A Cross-Cultural Study of Students' Attitudes towards Digital Language Learning Tools

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Abstract

In this study, we explore students' attitudes towards the use of digital tools in the learning of English in Sweden and Germany. English is the first compulsory foreign language in both countries. In both countries, there is also a new national strategy with proposals for actions to better exploit the potential of Information and Communication Technology (ICT) in education. The hypothesis of this study is that there will be differences in the treatment of, and attitudes to, digital tools between the students, and between the two countries. Data was collected through a semi-structured questionnaire answered by 155 German and 185 Swedish students, aged 15–16. Our results show that the attitudes towards digital tools for language learning differs between the two countries. While the Swedish students use a variety of tools, there is a lack of access to digital learning tools in Germany. There are stark differences in the students' attitudes towards how they seek value from the learning tools for English. The study shows differences in user behaviour and related appeals and challenges and discusses possible reasons for these differences in a cross-cultural context. The results give implications for the development and enrichment of digital tools in language learning.

Keywords: *Student Attitudes, Digital tools, European, Language classroom, Sweden, Germany.*

1. Introduction

ICT is becoming an increasingly valued and utilized feature within education. Children of today have access to a number of learning platforms in which they interact with educational resources using predominately digital tools. In 2006, the European Commission identified eight common key competences for life-long learning (European Commission, 2010) Three of these key competences are: Communication in a foreign language; Digital competence; Sense of initiative and entrepreneurship, all important for the digitalization of education. Research studies conducted on Information and Communication Technology (ICT) implementation in school education point out that, despite ICT being around us for so long, there is a serious dearth of knowledge on how ICT affects learning at school level. To answer this issue various multifaceted studies are required that explore the use of ICT at various points of student and school interaction (Cox & Marshall, 2007).

Over the last decade, discussions concerning students as "consumers" of education is gaining increasing attention in consumption behavior. Students are increasingly aware of which education services to buy in face of the highly competitive global situation regarding education, skill development and employment opportunities. Players in the education business sector are creating competitive differentiation in education services by providing additional value for their users in creative ways, including digital learning platforms. Cox & Marshall (2007) further point out, that in the use of ICT, what students learn depends largely on the type of resource used and the subject for which it is being used. Therefore, it is critical that for any research on ICT based learning and competitive service user and provider behavior, the actual types and uses of ICT should be measured as accurately as possible to determine the attitude of its users and their related experiences with it. To what extent are schools equipped with digital tools? What programs and what technical devices are available? What influence does this have on students' choice as consumers of education ?

The aim of this study is to investigate and compare the attitudes towards ICT and the use of digital learning tools in the English language classroom among 16-year-olds in Sweden and Germany. Sweden and Germany are important business partners and closely related in many aspects. Especially interesting is, that in both countries, there is a new national strategy (2017–18) with proposals for actions to better exploit the potential of ICT in education. These proposals aim at supporting all students and teachers to develop the digital skills they need in order to improve results and to prepare students for an increasingly digitalized society. Nevertheless, the situation concerning digitalization differs between the two countries. In Sweden, almost every student receives a laptop from his or her school and this started already more than 10 years ago (Åkerfeldt et al., 2013). In March 2017, the Swedish Government (Regeringskansliet, 2017) decided to change the current

curriculum to ensure and enhance the digital competence amongst Swedish students. In 2016, the German Minister of Education and Research planned to invest "5 billion euros over the next five years to equip more than 40,000 schools and colleges with faster internet, wireless access points and tablet computers" (Reuters 2016). At the same time, there is an ongoing discussion in Germany whether every student really needs a laptop.

The purpose of our study is to highlight and analyze the use of, and attitudes towards ICT among high school students. When treating students as consumers of language education and consumers of digital technology in schools it is important to explore the following aspects:

a. To what extent are digital tools used in school and at home?
b. What are the attitudes towards using digital tools in school?
c. What equipment and what digital learning tools are used when learning English?
d. What differences can be found between Sweden and Germany concerning the use of digital tools in the language classroom?

Results from the study will provide a cross-cultural comparative insight into language schooling in Europe and create business implications and strategic viewpoints to strengthen the use of digital technology in an optimal manner. Although the context is language learning, it can be seen that attitudinal differences towards the use of ICT mark how students expect or adapt to certain norms followed by social systems including schools.

2. Contextual background

In 2018, almost 100 % of all Swedes aged 16-24 had access to a computer at home (SCB 2019). In most schools, every student gets a laptop or an iPad from school from the age of 7 and in some from the age of 12. In high school though, almost every student gets his or her own laptop, often referred to as having a 1:1 computer system. In 2017, the Swedish government took a new decision (Regeringskansliet 2017), meaning that every student shall get their own digital device. From July 1, 2019 it is compulsory to use iPads for all children from the age of one in all pre-schools in Sweden, this as part of the national digitalization strategy for the school system (Regeringen 2017). Even if Sweden is far ahead of Germany in the use of computers at home and in education, teachers' lack of training in using digital media has been reported (cf. Fredholm 2016).

In Germany there are 16 different *Bundesländer* and school systems across the country are not quite alike. In each state, it is a matter of money, and how the school is sponsored by the state largely influences the quality of digital technology in schools. Each school has to apply for money for each "digital idea". Thus, the digitalization plans and resulting infrastructure is largely the effort of the schools' ambition to integrate digital technology in the learning process. Almost half of all devices are used in computer rooms, but there is a trend towards mobile terminal equipment, as the proportion of tablets is growing (Ministerium für Bildung, Wissenschaft und Kultur, (2019). The German Minister of Culture said "the technique must follow the pedagogy and not vice versa. […] Replacing a book with a laptop or a tablet is no pedagogy. We still need scientific insights" (our translation) Czimmer-Gauss, 2017).

3. Theoretical background

Schooling is becoming a competitive sector in terms of offering the best possible resources to study so that the school graduate is equipped with all the necessary knowledge and skills that will take him/her further and into competitive university education. More and more schools are bringing in digital tools as a regular feature of learning. Hence, it is important to know students' attitudes towards digital tools and the subsequent perceived impact on their language use and proficiency. Here the term attitude is defined as follows: "A person who holds strong beliefs that positively valued outcomes will result from performing the behavior will have a positive attitude toward the behavior. Conversely, a person who holds strong beliefs that negatively valued outcomes will result from the behavior will have a negative attitude" (Montano & Kasprzyk, 2008:71).

Haelermans (2017) discusses ICT in education and how to bridge the gap between research and practice. Simply having access to ICT in education does not lead to its effective use, and might even lead to negative results if ICT is merely a distraction and not applied in an effective way (ibid.:17). Experiments on ICT in the Netherlands showed medium positive significant effects for mathematics but only for some aspects of language learning, as grammar and spelling. No effects were found for language domains such as listening, text comprehension and formulating (ibid.:71). Barera-Osorio &

Linden (2009) conducted a randomized experiment among 97 schools and more than 500 students in Colombia where the private sector had donated computers to public schools for teaching language. They found no effects on test scores and other outcomes and concluded that the computers were not effectively incorporated into the educational process.

4. Methodology

4.1 Research framework
This paper presents the results from the questionnaire answered by the 16-year-old students, in Sweden and Germany. The paper is part of a research series that explores various relationships in ICT led language education, attitudes of students, teachers and entrepreneurs. For detailed information on our complete research model, we refer to Billore & Rosen (2017). The method is mainly quantitative, with descriptive statistics, but also qualitative, as the answers to the open questions are analyzed and compared in a contrastive and cross-cultural perspective.

Figure 1. Research framework to investigate students' attitudes towards
digital tools in language learning.

4.2 Data collection and respondents
The semi-structured questionnaire was constructed in English on questions from earlier national and international studies and created on an electronic platform called Survey & Report as this platform was accepted in both Sweden and Germany (as regards GDPR). The survey link was first sent to the teachers who then further distributed it to their respective students. The questionnaire was divided into 4 main clusters: Demographics, User behavior, Appeals and Challenges. 155 German and 185 Swedish students participated in the study. The period of data collection was from 2017 until 2019.

5. Results and Data analysis
The following section presents some of the empirical results of the study in 4 sections - Demographic details, User behavior, Appeals and Challenges.

5.1 Demographic details:

Respondents	Swedish students	German students
Female	82	85
Male	102	66
Diverse	1	4
Total	185	155

5.2 User behavior
There is an evident difference in how much Swedish and German students use a computer/an iPad at home per week. 55% (102/185) of the Swedish students use this device more than ten hours a week, 26.5% (49/185) more than twenty hours a week. Of the German students, 36% (56/155) use a computer/an iPad at home per week and only 13.5% more than twenty hours a week. Concerning the number of students who use a computer for doing their homework, the difference between the groups is small: 82% (151/185) of the Swedes and 86% (133/155) of the Germans. Whereas 28% (51/185) of the Swedes use a computer for learning languages, only 17% of the Germans do so. Among other

answers the Swedish students chose "Skype, shopping, programming" while the German students opted for "research, presentations and mails".

Concerning the time spent on using digital devices in school the difference is even more striking. The use of computers in Swedish schools is much more frequent than in German schools. 56% (103/185) of the Swedish students use a computer/an iPad more than ten hours a week, compared to only 8% (12/155) of the German students. Twice as many of the Swedish students (82.2%) are used to working with digital devices for learning a language compared to the German students (44.5%). This confirms the results in earlier studies concerning digitalization in school (cf. Ministerium für Bildung, Wissenschaft und Kultur, 2019; SCB, 2019).

The Swedish students mentioned a variety of programs they use in school. Only some of the programs are freely accessible and each school has to pay a license for using the digital learning tools. It is remarkable, that as many as 89 German students said that they do not use any digital programs at all for learning English. The rest of the students only mentioned *dict.cc*, *leo.org,* and *pons*, which are all dictionaries and no "programs" for learning English. The results show the lack of digital learning tools for learning English in these German schools.

5.3 Appeals
Swedish students think they learn English better by using a computer, 65.9% (122), and only 34.1% (63) by using a book. Among the German students only 40% (42) think they learn better by using a computer and as many as 60% (93) by using a book. When asked to motivate 'why or why not', the groups did not differ very much, contrary to what could be expected. Concerning the negative attitudes towards using digital tools for learning English, 31% of the Swedish and 35% of the German students were negative. Many of the negative comments among the Swedes concerned the disadvantages of using a computer/an iPad instead of books and paper and a pencil. Many of the German students talked about negative health effects from using digital devices.When asked what they liked about different language learning tools, Swedish students mainly mentioned vocabulary learning and grammar. As many as 55 (36%) of the German students said "don't know", "we don't use programs" or "We don't use any programs to learn languages". Their answers correlate with their answers on the question "What programs do you use in school for English language learning?" presented in 5.2.

5.4 Challenges
a. What kind of programs/digital tools would you like to work with on your computer to make your English better?

Programs you would like to use	Frequency – 185 Swedish students	Frequency – 152 German students
Watch films	72	61
Vocabulary learning	34	15
Grammar exercises	32	16
Read books	26	29
Listening exercises	19	20
I don't know	38	32

Answers in both groups indicate, that there is a lack of adequate digital learning tools in education. The majority answered films, which are not actual learning tools. The students were asked to specify if there are programs they do not like. Among the 90 German students who answered this question, 65% (59/90) said that they did not know. We also asked them to suggest how the programs could be improved. 51% (74/144) of the Swedish students said that no improvement was needed. 59% (53/90) of the German students said "I don't know".

6. Conclusions and implications
At least in Sweden, school policy seems to be more about the presence of ICT, i.e. having ICT as the goal, instead of looking upon ICT as the means of achieving the goal of higher student performance. This is contrary to the attitudes and discussions going on in Germany. Our study shows that the Germans are more careful concerning the time spent using digital devices in school and at home. Our results as well as political decisions indicate this. In general, although digitalization in Sweden started long ago, this study confirms that there is a lack of efficient language learning tools in both countries.

However, in terms of student attitude towards digital language learning there is marked difference between the two countries. While Swedish students appear to have a well-formed attitude, German students lack exposure and hence are unplaced. Swedish students are more aware of the different ways of learning, types of digital language tools and opinion regarding the use of these tools in terms of positive and negative effects, preferences and possible changes or expectations as compared to German counterparts.