47	4	13	27	87
2 (moderate gamers)	27	41	11	41	16	59
3 (frequent gamers)	8	12	7	88	1	12
Total	66	100	22	33	44	67

3. Discussion

First, the gender distribution in the digital game groups (see Table 3) is such that in the non-gamers group the vast majority are girls, in the moderate gamers group the division between boys and girls is fairly equal, and among the frequent gamers all are boys but one. As has been shown elsewhere (Sundqvist & Sylvén, 2012; Sylvén & Sundqvist, 2012), gender differences are not only apparent regarding amount of gaming but also regarding preferred game types/genres. Girls seem to prefer single-player games, whereas boys primarily engage in the more interactive types of game referred to as massively multiplayer online role-playing games (MMORPG).

Second, in our sample, the majority of the learners have Swedish as their L1. However, eight learners (12%) have another L1. When we examined the distribution of students according to L1 in the digital game groups, the ratio of students who had another L1 than Swedish was 10% in the non-gamers group, 7% in the moderate gamers group, and 38% in the frequent gamers group. Thus, when the three groups are compared with regard to L1, learners with another L1 than Swedish are clearly overrepresented in the frequent gamers group.

Third, motivation is important for all learning, not least language learning (Dörnyei, 2001). In one of the items in the questionnaire, the informants were asked to rate the extent to which they agreed with the statement 'English is interesting', which we view as an indicator of motivation. The results revealed that all the learners in the frequent gamers group 'agreed' or 'agreed strongly'. Although a large proportion of the learners in the non-gamer and moderate gamer groups also thought English was interesting, the proportion was not as large as for the frequent gamers. In fact, the proportion of learners who 'disagreed' or 'disagreed strongly' was largest among the non-gamers, indicating that they were the least motivated ones.

Finally, the learners were asked to rate how good they thought they are at English. Results showed that, overall, the learners self-assess their L2 English proficiency as rather high. At least half of the learners in each digital game group consider themselves to be 'good' or 'very good' at English. The non-gamers include the largest proportion of positive assessments, but on the other hand there are also learners in this group who responded that they are 'very bad' at English. In comparison, none of the frequent gamers rated themselves as 'very bad'.

4. Conclusions

The present study focuses on 10-year-old learners in primary school and the results indicate that already at this early age, children are exposed to and engage in EE activities extensively. The findings reported here corroborate previous studies on secondary and upper secondary school learners (Olsson, 2011; Sundqvist, 2009; Sylvén, 2004) in that the boys engage in more digital gaming in English whereas the girls opt for social interaction on the computer in Swedish. We have also shown that the students in the frequent gamers group seem to be more motivated to learn English than those in the other two digital game groups. With regard to self-assessed L2 English proficiency, the majority of the young learners seem confident. Thus, the pattern unveiled for older learners indicating a clear relationship between digital gaming, gender, and self-assessed English proficiency (cf. Sundqvist, 2009; Sylvén & Sundqvist, 2012) seems to hold also for this sample of 10-year-olds.

Acknowledgements. We would like to thank the Erik Wellander Foundation and the Center for Language and Literature in Education (CSL), Karlstad University, for funding our study.

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Published by Research-publishing.net
Dublin, Ireland; Voillans, France
info@research-publishing.net

CALL: Using, Learning, Knowing
EUROCALL Conference, Gothenburg, Sweden
22-25 August 2012, Proceedings
Edited by Linda Bradley and Sylvie Thouësny

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ISBN13: 978-1-908416-03-2 (paperback)
Print on demand (lulu.com)

British Library Cataloguing-in-Publication Data.
A cataloguing record for this book is available from the British Library.

Bibliothèque Nationale de France - Dépôt légal: décembre 2012.