Research paper

Profiling language learners in hybrid learning contexts: Learners' perceptions

Pekka Lintunen*, Maarit Mutta** and Sanna Pelttari***
University of Turku, Finland
_____

*pekka.lintunen@utu.fi | **maarit.mutta@utu.fi | ***sanna.pelttari@utu.fi

Abstract

This article discusses formal and informal foreign language learning before university level. The focus is on beginning university students' perceptions of their earlier learning experiences, especially in digital contexts. Language learners' digital competence is a part of their everyday lives, but its relationship to learning in and outside educational settings is still relatively seldom studied. The article discusses learning in formal and informal (i.e., hybrid) contexts and digital learning profiles —that is, a learner's own personalized style in acquiring language competence by creating affordances in personalized digital or mobile learning environments— in primary and secondary education identified in a language learning survey. The results are based on an online survey sent to all beginning university students majoring in languages at a Finnish university (N= 87/192), which was complemented by a short narrative task (N=47) a few months later focusing on earlier education and the use of language learning technologies. The results suggest that the use of technologies seems to differ between extramural and in-school language learning. The learners were well aware of various possibilities to create affordances for learning, and their own involvement increased with age. Most participants had positive attitudes towards the use of technologies to enhance language learning, but critical views emphasized the importance of inspiring contact teaching. Three different digital learning profiles were identified: a digiage learner, a hybrid learner, and an in-school learner. These can be useful when planning differentiated foreign language instruction.

Keywords: Computer-assisted language learning, social media, learner behaviour, attitude.

1. Introduction

Foreign language learners acquire the target language from many sources. Languages are understood as dynamic means of communication, and the learning process is strengthened by naturalistic exposure and communicative situations requiring creative language use with emerging skills. Language learning can be implicit (i.e., without attention) or explicit (i.e., conscious), and often these two processes are intertwined and inseparable. Language acquisition takes place in hybrid environments, i.e., formal and informal contexts. Moreover, digital technologies and learning environments are part of the everyday lives of the language learners of today (Erstad, 2010; Jalkanen & Taalas, 2015; Mutta, Lintunen, Ivaska & Peltonen, 2014; Palmgren-Neuvonen, Jaakkola & Korkeamäki, 2015; Piirainen-Marsh & Tainio, 2009). This has affected the contexts of foreign language learning fairly recently (Blin & Jalkanen, 2014; Jalkanen, 2015; Thorne & Reinhardt, 2008).

Extramural language learning studies can be quantitative or qualitative, for instance, with learners using Facebook (Mitchell, 2012), telecollaboration via email (Schenker, 2012) or voice blogs (Sun, 2012) to facilitate their language and cultural learning. Researchers have also been interested in learners' out-of-school activities, such as gaming, and their impact on language learning (Sundqvist & Sylvén, 2014; see also Sundqvist, 2016; Thomas & Peterson, 2014). These extramural activities seem to increase learners' motivation and, thereby, indirectly promote language learning. Extramural language learning can also take place via traditional ways, such as trips abroad and interaction with foreigners.

The younger generations are commonly considered as digital natives, who use various technologies frequently and fluently and are used to certain everyday interactions in the social media. However, they may not be so familiar with technologies supporting digital language learning, the uses of social media for learning purposes, and teaching environments utilizing different technologies (Ilomäki, Taalas & Lakkala, 2012; Laakkonen, 2015; Mutta, Pelttari, Lintunen & Johansson, 2014; Williams, Abraham & Bostelmann, 2014). There might also be vast discrepancies between in and out-of-school use of technology (Jalkanen, 2015; Keltikangas-Järvinen, 2015). We also have to acknowledge that not all young learners can be categorized as digital natives: although born during the digital age, their skills might not match the implications of the concept. Instead, the concept can be used to characterize certain individual learners while admitting that some might not feel confident or comfortable using various technologies for formal or social purposes (Benini & Murray, 2014; Mutta, Pelttari, Lintunen, et al., 2014; Thomas, 2011; Thomas & Peterson, 2014). The variation may be related to, for example, personality, learning experiences, and different digital learning profiles.

Learning profiles and attitudes towards learning can be studied with quantitative, qualitative or mixed methods, such as surveys, interviews, and learning diaries, often depending on the size of the study (e.g., Eloranta & Jalkanen, 2015; Ilomäki et al., 2012; Jalkanen & Taalas, 2013; Sundqvist & Sylvén, 2014; Williams et al., 2014). This study presents findings from a survey aimed at beginning university students majoring in languages at a university in Southern Finland complemented by a short narrative task. It discusses learner perceptions of and attitudes towards extramural language learning, learners' knowledge and use of technologies, and their digital learning profiles before tertiary level language education.

2. Literature review

When it comes to defining new technologies and language learning, terminology is varied (e.g. computer-enhanced language learning, Web 2.0 and L2 learning, technology-enhanced language learning, mobile-assisted language learning), and discussions about the most appropriate term are ongoing (Healey, 2016). Jalkanen (2015) talks about technology-rich environments, whereas Wang and Vásquez (2012: 413), for example, use the concept Web 2.0 technologies, but Thomas and Peterson (2014: i) suggest that "social media" is sometimes used as its substitute term. Nevertheless, concepts related to new technologies have become intuitive and fuzzy needing further discussion. For practical reasons, we gave examples of different technologies in our survey without categorizing them into old or new.

As a ubiquitous use of various technologies characterizes our world today, researchers have attempted to define the new generations in this information and communication technology (ICT) filled world. Prensky (2001: 1) called them digital natives (as opposed to digital immigrants), who were "all 'native speakers' of the digital language of computers" and used various technologies frequently with great ease in everyday interaction (see also Willams et al., 2014: 30). This view has been challenged by several scholars based on classroom studies (e.g., Benini & Murray, 2014; Williams et al., 2014; see also Thomas, 2011).

Williams et al. (2014) synthesized six survey-driven studies from different countries to motivate their two large-scale surveys on undergraduate foreign language learners' perceptions and use of digital tools at a large university in the USA. The researchers concluded that the learner's age is not the primary determiner for digital practices: even if the learners are familiar with various technologies, they do not unanimously identify themselves as digital natives. More importantly, they may not transfer their knowledge and skills of social media to support language learning.

Benini and Murray (2014) conducted a study on attitudes and the uses of digital technologies by monitoring and interviewing students and teachers in two secondary education institutions in Ireland. They suggested that students and teachers are very similar in their everyday use of technologies, but the types of activities they are involved in seem to be different, especially in an educational context; students considered technologies stimulating but not essential for foreign language learning. As mentioned above, several recent studies have discussed the dissimilarities between in and out-of-school use of technologies (e.g., Ilomäki et al., 2012; Laakkonen, 2015; Mutta, Pelttari, Lintunen, et al., 2014; Williams et al., 2014). Studies have shown, for instance, that students may be fairly used to sending emails, navigating online, and using social networking for personal purposes, whereas the same tools are less used in classroom environments depending on the resources and facilities in their school (Benini & Murray, 2014; Williams et al., 2014; see also Conole, 2008).

According to the Programme for International Student Assessment (PISA) (1), Finland has been among the top countries in learning outcomes for several years. Admittedly, however, this assessment has focused on subjects such as mathematics and science or first language reading skills, and not assessed the use of technology in schools. Finland has the reputation of being a technologically advanced country with the success of Nokia and, more recently, thanks to the digital game industry such as the Angry Birds franchise. The Finnish National Board of Education deduced in 2013 based on a European survey (Survey of Schools: ICT in Education) (2) that although Finnish schools are equipped with the latest technology, the active use of ICT in teaching is far behind many other countries.

In Finland, in and out-of-school language learning environments seem to create two separate spheres in the lives of young learners: the digital life outside school is rich, whereas in the school environment digital skills may have been long neglected. Based on their vast survey (N=1700 ninth grade students and 740 teachers), Ilomäki et al. (2012) discovered a clear gap between in and out-of-school activities using technologies. Furthermore, the teachers' free time technology use was more instrumental (e.g., seeking for information), whereas students used technologies to spend time (e.g., by playing online games; see also Jalkanen, 2015). The schools, educators, and teachers, however, pay more attention to this discrepancy to bring these two realities closer; there are several recent studies on the use of technologies in different learning contexts in Finland (e.g., Ilomäki et al., 2012; Jalkanen & Taalas, 2015; Jokinen & Vaarala, 2015; Vaarala, Johansson & Mutta, 2014; Vaarala & Lehtonen, 2015).

When the effects of extramural foreign language learning contexts have been studied in Finland, boys have been found to outperform girls in English language tests because they have more access to informal learning, for instance, by playing video games online (Ilomäki et al., 2012; Uusikoski, 2011; see also Piirainen-Marsh & Tainio, 2009). Sundqvist and Silvén's (2014) study revealed similar results in Sweden: among young learners (aged 10-11; N=76) the frequent gamers, who had more extramural training, were all male, and their English language proficiency and confidence was evaluated higher in communicative situations (see, however, Sundqvist, 2016). Extramural activities create more affordances to promote (mostly implicit) language learning, but they do not primarily focus on language learning.

Conole (2008) encourages listening to learner voices in her in-depth case study on language learners' use of technologies. We study the learners' voices and describe them as digital learning profiles, which refer to learners' own personalized styles in acquiring language competence by creating affordances in personalized digital or mobile learning environments. This digital learning profile comprises in and out-of-school use of technology, but the latter requires more effort and personal investment by the learner. For their part, learning paths are often studied as part of foreign language classroom learning to understand learners' linguistic backgrounds, aims, motivations, and needs towards formal education and its functional purpose for future interaction in various social contexts (Eloranta & Jalkanen, 2015). Different paths can also reveal the strategies used to complete a specific linguistic action (Mutta, Pelttari, Salmi, Chevalier & Johansson, 2014). E-learning or a digital learning path is a relatively new concept, which does not yet have a well-established definition. It can be related to Personal Learning Environment (PLE), which refers both to creating content on the Internet and to personal experiences promoting learning in different contexts (Attwell, 2007; Guth, 2009; Laakkonen, 2015). Jalkanen and Taalas (2015: 183) give an overview of multimodal foreign language pedagogies, which are mostly Computer-Assisted Language Learning (CALL) studies, and recognize the need to study how language learners' digital paths develop from one educational level to the next. However, studying paths requires a longitudinal approach with multifold observations. Instead, we focus on profiles based on a retrospective survey to study learners' perceptions on their use of technologies in hybrid contexts. In her study on metacognitive knowledge development and language learning in web-based distance learning contexts, Fincham (2015) observed learner profiles based on an initial survey and an interview. Her survey consisted of questions, for instance, on learners' previous experience with language learning and various multimedia tools in different contexts.

The objective of the present study was to gain new insights into extramural learning and the use of digital technologies before tertiary language education in Finland and learners' perceptions of their use in foreign language learning and teaching contexts. Although other surveys have been conducted in Finland and elsewhere, there are still not many studies on hybrid or extramural foreign language learning and learner opinions and attitudes. Furthermore, tracing learners' digital profiles is a recent area of interest. The study contributes to the knowledge of the distribution of utilizing digital and non-digital resources and the reality of so-called digital natives at the beginning of tertiary education. The understanding of learners' digital profiles enables educators to recognize learners' personal needs and learning styles to promote the creation of personalized digital learning environments.

The study focuses on the following research questions:

1. What kind of extramural language learning is recognized and in which context?
2. What kinds of digital technologies have been used?
3. What kinds of attitudes are revealed towards the use of various technologies in foreign language learning?
4. What kinds of digital learning profiles can be identified among the participants?

3. The present study

An online *Webropol* survey was administered at the beginning of the 2015 autumn semester to all first-year students (N=192) majoring in languages at a university in Southern Finland. The response rate was 45.8, and altogether 87 students provided answers for the survey. The survey, adapted from the technology implementation questionnaires prepared by the Centre for the Study of Learning and Performance (CSLP) (3), had 36 (mostly multiple-choice) questions in three sections: 1. Demographic information (13 questions, e.g., background), 2. Questions on extramural language learning and use of technologies (17 questions separately for different levels of education), and 3. Attitude questions (6 questions focusing on the advantages and disadvantages of technologies). To strengthen the analysis, we asked students to write

a short narrative (N=47) some months later to allow students to elaborate more freely on their earlier experiences as language learners and the use of language learning technologies. These answers were used to support the identification of different learning profiles. All numerical information is based on the larger survey. After a brief account of background information, we will discuss the general use of technologies, learners' extramural foreign language activities before tertiary education, and finally, analyze learner attitudes. This small-scale study is mainly of a qualitative nature. The quantitative analyses were made with the *Webropol* statistical tool.

The participants were mostly female (female 84.9%, male 15.1%), which was expected as language students at university level are predominantly female in Finland. The youngest participants were 19 years old, and seven were born in 1980 or earlier. Most participants (56%) were 20 years old or younger. All participants had passed an entrance examination with strict selection criteria to enter university, which means that their target language proficiency was quite high (especially in English which is the most common first foreign language in Finland) and they can be considered highly motivated to learn foreign languages. Accordingly, their responses should give a fairly accurate account of the spectrum of technologies used for extramural language learning. Over 93% of the participants had Finnish as their first language; the other first languages mentioned were Swedish, Russian, English, and Italian.

Among the participants, the most common major subject at university was English: 37 participants studied English as their major (43%), followed by Finnish (17.4%) and French (12.8%); the other mentioned languages were Swedish (8.1%), German (5.8%), Spanish (4.7%), Italian (4.7%), and finally, Greek, Latin and Russian (3.5%). In addition, 80.5% of the participants indicated that English was their strongest foreign language, for six it was Swedish, for five Finnish, for one Spanish or French, whereas four participants mentioned two languages (English and French, German, Spanish, or Swedish). This information illustrates well the fact that learners are more frequently exposed to English in Finland than to other languages, even including Swedish, which is the other official language.

4. Survey results

The questions on extramural language learning and use of technologies included 6 close-ended and 11 open-ended questions separately for different educational levels. We also asked about the use of technologies in general at the beginning of tertiary education. Most participants (95.4%) reported using the Internet daily, email (89.7%), instant messaging (WhatsApp, 82.8%), Facebook (72.4%) and YouTube (51.7%). In addition, watching video clips online (44.8%) and Instagram (41.4%) were common. The technologies that were relatively unknown (i.e., never used) were Myspace (94.3% of the participants), virtual worlds (e.g., Second Life, 93.1%), creating video blogs (vlogs) (93.1%), social bookmarking web service (e.g., Delicious, 93.1%), LinkedIn (90.8%), Flickr (87.4%), and editing Wikipedia (87.4%). These results show that the participants mostly used technologies when using the Internet and communicating with other users, whereas many other resources were relatively unknown to them (cf., Benini & Murray, 2014; Ilomäki et al., 2012; Laakkonen, 2015; Mutta, Pelttari, Lintunen, et al., 2014; Williams et al., 2014).

In the following sections, we will discuss extramural language use that supports language learning before tertiary education, learners' experiences of the technologies used in different contexts, their attitudes towards using technologies in language learning and teaching, and finally, we will discuss digital learning profiles.

4.1. Extramural language use before tertiary education

The questionnaire focused on three educational levels: primary school, secondary school, and upper secondary school. We asked in which extramural contexts the learners used foreign languages (23 contexts were given and one open-ended question), which target language was used, and how much the students thought they

had learnt in extramural contexts. Table 1 illustrates the most frequent (> 40%) activities mentioned including different languages at different stages.

Table 1. Extramural language activities in primary, secondary and upper secondary school.

Primary school			Secondary school			Upper secondary school		
Rank	**Activity**	**%**	**Rank**	**Activity**	**%**	**Rank**	**Activity**	**%**
1	Watching foreign language TV series/films (subtitled)	87.4	1	Listening to music	92.0	1	Watching foreign language TV series/films (subtitled)	89.7
2	Listening to music	87.4	2	Watching foreign language TV series/films (subtitled)	88.5	2	Listening to music	89.7
3	Reading song lyrics	64.4	3	Reading song lyrics	80.5	3	Watching foreign language TV series/films (not subtitled)	88.5
4	Trips abroad	48.3	4	Trips abroad	72.4	4	Reading song lyrics	82.8
5	(Online) games	48.3	5	Watching foreign language TV series/films (not subtitled)	71.3	5	Reading novels/ fanfiction	74.7
			6	Reading novels/ fanfiction	63.2	6	Trips abroad	71.3
			7	Guiding tourists	51.7	7	Guiding tourists	65.5
			8	(Online) games	51.7	8	Contacts with foreign language friends	64.4
			9	Contacts with foreign language friends	42.5	9	Summer job	49.4
						10	Using foreign language with Finnish friends	47.1
						11	Writing their own texts	46.0
						12	(Online) games	44.8

Table 1 shows that the extramural foreign language activities became more varied when moving from primary to secondary school, the most frequent activities among learners being watching subtitled foreign language TV series and/or films and listening to foreign language music. This tendency continued in upper secondary school. At this level, watching foreign language TV series and/or films without subtitles ranked third (and fifth in secondary school), which illustrates increasing active involvement in creating affordances in extramural foreign language learning. Furthermore, in upper secondary school, it became more common to use foreign languages even with Finnish friends and when learners were writing their own texts, which implies more active learner involvement. Games were present at all educational levels, ranking 5th (48.3%), 8th (51.7%), and 12th (44.8%) in extramural activities, respectively.

In addition, in the open-ended questions, the participants mentioned watching YouTube videos, reading comics, role-playing, sending messages via messenger, online discussions, and following English vlogs as extramural foreign language practice at secondary school level. In upper secondary school the activities were even more varied: watching YouTube videos, listening to English podcasts, chatting on IRC, in (part-time) work, role-playing, listening to online radio, reading online newspapers/news, reading comics and books, going out with exchange students, European Youth Parliament activities, using social media (e.g., Instagram), and reading blogs. These results show that language learners' extramural activities are multifold, and digital environments are only one part: learning environments are hybrid spaces (cf., Blin & Jalkanen, 2014).

In primary school, 83 learners (95.4%) used English in extramural activities; the other foreign languages mentioned were Swedish (12.6%), German (9.2%), French (8.1%), Finnish (3.5%), and Chinese, Italian, Japanese, Dutch, and Russian (1.2%). Most Finnish schools only teach English as the first foreign language in primary school, which is reflected in the answers. In secondary school, English was still the most used foreign language (93.1%), followed by Swedish (32.2%), French (15.0%), German (12.6%), Spanish (4.6%), Japanese (3.5%), and Albanian, Chinese, Finnish, and Russian (1.2%). Finally, in upper secondary school, the order stayed mostly the same, but the uses were more frequent: English (95.4%), Swedish (48.3%), French (21.8%), German (21.8%), Spanish (15.0%), Finnish (4.6%), Russian (4.6%), Italian (3.5%), Japanese (3.5%), and Chinese, Portuguese, Serbian, and Turkish (1.2%). To summarize, from primary education onwards, English was the most used language in extramural language activities, whereas the use of Swedish, the other official language in Finland, increased from 12.6% to 48.3%. These languages were followed by French, German, and Spanish, all with increasing use at the end of upper secondary school. This order corresponds to the order of the most common foreign languages taught at Finnish schools. It seems that learners used various languages in extramural activities, but English was clearly the most used language.

Furthermore, the learners' own activity and involvement increased in extramural contexts during upper secondary school. Most learners perceived that they had learnt a lot during extramural activities, even "much more than at school", whereas only a few learners said that they had merely "learnt something" in extramural contexts, or their motivation was "just to support language proficiency". The learners also emphasized their own activity in different situations such as face-to-face contexts with friends or online. The participants felt that extramural language use gave them more confidence to use languages both in and out-of-school contexts.

4.2. Technological experience in hybrid contexts

When asked if they had had any experience in using language learning technologies and applications in school contexts during previous education, 47 participants (54.0%) replied that they had, whereas 40 (46.0%) said that they had not had any experience in using them. From these 47 learners, 38 answered the question "Which of these experiences have been the best and most useful" on at least one education level (see Table 2).

Table 2. Learners' perceptions of the most useful technology-based activities in school.

Grade	N of participants	Activities
Primary school	7	word processing programs (3), online exercises, online vocabulary exercises, video games, online videos
Secondary school	16	using the interactive white board (4), online (vocabulary) games (4), watching films/videos (2), watching foreign language programs online, online dictionaries, online teaching materials and manuals, online tests and exams, searching information online, video projectors, writing texts on a computer, YouTube
Upper secondary school	36	learning platforms (6), using the interactive white board (5), online exercises (4), foreign language clips/films/videos (3), online (vocabulary) games (3), computers (2), group work/PowerPoint presentations (2), internet sites (2), online dictionaries (2), Power Point presentations by teachers (2), Quizlet (2), using tablets/iPads (2), video/data projectors (2), creating videos, distance learning class, email penpals, google drive, Kahoot, using the language laboratory, online language courses, online teaching materials and manuals, recording and listening equipment, using smart phones, word tests with Socrative, writing texts on a friendship school's site, YouTube

The variety of technologically based activities increased from primary to upper secondary school, which might also be a sign of technological advancement in schools. Differences due to schools and teachers are also evident, and some answers were more related to classroom equipment than to activities performed.

The learners were also asked about the help and scaffolding they received to use technologies in general. In primary school, 101 occurrences of support were reported (39 in-school and 62 out-of-school), in secondary school 111 (47 in-school and 64 out-of-school), and in upper secondary school 118 (50 in-school and 68 out-of-school). At primary level, ICT-lessons and support by teachers were most often mentioned in the school context, whereas in extramural contexts other family members were most frequently mentioned, followed by friends and the learner's own input. In secondary school, teachers' support was most frequently indicated, followed by school in general and ICT lessons; in extramural contexts friends were often mentioned, then learning by oneself, and finally, support from family. In upper secondary school, support from teachers was still the most frequent in-school support, whereas ICT lessons were seldom mentioned; furthermore, learners indicated their own active involvement in school projects. In extramural contexts, the learner's own activity was clearly the most frequently mentioned source of support followed by friends' help; other family members' role decreased at this level. The analysis showed that, although schools and teachers provided help with the technologies that scaffold language learning, support was mostly received in out-of-school contexts from the learners' peers. That is, both in-school and out-of-school contexts play a role in supporting technology-rich language learning. The importance of the learner's own input was highlighted especially at higher levels of education.

4.3. Attitudes towards using technologies in language learning and teaching.

To study learners' attitudes towards using technologies and the learners' readiness and open-mindedness to use them themselves, we asked our participants to respond to 18 statements (on a four-point Likert scale; totally agree, partially agree, partially disagree, and totally disagree), one yes/no-question, and answer four open-ended questions about the usefulness of technologies for language learning. Most answers were either partially agree or partially disagree.

Using technologies in teaching and learning seemed to divide the participants into two groups: for or against their usefulness. One reason for this might be that 46% of the

surveyed participants did not report any earlier experience in using technologies to support language learning, although the learners were quite familiar with technologies in their everyday lives. The results based on all participants' answers show that the learners responded most unanimously to the statement that technologies are useful in language learning and teaching if teachers have received appropriate training in their use (89% agreed). Most learners had positive attitudes towards using technologies in learning and teaching. For instance, 83% of the participants thought that technologies had a facilitating effect on learners' communication skills and allow future teachers to transform from information dealers to facilitators of learning. Moreover, technologies seem to diversify teaching materials and be useful even if they were used in out-of-school contexts (82%). Additionally, 78% of the participants thought that technologies support learners' skills at all proficiency levels, allow them to use their own personal learning style, and are not too time-consuming due to technical problems. Furthermore, the participants thought that their use does not increase learners' stress and anxiety levels (72%), but on the contrary, seem to promote interactive cooperation (69%). Over half of the participants also believed that using technologies motivates learners to engage more in the learning process, but the same number of participants was also concerned that using various technologies might harm face-to-face contact teaching (56%).

Finally, when focusing more on those participants who had previous experience with language learning technologies and applications (N=47; 54%), there were contradictory opinions. Most participants chose either the partially agree or partially disagree alternatives. Their answers mainly corroborate those of the whole group, but the more experienced learners were more of the opinion that learning how to use technologies is time-consuming (55%) and that technologies do not motivate learners to engage more in the learning process (53%). In addition, the more experienced group was quite divided about whether learners' knowing more about computers than their teachers has negative consequences (51% vs. 49%). On the other hand, those learners who did not have previous experience with technologies in language learning thought that learning how to use them is not time-consuming (57%), their use motivates learners to engage more in the learning process (60%), and learners' knowing more about computers than their teachers does not have negative consequences (63%).

In conclusion, the majority of the participants reacted positively towards the use of technologies to enhance language learning, but there were also some critical views to emphasize the importance of inspiring contact teaching. Social media especially was mentioned as an out-of-school activity that should not be used for language learning, although it was recognized as a potential channel for spreading information (cf., Benini & Murray, 2014; Ilomäki et al., 2012; Laakkonen, 2015; Mutta, Pelttari, Lintunen, et al., 2014; Williams et al., 2014). Technologies were viewed as complementary to good contact teaching.

4.4. Digital learning profiles

To identify digital learning profiles, we analyzed qualitatively learners' answers on where and how they had learnt foreign languages, how much they used technologies in general, and what kinds of attitudes they had towards the use of technologies in language learning. Our approach was fairly similar to Fincham (2015), but instead of interviews we complemented our survey results with lengthier open-ended answers a few months later from 47 first year students. By using the grounded approach (e.g., Mutta, Pelttari, Salmi, et al., 2014; see also Fincham, 2015), we identified three digital learning profiles to illustrate the multifold phenomenon. The categories are tendencies and not clear-cut, but provide examples of different learner types among the generation of digital native learners. They also reflect how learners have different goals and methods for language learning. Next we will introduce three typical profiles named after learner types: a digiage learner, a hybrid learner, and an in-school learner. The

quotations below illustrating the profiles are from learners' responses to open-ended questions.

Digiage learners have used various technologies on a daily basis especially in their out-of-school social activities. See quotations 1, 2 and 3.

1. *I have a positive attitude towards language learning technologies. If they are used well, they support learning. Especially mobile devices enable learners to carry e-books and electronic dictionary applications with them always and almost wherever. In addition, online exercises that give you immediate feedback are good means to learn languages.*

2. *My attitude is positive. We live in a world where the use of technologies is on the increase, and people have more knowhow on technologies. We are surrounded by electronic devices and the media, so using and integrating them into learning could be effortless. I think that they are a natural addition to other learning styles and equipment that support learning.*

3. *It is good that modern technologies can be used in teaching. Often people use many mobile devices in their free time so that they could also be used to support learning. You can find many dictionaries and applications online to improve your language learning.*

These digiage communicators are heavy users of social media (Facebook, WhatsApp, Instagram, Snapchat, and Twitter) and the Internet, and might use around ten different activities online daily. They have started using various technologies more outside school with age, but do not have much experience in their classroom use. For instance, the participants who wrote the quotations said that they had no experience in the use of language learning technologies at school (the participant who wrote the second quotation had tried some online exercises). The digiage learners have also often played games online. Their attitudes towards new technologies might be positive, but not entirely established. Social media have been mostly part of their out-of-school activities, but not part of formal education, perhaps due to the nature of their previous education and pedagogic choices of their former teachers.

Hybrid learners have used technologies in remarkably versatile ways in their out-of-school activities: for example, social media have been used not only for social relationships but also for formal purposes such as language learning. Quotations 4, 5 and 6 are from participants who had used many technologies in secondary education and were experienced users of social media.

4. *The use of technology usually motivates students. Even the simple tasks that would be dull and boring as grammar handouts can be surprisingly good when they are introduced with some application. However, the use of technology can also be distracting and steal the focus from the issue discussed if, for example, the application does not work like it should or if it helps learning only superficially (for instance, if a student uses an ipad application and the teacher thinks that they will learn target language words at the same time, but the application allows the student pass based on mere guesswork)"…"As a child, I learnt a lot about a foreign language via using the social media (or some earlier version of it), although it was not much used in teaching then.*

5. *Using technologies as teaching methods is not bad at all, but it all comes back to the comfort zone of the teacher. I would rather take down notes by hand on overhead projector transparencies if the teacher feels comfortable that way, gets more things done and can direct their energies towards teaching than suffer from teaching constantly interrupted due to the teacher's poor skills in using technologies. There is, and can be, a gap between generations.*

6. *I don't personally like to use tablet computers in class as I find contact teaching more natural. And I have never been too keen on using Moodle. But taking an advantage of technologies is important when studying, especially in the modern*

world. In the globalized world, most communication takes place through technologies so students should master these early to get the maximum benefit"..."For instance, group work with strangers is much easier using the social media. For example, Facebook group discussions are a great tool.

The hybrid learners are, nevertheless, also aware of both the advantages and disadvantages of technologies in the classroom, and might even have a rather critical attitude towards their active integration in classroom activities. Therefore, these learners still appreciate the teacher's traditional role as an expert in providing valuable information and being a stimulator for the learners. According to the hybrid learners, the use of social media should be voluntary in formal education.

In-school learners have always favoured traditional classroom learning and methods although in their out-of-school activities they have also relied on technologies for social relationships. These learners prefer concrete interaction with professional teachers, manuals, and paperwork in their learning process, although some use of technologies does not harm this process. See quotations 7, 8 and 9.

9. *I would not allow students use any technological devices in class as they disturb concentration, are harmful for hand and eye coordination skills, and makes it more difficult to maintain discipline in class, which further disturbs peace in the classroom. Constant staring at virtual screens overstimulates the brain and can hurt the eyes.*

10. *The use of technologies is useful and saves time as such, but I think it has replaced contact teaching and real interaction too often. Challenging things are especially difficult to learn online. You need a qualified teacher and contact teaching. In addition, if the student has low motivation, online practice is easier to skip than a lecture or an exercise group. Contact teaching with good teachers is more motivating than studying alone at home in one's spare time.*

11. *As a learner, I prefer traditional methods, taking notes and writing on the board, when teachers and students interact constantly. I do not believe that the internet or new technical devices facilitate language learning.*

Despite their generally positive attitudes towards technology, the in-school learners have always felt they learn foreign languages better in classroom contexts.

5. Conclusion

This study examined extramural language learning, learning in hybrid contexts, and digital learning profiles. We focused on beginning university learners and analyzed their earlier experiences and behavior. According to the results, the participants were very familiar with extramural language learning. Its role seemed to strengthen as the learners' proficiency and self-confidence grew. In particular, TV, films, and music often offered extramural language activities. The contexts of extramural language use diversified during education and also the foreign languages used multiplied.

Secondly, we analyzed which digital technologies were used and how the participants had used them in extramural language learning. The results suggested that the use of the social media and other spare time activities were most popular. Digital skills were learnt both in and outside school. Schools seem to play a role in introducing and providing support for the use of digital technologies. Mostly the skills needed for technologies were acquired outside school, often with help from family members and friends. In both extramural language contexts and technology use, the learner's own engagement was found more important with age: the awareness of language learning processes and a desire to invest in the processes seem to increase.

Thirdly, despite the fact that the participants were so-called digital natives, they did not always associate digital skills with language learning in their reflections. Extramural language practice seems to be common, but the activities differ in number and variety from the ones used at school (see also, e.g. Ilomäki et al., 2012; Laakkonen, 2015).

When it comes to attitudes, technologies were considered helpful and good additions to traditional teaching and learning methods if teachers and users know how to use them (e.g., Benini & Murray, 2014; Mutta, Pelttari, Lintunen, et al., 2014; Thomas, 2011; Williams et al., 2014; Jalkanen, 2015). In our sample, attitudes towards technologies were mostly positive, but also critical.

Finally, we examined the digital learning profiles discovered in the learners' answers. Three rough categories were identified to represent the main trends: digiage learners (heavy users of especially the social media, but who have not always mixed it with learning), hybrid learners (have used technologies, but with a critical mindset, for in and out-of-school learning) and in-school learners (have used technologies, but do not believe that they facilitate the learning process). The categories reveal variation in the digital generation: some learners do not consciously use their full digital potential to support language learning and try to keep certain areas of their lives less digital.

As our approach did not focus on individual longitudinal analysis, digital learning profiles could be analyzed further with quantitative (e.g., correlations) and qualitative (e.g., narratives, portfolios) data collection methods in future studies. A systematic longitudinal approach from primary to secondary education and beyond is needed to examine digital profiles and learners' paths. This would reveal whether less successful language learners follow different paths than the highly motivated learners in this study or if digital learning profiles depend, for instance, on the learner's age or target language proficiency.

The results corroborate earlier studies as learners seem to keep in and out-of-school activities separate, especially the use of technologies (e.g., Keltikangas-Järvinen, 2015). Changes in the flexible use of technologies might also be so rapid that the more rigid school system falls behind. This also means that surveys represent past situations, and even in classroom observation studies, the situation may have changed between the observation and the publishing of the results. One limitation of the study was the definition of technologies that can be understood in various ways as our results also revealed. In further studies, a more restrictive approach is needed to allow larger comparisons with earlier studies (cf. Healey, 2016; Thomas & Peterson, 2014; Wang & Vásquez, 2012). We chose not to direct or limit the participants' responses too much in our questionnaires to survey their opinions.

In conclusion, foreign language learners are surrounded by hybrid learning contexts and often seem to be aware of various extramural language learning possibilities and know how to create affordances to promote their own learning. However, the digital age does not necessarily cause a linear addition of technologies in language teaching and learning: partly consciously, the potential of some technologies is not fully used to enhance foreign language learning. In and out-of-school use of technologies seem to develop at different, yet partly intertwined rates. Identifying learners' digital profiles can support differentiation in foreign language teaching in hybrid contexts. Individuals and learning styles differ: some digiage learners create more actively personalized digital learning environments, whereas some prefer and rely more on classroom activities. Learners' profiles could help teachers create suitable exercises or suggest new ideas to facilitate extramural and/or hybrid learning and assist learners in understanding their own learning styles and how to develop them in traditional and digital ways.

References

Attwell, G. (2007). Personal learning environments – the future of eLearning? *eLearning papers, 2*(1). Barcelona: PAU Education. Available from https://www.openeducationeuropa.eu/sites/default/files/legacy_files/old/media11561.pdf.

Benini, S. & Murray, L. (2014). Challenging Prensky's characterization of digital natives and digital immigrants in a real-world classroom setting. In Pettes Guikema, J. & Williams, L. (Eds.), *Digital literacies in foreign and second language education* (pp. 69-85). Texas State University: CALICO.

Blin, F. & Jalkanen, J. (2014). Designing for language learning: agency and languaging in hybrid environments. *APPLES: Journal of Applied Language Studies*, *8*(1), 147-170. Available from http://apples.jyu.fi/ArticleFile/download/433.

Conole, G. (2008). Listening to the learner voice: The ever changing landscape of technology use for language students. *ReCALL, 20*(2), 124-140.

Eloranta, J. & Jalkanen, J. (2015). Learning paths on elementary university courses in Finnish as a second language . In Jalkanen, J., Jokinen, E. & Taalas, P. (Eds.), *Voices of pedagogical development: expanding, enhancing and elaborating higher education language learning* (pp. 225-240). Dublin: Research-Publishing.net. doi: 10.14705/rpnet.2015.000294.

Erstad, O. (2010). Educating the digital generation. *Nordic Journal of Digital Literacy, 5*(1), 56-72. Available from https://www.idunn.no/dk/2010/01/art05.

Fincham, N.X. (2015). Metacognitive knowledge development and language learning in the context of web-based distance language learning: a multiple-case study of adult learners in China. Unpublished PhD dissertation in Educational Psychology and Educational Technology. Michigan State University.

Guth, S. (2009). Personal learning environments for language learning. In Thomas, S. (ed.), *Handbook of research on Web 2.0 and second language learning*. London: IGI Global. doi:10.4018/978-1-60566-190-2.ch024.

Healey, D. (2016). Language learning and technology: past, present, and future. In Farr, F. & Murray, L. (Eds.), *The Routledge handbook of language learning and technology* (pp. 9-23). New York: Routledge.

Ilomäki, L., Taalas, P. & Lakkala, M. (2012). Learning environment and digital literacy: a mismatch or a possibility from Finnish teachers' and students' perspective. In Trifonas, P. (ed.), *Living the virtual life: public pedagogy in a digital world* (pp. 63-78). Abington: Routledge.

Jalkanen, J. (2015). *Development of pedagogical design in technology-rich environments for language teaching and learning*. Jyväskylä Studies in Humanities 265. Jyväskylä: University of Jyväskylä.

Jalkanen, J. & Taalas, P. (2013). Yliopisto-opiskelijoiden oppimisenmaisemat: haasteita ja mahdollisuuksia kielenopetuksenkehittämiselle. In Keisanen, T., Kärkkäinen, E., Rauniomaa, M., Siitonen, P. & Siromaa, M. (Eds.), *AFinLA-e: Soveltavan kielitieteen tutkimuksia 2013, No. 5* (pp. 74-88). Jyväskylä: The Finnish Association for Applied Linguistics, AFinLA. Available from http://ojs.tsv.fi/index.php/afinla/article/view/8740/6425.

Jalkanen, J. & Taalas, P. (2015). Monimediaisen kielten opetuksen tutkimus: teknologian integroinnista pedagogiseen kehittämiseen. In Jakonen, T., Jalkanen, J., Paakkinen, T. & Suni, M. (Eds.), *Flows of language learning* (pp. 172-186). Jyväskylä: The Finnish Association for Applied Linguistics, AFinLA. Available from http://ojs.tsv.fi/index.php/afinlavk.

Jokinen, E. & Vaarala, H. (2015). From canon to chaos management: blogging as a learning tool in a modern Finnish literature course. In Jalkanen, J., Jokinen, E. & Taalas, P. (Eds.), *Voices of pedagogical development: expanding, enhancing and elaborating higher education language learning* (pp. 241-278). Dublin: Research-Publishing.net. doi: 10.14705/rpnet.2015.000295.

Keltikangas-Järvinen, L. (2015). Oppimisen legendat. *Lääkärilehti, 37.* http://www.laakarilehti.fi/maailmassa/kolumni/oppimisen-legendat.

Laakkonen, I. (2015). Doing what we teach: promoting digital literacies for professional development through personal learning environments and participation. In Jalkanen, J., Jokinen, E. & Taalas, P. (Eds.). *Voices of pedagogical development: expanding, enhancing and elaborating higher education language learning* (pp. 171-195). Dublin: Research-Publishing.net. doi: 10.14705/rpnet.2015.000292.

Mitchell, K. (2012). A social tool: Why and how ESOL students use Facebook. *CALICO Journal, 29* (3), 471-493.

Mutta, M., Lintunen, P., Ivaska, I. & Peltonen, P. (2014). Tulevaisuuden kielenkäyttäjä: monikielinen diginatiivi(ko?) [Language users of tomorrow: multilingual digital natives(?)]. In Mutta, M., Lintunen, P., Ivaska, I. & Peltonen, P. (Eds.), *Tulevaisuuden kielenkäyttäjä – Language users of tomorrow* (pp. 9-23). Jyväskylä: The Finnish Association for Applied Linguistics, AFinLA. Available from http://journal.fi/afinlavk/article/view/60048.

Mutta, M., Pelttari, S., Lintunen, P. & Johansson, M. (2014). Tutkiva oppiminen ja vieraiden kielten opetus - diginatiivit teknologisessa oppimisympäristössä. *Kieli, koulutus ja yhteiskunta, lokakuu 2014.* Available from http://www.kieliverkosto.fi/article/tutkiva-oppiminen-ja-vieraiden-kielten-opetus-diginatiivit-teknologisessa-oppimisymparistossa/.

Mutta, M., Pelttari, S., Salmi, L., Chevalier, A. & Johansson, M. (2014). Digital literacy in academic language learning contexts: developing information-seeking competence. In Pettes Guikema, J. & Williams, L. (Eds.), *Digital literacies in foreign and second language education* (pp. 227-244). Texas State University: CALICO.

Palmgren-Neuvonen, L., Jaakkola, M. & Korkea mäki, R.-L. (2015). School-context videos in Janus-faced online publicity: learner-generated digital video production going online. *Scandinavian Journal of Educational Research, 59*(3), 255 - 274. doi:10.1080/00313831.2014.996599.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9* (5), 1-6. Available from http://www.marcprensky.com.

Piirainen-Marsh, A. & Tainio, L. (2009). Other-repetition as a resource for participation in the activity of playing a video game. *The Modern Language Journal, 93*(2), 153-169. doi: 10.1111/j.1540-4781.2009.00853.x.

Schenker, T. (2012). Intercultural competence and cultural learning through telecollaboration. *CALICO Journal, 29* (3), 449-470.

Sun, Y. C. (2012). Examining the effectiveness of extensive speaking practice via voice blogs in a foreign language learning context. *CALICO Journal, 29* (3), 494-506.

Sundqvist, P. (2016). Gaming and young language learners. In Farr, F. & Murray, L. (Eds.), *The Routledge handbook of language learning and technology* (pp. 446-458). New York: Routledge.

Sundqvist, P. & Sylvén, L. K. (2014). Language-related computer use: focus on young L2 English learners in Sweden. *ReCALL, 26*(1), 3-20. doi: 10.1017/S0958344013000232.

The Finnish National Board of Education. (2013). Available from http://www.oph.fi/english.

Thomas, M. (ed.) (2011). *Deconstructing digital natives: young people, technologies and the new literacies.* New York: Routledge.

Thomas, M. & Peterson, M. (2014). Editorial for the Special issue Web 2.0 and language learning: Rhetoric and reality. *CALICO Journal, 31*(1), i-iii. doi: 10.11139/cj.31.1.i-iii.

Thorne, S.L. & Reinhardt, J. (2008). "Bridging activities", new media literacies and advanced foreign language proficiency. *CALICO Journal, 25* (3), 558-572. https://journals.equinoxpub.com/index.php/CALICO/article/view/23096/19102.

Uusikoski, O. (2011). *Playing video games: A waste of time… or not? Exploring the connection between playing video games and English grades.* Department of Modern Languages, University of Helsinki. Unpublished MA thesis. Available from https://helda.helsinki.fi/bitstream/handle/10138/35037/playingv.pdf?sequ.

Vaarala, H., Johansson, M. & Mutta, M. (Eds.) (2014). *Kielenoppiminen ja -opetus digitaalisissa ympäristöissä. Kieli, koulutus ja yhteiskunta, lokakuu 2014.* Available from http://www.kieliverkosto.fi/journals/kieli-koulutus-ja-yhteiskunta-lokakuu-2014.

Vaarala, H. & Lehtonen, T. (Eds.). (2015). *Kielenoppiminen ja -opetus digitaalisissa ympäristöissä. Kieli, koulutus ja yhteiskunta, lokakuu 2015.* Available from http://www.kieliverkosto.fi/journals/kieli-koulutus-ja-yhteiskunta-lokakuu-2015.

Wang, S. & Vásquez. C. (2012). Web 2.0 and second language learning: What does the research tell us? *CALICO Journal, 29* (3), 412-430.

Williams, L., Abraham, L. B. & Bostelmann, E. D. (2014). A survey-driven study of the use of digital tools for language learning and teaching. In Pettes Guikema, J. & Williams, L. (Eds.), *Digital literacies in foreign and second language education* (pp. 29-67). Texas State University: CALICO.

Notes

[1] "The Programme for International Student Assessment (PISA) is a triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students". Retrieved from http://www.oecd.org/pisa.

[2] The report is retrieved from http://ec.europa.eu/information_society/newsroom/cf/dae/itemdetail.cfm?item_id=9920.

[3] The instruments developed by CSLP researchers are freely available for research purposes. Retrieved from https://www.concordia.ca/research/learning-performance/knowledge-transfer/instruments.html.